**International Security**
**Nonproliferation**
**Arms Control**

# DIGEST OF THE RUSSIAN JOURNAL

# YADERNY KONTROL

## (NUCLEAR CONTROL)

## № 7

Spring 1998

PUBLISHER: PIR - CENTER FOR POLICY STUDIES IN RUSSIA

Moscow, 1998

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## International Security. Nonproliferation. Arms Control.

**N 7**

**Spring 1998**

Published three times a year since 1996

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



**Printed in Russia**

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

**Circulation**:
Russian journal: 2,000 copies
English Digest: 800 copies

**Signed for printing**
on April 9, 1998


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

**Publisher:** PIR – Center for Policy Studies in Russia
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## Hot Topic

# LESSONS OF "THE GYROSCOPE DEAL"

**by Vladimir Orlov**
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**[This article was originally published in Russian in *Yaderny Kontrol*, No.2, March-April, 1998]**


*The PIR – Center for Policy Studies in Russia was the first, and is still the only Russian non-governmental organization to begin studying the gyroscope scandal, involving gyroscopes which were illegally exported from Russia to Iraq. In September 1997 we issued a respective report followed by a number of articles on the subject[1], we received responses from a broad array of sources, including the representatives of Russian governmental authorities, experts on missile technology, Western journalists, and the employees of the UN Special Commission on Iraq (UNSCOM). In the initial report and the subsequent follow-ups we drew conclusions about the imperfection of Russian export controls over missile components as well as the imperfections of the Russian Criminal Code which prevented punishment of those guilty of smuggling. However, we repeatedly emphasized that our investigation turned up more questions than answers, with the primary question shifting from the undoubtedly interesting aspect where from and where to, to the question why. In other words, question qui prodest? - who profits? - stayed open.*

*We endeavored to complete the investigation we had begun. It required additional interviews (which we succeeded in obtaining, on the condition that we maintain the anonymity of the sources), an independent expert review of the material received earlier, and also additional information from official sources or private experts as well as foreign journalists, in particular, from the USA and Jordan; and a considerable amount of information was supplied from the Iraqi and Palestinian circles. Like all the other sources, these have been thoroughly and, where possible, cross-checked multiple times.*

*Though we had collected the materials referred to below as early as January, at that time we refrained from their disclosure: while the Iraqi crisis was in full swing (which was the case in January-February) the risk of a biased interpretation and use of the data for an investigation, similar to our own, was too great.*

*Today, when the crisis around Iraq has subsided (probably, temporarily), we are ready to suggest our version of the reasons and details of the story started in 1994 and resulted in the export of eight hundred ten-missile gyroscopes from Russia.*

**The Story**

On December 9, 1995, a group of scuba divers hired by the UNSCOM surfaced six missile instruments from the bottom of the river Tigris, near Baghdad: L24-560-4 two-stage gyro units, serial numbers A17373 and Z17530; L20-17G integrating gyros, serial numbers E17248 and T17215; an LVR-014 air pressure regulator, decimal number LD2.573.014, and a micromotor, serial number A093.

Immediately after the finding of the gyroscopes the Russia's Ambassador to the United States Yuli Vorontsov declared that they were not of the Russian origin, regardless of the revealing numbers. At first, it was assumed that the gyroscopes had been stolen from the manufacturer in Ukraine.

In early February 1996 the Chairman of the UNSCOM, Rolf Ekeus, came to Moscow for negotiations with the Ministry of Foreign Affairs. In the course of almost four-hour of talks in the Russian Ministry of Foreign Affairs he swamped the experts with questions, showing knowledge of a large amount of information on the issue. The Russian diplomats were not prepared for this meeting. After the meeting their statements became more cautious - they were already not denying the Russian origin of the *Iraqi gyroscopes*, however they insisted that governmental authorities had nothing to do with the deal.

On April 9, 1996, on the basis of the materials supplied by the Department for Counterintelligence Support of the Strategic Facilities of the Federal Security Service (FSB) of Russia, the Investigation Department of the FSB of the Russian Federation opened criminal case on the charge of the illegal export of the equipment applicable in the construction of missile delivery systems for weapons of mass destruction, i.e. regarding evidence of the type of crime covered by the Criminal Code of the Russian Federation, Part 2, Article 78-1.

**The Goods**

The gyroscope is a measuring instrument, a quickly rotating rotor widely used in ground and space technology. A gyroscope retains a constant position relative to the stars, and is used for steering moving objects, by providing fixed points in several directions for the construction of onboard coordinates. The constant axis of rotation of a gyroscope serves as a reference for the missile position in three-dimensional space. The divergence between the constant axis of the gyroscope, fixed against coordinates, and rotational axis of the missile should correspond to the programmed value. If deviations occur, this signals the necessity for flight correction. Every type of missile has its own program depending on the flight range and missile characteristics in longitudinal and lateral axis and rotation. If a correction has to be made in the three axis independent of each other it will disrupt the missile's functioning and take a lot of time. Besides, a missile has its own oscillation frequency depending, in particular, on the flight altitude, and generating a resonance with the gyroscope oscillations. In addition, gyroscopes for short and large range missiles have design differences - the former are autonomous, the latter are integrated into a gyroplatform.

It is well known that those non-member-states of the Missile Technology Control Regime (MTCR) who are striving to possess advanced nuclear potential, as a rule, face serious (and often insurmountable) difficulties in the creation of indigenous missile guidance systems[2]. The creation of gyroscopes through a national effort in such countries, particularly Iraq and Iran, does not seem feasible today, while in most other parameters they may advance in missile building with little or no external assistance.

**The Buyer**

Viam Garbie. A subject of the Hashimite Kingdom of Jordan, but ethnically a Palestinian. He was born 1963 in Lebanon, which he left with his parents for Qatar where he grew up. From Qatar he went to the United States, where he studied at the University of Chicago. He maintained a close relations with General Union of Palestinian Students and was an active member. He worked in collaboration with the Democratic Youth Organization, the League for Support of Palestine, and other student, youth, and public organizations registered and formally working in the USA.

Garbie took an active part in the events during *intifada.* He participated in the demonstrations, manifestations and other public actions "directed at the attraction of attention of the American public to the problem of the Palestinian people". However, in connection with my activities in this field he had no problems in terms of a breach of the law, and he had no criminal charges. Though he knew that his name was mentioned in the so-called *black list*. Many of his friends had to face similar problems both in the USA and Canada. In the USA Garbie opened his own business, trading in second-hand computers. Then he left for Canada. He spent more than ten living in North America.

Garbie decided to leave the USA since he received an opportunity to get a job as well as becoming a permanent residence. Considering that the Jordanian authorities denied him the extension of his passport at the time, he was afraid that the American authorities could make use of this condition against him or he would have problems because he had not made timely arrangements for his passport, and it would thus turn out that he was breaking the Immigration Law. However, he learnt that in Canada they had more favorable conditions for naturalization of the people of his status (*Palestinians without passports)* as well as for getting a suitable job. Besides, he believed that in Canada he would face a different

political situation, more favorable compared with that pursued within the US borders. He did not have a valid passport to extend it.

In Canada, Garbie lived in Toronto and Montreal. He rented an apartment himself or shared it with a friend. Later, he could not remember the addresses of the companies with whom he cooperated. In Canada Garbie was associated primarily with Arabs who had received Canadian citizenship, and later he could not exactly recall their names or occupations.

**The Seller**

The Research and Testing Institute of Chemical and Building Machines (NIIKhSM). Situated in Serghyev Posad, the Moscow Region. From 1990 to 1995, in compliance with the START-1 Treaty, more than 100 submarine launched 3M-40 intercontinental ballistic missiles[3] were disposed of here.

The disposal of missiles is the responsibility of the company which designed them. The same company issues the documentation describing the purpose and method for their disposal. The principal task here is cost effectiveness, i.e. the possibility of reasonable reuse after the disposal (for instance, missiles are cut into blocks and the metal is recycled). A secondary task is declassification (i.e. pieces sent to the dumping site should not contain classified components). Theoretically, SLBM disposal should be the responsibility of the Makeyev GRTs Design Bureau (the Myass Machine Building Design Bureau, in the Chelyabinsk Region). However, they actually only take responsibility for the general coordination of the work and use a large number of subcontractors, which are responsible for specific aspects, such as engines, steering systems, etc. In particular, the steering systems are the domain of the Sverdlovsk Design Bureau, and this bureau, also, uses subcontractors for power supplies, gyroscopes, etc. This branching is infinite, and it is unknown who determines the limit of declassification.

Usually there are no problems in the process of transportation of SLBM from the Ministry of Defense location to a disposal site. And in this case the SLBM, from which the warhead was removed, came to dismantling and disposal to Serghyev Posad under strong security and marked *"classified"*. The direct dismantling of the missiles was also conducted in a guarded and secret location. After the missile dismantling (crushing or cutting) *the scrap* (including intact instrument parts, with gyroscopes among them) is delivered to the storage facility (copper separately, tin separately, gyroscopes separately, etc.)[4].

**The Sanctions**

According to UN Security Council Resolution No.687 of April 1991, suppliers of goods related to military technologies and dual-use goods to Iraq must receive special permission. It is prohibited to supply missiles with a range above 150 km and related equipment to Iraq. The first unmodified SCUD missiles (SS-1 SCUD-B) supplied by the USSR to Iraq, had a 300 km range (there are a few modified SCUDs with a range varying from 320 to 550 km). The modified missiles manufactured by Iraq are: *Al Hussein* (600 km), *Al Hijarakh* (750 km) and *Al Abbas* (900 km). Iraq also possesses *Tammuz* missiles with a range of up to 2000 km, and *Al Abid* missiles, with a range of up to 2500 km[5].

Russia joined in the sanctions against Iraq. However, the detailed documents on the subject were not passed in Russia for six and a half years. On November 7, 1997 Prime Minister Victor Chernomyrdin signed the legal *provisions* which determined the method for controlling the export from the Russian Federation to Iraq of dual-use goods and technologies and other means originating in the Russian Federation or released in free circulation within the territory of the Russian Federation, including the List of Dual-Use Goods and Technologies and Other Means who's export to Iraq, in compliance with the UN Security Counsel Resolution, is controlled and subject to approval, or banned[6].

**The Buyer**

After more then ten years in North America Garbie returned to the Middle East, and specifically Jordan However, he faced serious passport problems in the Amman's *Al-Malica*

*Alya* international airport. The old Jordanian passport used for travelling around the world had expired. On arrival to Amman Garbie was detained and the expired passport seized from him. Garbie had to stay in the transit passenger room about six days before he received, due to the mediation of, as he would call him later, *an intimate friend*, the permission to enter Jordan, with his passport returned.

Upon arrival to Jordan, Garbie stayed in the Amman *International* Hotel. Then, for a while he stayed with his relatives. Later, when his relatives bought their own apartment for the family, he settled with them at Umm Uweina, on the corner of the Mecca Street and Medina Street, near a small Chinese restaurant.

After the seizure of Kuwait in 1990 Garbie suddenly found himself in the occupied territory. Here he continued his computer business, removing computers from the plundered Kuwait offices, including the Ministry of the Interior. According to some sources, he discovered confidential and classified information in some of the Ministry computers, which he profited from by selling it to Iraq. After this, the Iraqi special services established direct, friendly contact with Garbie. He also met Camil Hussein, the Minister of Industry, Trade and Oil of Iraq, and most important, Saddam Hussein's son-in-law.

It was from him that Garbie received his first really serious order.

**The Seller**

Garbie first came to Russia in December 1993, also on *computer* business. He began with *small things*, buying electronic components at markets and selling them to Iraq via Jordan. He found his way around, and as early as 1994 he established important relations with a number of Moscow businesses, including some in the military industrial complex.

Thus, in early 1994, Garbie contacted the managers of NIIKhSM, including Deputy Director of Economic Affairs V., Chief Accountant S., First Deputy Director L., and Deputy Director of General Affairs O.[7] Soon they began detailed negotiations on selling him various kind of equipment, including that from disposed of missiles.

By July 1995 they came to a final agreement with Garbie on selling him a large amount of non-liquid equipment as well as gyroscope instruments from the command modules of decommissioned 3M-40 ballistic missiles. V. and S. were directly involved in the execution of the deal with Garbie (including the execution of the contract, financial and other documents, and shipping the equipment).

Simultaneously, a obscure company, the closed joint-stock company *SPM-Systema* emerged in Serghyev Posad. We can now only guess who was behind the creation of this company, however it was all done neatly: the closed joint-stock company was registered by a front, though with the use of forged documents and seal. The trail of *SPM-Systema* owners faded, though the contract which was soon signed - the only one for the company - lifted the shroud surrounding the mystery.

**The Gyroscope Samples**

Garbie requested samples of the gyroscopes, and received approximately ten. Together with these samples he quietly went to Jordan in June 1995 (Russian customs officers would hardly have reason to search a modest consignment of *electrical equipment* without *being prompted,* or additional occupational training), and then to Iraq. He showed the samples to Camil. And then strange things began to happen.

According to one of the versions, Camil reprimanded Garbie for lack of wit: the gyroscopes offered by the Russians were much more advanced than those Iraq was looking for. Camil was interested in the gyroscopes for short range missiles, for SCUDs. The use of the gyroscopes for longer range missiles required a gyroplatform (housing three gyroscopes in three directions), additional documentation, and service support. Finally, long rang missiles themselves would also be necessary. According to another version Camil appreciated the efforts of the Palestinian in

Russia more than favorably, and gave him a free hand to implement the whole deal. That would certainly imply its generous financing.

In any case, upon Garbie's return to Moscow lines of credit had been opened in the Moscow commercial bank *Yapy Toko Bank*, to be distributed to NIIKhSM, for US$100,000 and $20,000.

It was these *samples* that were *quite accidentally* recovered from the turbid Tigris by the UN Special Commission six month later. By that time Camil Hussein was already far away from Baghdad: Saddam's son-in-law had dissented and told his new (or perhaps not so new) patrons many curious things about the life of the Baghdad court, including, probably, the *gyroscope story*.

**Incongruity**

Why did Iraq need the gyroscopes which were clearly inapplicable for any practical purpose due to the absence of the appropriate missiles and no feasible way to create them in the near future?

**The Deal**

In August 1995 V. and S. signed an agreement, on behalf of NIIKhSM, with *their* closed joint-stock company *SPM-Systema* "to conduct experimental work", under which a large number of various instruments were delivered, including those from the command modules of the disposed 3M-40 ballistic missiles: L24-560-4 two-stage gyro units and L20-17G integrating gyros, which are listed in the "list of equipment, materials and technologies, used for creation of missile weapons, the export of which are controlled and licensed", as approved by the Executive Order No. 193-rp of the President of the Russian Federation, dated April 25, 1995.

A total of eight hundred gyroscopes were sold to the Iraqis, not including the first ten.

The Deputy Director and the Chief Accountant were actually quite familiar with the Russian export control legislation. They preferred not to the break laws. Because under those laws there is nothing *criminal* in selling gyroscopes by a Russian institute to a company which is also Russian. How *SPM-Systema* would sell the gyroscopes to a foreign company, should it be Jordanian or any other, was a different question. But that did not confuse the investigators *from the Defense Ministry*, either.

What confused them was the money issue. First, the amount of the contract. One hundred twenty thousand was next to nothing for the goods offered, considering their size, actual world prices, and strategic importance. However, an amount with a larger number of trailing zeros could attract the attention of the customs authorities or the Federal Security Service. The second confusing, and more important, point was the conditions, established by Garbie, on the line of credit at the *Yapy Toko Bank*. Their fulfillment was clearly too difficult. We can say, jumping ahead, that neither NIIKhSM, nor *SPM-Systema* ever received the money for the goods. Not a cent.

**Customs**

In the assessment of the risk of breaking the export controls laws of Russia, one of the greatest risks is pinned to the possibility of carrying goods without license, or specifying false data. Customs officers themselves admit that even in case of radioactive materials their capabilities to identify and stop the transfer of contraband materials are extremely limited[8]. As for stopping non-nuclear strategic contraband, in particular, missile equipment, no governmental resolution would enable customs officers to reveal and prevent such illegal exports. There certainly is no prompting from special services or, even more reliable, competing companies[9].

In this connection, the actions of V., S. and Garbie stir a special interest, because they still preferred to play it safe. In addition to the *Qatar-Canadian* Palestinian, *Muscovite* Nigerians also came onto the scene.

When the equipment purchased by Garbie in NIIKhSM in August 1995 was carried from Serghyev Posad to Moscow in two lots, the execution of the customs formalities for the consignment was taken by a representative of the Russian-Nigerian closed joint stock

company *Nison Investment Plc* Gerald Iwusezi, to whom Garbie described the consignment to be exported as *television (electronic) equipment* or as *precision supersensitive instruments*.

As Garbie later stated in Amman: "No organization or person asked me to rename the goods, as I adhered to the conventional classification, namely, the term *micromotor*, i.e. a precision supersensitive motor. This is a general classification for electric instruments. All instruments of this kind has its own number stamped on it; they have no signs except the numbers. This name is used in documents, however, the term *gyroscope* implies a whole group of instruments, that is why it would be illogical to apply a single term to them.

"The execution of the shipping documents in the framework of the deal signed was charged to a Russian company owned by Nigerians. That company was occasionally involved in the organization of shipping goods. We informed the company about having a lot of precision equipment, with the basis being electric motors. We needed an experienced specialist in goods export from Russia since we did not have such experience. We needed a lawyer or accountant with necessary experience and authority to [prepare the required documents]. One of the company office workers assumed this responsibility. The control was exercised by the company providing the loading of the consignment. Throughout all the necessary steps there was neither renaming of the goods nor change of its classification fixed in respective documents. The man [in charge] did all those things personally. Before the loading he came to the airport to be sure of the correctness of the execution of the consignment, its compliance with the specified name, classification and numbers specified. All of that data was contained in the shipping documents. All of this was done to pass the customs examination. ... In this way we carried the last lot of equipment from Russia in a few steps.]

