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Russian Efforts to Improve Air and Space Defense

**By**

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## Russian Efforts to Improve Air and Space Defense

There is a general agreement among Russian political analysts that Mr. Putin's goal for the next presidency is "recapturing for Russia the status of a great power."<sup>1</sup> While the President and his entourage place considerable public emphasis on accelerated social and economic transformations in Russian society,<sup>2</sup> restoration of Russian military might is also a clear priority. Given Russia's imperial tradition and its current preoccupation with internal and across-the-border security problems, Moscow's emphasis on developing military power that is recognized, if not feared, by friends and foes alike is not surprising.

However, rebuilding the Russian military machine is a daunting task. A particular challenge is constrained resources for modernization. Over the last two tumultuous decades, Russia has fallen behind, some say irrevocably, in researching, developing and deploying advanced weapon systems. Russia has instead generally relied on the Soviet "inheritance" to claim a credible deterrent. As pointed out by the director of the Institute of Political Studies Sergei Markov:

We still exist at the expense of the mighty reserves accumulated by the GOSPLAN [the State Planning Committee, responsible for economic growth in the USSR]. All our enterprises, railroads and airports were built under the Soviet rule, and their service lives turned out to be greater than expected... However these reserves are coming to the end. Therefore colossal investments are needed into the infrastructure... If Russia wants to move towards the post-industrial society it also needs investments into high technologies.<sup>3</sup>

A typical example of Russia living on "Soviet reserves" is extending the life of the Soviet era nuclear arsenal. As recently as on May 6, 2004, Commander of the Strategic Missile Troops Colonel-General Nikolai Solovtsov announced Russia's intention to further extend the service lives of "operational missile systems" under his command, including the R-36M heavy ICBMs [NATO designation "Satan", U.S. designation SS-18].<sup>4</sup>

Moscow's "objective" predicament—insufficient finances and a faltering technological base for modernization have been exacerbated by "subjective" concerns over the pace and scope of U.S. military advancement. Despite continued polite exchanges at the diplomatic level, Russian leaders are watching U.S. military activities in close proximity to Russian borders and efforts at gaining footholds in former Soviet republics. Recent years have seen the spread of deepening fears about the implications of U.S. efforts in the area of Ballistic Missile Defense, as well as air power and military space.

NATO eastwards, particularly the inclusion of the three Baltic countries, has raised some voices to the brink of hysteria. As described by military commentator Mikhail Khodarenok:

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<sup>1</sup> Vladimir Mokhov, "Strategy of Breakthrough," *Krasnaya Zvezda*, 7 May 2004.

<sup>2</sup> See: Vladimir Putin, "Address to the Citizens of the Country at the Inauguration to the Post of the President of Russia," 7 May 2004. <<http://kremlin.ru/text/appears/2004/05/64130.shtml>>

<sup>3</sup> Mokhov.

<sup>4</sup> "Russia to Extend Service Life of Existing ICBMs," *Itar-Tass*, 6 May 2004.

Russia is reacting skittishly to the slightest changes in the military-political situation in the Baltics. This affects even fairly minor aspects. In particular, the issue of the deployment in Latvia (in the village of Audrini, near Rezekne, 50 km from the border with Russia) of tri-coordinate (distance, horizon, altitude) American-made TPS-117 mobile air defense radar has provoked a powerful negative reaction in Moscow... [In response to] recent flights by NATO's long-distance airborne warning and control system (AWACS) planes along Russia's western borders<sup>5</sup>... Air Force Supreme Commander Vladimir Mikhaylov sent an A-50 airplane into flight as an adequate measure.<sup>6</sup>

Khodarenok and many other Russian experts insist that the recent round of expansion and possible NATO deployments in Eastern Europe will make Russia vulnerable to a surprise attack:

Strategic offensive operation of NATO's combined armed forces in the theater of military actions [that has] the depth of... 900-1000 km, the rate of advance of 40-45 km per day, and the duration 20-25 days [would bring NATO forces] to the Cherepovets-Tver-Vyazma line. The furthestmost goal would be Nizhniy Novgorod-Lipetsk... As for air campaigns and air offensive operations, their depth substantially exceeds 1000 km, and individual groups of NATO tactical aviation will penetrate 2000 km. This is approximately the boundary Perm-Ufa-Samara. In other words, any military and economic sites of the Russian Federation as far as the Urals could be subject to massive air-launched missile strikes.<sup>7</sup>

However, it is unclear to what extent fears of possible NATO "surprise attack" against Russia are genuine and to what extent intentional propaganda of these fears serves specific interest groups within the military establishment. Coinciding with NATO's latest round of expansion, there has been a flurry of publications stressing the mounting air threat and the need to bolster the country's PVO system [*"Protivovozdushnaya Oborona"* -- Air Defense].

