

Russia's Rogozin Again Proposes SDE

The Russian daily *Izvestiya* reported Feb. 21 that Dmitri Rogozin, Russia's Deputy Prime Minister in charge of the defense industry, space, and nuclear power, has written to Prime Minister Dmitri Medvedev, proposing that Russia join with other countries, especially the United States, to develop the Strategic Defense of Earth (SDE). It was Rogozin who first publicly proposed the SDE in 2011. The SDE is an updated version of Lyndon LaRouche's SDI (Strategic Defense Initiative) proposal of the late 1970s, adopted by President Reagan on March 23, 1983, almost exactly 30 years ago.

Rogozin "proposed to establish an international system of anti-asteroid security for the planet," *Izvestiya* wrote.

"According to Rogozin, two asteroids are of particular danger to Earth. Apophis (aka 2004MK4) in 2029 may come closer to our planet than 35,000 km, and how it will approach the Earth in 2036, is still unknown. Asteroid 2011AS5, diameter 140 m, in 2040 will approach Earth at a distance of 3,200 km. To be protected from cosmic catastrophes, the Deputy Prime Minister proposes to use the resources of the Military-Industrial Commission under the Government to work out proposals for the creation of an international anti-asteroid system.

"The asteroid that fell in Chelyabinsk Feb. 15 of this year, we could not detect in advance by the existing Roscosmos means. 'Finding space objects of this class is not being done by the military space surveillance systems of Russia and the U.S.A.,' Rogozin said in a letter to the Prime Minister. The Roscosmos system for detection of hazardous celestial objects can track space debris in the orbits of satellites, in the range of 200 to 5,000 km from Earth.

"The Deputy Prime Minister said that in the frame-

work of the Committee on the Peaceful Uses of Outer Space, the UN has often considered the proposals of Russian specialists on setting up an International Aerospace System for Global Monitoring. He recalled that in 2011 he had already reported to Medvedev on the appropriateness of Russia's making an initiative to create a 'Strategic Defense of the Earth.'

"The scale of the problem will require a concentration of global resources. It can only be solved by combining the scientific and technical potential of Russia, the U.S., and other leading countries. Creating such a system, according to Rogozin, would simultaneously find a way out of the confrontation between Russia and the U.S. in the field of missile defense. 'The deployment of broad international cooperation on the basis of such a large-scale program would help build confidence between the two countries and discourage confronta-

tional tendencies,' says Rogozin. . . ."

Then, on Feb. 22, Russia's Itar-Tass news agency reported remarks of Prime Minister Medvedev published in Brazil's *O Globo* that day under the headline, "Chelyabinsk meteorite is lesson for mankind—Medvedev."

"The meteorite that fell near Chelyabinsk is a lesson to all mankind. It is necessary to look together for ways to withstand the forces of nature," Medvedev was quoted saying.

"'Human civilization is self-assured. We believe that we make wonderful machines, create beautiful buildings, produce weapons. On the whole, human civilization is developing. And at the same time, it turns out that we are quite vulnerable. And fantastic stories often offered by Hollywood blockbusters are not just fantasy. We really live in space, and various unexpected things can come from space,' the premier said.

"'It is a lesson,' he believes. 'We are very glad that nobody died, though the explosion of the fireball was of immense power. It took place at some altitude, but fragments flew to us. It could have ended much worse. So, it is such a lesson for mankind, and one more reminder that only together we can cope with some threats to mankind. Most likely, there is no effective



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Dmitri Rogozin

protection at present, but we must think this over. What can we present against the forces of nature? It will take money and our joint work,' the Russian prime minister noted."

Russians Respond

Calls for Cooperation On Space Threats

Feb. 23—Russian government and scientific institutions have responded to the Feb. 15 Chebarkul meteor explosion and the near-Earth asteroid flyby of the same day with specific ideas to address the asteroid threat.

In addition to statements by Deputy Prime Minister Rogozin and State Duma International Affairs Committee chairman Pushkov, cited above, other high-level government and scientific figures are speaking out. For example:

- On Feb. 18, Lidiya Rykhlova of the Russian Academy of Sciences Institute of Astronomy described a 58-billion-ruble (approximately \$2 billion), ten-year program for asteroid defense, proposed by the Russian Academy of Sciences in 2010-2011. Rykhlova said that the program has been approved by the Russian Space Agency, Roscosmos, and now "it is on Rogozin's desk." She said that Russia is aiming to establish one or two telescopes dedicated to finding asteroid threats.

- Nikolai Patrushev, the secretary of the Russian Security Council, in a Feb. 20 interview with the government daily *Rossiyskaya Gazeta*, also discussed the Chebarkul meteorite and the asteroid threat in general. He called for international cooperation on this issue, and raised the challenge posed by long-period comets:

"We put this question on the agenda for discussion at the III International Meeting of Senior Security Representatives, in June 2012 in St. Petersburg. The Russian Security Council has repeatedly proposed to develop an Intergovernmental Targeted Program to counteract space threats associated with the asteroid and comet danger and the build-up of space trash. . . . Comets may also present an even greater danger, since their velocity as a rule is greater than that of asteroids, reaching several tens of km/sec. The great majority of

known comets have very elongated elliptical orbits, so the task of forecasting their appearance and trajectories is extremely complex. At present, the only comets that can be considered accessible for observation and threat evaluation for a collision with Earth are short-period comets with orbits within the Solar System."

- Another important call for international cooperation came Feb. 20 from Konstantin Tsytko, representative of the Chelyabinsk Region in the Federation Council, Russia's upper house of Parliament, who called for a heads-of-state summit. He addressed the "economic consequences not only in Russia, but also worldwide," stating that "both the Russian government and the international community are paying special attention to the asteroid threat and the need to protect the planet Earth as a whole from the dangers that space objects pose."

Referring to the Chebarkul meteorite, Tsytko said, "I think it will result in increased investments in science and technology that can provide early warning or will affect asteroids, meteors, and comets, so they will not reach the Earth. . . . It would be logical to hold an international conference with the participation of heads-of-state to discuss the problem of an asteroid threat to Earth. Chelyabinsk is the first city in the history of our civilization that has survived a space attack."

- Also on Feb. 20, RIA Novosti reported that Russia's Aerospace Defense Forces have been given the task of defending against objects descending from space. "The Aerospace Defense Forces have been ordered to handle this issue and come up with a plan to protect Russia from these 'space travelers,'" said Maj. Gen. Igor Makushev, aviation commander for the western Military District.

"None of the existing systems, either Russian or American, detected this space object until it entered the atmosphere," Director of the Astronomy Institute of the Russian Academy of Sciences Boris Shustov said Feb. 20. Shustov said that astronomers have discovered and catalogued only 2% of potentially dangerous space objects about 50 meters in size, which are capable of causing a catastrophe worse than the 1908 Tunguska Event, the largest such incident in recorded history. It was believed to be caused by the explosion of a meteor or comet over central Russia. "It is a sign of our ignorance, since we should be able to monitor about at least 90%, if not all of these objects," Shustov said.