"[The problems] were connected primarily with the financial aspects concerning prices and customs taxes, and did not cover technical classification. Though we used the term *highly sensitive equipment* to describe those components there could be no problem here since we also formally imported precision equipment, in the framework of the same consignment, having received it from the same source. As for the use of the term *gyroscopes* or *accelerometers*, there is no such classification in the customs catalogue. Besides, nobody would deny that they are based on precision motors".

Indeed, there can hardly be any claims against the Russian-Nigerian company. They only assisted in the execution of the documents. However, Garbie was well aware what was in the load he was carrying and why the neutral word *micromotor* should be used in the documents. He really feared a charge of breaking export controls laws, that is why he tried to demonstrate in every way that his contraband is not so dangerous: "[The deal] does not run counter to either the laws of the exporter country or those of the importer country. Such a deal could be compared, for instance, with a purchase of electronic equipment with a purpose to use the internal parts containing gold"

Garbie insisted in talking with his Jordanian lawyers, that he did not simply know that export of gyroscopes from Russia is criminal under the law effective in this country. According to my information, he said to one of his lawyers, export of such gyroscopes has not been banned. They were not in the international classification list of gyroscopes prohibited for sale - that was my impression when I received them and opened a line of credit for that purpose. The group of such high-sensitivity electronic instruments could better be refereed to as potentiometers, tachometers, etc. Besides, these are multipurpose instruments; they may be used in various systems, for instance, to be installed at civil aircraft, drilling equipment, etc. Those instruments were designed only for the determination of deviation and acceleration. In many Western states, and not Western states only, trading in these instruments is allowed [This is true but only within those states, while their export is controlled according to MTCR – **Ed.**].

Specialized newspapers and journals publish articles describing similar technical arrangements. The deal was legitimate. Otherwise, with the existing prohibition on the sale of these instruments the deal could not have been formally executed, however, all the documents were generated and signed by the selling party, not to mention the formal nature of the contacts. I did not distort the classification characteristics of the instruments, Garbie believed, for I brought them to the territory of Jordan on the basis of a formal document with the respective reference number. In the Moscow Sheremetyevo Airport those samples passed through the necessary examination without any problem. Besides, Garbie continued, we had not made any modifications in the rates or name of the goods to hide contraband. We knew that in case of any problems in the Moscow Airport we had an opportunity to invite a representative of the selling party to confirm the legitimacy of the deal regarding the sale of those instruments, specifying the payment account with the authorized bank. The goods were sent to my address and my name. I did not try to avoid the customs examination or mislead the customs officers.

When we attempted to receive the technology and ready components from the gyroscope manufacturers, Garbie explained to his lawyers, the selling party in compliance with the formal documents offered us separate components, technologies and materials not covered by the agreement on prohibition to transfer technologies related to some specific pieces of missile equipment. In case of gyroscopes and accelerometers, one has to be extremely accurate in their classification. We did not go beyond this classification in receiving the instruments from the missile equipment dismantling plant. One knows that the agreement covers only production process transfer, but it does not include ready manufactured pieces. We know that India imported manufactured instruments in the framework of its projects for development of missile technologies, however, it was denied the transfer of the production process going beyond the framework of the agreement. It is a fact that we have not imported the whole guidance and steering system - the gyroplatform. We imported separate parts of that system: some electronic instruments which, when desired, could be separately obtained both from Western and Eastern sources at well-known prices and in the framework of the same classification to which we adhered importing the instruments, with their subsequent installation, after certain improvements and revamping, in a system where they could be used, for instance, at *ground-to-ground* missiles or *ground-to-air* missiles, or other similar systems.

In the same way one could buy a missile airframe or other missile part, and use individual components as metal scrap, with the electric and electronic systems retrieved to be used separately, explained Garbie. We gave opportunity of solving all the questions concerning the purchase, transportation, handling and delivery of the goods to the persons interested in the deal. As we knew, it was not an attempt to smuggle the instruments not included in classification lists of electric or other equipment. **We had an opportunity to obtain a whole guidance system [Editor's emphasis]**, however, we did not do it so as not to breach the law regarding all items of the system as a whole. We could have used various forms of pressure to conclude such a deal in this or that way, however, we left the opportunity to resolve the issue to the persons interested in the deal, who assured us that they acted within the framework of the international agreements and Russian laws.

We did not quote the above ample reasoning to assure the reader of Garbie's naiveté. It is obvious that he had prepared such an excuse in advance and it is intended for the people who have little knowledge of the constraints in the framework of MTCR. It seemed noteworthy to us that the same reasoning is also used, almost verbatim, by some domestic potential sellers who would like to put the Russian military industrial complex on a commercial track.

However, the Palestinian had one more *stand-by explanation*, and it was this explanation that could really confuse the investigation.

**Scrap**

Nevertheless, Garbie did not resort to it. Only once, in Amman, did he let out that he carried to Iraq the instruments designated as *scrap*. Our interlocutors in Moscow spoke about it much more frequently and persistently. Really, the gyroscopes were dismantled from the SLBM without any further intentions for their sale; it was expected that they would stay in storage until *final* and *irreversible* disposal. Several domestic specialists in missile technology and guidance systems tried to persuade us, concertedly, that most gyroscopes dismantled from missiles undergo rough mechanical manipulation (for instance, using hammer to separate pieces) and, hence, they cannot in any way be used for military purpose because they would not provide the necessary guidance accuracy. At the same time, according to these specialists, the dismantled gyroscopes may be of interest both in terms of exercise and experiments, and in terms of studying the design. Though, on the other hand, it is clear that a few hundreds of instruments are obviously too numerous for the purpose.

The instruments found in Iraq in November 1996 were made available for expertise in Russia by the UNSCOM, and their technical review was prescribed and fulfilled. The expert opinion was that those instruments had been manufactured in the Russian Federation and were the components of a command instrument of a ballistic missile steering system; at that time the instruments were inoperative and could not be used for the designed purpose; the reason of the impossibility to use them for the design purpose was their nonprofessional dismantling from missiles not pursuing the purpose to retain operability of the instruments, and two of the instruments had been damaged by water.

So, two instruments, before they got to the Tigris, had been operable and could be used for their designed purpose. That was one third of the instruments which underwent review by experts. If this proportion is extended to all the gyroscopes purchased by Garbie, it would turn out that two hundred seventy items might have been used by Iraq for their originally intended purpose.

However, Garbie did not seem to know completely why he was carrying the gyroscopes to Baghdad. As he said to one of his Jordanian friends, "according to the purchase conditions for the gyroscopes, we could use either separate items of their structure (to be precise, high sensitivity electric motors or precision internal systems) or the whole system."

**Incongruity**

What was it that Garbie carried to Iraq: broken instruments unfit for any missiles? Then why was it necessary to receive the order from Camil himself? Why was it necessary to request hundreds of thousands of dollars to pay for the deal? Was it just to bring from Serghyev Posad to Baghdad the scrap only good for studying its chips? Would not it have been simpler to be confined with the previously delivered, and, as it is becoming clear, not quite unfit *samples*? Or was it a concrete military order for the implementation of specific purposes?

**The Destiny of the Gyroscopes**

The gyroscopes successfully passed through the freight customs of the Sheremetyevo airport and were delivered to Jordan by *Royal Jordanian* Airlines. In Amman, the goods were examined at customs through a few steps upon arrival and at their dispatch from Al-Malike Alya airport to the customs warehouse where they were to stay till shipment to Baghdad, while Garbie was executing the permission to trans-ship the consignment to the end-user in Baghdad.

But there turned out to be no consignee. Camil had disappeared from Baghdad. The money promised for the deal had disappeared with him. As Garbie found out, nobody else expected him and his goods in Baghdad. Soon it became clear that Camil had *sold out* his father-in-law and, probably, he had long been working for the Americans.

Garbie was anxious to go to Baghdad, even without the gyroscopes. He had problems with a financial matter as he had no free money because Camil Hussein's had

disappeared. He was trying to solve his problems in a few ways: either selling the electronic equipment, electric motors and instruments, or returning them, or making arrangements with the Iraqi Government. Simultaneously he began devising other options, so as not to sustain a complete loss. He did not rule out that he might supply the gyroscopes or their components to Egypt or Algeria.

But on Garbie's way from Amman to Baghdad, which is within an easy distance, he was suddenly confronted by the Jordanian special services - probably, those whom he previously numbered among his *intimate friends*. Again they used the best pretext - the expired passport of the Palestinian, and agreed to extend it once more (and let Garbie go to Baghdad) provided that he agrees to tell them about his political activities in the USA and he suggested that they return his passport in exchange for agreeing to leave Jordan, promising not to return to that country. Garbie had to accept such an outcome as he needed to return to Iraq -- on urgent business.

Instead of receiving the money Garbie was arrested in December 1995 by the law enforcement agencies of Iraq "on suspicion of involvement in the illegal supply of missile components to Iraq". At the same time, the majority of the missile and other equipment exported by Garbie from Russia was detained by the law enforcement agencies of the Kingdom of Jordan.

**Incongruity**

While the Russian customs officers easily let Garbie pass with his freight, their Jordanian counterparts appeared to be capable of revealing the actual content of the consignment. They could hardly be as knowledgeable in missile technology details (unless they were graduates of the Bauman Technical University in Moscow). Maybe somebody *suggested* the true details to them?

Perhaps the Jordanian partners he had both in Amman and Moscow? At least Garbie, himself was sure it was not them.

Iraqis? Most unlikely, taking into account the difficult relations between the Baghdad and Amman (although this cannot be completely ruled out).

Camil Hussein?

**The outcome**

On January 5, 1997, in connection with the entry into force of the Criminal Code of the Russian Federation on January 1,1997, and amendment of the language of Art.78-1 of the Criminal Code of the RSFSR , the case against the NIIKhSM was requalified to Art. 189 of the Criminal Code of the Russian Federation, the disposition of which does not provide for criminal liability for illegal export of equipment used in creation of delivery vehicles of weapons of mass destruction. Criminal case has been closed. The only charges that could be presented against S., V. and other employees of the institute would be setting up a front company with the purpose to… Well, the purpose is not important any more because no investigator would undertake to prove their connection with *SPM-Systema*.

Viam Garbie is in Iraq with his case under investigation. The criminal prosecution against him was undertaken according to Article 159 of The Law on Criminal Offense of the Republic of Iraq, "work for an enemy foreign state". One can easily guess that the state in question is by no means Jordan.

The gyroscopes and other equipment seized at the Amman customs warehouse have been expropriated by the Hashimite Kingdom of Jordan.

**Qui prodest?**

The criminal case has been closed. However, it would be premature to file the gyroscope story away in the archives. It still contains too many lacunas and too much incongruity.

The principal question pending: what was the need for Iraq to undertake that potentially expensive, cumbersome operation pregnant with scandals undesirable to Baghdad?

Tim McCarthy, a senior researcher for the Center for Nonproliferation Studies of the Monterey Institute of International Studies believes that Iraq was interested exactly in advanced perfect missile systems as vehicles for their WMD, and if one develops a project to create a long range missiles capable of hitting London, Washington or New York, one cannot do it without a guidance system[10]. According to the former head of the UNSCOM Rolf Ekeus, Sweden, it was planned to use the Russian gyroscopes "for methodology and training purposes", i.e. to see, upon dismantling, how to arrange a long range missile gyroscope, and possibly use them for further indigenous development, with indigenous missile construction specialists available in Iraq[11]. This version does not run counter to the assertions of the Russian specialists that the gyroscopes arrived in Iraq and then in Jordan in "a badly damaged condition" and "could not be used for combat purpose".

The Iraqis themselves acknowledge that they would not refuse to buy short range missile (up to 150 km) gyroscopes, which Iraq is allowed to do, but a 150 km missile gyroscope can hardly be distinguished from a gyroscope for a 151 km missiles which are already banned, asserts a member of the UN Special Commission and comes to the conclusion: "Iraq strives to receive steering systems for independent manufacture of long range missiles". Thus, in 1995 Iraq declared that even before the Gulf War they had been developing the engine for a new generation missile with a range exceeding 3 000 km. Iraq, as it is frequently mentioned in mass media, even after the Gulf War, continued the work on the transformation of the Soviet *ground-to-air* SA-2 missile into a middle range *ground-to-ground* missile capable of being a biological weapons delivery vehicle; the UN inspections crew found computer software used to simulate missile launching and calculate the trajectories of their flight[12].

Many things could be explained by the customer, Camil Hussein... But he was killed after he returned to Iraq. That was his father-in-law's order. Could *the key* to the answering the numerous remaining questions lie here? When did he begin supplying information to Americans? Had he been their man in Baghdad for a long time?

Imagine, that Russian diplomats learned about *the gyroscope story* from Western counterparts and had to find excuses, though not publicly, but at negotiating table[13]. The material evidence, saved from the Tigris with the accuracy of fine needle work, was on display, including the serial numbers. The breach of the Russian obligations on the sanctions was also evident. The tide in mass media was rising. Russia's statements of loyalty to its international obligations in adherence to the sanctions against Iraq was compromised. At that moment, any attempt by Moscow to pursue its own course in relation to Iraq, different from the American approach, could be interpreted as a desire to sell Russian military equipment to Iraq. Not to mention the opportunity to declare that the contraband came from a state-owned enterprise (and NIIKhSM certainly is one) as export authorized by the Russian Government[14]. In a war of *compromising materials* the winner is generally the one who is the first to table his *compromising materials* and thus is the one to launch the offensive. Those who look for excuses stir little trust. Especially if their excuses are so clumsy and delayed as was the case with the Russian diplomats concerning the gyroscopes. One may not rule out that if the position of Moscow in relation to the Iraq settlement was even farther from the American position than it actually was in 1996 and the first half of 1997, the *gyroscope card* could have been played for full impact. This is, certainly, only one of the possible versions.

**Crime without punishment**

However, regardless of our answer to the question: who profits? - it is still a fact that the Russian judicial and legal system is incapable of adding at least some element of *vitality* in the sections of the Criminal Code covering breaches of export control legislation[15]. While such states as Germany and the USA demonstrate a most serious attitude towards the breaches of national legislation and international obligations by the illegal export of goods and technologies included in the *control lists,* Russia appears to

consider any criminal prosecution here unnecessary.

We can only guess how it happened that Criminal Case fell to pieces and never came to court here, in Russia. We may assume that in the power structures and law enforcement agencies there are many people acutely suffering from the conniving of those who have created serious blows to the national interests and prestige of the state.

Upon reading the Resolution of the Government No.57 *On the Improvement of Controls over Export of Dual-Use Goods and Services Related to Weapons of Mass Destruction and Missile Delivery Vehicles Thereof*, many federal officials were seriously concerned about whether their agencies were prepared to meet the stringent requirements of the document. However, many people away from Moscow, at manufacturing plants only smiled ironically, not believing in the seriousness of the intentions of the government which is capable of writing formidable resolutions but incapable of bringing even an obvious case of missile contraband to court.

Is there a lacuna in the Criminal Code where WMD delivery systems have been *forgotten*? Possibly so. However, did any of the present law-makers do anything to demand that the legislator fill in these lacunas? Was that *forgetfulness* unintentional? Probably so. Though this absence of attention betrays how poorly the government thinks its constraints on strategic export *will work*; one can even notice a poorly hidden trace of pity for the managers of the collapsing enterprises of the *defense industry* who try, in circumvention of the law, to feed themselves and maybe the enterprise, too... their thoughts are far from criminal prosecution.

Is it really necessary to wait for a nuclear warhead to be carried through customs.

**Appendix**

## Preventing proliferation: the criminal liability for the offenses (review of the Russian Criminal Code)

To secure the traffic of radioactive materials in the framework of the *International Convention on Physical Protection of Nuclear Materials* which entered into force on February 1988, the following articles were added in 1988 to the Criminal Code of the RSFSR (UK RSFSR), Chapter X "Offenses against public safety, public order and public health": Article 223-2: The illegal acquisition, storage, use, transfer or destruction of radioactive materials; Article 223-3: Theft of radioactive materials; Article 223-4: Threat of theft of radioactive materials or their use; Article 223-5: The breach of rules for the storage, use, accounting, transportation of radioactive materials and other rules for handling thereof.

In the new Criminal Code, which entered into force on January 1, 1997, the legislator deleted Arts. 223-4, 223-5, retaining Arts. 223-2, 223-3, which are similar in disposition.

**Article 220. The illegal handling of radioactive materials**

In the new code the liability for the illegal handling of radioactive materials is covered by Art.220, Criminal Code of the RF (UK RF)[16]. Part 1 defines illegal handling: acquisition, storage, use, transfer or destruction, for those found responsible it provides for probation for a term up to two years, arrest for a term up to 4 months, or imprisonment for a term up to two years. Part 2 of the article provides for liability for the same acts under aggravating circumstances resulting in an inadvertent death of a person or other grave consequences, to be punished by probation for a term up to five years or imprisonment for a term up to ten years. The notion "other grave consequences" contained in Art.220 leaves room for evaluation, and will certainly complicate the formation of investigative and judicial practice. Special rules for handling radioactive materials are contained in the Federal Laws of the RF "On the Use of Atomic Energy", "On the Safety of the

Population from Radiation", and other departmental regulatory acts.