A typical example of these arguments may be found in an article by Alexander Grigoriev that appeared in the April 2, 2004 issue of *Nezavisimoe Voennoe Obozrenie*. Grigoriev describes a potential massive U.S.-NATO attack targeting the Russian Ground Troops from the air:

Our Ground Troops are practically defenseless against strikes of precision-weapons (VTO) [*"vysokotochnoe oruzhie"*]. We have a catastrophic shortage of surface-to-air missile systems capable of effectively combating American-manufactured AGM-88 HARM precision antiradar missiles, guided aerial bombs. And it was exactly with the help of this weapon that the United States and the NATO countries demonstrated in Yugoslavia in 1999 how it was possible to destroy the powerful army of an economically developed state with a single air-

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<sup>5</sup> For in-depth Russian reaction to the flying of NATO AWAC plane off an airfield in Latvia, see: Mikhail Timofeyev, "Cold War Relapse", *Voyenno-Promyshlenniy Kurier*, 3 March 2004.

<sup>6</sup> Mikhail Khodarenok, "Cherepovets-Tver-Vyazma: NATO Divisions Could Reach This Line 20 Days After Start of Military Actions Against Russia", *Voyenno-Promyshlenniy Kurier*, 31 March 2004. [FBIS Translated Text CEP20040331000391].

<sup>7</sup> Khodarenok.

space operation... True, in 2003, the Russian Armed Forces started to create a new branch of arms—the Troop PVO VS [*“Protivovozdushnaya Oborona Vvooruzhennykh Sil”* -- Air Defense Forces of the Armed Forces]. But what weapons will the troops have for defense against an air enemy? There are the... long-range mobile SAMS to destroy aviation, and there are about 700 *Osa* SAM’s to combat low-flying airplanes at close ranges. However, as military specialists point out, these obsolete systems cannot fight against the comparatively cheap HARM precision missiles and guided aerial bombs. And it is simply ruinous to shoot at them with the S-300V SAM’s at \$1.5 million apiece. The best long-range systems in the world can only partially defend the troops and headquarters... Only the Russian short-range *Tor* SAM has the power to grapple with precision weapons. But the troops only have three regiments of them. In the opinion of specialists, the situation in the air-defense troops is simply critical.<sup>8</sup>

Grigoriev goes on to provide a detailed account of a “military-scientific conference dedicated to problems of PVO VS” recently held in Smolensk. He quotes from a statement at the conference by the Commander of PVO VS Troops Colonel-General Vladimir Danilkin emphasizing the need “to increase the survivability of air defense formations and units which are supposed to defend the troops in conditions of powerful enemy fire and electronic counteractions”.<sup>9</sup> Grigoriev mentions Danilkin’s proposal to modernize existing older SAM systems, e.g., *Kub* and *Osa*, however he adds that modernization of these older systems may not be an adequate solution since by the time sufficient funds are found to modernize these systems, they will have to face much more advanced enemy VTO.<sup>10</sup>

Grigoriev endorses a solution that apparently fully coincides with the views of the Ground Troops Command; “to transfer around 20 S-300PM SAM regiments which guard important strategic facilities from the Air Force to the Ground Troops” in order to significantly bolster PVO VS.<sup>11</sup>

In effect, redistribution of resources between branches and services, in this case between the Air Defense Troops of the Air Force and the Air Defense of the Ground Troops, appears to be a much more urgent priority than dealing with the hypothetical U.S.-NATO “threat from the air”. This reality is confirmed by an article in *Moskovskii Komsomolets* devoted to a March 2004 conference on PVO at the Air Defense Military University in Tver.<sup>12</sup>

Significantly, the Tver conference was chaired by Defense Minister Sergei Ivanov. Evidently the main reason Ivanov attended the conference was that it dealt with an important proposal long promoted by the Commander of the General Staff Anatolii

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<sup>8</sup> Alexander Grigoriev: “The Defenseless Infantry”, *Nezavisimoe Voennoe Obozrenie*, 2 April 2004. [FBIS Translated Text CEP20040402000312].

