



Role of the Russian Aerospace Forces 15th Special Purpose Army

OE Watch Commentary: The accompanying articles discuss the operation of the Russian Aerospace Forces' 15th Special Purpose Army [15-я армия воздушно-космических сил (особого назначения)]. The 15th Special Purpose Army is responsible for missile warning, supporting missile defense, space monitoring, and the command and control of most of Russia's satellites and associated ground assets. The accompanying excerpted article from *Krasnaya Zvezda*, the official newspaper of the Russian Ministry of Defense, provides an interview with the commander of the Russian Aerospace Forces' 15th Special Purpose Army Lieutenant-General Andrey Vyshinskiy. General Vyshinskiy provides an overview of his unit's missions, mentioning that his organization controls 80% of Russia's 150 satellites.

The accompanying excerpted article from the *Ministry of Defense of the Russian Federation* website, states the 15th Special Purpose Army executed 550,000 communications sessions to command and control these satellites. Finally, the accompanying excerpted article from *Voyenno-Promyshlennyy Kurier*, which is published by the Association of Military Industrial Companies, describes the operation of Russia's missile warning system. In particular, the article mentions how improving the space segment (satellites) of the missile warning system could double Russia's early warning time for ballistic missile launches from fifteen to thirty minutes. **End OE Watch Commentary (Bartles)**

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Lieutenant-General Andrey Vyshinskiy, the commander of 15th VKS Special Purpose Army.

Source: Russian Ministry of Defense https://function.mil.ru/images/upload/2017/EVS_7789.JPG, Attribution: CC BY 4.0



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Source: Yuliya Kozak, “Им по плечу задачи космического размаха (They Can Handle Missions of a Spatial Scale),” Krasnaya Zvezda Online (official newspaper of the Russian Ministry of Defense), 22 October 2020. <http://redstar.ru/im-po-plechu-zadachi-kosmicheskogo-razmaha/>

...Today three formations are part of the composition of 15th VKS Special Purpose Army: The Main Missile Attack Warning Center, the Main Space Situation Surveillance Center, and the Main Test Space Center imeni G.S. Titov. The military units are deployed on the country's entire territory from Kaliningrad to Kamchatka...

First of all with the need to provide the required missile attack warning time, which will be adequate for the country's military-political leadership to make a decision on retaliatory operations, and also for the conduct of the continuous surveillance of the space situation, the detection of threats in space and from space, and support of the launches and command and control of the designated spacecraft. Today only our combined formation accomplishes

these types of missions...Lieutenant-General Andrey Vyshinskiy, the commander of 15th VKS Special Purpose Army, told a Krasnaya Zvezda correspondent about all of this in a conversation on the eve of the professional holiday.

To what extent has 2020 been saturated with those special missions? Which of them do you consider to be the most significant?

...The combat crews of the Main Missile Attack Warning Center detected more than 60 launches of domestic and foreign ballistic missiles and space rockets. The specialists of the Main Space Situation Surveillance Center have taken for tracking more than 1,500 new space objects and have detected more than 250 maneuvers of foreign spacecraft and 14 dangerous closures of domestic satellites with other space objects...

Since 15th Army's specialists control our spacecraft, tell us what the qualitative and quantitative state of the Russian orbital constellation is today? Are only military satellites or are civilian satellites also in your purview?

The orbital constellation of domestic spacecraft is being improved and renewed in accordance with the State Armaments Program until 2025 and numbers more than 150 spacecraft. Of them, more than 80 percent are under the control of the Main Test Space Center imeni G.S. Titov, which is part of 15th Army's composition...Communications, navigation, topogeodesic and meteorological, remote Earth sensing and the monitoring of the situation on its surface, and also scientific spacecraft are functioning in orbit today. Of course, the Main Center controls not only military spacecraft but also civilian spacecraft - scientific and socioeconomic. Of the total number of spacecraft in the composition of the Russian orbital constellation, more than 90 percent are functioning in support of the Russian Federation Ministry of Defense and over 60 - within the fulfillment of the Federal Space Program and in support of other ministries and departments...

What other missions does the Main Space Situation Surveillance Center accomplish? Which systems and complexes are in the inventory?

The capabilities of the outer space monitoring system are increasing along with the development of advanced missile attack warning facilities. It is a component of the country's aerospace defense and has distinctive features. This is a large information system based upon specialized and interactive systems, which are designed for the continuous assessment of the space situation both in peacetime and in wartime. Therefore, the primary missions, which have been defined for the Main Space Situation Surveillance Center, are continuous analysis of the space situation, the maintenance of the Main Space Objects Catalogue, and the detection of a possible dangerous closure of domestic satellites with space objects. The space monitoring system's specialized radiotechnical, laser-optical, and optical-electronic ground equipment, which are deployed in the Moscow Region, Altay Kray, the Far East Region, the Karachayevo-Cherkessia Republic, and the Republic of Tajikistan, permit continuous monitoring of the situation in near-Earth space.