**Article 221. Theft or extortion of radioactive materials**

Art. 221 of the new UK RF provides for liability for theft or extortion of radioactive materials. The previously effective (and similar in disposition) Art. 223(3) of the UK RSFSR did not contain qualifying criteria and consisted of one part providing for liability only for theft of radioactive materials[17]. In the new Criminal Code the legislator did not only change the disposition of Art. 223(3) but also expanded the qualifying criteria for this *corpus delicti* which is reflected in Parts 2 and 3 of UK RF.These include, in Part 2, the commission of an act: by a group of persons on prior conspiracy; on multiple counts; by a person using his office; with use of violence not dangerous for human life or health, or threat to use such violence. And in Part 3, if they are committed by: an organized group; with use of violence dangerous for human life or health, or threat to use such violence; by a person with two or more previous convictions for theft or extortion. However, compared with the previously effective article, the punishment was increased only in Part 3 in its lower limits from five to ten years imprisonment with or without the seizure of the property thereof.

**Article 225. Misconduct in office in regards to the security of arms, ammunition, explosive substances and explosive devices**

An important chapter in the new Criminal Code of the RF in the field of non-proliferation is Art.225, "Misconduct in Office in Regards to the Security of Arms, Ammunition, Explosive Substances and Explosive Devices", Part 2 of which provides for the liability for misconduct in office regarding the security of nuclear, chemical, biological or other types of weapons of mass destruction or materials or equipment which can be used for creation of weapons of mass destruction, provided that it entailed grave consequences or created a threat of an occurrence thereof. The punishment for the above offense provides for a term of three to seven years with deprivation of the right to take certain offices or be engaged in certain activities for a term up to three years[18]. The subject of the above offense is either an official or any other person who is charged with the duty of securing the above types of arms.

In the meaning and direction of the disposition of Art.225 note the following: these acts are connected with criminal conduct of officials, who are deemed as persons either performing functions of a representative of authorities, permanently, temporarily or as a special authority, or performing executive or administration functions in state bodies, bodies of local government, state or municipal offices as well as Armed Forces of the RF, other troops or military units.

**Article 226. Theft or extortion of arms, ammunition, explosive substances and explosive devices**

Chapter 24 "Offenses against public safety" of UK RF Sec. IX was complemented by Art.226 "Theft or extortion of arms, ammunition, explosive substances and explosive devices", Part 2 of which also constitutes a new criminal legal norm: the theft or extortion of nuclear, chemical, biological or other types of weapons of mass destruction as well as materials or equipment which can be used in creation of weapons of mass destruction, and provides for the imprisonment for a term of five to ten years of those found guilty of its violation.

The qualifying criteria for the above offense in relation to Arts. 1 and 2 of this article and its committal: by a group of persons on prior conspiracy; on multiple counts; by a person using his office; with use of violence not dangerous for human life or health, or threat to use such violence. In relation to Arts. 1, 2 and 3 of this article, if they were committed:
a. by an organized group; with use of violence dangerous for human life or health, or threat to use such violence; by a person with two ore more previous convictions for theft or extortion. The sanctions of these articles are severe enough to ensure adequate state enforcement against the persons who have committed such offense.

**Article 189. Illegal export of technologies, scientific technological information and**

**services used in the creation of weapons of mass destruction, arms and military equipment**

The creation of the system of export controls in Russia began in 1992. A number of legislative acts were passed to prevent uncontrolled exports in this field.

In 1993 the UK RSFSR was complemented by Article 78(1), Illegal export of goods, scientific technological information and services used in creation of arms, and military equipment, weapons of mass destruction.

Analyzing the issue of criminal legal liability (of the new Criminal Code) for the offenses in conducting foreign economic activities and assurance of the fulfillment of international obligations for nonproliferation of weapons of mass destruction, it should be noted that the application of a number of norms is complicated because of absence of their interpretation. Some articles contain drawbacks, we believe, originally made by the authors and not eliminated by the legislator.

Thus, for instance, the multiplicity of regulatory acts to turn to for qualification of offense in this field impedes the use of these norms of the Criminal Code[19]. Quite a vivid example is Art.189 of the Criminal Code, "Illegal export of scientific technological information and services used in creation of weapons of mass destruction, arms and military equipment", where criminal liability is found in the case of the illegal character of such export, i.e. when it is carried out in breach of legislatively established prohibition and in circumvention of the *special export controls*. This article was added in the UK RSFSR in 1993. As we see it, the practical application of the notion "circumvention of the special export controls", which first appeared in 1995 in the federal law "On state regulation of foreign economic activities", is quite complicated. The same law determines that export controls are a combination of measures for implementation by the federal executive bodies on the procedure, established by the above Federal Law, other federal laws and other legal acts of the Russian Federation, of exportation outside the Russian Federation of arms and military equipment as well as particular types of raw materials, materials, equipment, technologies and scientific technological information which can be used in the creation of arms and military equipment, to prevent exportation of weapons of mass destruction and other very dangerous types of arms and their delivery vehicles as well as measures for revealing, prevention and suppression of the breaches of this procedure. Art.16 of the same law determines that the nomenclature of export controllable arms, military equipment, particular types of raw materials, materials, equipment, technologies and scientific technological information and services which can be used in creation of weapons of mass destruction, missile delivery vehicles thereof and other most dangerous types of arms, is to be determined by the lists established by Decrees of the President of the RF on submission of the Government of the RF for the establishment of the lists of goods subject to export controls, to enter into force not earlier than three months after their promulgation. This appears difficult in application for criminal legal norms.

Article 189 of the UK RF consists of one part and does not contain qualifying criteria. It is only those subjects who in virtue of the effective law are entitled to such export, that face the circumstances described in the disposition of the above criminal legal norm. For this reason, as we see it, the lack of a disciplined approach to legislation addressing this problem, i.e. the increase in criminal liability along with other measures of an economic preventive nature, may result not in increase but rather decrease in this type of offense. The punishment provided by Art.189 of the UK RF varies in the range from fine to seven years of imprisonment. Application of this norm is complicated by the effective legislation for the export control system which is based primarily on the regulatory acts determining the procedure of such export which are constantly amended and complemented.

**Article 188. Contraband**

In 1993 the entry into force of the new Customs Code of the RF did not only bring a

new definition of contraband but also included items not previously covered by the notion of contraband (nuclear, chemical, biological or other types of weapons of mass destruction, materials and equipment which can be obviously used for their creation; strategically important raw material goods)[20]. This gave rise to a legal collision since Art.78 of the effective UK RSFSR provided a different definition of contraband. The newly passed Customs Code went beyond its competence by assigning new criminal legal criteria to contraband. Only on July 1, 1994, Art. 78 of the UK RF was given new language providing for liability for contraband of goods which constitute an increased danger (objects of a destructive system), or constitute a special importance (strategic raw materials).

The *corpus delicate* connected with the breach of customs rules includes contraband. In the new Criminal Code the legislator expanded the disposition of Art. 188 providing for liability for this type of offense. Compared with the previously effective Art. 78 of the UK RSFSR, criminal liability under the new code is only applicable in cases of the commission of such gross act. However, for the transfer of materials and equipment listed in Art 188, Part 2 of the UK RF a gross act is not required. Such materials and equipment also include those covered by the special export controls: strategically imported materials, nuclear, chemical, biological and other types of weapons of mass destruction, materials and equipment which can be used in creation of weapons of mass destruction. Compared with the previously effective Arts. 78 and 188 it is evident that the liability for this type of offense has been mitigated.

The qualifying criteria for items considered to be contraband are described in Art. 188, Parts 3 and 4 of the UK RF. The legislator added a new criterion in Part 3 - use of violence against a person exercising customs examination, to replace the previous one - overt transfer (breaking through a customs border), providing for 5 to 10 years of imprisonment, with property seizure thereof. Part 4 of the article provides for a qualifying criterion - commission of the transfer of contraband materials by an organized group, with the punishment of 7 to 12 years of imprisonment and an additional compulsory punishment of property seizure.

**Article 335. Production and proliferation of weapons of mass destruction**

This article is included in Section XII, Chapter 34, *Crimes Against the Peace and Security of Mankind*. In fulfillment of the international obligations of the RF on the nonproliferation of weapons of mass destruction, the complete prohibition and nonproliferation of biological weapons, the legislator added Article 335 in the new Criminal Code of the Russian Federation[21]: Compared to Art. 67-1 of the UK RF providing liability for the use of biological weapons, and Art. 67-2 for development, production, acquisition, storage, sale, transportation of biological weapons, Art. 335 of the UK RF contains amendments. Note that liability results from the production, acquisition, or sale not only of biological but also chemical and other types of weapons of mass destruction. The term of punishment in the previously effective Art. 67-1 provided for 10 to 15 years of imprisonment.

Art. 67-2, Part 1 provided for punishment as up to 5 years of imprisonment. Under Part 2, the same acts entailing the death of a person, damage to his health or other grave consequences, or those committed by a group of people on prior conspiracy, or by a person who was in charge of biological agents or toxins through his office or who had access to them in connection with the work he was doing is to be punished by imprisonment for a term of 3 to 10 years.

Art. 67-2, Part 2 has special qualifying criterion: rendering assistance to a foreign state or foreign organization in development, production, acquisition, storage, sale, transportation of biological weapons is to be punished by imprisonment for a term of 5 to 8 years.

Such qualifying criteria are absent from the new Criminal Code of the RF.

Art. 355 of the UK RF does not contain qualifying criteria and consists of one part.

The liability for this act provides for 5 to 10 years of imprisonment.

In the UN documents, weapons of mass destruction (extermination) include those which "act by way of explosion or through radioactive materials, lethal chemical or bacteriological weapons or any other weapons to be developed in the future, possessing the properties of the atomic bomb or other above mentioned weapons" (Resolutions and Decisions of the UN General Assembly passed at session XXII, New York, 1968 p.47). Today, weapons of mass destruction, in compliance with the international legal instruments, include chemical, biological (the production of which is absolutely forbidden) and nuclear weapons (the use of which is also forbidden and production is limited).

Though criminal liability for this type of offense under Art. 20, Part 1 of the UK RF includes the provision that at the age of 16 individuals will held criminally responsible for such acts. In practice, calling for criminal liability at this age is extremely rare.
The sanctions for the criminal legal norms being analyzed are alternative, i.e. they enable the court to choose from several types of punishment. The new Criminal Code for the first time consolidated the provision that a more severe punishment out of those provided for the commission of the offense being ruled on shall be prescribed only if a less severe punishment cannot assure the purpose of the punishment.

Among the requirements constituting the fundamentals of punishment prescription, Art. 60, Part 3 of the UK RF obliges the court to take into account, in the prescription of punishment, not only the type and degree of danger of the offense but also the character of the guilty person, including the circumstances mitigating and aggravating the punishment as well as the effect of the punishment prescribed on the correction of the convicted person and conditions of the life of his family.

Advantages and possible disadvantages of the new Criminal Code can be objectively manifested in the process of practical application of criminal legal norms. However, the analysis of the *corpus delicti* of interest to us, like in judicial practice on this category of cases is difficult because the evidence (in most cases) contains information which constitutes a state secret, and in compliance with the criminal procedural legislation the bodies of the Federal Security Service are charged with their investigation.

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[1] See: Maria Katsva, "Russian Missile Equipment Was Sold to Iraq as Scrap. *Export Obychnyh Vooruzhenii,* PIR Center. No. 8-9 (August-September, 1997): p. 35-37; "Gyroscopes Found in Iraq - Basic Components of the Missile Onboard Steering System - Came There from Russia, From a Closed Military Institute in Sergyev Posad, *Voprosy Bezopasnosti)*, PIR Center, No.13 (September 1997): p.3-7; Maria Katsva, "Loopholes in Arms Exports". *Nezavisimoye Voyennoye Obozreniye,*. October 23, 1997: p.6; David Hoffman, "Russian Missile Gyroscopes Were Sold to Iraq," *Washington Post,* September 12, 1997: A01 (in some references to the PIR Center report); *The Proliferation Primer. A Majority Report of the Subcommittee on International Security, Proliferation, and Federal Services.* Committee on Governmental Affairs, U.S. Senate, January 1998: p.22-23; Anna, Otkina, Ivan Safranchuk, "Role of Russia in the Settlement of the Situation around Iraq and Ways to Control Russian Critical Exports to Iraq," *Yaderny Kontrol,* No.1, January February 1998, pp.11-12

[2] Hoffman, "Russian Missile Gyroscopes Were Sold to Iraq", p.A01

[3] The Russian CC-H-18 Stingray missile(in Russian classification RSM-50) has a range of 8.000 km and 3 to 7 MIRVs.

[4] Katsva, "Russian Missile Equipment was Sold to Iraq as Scrap," p.37

[5] "The Gyroscopes Found in Iraq - Basic Components of the Missile Onboard Steering System - Came There from Russia, From a Closed Military Institute in Sergyev Posad," p.7. See details in: The Nonproliferation Primer, p.59-60

[6] For a detailed analysis of this document see: "The Role of Russia in the Settlement of the Situation around Iraq and Ways to Control Russian critical Exports to Iraq," *Yaderny Kontrol,* No.1 (January-February 1998) p.8-11

[7] *Yaderny Kontrol* Editors are informed about real names of all individuals involved in the deal

[8] See: Nikolai Kravchenko, "Only 25 Percent of the Border Points are Equipped with Special Instruments to Stop Contraband" *Yaderny Kontrol,* No.20-21 (August-September 1996), p. 8-10; Nikolai Cherepanov, "At Customs There Is

No Real Control of Radioactive Materials," *Yaderny Kontrol,* No.32-33, (August-September 1997): p. 29-30

[9] Interview with an official of the State Customs Committee of the RF given to the author (name withheld at his request), February 1998

[10] Hoffman, "Russian Missile Gyroscopes Were Sold to Iraq," A01

[11] See: Katsva, Russian Missile Equipment Was Sold to Iraq as Scrap, p.36.

[12] Ibid. Also see: *The Nonproliferation Primer*, p.59-60

[13] This is what they had been doing until September 1997, when during the visit of the head of the Special Commission, Richard Butler, both parties agreed to deem the subject closed.

[14] Jeffrey Smith, "Document Indicates Russian-Iraq Deal". *Washington Post*, February 12, 1998: A01

[15] See details in the appendix to this article.

[16] *Criminal Code of the Russian Federation*, (Moscow: Yurist Publishers, 1996). p. 523

[17] Ibid, p.535

[18] Ibid, p.534

[19] Ibid, p.468

[20] Ibid, p.466

[21] Ibid, p.798

## Interview

# VICTOR KOLTUNOV: "ADDITIONAL LIMITATIONS ON THEATER MISSILE DEFENSE SYSTEMS WILL BE CONSIDERED AS NEW SYSTEMS TECHNOLOGIES ARE DEVELOPED"

**[This interview was originally published in Russian in *Yaderny* Kontrol, No.36, December 1997]**



*An exclusive interview of Victor Koltunov, head of the Russian Delegation to the SCC (ABM Treaty), to Yaderny Kontrol clarifies issues of the implementation of the documents on the ABM Treaty signed in September 1997 in New York and expresses Russia's official position on the future of the ABM Treaty as well as on the TMD issues. It should be taken into account, however, that the Russian Parliament has not yet ratified the agreements. Moreover, the President's Office has not yet prepared documents necessary for their ratification, and the ratification proposal has not yet been submitted by the President to the State Duma (as of April 7, 1998).*

*It is likely that the President's Office will suggest that the Duma should ratify the START-2 and all September 1997 New York agreements including ones of the ABM Treaty "in package" by late June, 1998. At the same time, the Duma communist-and-nationalist majority which is generally positive about the ABM part of the agreements has not yet taken final decision on whether to whether to support ratification on the non-START part of the future "package" or to block the whole "package".*

**YADERNY KONTROL: How long did it take to prepare the documents which have were signed in September 1997 in New York by the U.S. and Russian heads of foreign offices? It is known that the SCC's efforts to coordinate positions on high-velocity AMD systems had been stalled**

**since 1996. How did you manage to overcome the crisis and carry on the protracted negotiations?**

KOLTUNOV: The signing of the whole package of documents did not take more than thirty minutes, but it took four years to prepare them. The TMD negotiations began in October, 1993, in connection with the fact that in previous years the proliferation of missiles and missile technology had become quite evident. Obviously, this dangerous development could jeopardize international security and break up the existing strategic stability. Ways had to be found to counteract the process. One of them was to develop defense systems against non-strategic ballistic missiles, i.e. develop theater missile defense systems. The need to develop such systems under the conditions of the spreading proliferation of missile systems and missile technologies was accentuated by the existence of unstable regimes in many regions of the world. It seemed quite clear that neither a deterrence or intimidation strategy nor economic sanctions would always work with respect to such regimes.

On the other hand, in the course of developing theater missile defense systems (in the United States development and testing of such systems was at full strength at the time) a need for preventing any circumvention of the ABM Treaty as a whole also became quite pressing. Otherwise, any reductions in strategic offensive weapons would not make sense.

At first, the parties decided to solve the problem of dividing strategic versus non-strategic anti-missile defense both in relation to low-velocity systems, with the interceptor missile's velocity not exceeding 3 km/s, and high-velocity systems, with interceptor missile's velocity exceeding 3 km/s (4.5 km/s for sea-based systems and 5.5 km/s for land-based and airborne systems). But to resolve the problem of high-velocity ABM systems by merely introducing concrete limits on their parameters (and these systems are most the treacherous in terms of non-circumvention of the ABM Treaty) appeared to be much more difficult than it seemed at first sight. A different solution had to be sought. The solution was found in Helsinki where the President of Russia and the President of the United States made their joint statement, placing the main emphasis on coordinating the mechanism of distinguishing high-velocity systems from others, once such systems appear. In other words, the main idea of the agreement is to focus on coordinating the mechanism for solving the problem of identification of such systems in the future, should they begin to appear.