<sup>9</sup> Ibid.

<sup>10</sup> Ibid.

<sup>11</sup> Ibid.

<sup>12</sup> Olga Bozhyeva: “Who Reports to Whom? Defense Minister Faced with Resolving Dispute Among Generals,” *Moskovskii Komsomolets*, 25 March 2004. [FBIS Translated Text CEP20040325000221].

Kvashnin to pull the PVO troops out of the Air Force, which they joined in 1998, and subordinate them to the Ground Forces known to be Kvashnin's "favorite" service.

Olga Bozhyeva of *Moskovskii Komsomolets* writes:

Ground Forces PVO is headed by a good old friend of Anatolii Kvashnin's, Colonel General Vladimir Danilkin. It is in his favor that the chief of the General Staff intends structuring the next "reform". He has devised it in stages. To begin with the Ground Forces will become responsible for ordering all equipment for PVO troops, and after that the finances for developing new weapons will come under their control. Then the Military University for Air Defense in Tver (it trains commanders for the Air Force and Aerospace Defense PVO) will come under the jurisdiction of the Ground Forces Air Defense University in Smolensk, and that will solve the personnel problem in the Ground Forces' favor. Whereupon, you will see, the very question of who commands the PVO will no longer arise.<sup>13</sup>

Bozhyeva raised a question whether the proposed reorganization of PVO forces would prove to be Anatolii Kvashnin's "swan song" in view of his growing tension with Defense Minister Sergei Ivanov. Further events proved that that indeed may be so.

In line with a major government reshuffle coinciding with the beginning of President Putin's second term in office, in late April 2004 the State Duma started the consideration of amendments to the "Law on Defense" intended to significantly reduce the functions of the General Staff, i.e. Anatolii Kvashnin, to military planning and battle management. As a consequence, Mr. Kvashnin is supposed to lose his direct access to the President and become fully subordinate the Defense Minister or even retired.<sup>14</sup> With Sergei Ivanov acquiring "absolute powers" over the defense establishment, the decision on future structural and substantive changes of the Russian Air Defense system will depend on him to a crucial extent, with the final approval coming from Vladimir Putin himself.

While debates over subordination issues continue, Moscow tries to respond to charges that existing air defense hardware is outdated and incapable of dealing with progressively more sophisticated offensive threats. In April 2004, a long-awaited announcement was made of the successful test of the advanced *Triumf* air defense system, designed by the Almaz Raspletin Research and Production Association, which is part of the Almaz-Antei Air Defense Consortium. The new *Triumf* [the upgraded 48N6DM system] is supposed "to replace three S-300PMU1 systems" currently with Russian air defense troops in terms of its combat potential.<sup>15</sup>

Besides expanding its own air defense effort, Moscow seeks to create an effective joint system involving all CIS countries. Such a system may considerably improve Russia's ability to protect its air space, e.g. by assuring access to important facilities that the Soviet Union used to have in the "peripheral" union republics. CIS conducts regular joint

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<sup>13</sup>Bozhyeva.

<sup>14</sup>Aleksei Nikolskii, "General Staff Downgraded," *Moskovskie Vedomosti*, 29 April 2004. [FBIS Translated Text CEP20040504000078].