“If a satellite detects an ICBM launch from U.S. territory, this information will be received at the command station 30 minutes prior to its approach of Russian territory. On the other hand, radars can detect a missile when it is 15 minutes from the Russian border. This is a very big difference for making such important decisions.”



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Source: “Более 550 тысяч сеансов связи проведено в 2020 учебном году подразделениями связи 15-й армии ВКС (ОсН) (More than 500,000 Communications Sessions Conducted During 2020 Training Year by Communications Subunits of the 15th Special Purpose Army of the Aerospace Forces)”, *Ministry of Defense of the Russian Federation Online*, 23 October 2020. <https://structure.mil.ru/structure/forces/vks/news/more.htm?id=12320917@egNews>

During the 2020 training year communications subunits of the 15th Special Purpose Army of the Aerospace Forces conducted more than 550,000 communications sessions in support of the launching and controlling of space satellites and the uninterrupted functioning of the space reconnaissance and missile attack warning systems. In so doing, the average daily metric was more than 1,600 communications sessions.

Servicemen of communications subunits of the 15th VKS Special Purpose Army participated in the support of military and dual use satellite launches. In addition, specialists of communications subunits also executed tasks to support the flight control of the integrated Russian segment of the International Space Station...

Source: Vladimir Tuchkov, “«Золотой петушок» набирает вес (The ‘Golden Cockerel’ Gains More Weight), *Voyenno-Promyshlennyy Kuryer Online* (Weekly news outlet focusing on the military and defense industrial complex founded by private company and published by the Association of Military Industrial Companies, 30 December 2020. <https://www.vpk-news.ru/articles/59462>

For three more years, the missile warning system will suffer from nearsightedness. Next year, the upgraded ballistic missile warning system will transition from the operational testing mode to operational readiness. This information was provided by the general designer of the missile warning system, Sergei Boyev. However, for three more years this hawk-eyed ‘golden cockerel,’ in Pushkin’s parlance, will have reduced functionality due to extended crisis in the domestic aerospace industry. Modernization of the ballistic missile warning system occurred after several new elements were added to the system, which will improve the efficiency and accuracy of data about the ballistic and strategic cruise missile launches in both the Eastern and the Western hemispheres. In addition, new relay stations and command posts were added to the system, and existing data transfer channels were upgraded...

The missile warning system is a strategic complex of special technical means used for detecting launches of ballistic missiles, calculating their trajectories, and transmitting this information to the command post. After receiving this information, an act of aggression against a country with the use of nuclear weapons will be noted and a decision will be made about the retaliatory actions. Retaliatory actions may include launching missiles, which are directed toward the aggressor’s territory, as well as activation of the anti-missile defense system at the highest degree of readiness...

Structurally, the missile warning system consists of two segments: the ground segment and the orbital segment, which are integrated into one system by the command and control posts and via secure and redundant data transmission channels. The ground segment is a network of powerful permanent radar stations, both Daryal type and over-the-horizon radars with the operational range of up to six thousand kilometers. They monitor outer space and the near-earth environments, as well as detect, identify, and track objects which could pose a threat for national security. The orbital segment is a constellation of satellites designed to detect missile launches by detecting engine plumes. When the setup of the orbital constellation is complete, the system should be able to track the entire territory of the Earth, both land and water.

In 2015, deployment of a new constellation was initiated, which should include ten Tundra satellites. They are more advanced than the satellites of the first generation. New satellites are able to detect engine plumes, determine the type of a rocket, and calculate the flight direction and coordinates of the target. Some satellites must be on a geostationary orbit and some on a high-altitude elliptical orbit. A highly elongated ellipse (the apogee is approximately 39 thousand kilometers, the perigee 1,600 kilometers) is oriented a certain way to allow satellites to remain over U.S. territory for extended periods of time. To date, four Tundras have been launched into space. I would like to believe that by 2024 there will be ten of them, as planned. Only in this case will the Central Command Station be receiving telemetry data from space about all situations all over the world...If a satellite detects an ICBM launch from U.S. territory, this information will be received at the command station 30 minutes prior to its approach of Russian territory. On the other hand, radars can detect a missile when it is 15 minutes from the Russian border. This is a very big difference for making such important decisions.