From the very start, the Americans seemed reluctant to negotiate the "distinction " problem. Referring to the excuse that only ICBM defense systems were stipulated in the ABM Treaty, the Americans suggested that each side evaluate the conformity of its theater missile defense systems with the ABM Treaty on its own. The Russian side, however, insisted that, until there is an agreed to legal position, neither party has the right to unilaterally judge the compliance or non-compliance of any particular defense system with the ABM Treaty. The Russian side also stressed that the ABM Treaty provisions left no room for a decision on what particular systems are out of the scope of the treaty. The negotiations, which started in the fall of 1993, appeared to be very difficult to maintain. To a large extent, it was due to the fact that they began when the new U.S. administration had just re-considered its position toward the anti-missile defense problem. Prior to that, the Bush administration had sharply criticized the ABM Treaty, insisting on amendments which would practically ruin the treaty. But what is more important is the complexity of the distinction problem as such: a dual solution had to be found. On the one hand, it was to permit the creation of an effective theater wide ballistic missile defense systems. But on the other hand, such potential TMD areas were to be made so ineffective against ICBMs that, effectively, they could not be used as a basis for creating a nation-wide anti-missile defense system, which otherwise would violate the ABM Treaty. It was clear, however, that there was no distinct boundary between the two systems because, theoretically speaking, any TMD system has a certain capability of intercepting an ICBM.

Again, this possibility can be negligible, but theoretically it exists.

Finally, we have agreed that the problem of distinguishing between the two types of systems should be resolved on the basis of a combination of criteria (quantitative parameters which are forbidden to be exceeded during TMD systems tests) and confidence-building measures (information exchange, early notifications, etc) aimed at ensuring openness of the parties about TMD activities. The criteria had to encompass both: limitations on BM target parameters and limitations on TMD systems parameters. The main parameters that determine combat capabilities of defense systems to be used against non-strategic ballistic missiles are the following: maximum velocity of the interceptor missile; maximum velocity and range of the BM target as well as the intercept phases of its trajectory; and target acquisition range (which depends on radar capability).

It is exactly these factors which are to determine the size of the defense area applicable to a particular anti-ballistic missile defense system.

For the purpose of promoting our negotiations, we decided to start resolving the distinction problem step by step. At the first stage, we had to work out an agreement on low-velocity TMD systems; and at the second stage - on high-velocity ones. It did not take us very long to agree on low-velocity TMD systems. However, the negotiations on high-velocity TMD systems were beginning to reach a deadlock. The resolution was found in Helsinki where the two presidents met on March 21, 1997.

Once again, I would like to point out that the main result of the Helsinki summit is the new mechanism to be used in reaching an agreement on newly developed high-velocity systems with respect to their compliance with the ABM Treaty. Prior to that meeting, the parties had been trying to agree upon particular limitations to be imposed on high-velocity systems which could be created in the future and whose technical characteristics are not very clear, yet. At the same time, the agreement on high-velocity systems, worked out on the basis of the Presidents' Helsinki Statement, already has a number of standards and criteria aimed at not circumventing the ABM Treaty while developing new TMD systems. Among them are limitations on parameters for BM targets used in tests, a ban on space-based interceptor missiles and components, incorporating new physical principles, and, therefore, the capability of substituting such interceptor missiles.

It is also important to note that future agreements will also envision a mechanism for establishing the conformity of newly developed anti-missile defense systems with the ABM Treaty. Another significant achievement gained is that the parties now understand that the problem of the non-circumvention of the ABM Treaty does not confine them to only signing agreements which have already been reached. TMD systems technologies are only at an early stage of their development, so this work is likely to continue in the future.

Under these new conditions, when the spreading proliferation of missile systems and missile technologies had already led to a necessity to develop means of defense against theater-wide ballistic missiles, agreements had to be worked out that would prevent circumvention of the ABM Treaty. While elaborating on such agreements, certain provisions of the ABM Treaty had to be specified additionally, in particular those denying the TMD systems of their capability to defend against ICBMs. The main objective, however, was and is to preserve the ABM Treaty. It must not be breached in the course of creating new TMD systems. At the same time, it was necessary to outline the framework within which either party could have the right to develop its own TMD systems.

**Q: The media has paid a lot of attention to the limits to be imposed on interceptor velocities. The Russian side proposed to limit interceptor velocities to 3 km/s because at higher velocities sea-based systems could effectively strike against**

**SLBMs when they are in the powered-flight phase of their trajectories.**

A: When the parties began to consider TMD systems with different bases, i.e. land-based, sea-based, and airborne systems, the following question was raised: if the parties allow for creating airborne TMD systems, then the 3 km/s interceptor missile velocity limit would simply bring to nil their capabilities. Development of such airborne systems with such interceptor missile velocity characteristics would simply be beyond reason. At the same time, it would not be exactly right to allow a higher velocity limit for airborne systems only. That is why we have agreed to accept higher maximum velocities not only for airborne, but for land-based and sea-based interceptor missiles. However, in order to rule out the possibility of effective defense against ICBMs, including SLBMs, the parties have agreed to solve the distinction problem on the basis of the following combination: imposing limits on particular systems parameters and component parameters (such as velocity, range, radar capacity, etc.) and building confidence between the parties. Confidence-building measures are very important, and it is critical that the parties agree, within the SCC framework, to discuss and find solutions to every concern that may arise in the course of developing such systems.

**Q: But there are no limitations on maximum interceptor velocity, BM maximum velocity and range in the event of intercepting strategic targets. Nor there are any limitations imposed on early warning radar parameters and strategic counter-missile tracking and guidance parameters. According to the documents signed in New York, there are no limitations on radar guidance capabilities for TMD systems, either. Wouldn't it make it possible to use those radar systems against ICBMs?**

A: The capabilities of TMD radar systems should not exceed the figure established in the 1972 ABM Treaty, which is 3 million W/sq.m. And this very figure *is* the limitation for TMD radar systems.

**Q: Are there any proposals to impose limitations on early warning and guidance radar systems of the SBIRS-SMTS type?**

A: We all clearly realize that the understandings reached can not resolve all the problems, yet they are an important step forward towards preventing circumvention of the ABM Treaty, which could occur in the course of developing TMD systems. Should there be no such MOUs [Memorandums of Understanding], one could hardly claim there are better prospects for guarding the ABM Treaty from circumvention. Considering the possible appearance of new TMD systems technology, the parties have committed themselves to consult on various issues and concerns in relation to such new technologies, and also to exchanging information on the current state of projects and plans in the field of TMD systems so as to provide amendments to the existing limitation agreements, should the changes in the projects and plans so require.

At this point in time, neither side possesses space-based systems capable of implementing both early warning, surveillance, and guidance missions. We also understand and we are fully responsible for the fact that if such space-based systems, capable of providing target acquisition and counter-missile guidance, were developed it would be a significant breech of the agreements reached. With time, however, this issue could become a subject for discussion.

**Q: Right after signing the New York agreements there was a testing of the anti-satellite laser "MIRCL" that can be used for anti-missile defense purposes. Doesn't that contradict the MOUs signed?**

A: Deep concerns were expressed at a briefing in the Russian Ministry of Foreign Affairs after the test had been conducted. The tests of anti-satellite weapons systems that have already begun in the United States can drastically change the situation.

In those anti-satellite weapons systems tests they used technologies that had originally been developed for anti-missile defense

purposes. Naturally, there is a question as to what extent these tests are compatible with the signed MOUs. It is clear, though, that there is some distance between conducting laser tests and creating a workable system, a rather long distance.

**Q: If the plans, proclaimed by the parties when signing the MOU on the problem of distinction, change, won't it open the door for creating mobile ABM systems under the guise of mobile TMD systems?**

A: The United States as well as other countries that participated in the negotiations declared their loyalty to the ABM Treaty. And we believe that the United States along with the other countries will be fully devoted to this commitment. In the event of any changes in the plans mentioned above, the parties have agreed to discuss, within the SCC framework, all issues and concerns that may arise out of such changes as well as make propositions on how to keep the treaty alive. There can also be proposals to amend the Coordinated Statement On High-Velocity TMD Systems.

**Q: When signing the Memorandum of Understanding, was the possibility of Russia creating its own TMD systems taken into consideration?**

A: Presently, Russia finds itself in a difficult economic situation. The possibility of external threat certainly exist, and it can not be ruled out in the future. Today, we can not point out exactly where such a threat may come from. At any rate, considering Russia's geostrategic position, development of TMD systems is no less important for Russia than it is for the United States.

**Q: Are there any estimations of the cost of verification procedures, both for Russia and the United States, with respect to the agreements signed in New York?**

A: The ABM Treaty, as well as the agreements signed in New York, do not suggest any costs for verification purposes, unlike the START 1, CTBT, and the CWC treaties\conventions. Each party is entitled to unilaterally determine and create its own means of control over the observance of obligations. In principle, there can be no control at all, and no money spent for that matter. Control can be exercised using the existing means, or some new means of verification can be developed. No mechanism of inspection control is stipulated, either. Instead, emphasis is placed on national means of control. It is an advantage from an economic point of view, however, from a verification standpoint, it may be a dismerit. But it would hardly be worthwhile to establish a control system only to control [the observance of] the agreements signed in New York. Normally, verification and control are used for broader purposes.

**Q: For how many years have the New York agreements postponed, or may postpone, the progress in bringing US projects to their experimental stage? What are the prospects for making the ABM Treaty valid after 1999?**

A: The agreements signed in New York do not call for postponing tests. On the contrary, they offer legal support for carrying out both current and future projects. The United States, for example, began testing its THAAD system, claiming that it complied with the ABM Treaty. Yet, the U.S. estimation was unilateral, and we insisted that neither side, be it Russia or the United States, is entitled to unilateral assessment of whether a particular system complies with the ABM Treaty or not. The ABM Treaty has, for the most part, no time limit, and all the parties thereof have accepted their loyalty to the treaty. We must presume that that commitment will be strictly observed, which means that the ABM Treaty will remain in full force and effect long after 1999.

**Q: The agreements reached do not impose limitations on: the use of nuclear explosives in counter-missiles; transfer of documents and technologies regarding counter-missile systems; and the number and location of test ranges. Will these be a subject for separate agreement(s) and how are these problems likely to be resolved?**

A: We touched upon the issue of nuclear explosives in the course of negotiations, but we arrived at the conclusion that the type(s) of nuclear explosives should not be directly

linked with the problem of distinguishing between the strategic and theater defense systems.

The ABM Treaty does not stipulate any limitations on the number of test ranges; it only requires that such ranges must be specified and [the other side]notified about them. According to the signed agreements, the number of test ranges shall not be limited. The parties shall notify each other of such test ranges within 30 days after the Confidence-Building Agreement has entered into force or no later than 90 days prior to the first interceptor missile launching. The notification shall include the name and location of each test range and test area.

As for the transfer of documentation and technologies, the Memorandum On the Assignment of Rights does not stipulate that the ban on such transfer, set forth in the ABM Treaty, shall apply to a transfer from one USSR legal successor-country to another such country or between such countries.

No such ban is applicable with respect to TMD systems.

**Q: Why was the principle of the non-use of TMD systems against one another introduced? Can there be any guarantees that this principle will be implemented?**

A: On May10, 1995 the President of Russia and the President of the United States made a joint statement, outlining the principles to be followed in the course of creating TMD systems. These principles are also reflected in the Presidents' Helsinki Statement and in the documents signed in New York. First of all, these principles call for building confidence between the parties so as to assure that neither of them intends to develop and use TMD systems against ICBMs. And we believe that the parties will strictly follow these principles, why else would they be proclaimed?

## Interview

# GEN. VLADMIR YAKOVLEV: RUSSIA'S NEW DEFENSE DOCTRINE WILL PROCLAIM DEVELOPMENT OF STRATEGIC NUCLEAR FORCES AS TOP PRIORITY

**[This interview was originally published in Russian in *Yaderny* Kontrol, No.34-35, October-November, 1998]**


*New Russian defense (or military) doctrine has already been drafted and is expected to be adopted and signed by President Yeltsin by Summer, 1998. During the extended meeting of the PIR Center Research Council, February 18, 1998, the Kremlin senior officials stated that the already revised text contained statement that development of Russian strategic nuclear forces (SNF) should be top priority in the reform of the Armed Forces. Moreover, SNF is widely viewed by both civilian and military Kremlin decision makers as probably the only efficient part of the Armed Forces. At the same time, deterrence nuclear policy has been revised, and it is likely that Russia would accept the French model of its nuclear forces. Vladimir* ***Yakovlev****, Commander-In-Chief of the Russian Strategic Missile Force (SMF), in his exclusive interviewed to Yaderny Kontrol speaks on details of the possible development of the SMF and the SNF.*

**Q: Talking about the future structure of the Russian army, the Defense Minister Igor Sergeev mentioned three components: general-purpose forces, strategic deterrence forces, and quick reaction forces. What will be included in the strategic deterrence forces besides the SMF?**

A: The structure of the Armed Forces shall reflect the organizational and manpower features [which are] necessary for the deployment of operatives, and, also important, the administrative command of troops mainly in terms of maintaining their war-time capabilities, conducting personnel

training and ensuring general military routine activities.

The above three components of the future structure of the Armed Forces of the Russian Federation, mentioned by our Defense Minister, reflect both the tactical and strategic development of the Armed Forces so as to aid in the implementation their combat missions. Currently, the Russian Ministry of Defense is elaborating on these issues in great detail. Of course, the SMF is not staying out of it. To complete the high-priority task of nuclear deterrence, we propose that Strategic Deterrence Forces include the SMF and the sea and air branches of the Strategic Nuclear Forces, with their administrative functions controlled by the Naval Command and Air Force Command, respectively.

In order to exercise effective control over these forces, it is proposed to establish a Strategic Operations Command within the General Staff of the Armed Forces to assume responsibility for planning SNF's combat missions, to act as a liaison between SNF branches and their operating support systems. The Command-in-question will also determine the objectives for a coordinated development of arms and weapons systems belonging to the different SNF branches, as well as measures to be taken for their standardization and unification.

**Q: What would you estimate to be the minimum reduction level? What, in your opinion, should the Russian SNF structure look like? What should it be based on? What should be developed in the first place?**
A: A reasonable level of strategic nuclear arms reduction is the product of many political, economic, and military factors. However, the main condition in preserving the strategic stability in the world and ensuring a positive contribution from the SNF to the security of Russia is to maintain a nuclear balance with the United States at the lowest possible level, in order to represent an approximate quantitative equilibrium in nuclear armaments and their fighting capability. Then of course, maintenance and development of nuclear systems must not be an unbearable burden on Russia's economy. From this point of view, the preliminary level reduction of strategic offensive weapons (SOW) down to 2000-2500 nuclear explosives, as agreed to in the Helsinki agreement between the Russian and U.S. Presidents, is in our interests. Moreover, coming from an economic standpoint, we could agree to even larger SOW reductions, certainly, linking such reductions with absolute compliance with the existing limitations on the deployment of anti-missile defense (AMD) systems, as well as with conventional arms reductions, and provided there are no destabilizing factors.

Under the conditions of reduced SOW, it is reasonable to maintain the combat performance of the SNF on the basis of the SNF's tri-component structure. Again, the SMF must remain the core of the Strategic Nuclear Forces. The SMF has managed to preserve its combat capabilities to the greatest extent. Under difficult conditions, the SMF has nearly completed the new missile complex *Topol-M*.

**Q: While serving as Commander-In-Chief of the SMF, now Defense Minister Igor Sergeev said that the SMF alone was capable of implementing 90 per cent of the SNF's combat missions in launch-through-attack strikes and 50 per cent in response strikes. Has this proportion changed now?**
A: The SMF's role in implementing the SNF's combat missions is largely determined by quantitative and qualitative parameters of the strategic missile grouping. Since the share of SMF systems in the Strategic Nuclear Forces grouping has so far been rather stable, the SMF's contribution to the implementation of combat missions remains at practically the same level. Even in spite of the fact that in the course of implementing START-2 only single-warhead missiles are to remain in the land-based group (on the whole, SMF's share of nuclear charges in the SNF will decline), their survivability, combat readiness, effectiveness, and controllability will ensure the decisiveness of the SMF's contribution to the performance the Strategic Nuclear Forces in the near future.

**Q: Along with the implementation of START-2, counterforce strikes appear to be**

**less and less attractive. Has your opinion regarding the proportion between launch on warning and launch on attack changed? Is there a need for retaliatory strikes? Should we have missiles capable of launch-through-attack strikes?**
A: Counterforce strikes have never seemed attractive. A strategic military parity, which we have always tried to achieve, means that no party can reach its goal in warfare by means of a counterforce strike. From a technical standpoint, however, weapons systems must ensure the implementation of combat missions aimed at destroying both manpower and industrial bases and be capable of any form of retaliation: launch on warning and launch on attack. This makes it possible for the leadership of a country to choose the right type of nuclear weapon for a given situation.

The type of strike to be made is not determined by the type of missile to be used, but by the system of armaments as a whole, including missile systems, combat control and communications systems. Stationary complexes, including ones with single-warheads, have the highest degree of combat capability and readiness, and require minimum service personnel. They are best suited for launch on warning. The high survivability of mobile complexes provides the strategic missile group with additional stability which is necessary to ensure implementation of combat missions in the event of a launch on attack. A rational proportion between mobile versus stationary complexes makes it possible for the Strategic Missile Force to balance its combat performance throughout the entire spectrum of strategic military conditions. The existing infrastructure of position areas is also used to the maximum extent, which helps minimize costs for developing and deploying the advanced group.

**Q: Are the strategic arms development and modernization appropriations subject to budget cuts? How much was allocated to the SMF for 1997? What, in your opinion, are the financing priorities for 1998-1999?**
A: If we only consider the SMF nuclear missile systems, there are several financial priorities, which we have outlined. Let me list the main ones: completion of the testing of the modernized missile complex *Topol-M* and its commissioning for the army; development of a comprehensive combat control system; upgrading activities aimed at prolonging operational periods for missile systems whose shelf lives are about to expire.