<sup>15</sup>"Russian Air Defense System Hits Target with Upgraded Missile," *Agentstvo Voennykh Novostei*, 30 April 2004. [FBIS Transcribed Text CEP20040502000031].

air defense exercises<sup>16</sup>. A recent important “acquisition” is Russian access to the *Okno* optical-electronic complex at Nurek (Tadjikistan) providing automatic detection of high-orbit space objects at altitudes of up to 40 thousand kilometers, the identification of their orbits, and establishment of their class, assigned tasks, conditions and national origin.<sup>17</sup>

The Russian political and military leadership recognizes that “The air-and-space sphere is effectively becoming a single and... most important sphere of armed struggle.”<sup>18</sup> In widely accepted expert opinion, “a good half, maybe even more, of modern large-scale military operations consist of air-and-space operations.”<sup>19</sup> On-going efforts to reorganize and beef up the “military space” [“*voennyi kosmos*”] component of the Russian Armed Forces may be viewed as a “symmetric response” to the U.S. withdrawal from the ABM Treaty and the announced deployment of a National Missile Defense system.<sup>20</sup>

The Space Troops (ST) [“*Kosmicheskie Voiska*”] are at the center of Russia’s system of “military space”<sup>21</sup>. They enjoy priority financing and preferential treatment among other branches and services in reflection of their importance for Russia’s defense.<sup>22</sup>

ST includes Missile Space Defense Forces (MSDF) formerly with the Strategic Missile Troops<sup>23</sup> responsible for the system of early warning against a missile attack and “outer space control” that includes tracking of space debris and suspicious satellites with possible nuclear reactors on board.<sup>24</sup> MSDF is also operating the strategic single-site ABM system A-135 deployed in accordance with the 1972 ABM Treaty. All MSDF components have reportedly undergone expansion and modernization.

Considerable effort currently goes into rebuilding the ailing early warning system.<sup>25</sup>. According to military analyst Ivan Safronov, “Intensified activities to improve the performance of the ground component and the space echelon of the missile early warning system occur concurrently with the deployment by Washington of the NMD system.”<sup>26</sup> Attempts are also under way to develop a new generation high-energy radar for early warning and “simultaneous targeting of multiple interceptor missiles.”<sup>27</sup>

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<sup>16</sup> See: Russia, CIS Run Air Defense Exercises from Bunker, *RTR TV*, 8 April 2004. [FBIS Translated Text CEP20040408000101].

<sup>17</sup> Dmitrii Litovkin, “ABM Defense Will Be Modernized,” *Izvestiya*, January 22, 2003.

<sup>18</sup> Boris Chel’tsov, Sergei Volkov, “Russia Builds Air-Space Defense,” *Nezavisimoe Voennoe Obozrenie*, February 28, 2003.

<sup>19</sup> Nikolai Poroskov, “Military-Space Fist,” *Vremya Novostei*, December 9, 2002.

<sup>20</sup> For details see, Andrei Shoumikhin, “Russian Perspectives on Military Uses of Outer Space,” *Astropolitics*, Volume 1, No 3, Winter, 2003, pp. 95-112.

<sup>21</sup> The Space Troops status as an independent “combat arm” was established with the appointment of Colonel-General Anatolii Perminov as ST Commander on March 28, 2001.

<sup>22</sup> Nikolai Poroskov, “The Yogurt of Volley Fire,” *Vremya Novostei*, February 6, 2003.

<sup>23</sup> Poroskov, “Military-Space Fist.”

<sup>24</sup> Ibid.

<sup>25</sup> Pavel Podvig, “History and the Current Status of the Russian Early Warning System,” *Science and Global Security*, Vol. 10, No. 1 (2002), pp. 21-60.

<sup>26</sup> Ivan Safronov, “Four ‘Okos’ Watch After Russia,” *Kommersant*, 25 December, 2002.

<sup>27</sup> Sergei Boev, “High-Energy Radar Stations: Past, Present and Future,” *Military Parade*, No. 5, 2001, pp. 58-62.

Early warning has considerable military and political importance in view of the growing threat seen in NATO's expansion. Russia has lost important component parts of the Soviet EW system, e.g., the Skrunde radar installation in Latvia. Hence the increased attention to preserving access to similar installations in other former Soviet Republics<sup>28</sup>. Until recently, with the exception of Belarus, all other countries that host EW stations forming part of the Russian system are setting considerable economic and political conditions on their continued operation.<sup>29</sup> This is why putting into full operation of the *Volga* EW radar station in the village of Gantsevichi 48 kilometers southeast of the town of Baranovichi in Belarus on October 1, 2003 was presented not only as a serious boost to "resolving the overall problem of the nuclear threat from the United States and NATO", but a symbol of growing Russia-Belarus Air Defense and BMD cooperation and a model for such cooperation for the entire Commonwealth of Independent States.<sup>30</sup>

