

Russia Approves Topol-M; Warns Missile Could Defeat U.S. Defense

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A "special state commission" formally approved the Topol-M intercontinental ballistic missile in the final week of April, authorizing deployment of the full planned contingent of Russia's most sophisticated nuclear missile. Russian defense officials expect the new missile to form the core of Russia's strategic nuclear force by the end of the decade—the missile is slated to replace all of Russia's existing land-based nuclear-armed strategic missiles.

The Topol-M, designated the SS-27 by the United States, is a three-stage, solid-fueled missile with a reported range in excess of 10,000 kilometers. The missile can be deployed on both silo-based and mobile land-based launch platforms. Roughly similar to the U.S. Minuteman III in capability and sophistication, the Topol-M is deployed with a single warhead with an estimated yield of 550 kilotons, although the missile can be modified to carry at least three warheads.

Topol-M development began in the 1980s, when Soviet military planners anticipated U.S. deployment of missile defenses under the auspices of President Ronald Reagan's Strategic Defense Initiative. Defense Ministry sources told the Interfax news agency in April that the Topol-M is equipped with the most up-to-date means for penetrating an anti-ballistic missile defense.

The missile has been tested with a maneuverable re-entry vehicle, which could assist in defeating missile defense interceptors. One of the Topol-M's most notable features is its short engine burn time following take-off, intended to minimize satellite detection of launches and thereby complicate both early warning and interception by missile defense systems during boost phase. The missile also has a relatively flat ballistic trajectory, complicating defense acquisition and interception.

While the Topol-M is currently deployed with a single warhead, Russian defense officials have warned that if the United States abrogates the 1972 Anti-Ballistic Missile Treaty, Russia may maintain or redeploy multiple-warhead missiles, such as the SS-18, or deploy new missiles, such as the Topol-M, in a multiple-warhead configuration.

Deployment Behind Schedule

The Topol-M was first test-fired in December 1994, and two missile systems were put on "trial alert" in December 1997. Two regiments of 10 silo-based missiles each have been brought online since 1998, and Russian defense officials expect a third regiment to be deployed sometime this year. In 1998, Colonel General Vladimir Yakovlev, chief of the Russian Strategic Rocket Forces, announced an ambitious production schedule under which 20 to 30 Topol-Ms would be deployed each year for three years, and 30 to 40 would be deployed during the following three years. If continued, this schedule would give Russia between 250 and 340 warheads by the 2007 START II implementation deadline. To date, Russia has been unable to meet these production goals.

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If START II enters into force, banning multiple-warhead ICBMs and requiring destruction of all SS-18s, Russia will need to deploy between 150 and 500 Topol-Ms by the treaty's 2007 implementation deadline (depending on retirement of SS-25s and downloaded SS-19s) to maintain strategic parity with the United States. If the treaty does not enter into force, Russia will have many more deployment options, including maintaining SS-18s in service and deploying other multiple-warhead missiles.

Russia's current land-based missiles (with the exception of the Topol-M) will all have reached or exceeded the end of their normal service lives by the end of the decade. Russia has already extended the service lives of several missile systems, both by relaxing technical standards and conducting an ongoing testing program. Given the dramatic decline in the Russian sea- and bomber-based nuclear forces, absent a sustained influx of capital into the Russian nuclear weapons complex, Russia is unlikely to be able to field a START II-allowable force by the end of the current decade and may even be unable to field a 1,500 warhead force the lowest prospective START III level.

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