Speaking in greater detail, I should mention that the 1997 federal appropriations for strategic arms development and modernization (a subsection for R & D and procurement of weapons systems and military equipment) constituted about 6 trillion rubles, with the SMF accounting for about 3 trillion rubles. However, the budget cuts did affect the SMF. The SMF arms development and modernization budget was reduced to about 2 000 billion [not denominated] rubles, when the financing schedule had already been approved. Of course, this brings about additional problems. Nevertheless, we hope that within a very short period of time we will be able to complete the modification and testing of the missile complex *Topol-M* - the only one designated [as belonging to] the SMF – and to activate it by the end of this year or early next year. The second priority outlay meant to produce an immediate effect is for maximum extension of operational periods for the existing complexes and to maintain them as combat-ready and safe. We also hope some appropriations will be made for modernizing our command posts.

**Q: Does Russia still need strategic bombers? Does Russia need the navel branch when almost all of our submarines are laid up and new ones are expensive to build?**
A: Under the present circumstances, a necessary condition for maintaining the full operational capability of the SNF group is the correct balance between its components in terms of a branch structure, combat missions and also with respect to the existing SNF composition, treaty limitations on SOW, and the economic potential of the country. In today's situation, it is only possible to maintain the combat capabilities of the SNF group at a level conforming to START-1 and START-2 if the tri-component SNF structure remains. Besides, a whole set of measures is

needed to prolong, to the greatest extent possible, the operational life of the existing ICBMs, SLBMs, air-launched cruise missiles, to overhaul heavy bombers and to modernize submarine missile cruisers.

Clearly, each SNF component and branch has its own advantages and peculiarities. And, of course, in the event of a response strike, a guaranteed implementation of SNF's combat missions at a minimum cost can only be achieved if the high survivability of the navel complexes are made an integrate part of the SNF. The fact that today many submarines spend most of their time laid up at naval bases does not actually mean that tomorrow they won't be on their mission courses, if need be.

The strategic Air Force has its own tasks. The high flexibility and, if you will permit me the expression, *returnability* of the aircraft, i.e. a genuine demonstration of threat combined with the possibility to abort a mission after take-off and during the entire flight on the way to their targeted objectives, substantially enhances the SNF capability. We must find the most rational balance for these components in order to provide better conditions for implementing all SNF missions. By the way, the establishment of one single Strategic Operations Command to exercise control over all Russian nuclear forces must also serve this purpose.

**Q: What is the role of the Commander-In-Chief of the SMF in issuing an order to launch strategic nuclear forces?**
A: Presently, there is a strict standing operating procedure for using strategic nuclear forces. An order to use them can be issued by the Commander-In-Chief of the Armed Forces of the Russian Federation, who is the President of the Russian Federation, through the Minister of Defense and the General Staff. From the General Staff's Central Command Post this order, duly executed, shall be relayed further via all means of the Central Combat Control System to the Central Command Posts of the Armed Forces, possessing strategic nuclear forces, and further to the direct executors of the mission, to every missile launcher. Having received such an order, the Commander-In-Chief of the SMF shall verify its authenticity, double-relay it to the troops, if need be, and supervise its implementation. He shall also oversee the gathering of reports on the implementation of combat missions by the troops, i.e. the launching of missiles. In other words, the main responsibility of the Commander-In-Chief of the SMF is to ensure the constant readiness of mission control units and systems (with respect to troops and weapons control) for receiving and transmitting the order to launch missiles.

**Q: What role will strategic nuclear weapons play when (or if), in a few months, a new military doctrine is adopted?**
A: The role and importance of strategic nuclear weapons in the new military doctrine rests on the fact that the Russian Federation will, in the foreseeable future, maintain its nuclear power status so as to prevent attempts at using pressure or armed aggression against Russia or its allies. NATO's growing superiority in conventional arms and forces over the past few years has led to an objective need for a bigger role for the Russian SNF. Today, the SNF's importance is growing not only in terms of deterring a large-scale war but also in terms of preventing escalation of local and regional conflicts with the use of conventional weapons. Also there is a growing necessity to maintain the existing level of combat capabilities of the Strategic Nuclear Forces. Today, the Russian SNF cater very well to the country's geo-strategic situation. They are less dependent upon the direction of a possible threat or the composition of a coalition of adversarial countries than conventional forces. The SNF are characterized by their global reach and great destructive power and serve to equalize unfavorable combinations (for Russia) of economic, technological, demographic, and other important national parameters. Both today and in the foreseeable future the SNF will remain the cornerstone of Russia's defense capability and a global political instrument for deterring any possible enemy from aggression against Russia and its allies.

## Interview

# MIKHAIL KIRILLIN ON THE *SANAM* ATTEMPTS TO STEAL RUSSIAN MISSILE TECHNOLOGIES

**[This interview was originally published in Russian in *Yaderny Kontrol*, No.2, March-April, 1998.]**


*Mikhail Kirillin, officer of the Russian Federal Security Service, presents the official position of his agency on issues pertaining to the control of the exportation of missile equipment and technologies from Russia, and answers questions regarding Russia-Iran cooperation, in an exclusive interview with Yaderny Kontrol.*

**YADERNY KONTROL: How would you assess Russia's activities in fulfillment of its obligations in the field of export controls?**

**KIRILLIN**: As we see it, since Russia joined the International Missile Control Regime (MTCR) in 1995, it has been strictly fulfilling all obligations undertaken in the framework of the regime. Our national legislation provides for criminal prosecution for violations in export of dual-use technologies. To coordinate the efforts of all the agencies concerned, President Yeltsin issued a decree which set up the Government Commission of the Russian Federation for Export Controls. Today, it is headed by Yakov Urinson, Deputy Prime Minister and Minister of the Economy of Russia. The Commission provides guidelines on the current controls, including operational controls, over export of dual-use goods and services. On January 22, 1998, the Government of Russia passed *A Resolution on the Improvement of Controls over the Export of Dual-Use Goods and Services Related to Weapons of Mass Destruction and Missile Delivery Vehicles*, [see *Yaderny Kontrol,* No.1, January-February 1998, p.26 – **Edit.**], which provides for considerable tightening of the existing controls, and increasing responsibility for the heads of agencies for observing the MTCR, the Wassenaar Arrangements and other export control regimes. All agencies concerned, including those responsible for defense and law enforcement, will take part in the export control conference which will be held very soon under the auspices of the Ministry of the Economy of Russia. And this is not the full list of measures taken by the supreme leaders of the country.

**YADERNY KONTROL:** The Commission may be functioning, resolutions may be passed, however, in reality…

**KIRILLIN**: It would be naive to think that this is just *double-dealing* on our part. Let us set that straight: *much more* than the United States, Russia is interested in seeing that *never at any time* will a country possessing advanced long-range missile potential appear on Russia's southern borders.

The Russian agencies concerned (including, of course, special services) thoroughly investigate any alleged breach of the [export control] regime by our part, whenever our MTCR partners (including the USA) inform us of it, either officially or through the mass media. Today, we can state that *no such breaches have been revealed*.

**YADERNY KONTROL**: We would like to discuss a whole list of countries sensitive in terms of nuclear, missile or other proliferation risks. However, let us confine ourselves to Iran, as an example.

**KIRILLIN**: The Russian special services are monitoring and suppressing all attempts by individual Iranian state and private companies to obtain defense information in circumvention of the existing rules, and, first of all, the production technologies for so-called *dual-use* items.

In the past year alone, the Federal Security Service (FSB) bodies intercepted several Iranian special services' intelligence operations in this field. We terminated the activities in Russia of the Iranian industrial group *Sanam,* which was trying to obtain such information.

**YADERNY KONTROL: So, you assert that *Sanam* has *repeatedly* tried to get access to Russian secrets. Do you have any specific references?**

**KIRILLIN**: Of course I do. Let's not look at every cases, but only those which happened in 1997.
In early 1997 there was an attempt to manufacture part assemblies and components for liquid propellant missile engines disguised as equipment for gas stations at the Kuznetzov Research-and-Production Complex, Samara (formerly NPO "Trud"). [In regards to] this enterprise, it was difficult to see, whether the Iranian order was entirely *civilian* or there was something *suspicious* about it. However, they managed to sort it out. The attempt was curbed by the Federal Security Service at the phase of technical documentation development, after the principal contract had been signed.

In June 1997, *Sanam* was trying to obtain sensitive materials on aircraft technology from a Russian citizen. We stopped that attempt. The punishment was confined to deportation of one Iranian from Russia, and two more Sanam employees were not permitted to enter [the country]. The Iranian party was issued a warning about the unlawful activities of some of their representatives in the Russian Federation.

The Ministry of Foreign Affairs and the Federal Security Service made a mutually agreed decision to adopt an accommodating approach towards Iran and not to aggravate the situation. Therefore, the response was confined to deportation of the delinquents from the country, without more severe steps taken, though we could have done that as the company employees did not have diplomatic immunity. However, we exercised restraint in the hopes of understanding.

However, there was no understanding given in return. We had new evidence: in Zhukovsky (at the Central Aero-Hydrodynamic Institute, TsAGI), Iranians were planning to do - again on *Sanam*'s initiative - aerodynamic tests which involved the construction of an aerodynamic tube for the Iranians. It should be noted that the TsAGI people showed a conscientious approach, especially appreciable against the background of the fact that the Iranian contract could provide salaries and a headache-free existence for the Institute for many months. But for the TsAGI, the importance of nonproliferation was superior to the immediate, though tempting, benefits, and they brought this matter to the Interdepartmental Commission for Export Controls, who returned a negative response. No contract was signed. Therefore, Americans, who now claim that they were the ones who made the Russian Government terminate the contacts between Iran and TsSAGI, actually had nothing to do with it. They informed us (and mass media) of the deal being prepared after it had been nullified.

Finally, on November 14, 1997, Resa Teimuri, "technical representative" of the Iranian Embassy in Moscow, who hold of a diplomatic passport (and also student of one of Moscow's universities), was arrested in the Moscow Metro while he was attempting to obtain non-classified design documentation on dual-use missile technology from a Moscow business.

**YADERNY KONTROL: What, in your opinion, is the reason for such a response?**

**KIRILLIN:** It is obvious, not only to myself, that the Near and Middle East regions concentrate impressive fuel resources and accommodating traditional trade routes from Europe to Asia and Africa, the region controlling access to the Caspian Sea and Indian Ocean, has long been the arena of diplomatic, economic and, sometimes, armed struggle (most of the time, hidden from outsiders) between the USSR (and now Russia) and the USA over the degree of influence each will have the in the region. We believe, that the Soviet diplomacy, which was too ideologically motivated and, at times, too straightforward and incapable of reasonable compromises, was hardly assisting stabilization of the regional situation. And, to a great extent that was the reason why in early 90s we kept loosing our position, because of plunging back and forth, often bewildering our traditional partners by

our diplomatic steps. But times change, Russian diplomacy now clearly understands its objectives in the Middle East and takes all possible steps to normalize the situation[1]..

It may appear that the world community has recently demonstrated its desire to address the issues of the region by way of negotiations on several occasions, by achieving agreement at round table discussions, where all the parties are equal… However, let us face the reality. Any serious political scientist in the West clearly understands that over the long run in today's real world, and not in the world of the missile illusions and ghosts, the position of each country in the region is determined primarily by a combination of political, economic and social factors. The military component, as an element of influence, has, of course, remained, but its role in the recent years has dropped dramatically.

This is the reason for all *the fussing over*. Russia recently signing a few large long-term economic agreements with Iran, including assistance in the construction of the nuclear power plant in Busher (carried out under stringent IAEA control) as well as development of a large gas field. It is no secret that Russia is trying to establish mutually beneficial cooperation in the military technology field with all states, including Iran; Russia also continues to fulfill its obligations under previous Soviet contracts. By the way, Russia is fulfilling its obligations on the warranty maintenance of the delivered armament and military equipment, including under previous Russia-Iran contracts.

Some successful diplomatic actions, including the recent visit of Evgeny Primakov to some Middle East countries, contributed in raising Russia's prestige in the Arab world. In the USA and Israel they are trying to find some countermeasures[2].

**YADERNY KONTROL: But the United States may be interested in the values of nonproliferation, too. Everything seems to indicate that they have put up strong barriers against the illegal export of materials and technologies critically important in terms of nonproliferation, to threshold countries.**

**KIRILLIN:** Your assumption is not necessarily the case. I remember the visit of a high-ranking CIA delegation to Moscow last November. During the visit they were received by Nikolai Kovalev, Director of the Federal Security Service, who told them about information available to the Russian special services about contacts between some private American companies involved in the development of missile technology, and Iran[3]. He also pointed out certain breaches of the MTCR rules in military cooperation between the USA and Israel. The Americans were shocked. However, the Americans chose not to disclose anything - obviously for excessive modesty - to their mass media.

During that meeting the Director of the Federal Security Service, no doubt, mentioned to his American counterparts some major MTCR non-partner countries actively cooperating with Iran in the missile field. They most probably spoke of the CIS countries, too, which for to a number of objective reasons, for example, because of high-level cooperation in the former USSR, possess *dual-use technologies* which may be used in development of the missile equipment.

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[1] For details see: *Voprosy Bezopasnosti,* PIR Center. No.16 (October 1997): p.1-3

[2] For details see: *Voprosy Bezopasnost* , PIR Center. No.14 (September 1997): p.6-7.

[3] Editors of *Yaderny Kontrol* officially requested the U.S. Department of State and the U.S. Embassy in Moscow to confirm or deny this statement. We suggested that we would publish official U.S. comments after this interview but, by April 8, 1998, unfortunately, we have received no comments.

**Analysis**

# NUCLEAR WEAPONS IN POST-COLD-WAR ERA: ARE THEY STILL A NEED FOR THE WORLD AND RUSSIA?

**by Ivan Safranchuk**
**PIR Center Research Fellow**

**[This article was originally published in Russian in *Yaderny Kontrol*, No.34-35, October-November, 1997]**


For over 50 years the world has lived in a nuclear environment, and almost 40 years ago it realized , that no place on the globe is safe should nuclear weapons (NW) be used.[1] In the 60s global vulnerability awareness had transformed into understanding that NW guaranteed mutually assured destruction (AMD) of the countries involved in a nuclear conflict (some experts insist that the whole world would cease to exist).

This has continuously added fuel to the traditional dispute over whether on not the arms race would inevitably result in war. Some maintained that if there is a gun, it will fire, sooner or later. In case of nuclear arsenals this means, that the world has lived for decades under the "sledgehammer" of total destruction, and that it has not happened is a mere accident. Others argued, that there were no reasons to claim that the arms race was sure to end in war, and whether or not it breaks out depends on a series of factors (national interests, political will, etc.), not solely on arms build-up.[2] Today the question should be formulated in a somewhat different way. First, the nuclear arms race no longer exists. The trend has reversed, i.e. the reduction process is currently under way[3]. This makes the present question: "Do nuclear arsenals inevitably lead to war?" Second, the previous formulation of the question *a priori* implied that the function of NW is to destabilize the status quo. In some cases they were considered to be a major destabilizing factor, in others only a contributory one.

Given the above two observations, it seems possible to formulate the question in the following way- "Does NW maintain international stability, or not? Are they a stabilizing or destabilizing factor?"

**Does the World Need Nuclear Weapons?**
It has been generally recognized that the arms race, including the nuclear weapons field, is one of the manifestations of a bipolar system of international relations and is its logical consequence, since the two superpowers (USSR and USA) have always sought a military build-up to maintain the existing balance of power or shift it to their advantage. Up to a point it seemed to be a "snowball effect": the number and quality of nuclear weapons grew due to an extremely low credibility level between the two states, moreover each superpower continuously improved its nukes to keep pace with the other (i.e. to maintain the existing balance of power) or leave the competitor behind (i.e. change the balance to its advantage). Attempts to somehow control the process, i.e. to set rules of the game, did not in principle change the approach to NW. They had always been regarded as an element of confrontation , which in its turn, was a form of the balance of power relationship.

Following this logic, which treated nuclear weaponry as a component of global confrontation and as a major means to maintain and/or change the balance to the advantage of one of the two sides, it becomes clear, that the end of confrontation means the extinction of its implications. In this respect the Soviet proposals made in the second half of the 1980s concerning total nuclear disarmament are quite understandable: no confrontation – no nukes.

Nevertheless, the disarmament euphoria of the 80s was replaced by the realization, that a bright future with the world order based on the balance of interests, but not force is not possible, at least in the foreseeable future. No doubt, Olof Palme's statement that, "International security must rest on a commitment to joint survival rather than on a

threat of mutual destruction"[4] sound very appealing. The alternative suggested by him implies "common security"[5], but the reality is different.

The previous confrontational paradigm of international relations based on ideology no longer exists. But most likely its successor will be the same (in the sense of confrontation) and fundamentally it does not matter whether it would be a confrontation between civilizations, as Semuel Hantington assumes, or the North-South division would predominate, as some others predict. Henry Kissinger believes, that the new world order will resemble European politics of the 19th century.[6] What is important is that confrontation, including a military component, will underpin the new world order. Thus it will rest, as it did before on the balance of power.

Westfalia, Vienna, Versailles-Washington and Yalta-Potsdam have historically been the four systems of international relations. In retrospect, the first three have two features which stand out. The Westfalia system existed for about 150 year and was destroyed by the Napoleonic wars. The Vienna system died at the age of 100 ending in WWI, at that time unprecedented in scale, blood and combat cruelty. The Versailles-Washington system survived less than 20 years and was followed by the most horrible war in human history. Thus, each successive system existed for a much shorter period of time and the war , which ended one and at the same time gave birth to the next system of international relations was larger in terms of its scale and death toll.

This is certainly explainable. The world's development continuously accelerated and as a result in each period countries took advantage of new opportunities to accumulate in shorter time the necessary potential to change the balance of power to their advantage, and each time they used more sophisticated and efficient weapons.