However, today military relations with Minsk are not perfect for Moscow. As reported, the Belorussians have recently been seeking from \$20 to 25 billion for the use of the submarine command and control post in the city of Vileika and the Baranovichi EW site. Given Moscow's interest in Belarus, these complications may soon be overcome: Russia needs cooperation with Belarus in many military-technical areas, e.g. the production of MAZ-7917 seven-axle transporters for strategic mobile ICBM *Topol-M* complexes that are supposed to become the "backbone" of the Russian nuclear-missile deterrence force in the future.<sup>31</sup>

According to Major-General Viktor Starukhin, Chief of the Russian Space Troops Operations Directorate, "the main direction in the development of the missile attack warning system is the completion of the creation and deployment of a network of radars based on factory-assembled high technologies providing a continuous peripheral radar field."<sup>32</sup>

An important ST asset is the strategic A-135 ABM system [commissioned in 1995]—the only such system in existence. Commenting on a 2002 combat exercise launch of the system's interceptor, former ST Commander Anatolii Perminov underscored "the considerable potential of the Russian ABM system, and the possibility of extending its term in service".<sup>33</sup>

In March 2004, on the eve of the 43<sup>rd</sup> anniversary of the first launch of a Russian anti-missile [March 4, 1961], *Interfax-AVN* reported on the "satisfactory state" of the

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<sup>28</sup> Besides EW installations in its territory, e.g., two *Dnepr* stations in Murmansk and Irkutsk. Russia depends on the *Volga* station in Belarus; the *Daryal* station in the city of Qabala (120 km from Baku in Azerbaijan); the *Daryal-U* station being built at Lake Balkhash in Kazakhstan, and two *Dnepr* radar stations in Ukraine—at the cities of Sevastopol and Mukhachevo.

<sup>29</sup> Igor Plugatarev, "Russian Is Protected in Belarus against Ballistic Missiles from the West," *Nezavisimoe Voyennoe Obozrenie*, 23 Jan 2004. [FBIS Translated Text CEP20040223000164].

<sup>30</sup> *Ibid.*

<sup>31</sup> See: Nikita Petrov, "And You Can't Hide or Conceal Yourself from 'Topol'," *Starna.ru*, 26 April 2004. [FBIS Translated Text CEP20040427000362].

<sup>32</sup> Viktor Starukhin, "Once Again on the Problem of VKO - Its Solution Lies not in Organizational Unification, but in the Improvement of Interaction," *Voенно-Promyshlennyi Kurier*, 31 March 2004. [FBIS Translated Text CEP20040331000388].

<sup>33</sup> Litovkin.

“Russian missile defense system—an important part of the Space Forces”. This assessment included “all existing interception systems derived from the [original] V-1000 [interceptor]; the reconnaissance means (the Dunai 3U and Don 2N radars) [responsible] for target detection, tracking, and guidance; as well as command posts, missile silos, and an all-encompassing data grid”. The news agency also reported “that the Russian missile defense system can perform automatically and by signals from the early warning missile strike system. It automatically distinguishes between warheads and other (false) targets, jamming, and interference.”<sup>34</sup>

However, ST Command recognizes the need for modernizing the A-135 system.<sup>35</sup> Key emphasis in the modernization effort will apparently be made on the interceptors’ “front section”. As explained by Major-General Viktor Starukhin:

The most important direction for improving the strategic missile defense system should be the creation of a new front section for antimissile missiles. This would facilitate ensuring the effective protection of the Moscow industrial region against individual (group) and “terrorist” launches of non-strategic missiles. To the extent that such antimissile missiles are placed on combat alert, it will be possible to allocate a portion of the system’s resources for purposes of non-strategic missile defense.<sup>36</sup>

ST success in training, acquisition of new weapons, etc., have been given high prominence. In January 2004, the *Itar-Tass* news agency reported that ST was ready “to make a substantive contribution to enhancing Russia’s defense capability in 2004... Among the main tasks for the space forces to accomplish this year are the replenishment of the orbital grouping of military spacecraft and the launching of new spacecraft in accordance with the federal space program. The main efforts will focus on the extension of the technical resource of the available systems, as well as the preparation of a number of new systems and complexes for commissioning. Thus the flight tests of the Rokot space launch system will continue at Plesetsk cosmodrome and the testing of the Soyuz-2 carrier rocket will begin there. In addition, work will intensify at the northern space center to prepare for the testing of the space launch complex Angara that is due to begin in the early 2005. Multi-purpose space programs will be implemented at Russia’s leading launch site at Baikonur in 2004. These programs include launches of military and dual-purpose spacecraft. Work to develop the light Strela (Arrow) space missile system is expected to run to completion at the Svobodny cosmodrome in the Russian Far East. Its first flight tests are due to take place there too.”<sup>37</sup>

In recent years, one of the widely discussed issues in military-political circles in Moscow has been bringing all forces related to Air and Space Defense under single command in a unified system of national Air-Space Defense [“*Vozdushno-Kosmicheskaya Oborona*” -- VKO] understood as:

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<sup>34</sup> “Russian Space Forces Service Says Missile Defense System Always Combat-Ready,” *Interfax-Military News Agency*, 4 March 2004. [FBIS Transcribed Text CEP20040304000174].

<sup>35</sup> Litovkin.

<sup>36</sup> Starukhin.

<sup>37</sup> Vladislav Kuznetsov, “Russian Space Forces To Upgrade Defense Capability in 2004,” *Itar-Tass*, 5 January 2004. [FBIS Transcribed Text CEP20040105000108].

...a complex of all-state and military measures, as well as combat application of troops (forces) capable of fighting enemy Air-Space Attack Means according to a single concept and plan, under unified command with the aim to protect groupings of armed forces, populations, economic and other objects of a country against strikes from air, out of space and through space.<sup>38</sup>

One of the latest official statements on the imminent creation of VKO that will assure “proper use” of the country’s air defense system, including the Ground Troops air defense system and the Space Troops has been made at the March Tver conference by Defense Minister Sergei Ivanov. In his presentation to the leadership of the Russian Air Force and Air Defense Troops, Mr. Ivanov failed to provide any specific details about the shape of the new system although his announcement led to instant wide-ranging speculations. According to Nikolai Poroskov writing in *Vremya Novostei*:

Analysts do not rule out that the announcement by the head of the Ministry of Defense is the start of another round of transformations in the Armed Forces. We note that the Space Troops exist as a separate branch of arms, whereas the PVO Troops are today part of the Air Force. Incidentally, it seems that one of those responsible for the creation of a new Air-Space Defense is Air Force Commander-in-Chief Vladimir Mikhailov, who said that “the individual elements of this system are already exist.”<sup>39</sup>

The intrigue over the VTO’s future may become quite heavy after the appointment of ST Commander Anatolii Perminov to head a new government super-agency, the Federal Space Agency in March 2004 shortly after Mr. Putin’s reelection.<sup>40</sup> Perminov’s promotion clearly adds to ST clout in the military establishment. Even if the AF has indeed been behind most recent initiatives on VTO, competition from other branch services over the composition of the proposed combined service and the relative importance of its component parts may be expected to be significant.

Anatolii Perminov was one of the first to comment on Sergei Ivanov’s statement at the Tver Air Defense Academy. He stated that to make VKO a reality it is essential “to standardize radar-detection and strike systems” for the speedy development of the new system.<sup>41</sup> As reported by Poroskov, “the first step towards this has been taken. Work has started on the fundamental modernization of PVO fire systems and the ground automated spacecraft control complex.”<sup>42</sup>

However judging by statements from other leaders of ST, they are not entirely happy with the idea of “fusing” with air defenses. For example, in a high-profile article in the March 31, 2004 issue of the *Voенно-Promyshlennyi Kurier*, Major-General Viktor

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<sup>38</sup> Chel’tsov and Volkov

<sup>39</sup> Nikolai Poroskov, “The Space Cover,” *Vremya Novostei*, 25 March 2004.  
[FBIS Translated Text CEP20040325000406].