Yet, the Yalta-Potstdam system existed for 45 years and its erosion has only been accompanied by local conflicts. Moreover, the collapse of the system itself made possible the solution of a number of conflicts, in part or completely. The anticipated global war did not break out.

Why did the logic of the preceding systems fail? The author believes the reason for this is the possession of nuclear weapons by the great powers, which were actually the pillars of the previous system. Any attempt to change the status-quo by way of a large-scale military intervention guaranteed mutual destruction. Given the threat that NW might be used, it made no sense to use brute force (local conflicts excluded). The price to be paid was higher than the pursued objective was worth, no matter how attractive it could be. Thus, NW happened to be the most efficient means of maintaining system's stability based on the balance of power.

The above explanation of the reasons which enabled the globe to overcome the logic of the previous systems of international relations is not the only possible one. An American author John Muller stated: "It is very difficult to have a war when no one has a slightest desire to get into one"[7]. Another American scholar wrote: "...a major cause of past wars was the belief that armed conflict could not be avoided"[8].

But after WWII only one big state (China) argued that WWIII (thermonuclear) was unavoidable, while others insisted that the war was not inevitable, i.e. they did not proceed from the assumption of its inevitability and, hence, quoting Robert Jervis, there was no "major cause of war". It follows from this logic that the war did not break out due to a lack of political will. Such an opinion is rather popular. Yet, the author feels, that the reason mentioned above (if we use categories of formal logic to describe relationships among concepts) is subordinated to mutually assured destruction (possibly total) as a basis for maintaining stability and the cause for avoiding the war, i.e. assured destruction is responsible for the lack of relevant political will.

There is another body of opinion, which maintains, that besides nuclear deterrence there was a number of other stabilizing

factors, such as the development of integrated global economy, international relations had become less violent on the whole and rules of the game had been established through the development of international law and negotiation procedures. Albeit, the idea that there is less force in international relations in general is rather relative; the rules of the game are subordinated to nuclear threat and the process of their development should be regarded as an attempt to minimize risks inherent in nuclear confrontation. Close economic ties failed to prevent wars in the past as well. Undoubtedly, one cannot ignore such a phenomenon in the second half of the 20th century as the emergence of world economy and the resulting economic interdependence. The latter is a reality capable of stabilizing the system of international relations, and the importance of this factor will increase with international competition leaving military area and shifting its focus on economy and information technologies. Nevertheless, as long as "competition field" based on force exists we will need an adequate stabilizer, i.e. NW.

Thus, NW turned out to be a sole real stabilizer of international relations based on the balance of power. All other factors of stability are subordinated to it or secondary.

Of course, one should not forget about the threat of nuclear weapon and their drawbacks, and that in certain circumstances they may reverse their stabilizing mission.

The major weaknesses of NW are the following:

1. Advances in science and technology make them smaller in size and cheaper to produce, which enhances the risk of them falling into the hands of various extremist and terrorist groups;
2. NW proliferation and emergence of new nuclear powers can hardly contribute to global stability;
3. Implementation of START II will radically reduce first nuclear strike incentive due to destruction of MIRVed ICBM, though for the time being this factor should not be completely discarded.

The fact that number of nuclear powers is restricted leads other states to search for NW substitutes (unless they are not capable to develop these weapons as well), i.e. chemical and biological weaponry. Reference to these types of WMD as "The weaponry of the poor" is well founded.

In addition to this a group of subjective factors inherent to NW can be singled out. These are the risks associated with the intellectual level of the ruling elite, and the moral and psychological stability of leaders, who take strategic military decisions.

Despite the drawbacks of NW mentioned above attempts have been made to control their proliferation. These are NPT and CTBT. The Moscow Nuclear Safety and Security Summit is another step forward in this direction. These mechanism should be further developed and new ones created. The drawbacks of NW are a stimulus for their control, but not a pretext to ban them.

In view of the above the new world order seems to be based on the balance of power, and NW are the most efficient stabilizer of such a system. Hence, to maintain strategic stability the world needs them.

**Does Russia Need Nuclear Weapons?**

NW possession will be restricted. And therefore it is most likely to become one of the conditions for attaining the status of a balancing force. Experience shows that this status gives certain political and possibly economic advantages.

The question is not as simple as it may seem at first glance, and the answer to it largely depends on the international strategy of the state. Some experts and politicians argue that Russia should be dormant (inert) in international politics, there is no need for it to be a balancing force, and that Russia should give up its traditional power and withdraw from active international politics.

Nevertheless a different approach has prevailed at the official level. Top-ranking

Russian officials have proclaimed more than once that Russia is a great power and will pursue an active international policy aimed at protecting its national interests. This is reflected in a 1996 Address on National Security by the Russian President. It says "The scale of the country, its economic, human and intellectual potential, unique strategic position in Eurasia as well as the availability of practically all kinds of natural resources have made Russia one of the most important world centers. …In terms of its political significance, economic, military and political potential, its impact on world affairs, and as a permanent member of the UN Security Council Russia is rightfully among the great powers" [9].

A similar opinion is shared by Evgeny Primakov, Russia's Minister of Foreign Affairs: " It (Russia) needs to be more active and effective in defending its national interests"[10].

But what are the national interests of Russia? It seems that the global approach to defining Russia's national interests which extended Soviet and then Russian interests throughout the world had been justly criticized[11].

Accelerated economic development, the earliest and most efficient solution of current economic, social and demographic problems are the major challenges facing Russia today. Under these conditions the national interests of Russia within international context can be formulated as follows:

1. To establish a stable and non-discriminatory system of international relations (at least in respect to Russia).
2. Russia should be actively involved in the solution of global and regional problems which affect its economic interests and pose a threat to international security (which actually means maintaining the status of a balancing force).
3. To maintain national security, i.e. the protection of territorial and political independence.

With reference to the aforesaid, nuclear weapons are absolutely necessary to maintain global stability, i.e. the stability of the system of international relations.

To meet the second challenge NW are also necessary. No doubt, today the mere possession of nuclear weapons does not guarantee that a country will achieve the status of a balancing force. For instance, Germany and Japan, which have no nuclear arsenals, will be most likely balance powers due to their economic and financial potentials. But, for Russia today, with a collapsed economy and lack of socioeconomic stability only nuclear weapons can secure the above status.

NW remain a major means of maintaining national security, since Russia's conventional forces proved unable to meet the challenges of the day. But, the state of Russia's Army is not entirely relevant. One should clearly distinguish between local and non-local wars. Conventional forces can be used only in local conflicts. In world war their role is reduced virtually to nil and NW assume the major role (concurrently NW are a factor which prevents the emergence of circumstances which may require their use).

Thus, Russia needs NW. But what are the best parameters, both quantitative and qualitative, of the Russian nuclear arsenal?

When determining quantitative and qualitative parameters it should be remembered that Russia does not intend to attack anybody Russian NW are a means of deterrence and defense. Therefore, the possible counterforce (both first and second) nuclear strike should be withdrawn from the military doctrine. In the case of nuclear conflict, counterforce strikes are just a waste of nuclear warheads, particularly after the possible implementation of START II, which provides for destruction of MIRVed ICBM. The USA is a vivid example of this[12]. If we deliver a counterforce strike on this country we would also have to hit the ocean and other nations, which makes no sense. But even if all nuclear weapons of a certain country are deployed on its territory, a counterforce strike is sure to lower the level of damage. So, a countervalue strike is to be recognized as the only possible nuclear strike Russia must be able deliver. One can agree with Sergei Kortunov, adviser to the Secretary of Defense Council, who says, that

"……today for Russia the optimal option is a non-aggressive, non-offensive and non-provocative (even "friendly"), but at the same time credible deterrence, not only towards US, but an all-azimuth-oriented one – a kind of Russian version of classic de Gaull's doctrine of dissuasion as opposed to the American nuclear deterrence"[13].

**Quantitative Parameters:**

1. *Minimum Costs*. There's no need to say that Russia cannot afford costly military programs.
2. *Maintenance of the necessary level of weapons to inflict unacceptable damages to a possible enemy (enemies)*. Actually here the concept of minimum deterrence is implied. This concept was widely debated in the second half of the 1980s. But its formal support was accompanied by its distortion, Dmitry Yazov, former Minister of Defense, interpreted minimum deterrence in the following way: "Today for strategic nuclear forces deterrence is considered to be the ability to prevent a nuclear attack on our country with impunity under any, even most unfavorable, circumstances. Of course, the Soviet Union does not seek nuclear superiority or higher security, but it will never agree to lesser one and will not allow military superiority over it"[14]. In other words the concept of reasonable deterrence is reduced to maintaining quantitative parity. The idea of approximate military parity is still alive[15]. Even now quantitative parity is presented as a necessary element to ensure national security and strategic stability.

The idea of such parity caused concern both abroad and in the USSR (Russia). The United States, for instance, back in the late 50's and early 60's attempted to determine a nuclear limit which would have been unreasonable to cross. Robert McNamara, Secretary of Defense in the Kennedy administration estimated it as the level of 500 nuclear warheads[16]. The USSR also made similar attempts, although much later. Aleksei Arbatov, analyst for the Institute of World Economy and International Affairs maintains a proposal that "…400 megaton nuclear warheads can destroy 80 percent of the industry of any of the great powers, killing " at the same time" up to 30 percent of their population"[17]. The idea of not seeking the nuclear potential which would equal the total nuclear power of nuclear states was also suggested by Ivan Tyulin and Andrei Zagorsky, presently first prorector and prorector respectively of the Moscow State Institute of Foreign Affairs under the Ministry of Foreign Affairs[18].

The studies conducted by the General Staff in 1991-92 (for the USSR) estimated the minimum deterrence level at 2500 nuclear warheads[19].

Simulation of nuclear strike exchanges has shown, that each of the sides (USSR and USA) at the second strike can deliver a minimum of 500 to 700 nuclear warheads to the enemy territory[20]. These studies implicated counterforce strikes In other words, the less attractive this kind of strike is (which is inevitable should START II be implemented, and given higher survivability of launchers), the more nuclear warheads can be delivered to the enemy's (enemies') territory on the second strike. And, their number is far above the level necessary to inflict unacceptable damages. Some estimates show that 200 to 270 nuclear warheads would throw the US back to the state of the poorest African nations[21]. Besides, damage may grow through optimization of a countervalue strike, i.e. due to carefully selected targets. Destruction or serious damage of the 68 nuclear power plants now operating in the US would make 195 to 430 thousand sq. km of the US territory unfit for living for decades[22]. Add to this chemical plants, oil terminals, etc.

Thus, the quantitative interpretation of parity is irrational. We must precisely determine the level of reasonable deterrence, i.e. the level which enables to cause unacceptable damage with the reciprocal strike, and attempt to gradually reach it (even unilaterally).

**Qualitative Parameters**:

1. *Higher survivability of nuclear weapons.*

As said before, implementation of START II will make counterforce strike less attractive,

still it cannot be excluded completely. Thus, we need nuclear weapons, which can survive a counterforce strike.

2. *Stability in crisis situations*.

The possibility of unauthorized use of nuclear weapons or its use based on unconfirmed or incorrect information must be excluded (ideally, but in practice it can be only minimized), i.e. reliable and efficient control systems are required.

3. *Economic Feasibility*.

There are various propositions on how to attain the quantitative and qualitative parameters discussed above. The idea of building reinforced silos with zero vulnerability is popular now[23]. The ability to reach the aforesaid parameters, which would guarantee the second strike are thought to be the merits of this concept. Yet, some assertions of its proponents give rise to doubts: 1. In terms of funding, this project is hardly realistic; 2. Moreover, there are doubts about whether it is technically feasible. The concept of zero vulnerability silos is not new, a similar idea was suggested long before by Andrei Sakharov. According to General Leonov a similar concept had been discussed and rejected by the military due to extremely high costs and significant technological difficulties.

In the author's opinion the parameters mentioned above should be attained through cheaper and technologically feasible ways, i.e. not through innovations, but with maximum use and modification of what is available today. In this respect it seems expedient to preserve the traditional structure of the national nuclear triad with some revisions of its quantitative parameters. The signing of START II has added fuel to the debates over whether or not Russia's nuclear forces should be restructured, and if it is reasonable to bring them closer to the American nuclear symmetry[24]. The reason is that START II provides for complete destruction of ground based MIRVed ICBMs, which formed the greater part of the ICBMs and the latter were and still are the core of the national nuclear triad. In this case a substitute to silo MIRV ICBMs should be found. Part of the science community advises that the number of SLBMs be increased since under START II they can be MIRVed, which will allow for the preservation of combat power together with a higher survivability rate for the national nuclear weapons, since SLBMs are less vulnerable. But, maintaining the fleet of nuclear submarines and making this component of the nuclear triad stronger can hardly be justified for financial reasons.

The author feels that a different option is more reasonable. MIRVed ICBM should remain as the basis of the nuclear triad but the focus shall be shifted to mobile ICBMs. The article does not attempt to suggest a detailed structure of strategic nuclear forces of the Russian Federation, which is a subject for a different article, but some tips can be given. Today Russia has two types of mobile ICBMs: SS-24 (on railway platforms) and SS-25 (on trucks).

The increase in SS-25 to gradually replace SS-24 (which are subject to destruction) and SS-19 will lessen its vulnerability. This is particularly true if we take into consideration that MIRVed ICBMs will be destroyed and consequently the conterforce strike option will become even less attractive. In other words these measures will lessen the incentive to deliver the first counterforce strike. In such a way we can attain the first qualitative parameter, i.e. higher survivability of NW at the minimum cost.

Another qualitative parameter -- stability in crisis situations -- can be achieved if we abandon the concept of launch on warning (LOW) strike and switch to retaliatory strike (RS). The LOW concept is a quick reciprocal nuclear strike based on data supplied by advance warning systems. The merit of this approach is thought to be that it allows a country to bring into action most of its nuclear potential, i.e. more warheads are delivered to enemy's targets. However, it should be remembered that half of the advance warning system (AWS) radar of the former USSR are now outside Russia. In addition, a psychological uncertainty is inherent in the LOW concept, i.e. on the one hand it is a lack of right for mistake, on the other hand it is a lack of right not to use nuclear weapons if there are doubts. The RS concept consists in retaliatory strike based on

precise information about the enemy's attack. The demerit of this concept is thought to be that fewer of enemy's targets would be hit. In this case, the arguments of RS opponents are based on an efficient counterforce strike concept. Should START II be implemented the incentive for the above strike is lower so is its efficiency is due to the higher survivability of ICBMs (see above), hence, criticism of RS opponents is biased. In addition RS eliminates the psychological problem discussed above – the decision to deliver a nuclear retaliatory strike is justified, since it is based a precise information about enemy's nuclear attack. Thus, the stability in crisis situations can be achieved if we replace LOW with RS, which is possible if we attain the first qualitative parameter, or make NW survivability higher.

The third qualitative parameter (economic feasibility) can be attained if we succeed with the first two parameters following the above suggested scheme. To increase the number of ICBMs (in order to lower vulnerability) costs less than nuclear submarine fleet build-up and revision of all military plans, which is unavoidable in restructuring the nuclear triad. To improve the survivability of NW control systems which is necessary for the switch-over to RS (though it includes a number of problems)[25] is cheaper than to build new advance warning stations, which is necessary for the LOW concept.

To be sure, all speculations about NW reduction and switch-over to the concept of reasonable deterrence are just a waste of time if the ABM treaty is violated. But this is a different subject. When the author stated above that nuclear weapons are the best stabilizer for the system of international relations based on the balance of power and discussed the possible quantitative and qualitative parameters of the Russian nuclear arsenal he proceeded from the assumption that 1972 ABM Treaty would be fully observed in the future.

**Conclusions**

The costs of nuclear weapons are high, but security is dearer.

1. NW are the only efficient stabilizer of a world order underpinned by the balance of power principle. The new system of international relations, as the author sees it, would be to a great extent just as described before. That is why the world needs NW to secure its strategic stability.
2. Russia needs NW to maintain its status as a balancing force and for reasons of national security. It would be reasonable to give up quantitative parity and confine ourselves to reasonable deterrence with its level carefully calculated. To maintain it the vulnerability of NW should be lessened and its stability in crisis situations enhanced. Practically this can be achieved through the build-up of ICBMs, but within START II restrictions and a switch-over to the RS concept. Such an approach permits us to contribute to the strategic stability and maintain national security at minimal costs.

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[1] The author proceeds from the assumption that the development of ICBMs is a reference point of global vulnerability.

[2] George W. Dowus, "Arms races and War"./Behavior, Society and Nuclear War, Volume II (Oxford: 1991) p. 74.

[3] Even if we include the nuclear modernization programs of France, Great Britain and China, the total number of nuclear warheads and NW vehicles is still declining.

[4] Our Global Neighbourhood, (New York: 1995) p. 80.

[5] Ibid.

[6] H. Kissenger, Diplomacy, (London: 1995) p. 807.

[7] John Muller, Taking Peace Seriously: Soviet-American Relations After the Cold war, (Duke University Press: 1991) p. 264.

[8] Robert Jervis, The meaning of the Nuclear Revolution, (New York: 1989) p. 167.

[9] "Address on National Security of the President of the Russian Federation", (Moscow: 1996) p.4.

[10] Yevgeny Primakov, "Strategic Priorities", Petro-News, May 1996, p. 39.

[11] See e.g. A. Kozyrev, The Transfiguration,(Moscow: 1994) p. 261-271.

[12] Hereinafter the author will refer to the USA to illustrate possible scenarios of nuclear weapons use. It doesn't mean that the author views the USA as Russia's enemy, at least in terms of its Cold War interpretation.

[13] Kortunov S., "Disarmament and national objectives", Mezhdunaroduaya Zhyzn,№ 7, 1996, p.44.