<sup>40</sup> Anatolii Perminov was replaced by Lieutenant-General Vladimir Popovkin, formerly Commander of the ST Staff, as the new Commander of the Space Troops. See: Alexander Bogatyrev, “Orbits under Control,” *Krasnaya Zvezda*, 17 March 2004.

<sup>41</sup> Poroskov, “The Space Cover.”

<sup>42</sup> Ibid.

Starukhin, Chief of the Operations Directorate of Space Troops Headquarters insisted that VKO should evolve not on the basis of “mechanical organizational unification” between the Air Defense and Space Troops, but through “improved interaction” between different branch services responsible for air and space defense. This position clearly reflects ST fears of being “swallowed” by other structures as often happened in the past in the course of “bureaucratic restructuring games” played by senior command structures.<sup>43</sup>

Starukhin defines Aerospace Defense as “a set of national and military measures, the combat application (employment) of troops (forces), which are capable of combating enemy’s aerospace offensive weapons according to a unified plan and a plan in the interests of forewarning the state and military leadership and the troops (forces) about an enemy aerospace attack, reducing losses and damage to the population, economic and other targets and the grouping of Armed Forces from attacks from the air, from outer space and through outer space.”

General Starukhin warns that “building an aerospace defense system against the U.S. and NATO would be an extremely expensive task. There is hardly any need to arrange another arms race, especially since we have recently learned to live predictably. Furthermore, by all appearances the doctrine of nuclear deterrence will continue to play a central role in our mutual relations for a sufficiently lengthy period of time. More likely, a greater threat to the Russian Federation is posed by the uncontrollable spread of missile technologies in the countries of the ‘Third World.’ Where is the guarantee that under such conditions operational-tactical class missiles won’t fall into the hands of fanatics or terrorists?”<sup>44</sup>

Starukhin also emphasizes considerable peculiarities of combating air and space offensive weapons: “Hypersonic airplanes and cruise missiles are operational-tactical aerial vehicles and targets for counteraction by battlefield air defense and missile defense systems; gliding front sections, orbital and aerospace airplanes... and strategic ballistic missiles... are targets for counteraction by strategic missile defenses.”<sup>45</sup>

Based on above considerations, Chief of the ST Operations Directorate argues that “the urgent need today is not so much the creation of a full scale aerospace defense system (though we should not reject such a prospect), as much as the improvement of air defense and strategic missile defense systems, to include in the direction of making them capable of combating operational-tactical missiles, as well as the forms and methods of their application.”<sup>46</sup>

To support his view, Starukhin quotes from a December 2003 article in the *Voенно-Промышленныи Курьер* by Alexander Rukshin, Chief of the Main Directorate for Operations of the General Staff stating that:

...the aerospace defense system will be created functionally (according to missions), coordinating the forces and weapons of the various branches of service and braches of arms that already exist today, incorporated into relatively

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<sup>43</sup> Starukhin.

<sup>44</sup> Ibid.

<sup>45</sup> Ibid.

<sup>46</sup> Ibid.

independent systems (with their own command and control systems): missile attack warning; outer space monitoring; missile defense; air defense, and; electronic warfare.<sup>47</sup>

On behalf of the Space Troops Command General Starukhin concludes:

Clearly, the solution to the [VKO] question lies not in the organizational unification of all of these resources, but in the improvement of their interaction wherever possible and wherever necessary, first and foremost - data interface... That the only basis for unification of the military-technical systems of the various branches of service and branches of arms, which possess the potential to combat the adversary in the air and in outer space, can and should be a unified automated Armed Forces command and control system. Only this method of interaction would be capable of ensuring the employment of the forces and weapons of the various branches of service and branches of arms according to a unified concept under the leadership of the General Staff.<sup>48</sup>

Apparently after the “downgrading” of the General Staff as the result of the State Duma’s revisions to the “Law on Defense”, the future of the VKO system, just like the future of the Air Defense system will depend not on the General Staff but the Defense Ministry and the top political leadership of the country.

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<sup>47</sup> See: Alexander Rukshin, “Aerospace Defense Will Allow the Parrying of Threats to Russia’s Security,” *Voenna-Promyshlennyyi Kurier*, 17 December 2003.

<sup>48</sup> Starukhin.