[14] Yazov D.T., "Military Balance of Forces and Nuclear Missile Parity", Pravda, February, 8, 1998.
[15] Together with others it is strongly supported by V.V.Mikhailov. See e.g. his book "I am a Hawk", (Moscow: 1993)/ See also Dvorkin V., Tsvetov G., "Further Possible Depletion of SOW Arsenals: Terms and Principles", in Russia in Search for Security Strategy,( Moscow: 1996).
[16] Harry D.Hollis, Averill L.Powers, Mark Sommer, The Conquest of War, (New York: 1991) p. 55-56.
[17] Arbatov A., "Parity and Reasonable Deterrence", Mezhdunarodnaya Zhyzn,№ 9, 1998, p.86.
[18] Tyulin I, Zagorsky A. "Contours of "Pre-zero" Nuclear Balance", Mezhdunarodnaya Zhyzn,№ 6, 1988, p. 116.
[19] "How Many Nukes Does Russia Need", Novoye Vremya, №12, 1993, p. 29.
[20] Rogov S.M., Gerasimov M.I., Oznobishchev S.K., Surikov V.M., Surikov A.V., "Treaty on Further Reduction of Strategic Offensive Weapons", USA: Economics, Politics, Ideology, №4 1993, p. 30.
[21] "How Many Nukes Does Russia Need", p.28.
[22] Sutyagin I.V., "START II: A Step Forward of a Stalemate?" USA: Economics, Politics, Ideology, №5, 1993, p. 15.
[23] For details see Stolyarov A.I.б "Zero Vulnerability Silos - a clue to Deliverance from Nuclear Missile Heritage", USA: Economics, Politics, Ideology, №5, 1993.
[24] For details see Arbatov A., "Problems of START II. Implementation", in Russia in Search for Security Strategy, (Moscow: 1996), p. 20.
[25] Arms control and National Security, (Washington: 1989), p. 94-96.

## Roundtable Discussion

# ORGANIZED CRIME + LOCAL ELITE GROUPS = NUCLEAR BLACKMAIL?

**By Radiy Ilkayev,**
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**Nikolai Cherepanov,**
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**[This discussion was originally published in Russian in *Yaderny Kontrol*, No.36, December 1997]**


*Daniel Yergin and Thane Gustafson's book Russia 2010. And What it Means for the World[1] was published in New York in 1993, and became a best seller at once. One of the main reasons for this was because it appeared in book stores "at the right time": the equilibrium between the executive and legislative branches of power in Russia was giving people a lot of food for of thought and producing various, contradictory scenarios. Yet, very few ventured to predict what would happen more than several months into the future. In direct contrast, the authors of this book came up with a chain of forecasts, up to the year 2010. Another reason was the strong lust for futurology, especially when the futurologist is Daniel Yergin himself - a prominent analyst who has won a lot of points with his thoughtful research into the interrelationships of "Energy - money - power". And finally, in the ocean of literature about Russia from those years, very few authors dared to give even an overview of the situation, touching equally upon political, national, social, economic, and strategic aspects.*

*The book was widely read and discussed, as well as criticized by many.Often this critcism was directed at the shallow, careless examination of certain parts of the Russian "organism", which, as the critics pointed out, was largely because the authors wanted to embrace "unboundedness", while looking into "everything a little bit".*

*One chapter of the book - "The Unexpected" -was received with unequaled interest both in Russia and the United States. It dealt with two themes of the "future": first, the possibility of another nuclear power plant accident of the "Chernobyl type", and second, the possibility of nuclear, specifically plutonium, terrorism and blackmail[2]. Amateurs in both countries were turning the breath-taking pages, as if written by Nostradamus himself, while experts in Russia and America immediately rebuked the authors for their superficial analysis. Furthermore, viewpoints differed: the prevailing opinion in the United States suggested that the described scenario, maybe not exactly in the way it was presented, could not be disregarded. Russian experts, however, were skeptical about the idea of plutonium terrorism per se.*

*Today, when we are four years closer to the ultimate forecast since it was first published in Russia 2010, we have to admit that so far the four main scenarios of Russia's development - "Sliding Down", "The Double-Headed Eagle", "Chaos and Reaction", and "Chudo" – have become confused, but still some projections appeared to be very precise.*

*After Pervomaysk and Budennovsk [where the Chechen terrorists attacked peaceful population], the problem of terrorism is being viewed differently in Russia. At the same time, totally unlike it was four years ago, we now have a solid information base with data on terrorist groups, their intentions and the level of physical protection of nuclear-hazardous sites. This gives us room for an unbiased evaluation of the scenario described by the specialists, putting aside the literary rubbish.*

**YADERNY KONTROL: The events described, are they possible in principle?**

**Pshakin:** In principle, these kind of events can not be completely ruled out because their driving force is the human factor.

**Rumyantsev:** No, other variants seem more likely, such as theft at the level of ordinary workers, not the management. The rank and file know the system *from the inside,* while the directors are not familiar either with the weak points or how the system operates.

**Ilkayev:** The problem of nuclear security is much too serious for the world community to approach it from the standpoint of ambiguous political science fiction. More than that, control and protection of nuclear materials, possibilities of theft and other related issues create the problems and threats, which confront all nuclear nations, as well as countries having nuclear power plants. The main attention of the Russian and world public and specialists must be attached to the particular issues of business-like and legitimate coordination of activities, joint studies, etc., rather than to the *image of an unstable nuclear Russia.*

I suppose it would be appropriate to remind you that, as far as the weapons are concerned, the most serious, potentially catastrophic emergency cases, involving nuclear weapons, took place in the United States, at Palomares and Toulet. In other words, compared to the U.S. situation, the state of nuclear security in Russia looks solid enough. Nevertheless, I have to admit that the resources, allocated today for maintaining and developing the existing security system, are insufficient.

The given events demonstrate clearly enough how fruitless and dangerous it may be to apply Western standards to the analysis the Russian reality and the Russian perspective.

The authors merely attribute Western countries' own concerns and problems to the Russian *reality,* a reality created by their own imagination. A fictitious reality! Even in the event of an enormous propaganda campaign and in the conditions of a theoretically possible large-scale theft of plutonium, it is hard to imagine that the society would become so agitated that its reaction could produce such a significant political impact. A hypothetical nuclear power plant catastrophe is a different story. Theoretically, it can not be ruled out. Presently, however, the

accident proneness of domestic nuclear power plants are no worse than those of France, Japan or the United States.

Daniel Yergin and Thane Gustafson's manner of writing seems somewhat provocative in the psychological sense. This kind of approach can hardly be in the interests of either Russia or the rest of the world, including the United States.

**Volodin:** Theoretically speaking, the theft is possible. In practice, no. Nor is it possible to steal a nuclear warhead. There is an interest in nuclear weapons-grade materials, and the described theft scenario seems logical enough. However, it does not refer to plutonium products.

**Cherepanov:** It's barely possible.

**Q: Now my question is only to those who at least said "theoretically yes". How high is the probability of that scenario and how exact are the details described? If "no," please explain.**

**Pshakin:** The event itself is highly improbable. So far, no one has ever made a quantitative probability assessment regarding such an event. It seems completely impossible. As to the details of the situation described, it is neither possible to fully accept it, nor deny it.

**Rumyantsev:** The theft is possible; no quantitative assessment whatsoever. The only obstacle for the would-be thieves are the old-time specialists at the production site, those trained before 1990-1991. They would act, guided by *higher moral principles.* All other obstacles, including technical ones, can be overcome. However, the material in question would not sell. Iraq, Iran, and Pakistan - the only possible buyers - are either under a UN embargo or being closely watched by the United States. And at the present time, Israel would not buy contraband fissile materials.

**Q: Is the described scenario possible: a) today; b) in the near future; c) in some distant future?**

**Pshakin:** *Today* the scenario is barely possible - too much intent attention is now drawn to the Russian nuclear complex on the part of both official agencies (the FSB, Ministry of the Interior, etc.) and general public (the press, television, and others). The cases of theft of and smuggling in nuclear materials can only point at the unprofessional actions of the "sellers" involved when the "buyers" are non-existent. As to *the near future*, I think the situation is likely to improve. International cooperation in the field of inventory, control, and physical protection of nuclear materials is one of the key factors to contribute to that. As far as *some distant future* is concerned, much will depend upon the development of the political situation. A more stable development would mean a lesser risk that someone would have a strong desire to deal in nuclear weapons or nuclear materials.

**Volodin:** I am coming from the perspective that today more and more attention is paid to increasing security and protection measures at nuclear military sites against penetration from the outside (e.g., by Chechens).

**Cherepanov:** Now we are closer to the subject.

**Rumyantsev:** *A plutonium poisoning* of Moscow is impossible for technical reasons. The only possible way is through aerosol spraying, which requires relevant training and experience.

**Q: Have you noticed any misrepresented facts or terminological mistakes in the text?**

**Pshakin:** A lot!

We do not have any "disassembly sites". The disassembling is being done at the same plants that do the assembly work.

A situation where crucial information of state importance is withheld by local FSB branches or individual ministries from the top leadership could only be assumed to be a strained interpretation [of the facts]. So far, information flows, both official and unofficial, have been effective and continuous.

**Rumyantsev:** The so-called *poison-sign products* [labeled with the skull and bones] are stored only in huge containers. One man is not capable of lifting such a container.

**Q: What, in your opinion, is the main reason for stealing nuclear materials: money or the desire to commit an act of political terror?**

**Pshakin:** Most probably, terrorism, political terrorism or extortion, would be the main reason for stealing nuclear materials. Such an act would require skilled professional training, perfect organization, a large budget, availability and the evaluation of the necessary information. That is why most likely it would be some international group. Yet, the experience of the Japanese organization *Aum Senrike* tells us that a religious group is also quite capable of pursuing such an objective.

**Ilkayev:** To assess the prevalent motives behind possible attempts to steal fissile nuclear materials is beyond our immediate responsibility. Our mission is more humble, but more concrete: to deny any possibility of such a theft. That is why, when working out practical organizational and technical measures, we have to assume any possible situation, taking into account that, theoretically speaking, such theft can not be ruled out in any country possessing fissile materials.

**Volodin:** Now the level of interest in nuclear materials is much lower than it was 3 or 4 years ago, the number of theft cases have dropped considerably. At the same time, it is practically impossible to sell nuclear materials on the market due to the strict non-proliferation regime; however, it is quite possible to sell such materials to terrorists. Terrorists may use nuclear materials to create tension among the population (through the mass media). To this end, both LEU and natural uranium would do. It is also possible to try to sell nuclear materials to countries obsessed with global terrorist objectives. Technological terrorism is not possible because one can hardly establish the production technology [needed] based on the type of material used, and then only its chemical composition, which is insufficient to manufacture it.

**Rumyantsev:** There may be commercial goals and terrorist objectives. In the event of organized terrorism, the actions of some international ethnic groups, Islamic first of all, is more probable.

**Cherepanov:** Both extortion and political motives. The most probable scenarios of terrorist actions with the use of weapons of mass destruction are those religiously and ethnically motivated.

**Q: How probable is it that the general public might not be informed about such a theft?**

**Pshakin:** If such a theft takes place, the official agencies will do their best to prevent any leak of information, and only if hard pressed by the force of the circumstances, will they inform the public in the most reserved manner possible.

**Rumyantsev:** The information will only be released in retrospect, after the materials have been moved to safe and secure storage places.

**Ilkayev:** Seemingly, in such a case, informing the public may be necessary only to the extent that it would help to investigate the crime. On the other hand, any excitement or upheaval of the public would definitely impede reaching the only socially significant goal - to find and return the stolen materials in full and as soon as possible.

**Volodin:** It is highly probable that the public will be informed of the case through the mass media.

**Cherepanov:** It would be difficult to withhold the information.

**Q: What is the probability of interstate cooperation in the event of such theft?**

**Pshakin:** Interstate cooperation, especially between nuclear nations, will be important

and required to the maximum extent possible.

**Rumyantsev:** Absolutely possible, at all levels.

**Volodin:** The scope of activities of the G-8 working group on international cooperation and liaison in the event of unauthorized distribution of nuclear materials includes nuclear terrorism. The group [still] has to elaborate on the different mechanisms of interaction for the various G-8 structures in case of attempted nuclear terrorism. However, there is the problem of the effectiveness of this working group, since the decisions are made by diplomats and other officials. If the decisions were made at the expert level, its effectiveness would be much higher.

**Cherepanov:** On preventing a theft - quite possible.

**Ilkayev:** Notwithstanding the hypothetical character of the threat that nuclear materials could be stolen from the countries who possess them, interstate cooperation in this field should develop and is developing with respect to the preparedness of these countries to respond in such emergency situations. In the case of a real theft of fissile materials on the territory of the Russian Federation or any other nuclear country's territory, interstate cooperation is not only probable, it will undoubtedly be set in motion throughout the entire spectrum of possible activities, both within the framework of the existing structures and in terms of undertaking extraordinary measures.

**Q: How high is the probability of suppressing such a theft, and at what stages?**

**Pshakin:** The highest probability of suppressing the theft is right at the site, as the thieves will have to overcome the most obstacles, both technical (radiation portals, fences, security posts, etc.) and organizational (the forgery of documents, falsification of procedures, etc.). Then, if the theft is successful, it will take more time and effort to find and return the stolen material.

**Volodin:** Once the theft is discovered, many agencies will be involved in investigating the case, including the Ministry of Atomic Energy, the Ministry of Foreign Affairs, the FSB, the Ministry of the Interior, the Prosecutor General's office, etc. The degree of involvement of each of these agencies will depend on the stage the theft was at when it was suppressed (the thieves were detained when negotiating the sale of the material stolen; when negotiating the sale of such material [prior to its theft]; at one of these stages when passing the material from one criminal link to another; the material was intercepted on the premises of the site or when being carried out of the facility limits; during storage; in another city/country while being trafficked (then the origin of the material is to be determined), when it is discovered that material is missing in the course of inventory or as an incidental detail in a minor case which later becomes a major one, etc.). The probability of suppressing the theft is high.

**Runyantsev:** It is possible to suppress theft by controlling which personnel have direct access to nuclear materials. Further on, it is barely possible.

**Ilkayev:** Any nuclear nation can be threatened with this kind of threat. But there is a high probability of suppressing such attempts as early as at the stage of theft preparation. Let me emphasize once again and remind you that some time ago the Western press reported on weapons-grade fissile material of unidentified origin that came into Israel's possession. At that time, the United States and France were named as possible sources of the leak. As to the Russian Federation, there actually have been no cases of theft of weapons-grade fissile materials in the country's history. The system of control and inventory in the USSR, including organizational arrangements, has traditionally been very thorough and effective, and the safety factor enables us to rule out, with a high degree of probability, any significant theft.

**Cherepanov:** The probability is high.

**Q: How effective could inter-agency coordination be in such emergency situations?**

**Pshakin:** As in any emergency, inter-agency coordination will be at a high level. The emergency centers, now being instituted at nuclear plants and facilities, are very likely to be involved in such emergency procedures.

**Ilkayev:** You can only talk in a general sense about inter-agency coordination in such extreme situations in Russia, since no such emergencies have ever happened in reality. On the whole, all official structures of the Russian Federation traditionally their most effective in emergency situations, therefore, in the event of a real theft, inter-agency coordination will be sound and prompt. In Russia, there are relevant agencies responsible for such coordination, and they operate on a regular basis. However, any estimation of hypothetical political consequences is beyond our professional competence. Over the past few years, much work has been done both at the national level and within the framework of U.S.-Russian interstate cooperation aimed at denying non-sanctioned activities relating to nuclear weapons and nuclear materials.

**Rumyantsev:** Rather effective.

**Cherepanov:** There is no coordination as such. This kind of situation will influence political development both in Russia and the rest of the world.

**Volodin:** Very effective. The "Chernobyl syndrome" and the political element will work.

**Q: Would such a development influence the general political situation in the country, as the events are described in the book? Why or why not?**

**Pshakin:** I would not have the courage to assess the influence of such a development may have on the domestic political situation.

**Rumyantsev:** No.

**Cherepanov:** No, it would not.

**Q: Please name the countries, besides Russia, that may face the threat of such theft.**

**Pshakin:** Such a situation may occur in any country having nuclear materials or nuclear weapons. With different degrees of probability and taking into account different possible motives to be used, such situations are being considered. The explosion in Oklahoma City tells us that terrorist actions, executed for different motives, can not be ruled out anywhere in the world.

**Rumyantsev:** The United States. In Los Alamos over the past five years, they have fired over 50 per cent of the personnel aware of the existing nuclear materials storage procedures, the design of nuclear weapons and how to handle them. The loss of socially important and prestigious jobs may be provocative to them. However, in Russia the probability of this kind of incidents is much higher.

**Cherepanov:** Those countries, which possess nuclear materials.

**Volodin:** All countries having nuclear materials (not only weapons-grade materials) and those countries that are potentially capable of developing their own nuclear technologies (South Korea, Sweden, Germany, Brazil, Japan, and Argentina).

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[1] Daniel Yergin and Thane Gustafson, *Russia 2010: And What It Means for the World*. (New York: Random House, 1993), 300pp.

[2] "In the Long Good-bye, political weakness in Moscow begins to cause the regions to go their own way, dividing Russia into have and have-not zones, depending on their natural advantages. Despite the unraveling of the central government, the Russian Strategic Rocket Forces (SRF) and the Ministry of Security (MB) are intact, but the increasingly weak federal government is unable to muster the funding to support these once-elite services adequately, and disaffection spreads among the officers.
Nevertheless, they continue to dismantle nuclear warheads as called for by START I. Fortunately, there are no diversions. Thousands of so-called pits containing plutonium are already recovered from dismantled warheads. But storage remains a major problem. A storage facility initially planned

for the city of Tomsk is completed, but it does not operate because of bitter resistance by the local government. The pies are stored temporarily at the four sites where dismantling takes place. This is an unsatisfactory and insecure arrangement, and for years experts warn that there could be trouble.

One of these locations is Penza province, a relatively disadvantaged region in central Russia that has a history of troubled politics. The governor of the province, Georgii Kondratiagin, is even detained by the local MB in 1994 on suspicion of corruption and ties to organized crime, but is released without being charged, and is reelected governor on a sympathy vote in the elections of 1996. In the fall of 1998 Kondratiagin cultivates the deputy commander of the Penza dismantling facility. On a Sunday, while out hunting, Kondratiagin offers to buy plutonium. The officer, a disgruntled colonel who has been denied promotion, hesitates, but only for a moment, before agreeing. In exchange for a remarkably modest sum — $20,000 deposited in a Swiss bank account — the officer transfers four pits, each containing a little over three kilograms of plutonium, to Kondratiagin's associates. The pits disappear.

Kondratiagin is working with a gang based in Yekaterinburg. Their plan is to sell the plutonium to Iraqi agents. But the Ministry of Security, which has infiltrated the gang, learns of the theft within twelve hours, interrogates the colonel, and arrests Kondratiagin and his associates. Under interrogation Kondratiagin denies any knowledge. The MB officers receive an anonymous phone call. "Release Kondratiagin and call off your people," says a voice. "Or Moscow's water supply will be poisoned with plutonium."

Senior security and military officers hurriedly meet at a secret dacha in the woods outside Moscow. They think the threat may be a bluff, but conclude that they must act swiftly. They make the crucial decision not to inform the civilian minister of defense or other members of the federal government. The MB interrogates Kondratiagin again. He tells them what they need to know. Within a day all four pits have been recovered at the sites indicated by Kondratiagin—one of them already loaded in a truck ready to drive off.

The news of the attempted diversion and the arrest of the Penza governor breaks in Moscow two days later, spread by a ham operator near Penza who overhears local police radio traffic. It causes a political crisis in the federal government. The prime minister attempts to sack the officers involved, but the civilian defense minister sides with the MB and SRF, and so does the Moscow public, which welcomes the military's decisiveness.

The MB and SRF commanders decide they must act expeditiously to prevent any diversions in the future. They recall the strategy of the Chinese nuclear forces thirty years before: the Chinese nuclear weapons were removed to Yenching province during the Cultural Revolution, and outsiders were barred from any access. They begin moving the stored pits from the four dismantling centers to the Tomsk storage facility, overriding the vociferous objections of the Tomsk government and the weak protests of the federal government. They demand the creation of an elite corps of officers to supervise the disposal of plutonium through classification at the Tomsk facility. These measures are taken quickly, with strong support from both federal and regional governments.

The frightening experience of attempted nuclear blackmail, and the strong action taken by the security forces, coincide with a growing view among the regions that they have more to lose from crime, chaos, and separatism than they have to gain from autonomy. The military takes cognizance of the threat of corruption within the ranks of the most elite forces. The plutonium-diversion affair, together with the MB and SRF's strong response to it, becomes in subsequent years one of the elements in a broad swing of Russian opinion toward the reintegration of the regions into a stronger and more centralized Russian government—the re-gathering of Russian lands". (Daniel Yergin and Thane Gustafson. *Russia 2010,* pp. 191-194).

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**Data bank**

## EXPORT OF CONVENTIONAL ARMS AND MILITARY EQUIPMENT FROM RUSSIA AND THE CIS

### *Negotiations, Contracts, and Transfers November 1996 through November 1997*

**[This data bank was originally published in Russian in *Yaderny Kontrol*, No.1, January-February 1998, pp.71-78]**


*Summary of PIR Center "Non-governmental Register of Conventional Arms Sales from Russia & CIS" prepared as result of the joint project of the PIR - Center for Policy Studies in Russia and the Minsk-based International Institute for Policy Studies generously supported by the grant of the U.S. Institute of Peace. The project was launched in September 1996, and the monthly issues of The Register, in Russian, were published in Export Obychnykh Vooruzheniy (Conventional Arms Export) journal since November 1996.*

| Exporter | Importer | Date the contract or transfer signed | Description of the deal | Cost of the contract (dollars, unless otherwise specified) | Remarks |
|---|---|---|---|---|---|
| Russia | India | November, 30 1996 | 40 multi-mission fighters Su-30MKI | 1.4-2 billion | To be delivered in 1997-2000. After the contract is completed, the license to manufacture the fighters in India can be issued |
| Russia | Iran | January 1997 | Transfer of Kilo class submarine project 877EKM | 200 million | As part of the contract to sell three submarines. The first two were transferred in November 1992 and in June 1993 |
| Belorussia | Peru | End of November, 1996 | 12-16 attack fighters MIG-29 and 2 fighters MIG-29UBS | 384 million | |
| Belorussia | Peru | December, 1996 | 14 attack fighters Su-25, AAA mobile system 2C6 "Tunguska", AA missile system SA-15 "Tor", missiles AA-10 and AA-8 | | According to the *Aviation Week* and *Space Technology* of December, 2 1996. Later on the information was not confirmed |
| Russia | Slovakia | Negotiations | 6-10 attack helicopter Ka-50 | 200 million | Negotiations on helicopter deliveries at the expense of the Russian debt. |
| Ukraine | Libya | N/A | Tactical missiles CC-21 "Tochka" | 500 million | Ukraine denies the information on selling |

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| | | | | | the missiles to Libya |
| France | Russia | Contract. December 1996 | 10 turbofan engines "Larzak-04R20" | 1 million per each (presumably) | According to the *Flight International*, v.150, #4552. Later on the information on the transfer was not confirmed |
| Russia | Cyprus | January 4, 1997 | One complex S-300 PMU-1 | N/A Estimates range from 150 to 450 million | |
| Russia | South Korea | January 1, 1997 | Transfer of 26 tanks T-80У, 13 BMP-3 | At the expense of the Russian debt of 1.5 billion | Transfer of the third batch delivery of the armored military equipment |
| Russia | Columbia | January, 17, 1997 | 10 military transport helicopters Mi-17 | 42 million | |
| Ukraine | Pakistan | March 23, 1997 | Transfer of 15 tanks T-80UD | | The first batch delivery as part of contract to deliver 320 tanks T-80UD |
| Russia | Bulgaria | March-May, 1997 | Intensive negotiations on selling 12 fighters MIG-29SM and 2 fighters MIG-29UB | 450 million at the expense of the Russian credit | In June the Bulgarian government announced the refusal to buy Russian equipment on financial and political reasons |
| Russia | India | March-April, 1997 | Transfer of 8 fighters Su-30K | | As part of contract to deliver 40 SU-30MK |
| Russia | Columbia | April 17 | Transfer of 2 helicopters Mi-17 | | As part of contract to deliver 10 helicopters Mi-17 for 42 million dollars |
| Russia | India | March 1997 | Order for three AEW helicopters Ka-31 | | According to the *Maritime International* of March, 1997. There is no confirmation by the national sources |
| Russia | India | April 23 1997 | India announced about a probable purchase of six AA complexes S-300 | 1 billion | The statement of the representative of the Ministry of Defense of India. Transmitted by the ITAR-TASS news agency |
| Russia | China | April 23 1997 | AA missile system "Tor-M1", cruise missiles, and guided aviation bombs | | Information dated April 23 1997 from the *INFO-TASS* "VEGA" data base |
| Russia | Ethiopia | April 29 1997 | The statement about Russia's bid for MIG- | | A multinational consortium of Israel, |

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|---|---|---|---|---|---|
| | | | 21-93 modification of MIG-21bis | | Romania, and Ukraine competes |
| Russia | Egypt | April 1997 | The Russia's proposal to Egypt to purchase one or two submarines | | The proposal is blocked by the American Side |
| Russia | Singapore | April 1997 | AAA missile system "Igla" | 50 million | |
| Russia | Vietnam | January 1997 | Six Su-27 | 180 million | In addition to six fighters purchased in 1994, by the year of 2000 24 fighters are to be purchased for 800 million dollars |
| Russia, VPK "MAPO" | Iran | May 1997 | License to manufacture 60 aviation engines TV7-117 | 145 million | |
| Russia and Israel | China | May 1997 | 3-4 AWACS aircraft | Estimated 200-250 million per each | On the basis of Russian platform Ilyushin-76 and Israeli radar manufactured by Elta |
| Kazakhstan | Iran | | "The batteries" of AA missile system SA-10 | 90 million | According to the Washington Times. Kazakstan denies the deal |
| Russia | India | June 1997 | The decision of the Indian government to purchase two Kilo-class submarine projects 636 | 6 billion | |
| Russia | India | June, 1997 | The government of India studies the issue of purchasing 6 frigate ships in Russia | | Information dated 23.06.97 from the INFO-TASS "VEGA" data base |
| Ukraine | Pakistan | June-July, 1997 | Transfer of 35 tanks T-80UD | | As part of contract for delivery of 320 tanks T-80UD for 650 million dollars |
| Russia | Israel | June 17, 1997 | The Agreement on joint development and manufacturing of an AWACS aircraft | | Responsibilities of the parties: 90% - the Russian Party (the Taganrog Science and Technology Company named after Beriev), 10% - the Israeli Party (Elta). |
| Russia | China | July, 1997 | Two submarine projects 636 | 500 million (presumably) | Information in the Russian press media on testing in the Baltic Sea submarine projects 636 |

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| | | | | | designated for China. The transfer of the first submarine is expected by the end of 1997, and the second - at the beginning of 1998 |
| Russia | China | | Two "Sovremennyi" type destroyers | 400-800 million | Multiple leaks from the Russian and foreign press media. No official confirmation |
| Russia | China | | 100 artillery systems "Nona-SVK" | | According to the source in the Pentagon |
| Russia | Indonesia | August 5, 1997 | 12 fighters Su-30K and 8 helicopters Mi-17B | about 500 million | The statement of the Indonesian officials on the intent to purchase the Russian equipment |
| Russia | Laos | July 1997 | 12 helicopters Mi-17 | | According to the *Jane's Defence Weekly* of July 23, 1997, v.23, #3 |
| Russia | Malaysia | October 1997 | The third phase of 18 fighters MIG-29 modification | 34.4 million | Covers integration of RVV-AE missiles, modification of the airborne refueling system, and increase of the combat payload |
| Russia | India | October 22, 1997 | Two submarine projects 877EKM and three frigate ships | | The announcement of the Minister of Defense of India, that the government of the republic approves the purchase |
| Ukraine | India | October, 1997 Preparation of the contract | 600 trucks "KrAZ" | 24 million | The transfer is expected at the beginning of 1998 |
| Russia, the state-owned company "Rosvooruzheniye | Bulgaria *Kintex*, *Electron* | | The agreement on joint manufacturing of jam generator "Shershen" | | Russia is to manufacture mechanical parts, and Bulgaria - electronic parts of the system |
| Russia | Kazakhstan | November-December 1997 | 4 Su-27 | At the expense of compensation for the military equipment moved to Russia after disintegration of the USSR | According to the Agreement of 1995 Russia is to transfer to Kazakhstan 73 combat aircraft, including 21 MIG-29, 14 Su-25, 38 Su-27. As per November 1997, 41 aircraft have been transferred |
| Moldavia | USA | October-November | 21 MIG-29 | | |

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|---|---|---|---|---|---|
| | | 1997 | | | |
| Georgia | Ukraine | End of 1997-beginning of 1998 | 3 attack fighters Su-25 | The cost of delivery was not specified at the time the information appeared | Two units are to be delivered in 1997, and one unit - in the first quarter of 1998 |
| Russia | China | End of 1997 | The end of transfer to China of technical documentation for the licensed manufacturing of 200 Su-27SK at the plant in Shenj Yang | | As part of the contract for 2 billion dollars or less |
| France | Russia, VPK "MAPO" | | The contract for delivery of French component parts (engines and avionics) for assembly of 10 trainer aircraft MIG-AT | | The French government has authorized a 100 million francs credit under the guarantees of the Russian government for funding implementation of the contract |
| Ukraine | Pakistan | December 1997 | Transfer of 50 tanks T-80UD | | In 1997 100 tanks T-80UD were transferred as part of the contract to deliver 320 tanks T-80UD |

## PIR – CENTER FOR POLICY STUDIES IN RUSSIA

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

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

PIR Center has the following **objectives**:

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

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

Located in the South-West, Moscow's academic center, the PIR Center is a small and flexible non-profit institute working on the most challenging issues on the international security and arms control agenda. Financial support comes from various sources including foundations (The Ford Foundation, The John D. & Catherine T. MacArthur Foundation, W. Alton Jones Foundation, The John Merck Fund, C.S. Mott Foundation, The Ploughshares Fund, and others), institutes (the Monterey Institute of International Studies, Russian technical Center of the *Radievy Institute* in Saint Petersburg, Research Institute of Atomic Reactors *NIIAR* in Dimitrovgrad, and others), the private sector, and the consulting and publishing projects of the PIR Center itself. The organization has tax exempt status in Russia.

In Russia, the PIR Center has established cooperative relations with the Moscow State University for International Relations (MGIMO), The Institute for the Economy in Transition (the *Gaidar Institute*), Kurchatov Institute, Moscow Institute of Physics & Engineering (MEPhI), The National Press Institute, The Center for Export Controls, The Center for Environmental Policy, and others. PIR Center has also established stable and developing collaborations with the Center for Nonproliferation Studies of the Monterey Institute of International Studies (USA), International Institute for Strategic Studies (UK), Stockholm Peace Research Institute (Sweden), Frankfurt Peace Research Institute (Germany), Center

for International Trade & Security of the University of Georgia in Athens (USA), Institute for Energy & Environmental Research (USA), National Institute for Strategic Studies of Ukraine, International Institute for Policy Studies (Belarus), Nonproliferation Association of Kazakhstan, among others, and, in September 1995, founded a partner organization - Center for Policy Studies in Russia in Monterey, California.

The Executive Board of the PIR Center, or the **Executive Council,** is composed of Dr. Vladimir **Mau,** Prof. Yuri **Fyodorov**, and Dr. Vladimir **Orlov**. The **President** of the PIR Center is Amb. Roland **Timerbaev**, internationally recognized as one of the best experts in nuclear nonproliferation who worked on the text of the Nonproliferation Treaty (NPT) in the 60s. The **Director** of the PIR Center is Dr. Vladimir **Orlov**. The PIR **Research Council** meets once a month to discuss and evaluate progress of the PIR ongoing projects and to suggest areas for research in the future. It consists of more than fifty policy-makers, scientists, and the military from Russia, Belarus, Ukraine, Kazakhstan, USA, UK, and Germany.

**Research projects** include:

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

**Information-oriented projects** include:

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

**Educational Projects** include**:**

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

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

- The Future of the Russian Nuclear Arsenal (February, 1998)
- Chemical Weapons Convention and Biological Weapons Convention: analysis of implementation in Russia (February, 1998)
- Sensitive Export Controls in Russia: legal aspect and enforcement (November, 1997)
- Conventional Arms Export from Russia (November, 1997)
- International Efforts on the Way to Nuclear Disarmament (May, 1997)
- Antipersonnel Mines: the Ottawa Process and Russia (March, 1997)
- The ABM Treaty: Demarcation and Sustainability (January, 1997)
- Chemical Weapons Destruction and International Cooperation (November, 1996)

**Journals:**

*Yaderny Kontrol (Nuclear Control):* international security, arms control, and nonproliferation. Published six times a year in Russian.

- *Digest of the Russian Nonproliferation Journal Yaderny Kontrol (Nuclear Control):* selected analytical articles from *Yaderny Kontrol.* Published three times a year in English.
- *Voprosy Bezopasnosti (Security Issues Newsletter):* executive intelligence review. Includes commentary &

- prognosis on foreign policy, national and international security, military affairs, and defense policy. Published bi-monthly in Russian. Distributed by express mail, courier, or e-mail.

**Study Papers:**

- Study Papers No.7. "Reform of the Armed Forces and Civil-Military Relations". By Prof. Yuri Fyodorov. March, 1998.
- Study Papers No.6. "Grey Arms Export from Russia and CIS". By Konstantin Makienko, PIR Research Fellow. November, 1997
- Study Papers No.5. "Parliamentary Control over the Military Budget in Russia: Dilemma of Transparency and Security". By Igor Nikolaichuk and Viktor Tkachev, members of the PIR core group on civil-military relations. April, 1997
- Study Papers No.4. "The Parliament and the Military". By Leonid Ivlev, member of the PIR core group on civil-military relations. February, 1997
- Study Papers No.3. "ABM Treaty and Its Sustainability". Anatoli Shevtsov (Ed.). December, 1996.
- Study Papers No.2. "Low Intensity Conflicts and Russian National Interests". By Dmitry Evstafiev, PIR Senior Research Fellow. March, 1996.
- Study Papers No.1. "International Nonproliferation regime and Security Assurances to the NNWS". By Roland Timerbaev, PIR President, and George Bunn, CISAC (Stanford University). January, 1996.

**1997-1998 Reports:**

- Report No.7. "Tactical Nuclear Weapons in Russia". In Russian. By Ivan Safranchuk, PIR Research Fellow, March, 1998.
- Report No.6. "Selected Aspects of Russian-Chinese and Russian-Indian military-technical cooperation in the current geopolitical context". In Russian. December, 1997. Not for dissemination.
- Report No.5. "Analysis of the Export Controls Legislation and Regulations of the Russian Federation". In Russian. By Anna Otkina, PIR Research Fellow. November 1997
- Report No.4. "Nuclear Smuggling from Russia: 1996-1997". In English. November 1997. Not for dissemination.
- Report No.3. "Russia's Conventional Arms Trade with India and China". In Russian. November 1997
- Report No.2. "Russia's Nuclear Trade with Iran, India, and China". In English. October 1997. Not for dissemination.

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*As of April 8, 1998*

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