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Russia's new subs can shoot Bulava missiles while moving under Arctic ice

11/25/2014

In the middle of December, the Navy of Russia will receive the third of eight state-of-the-art submarines of Project 955 Borei, a strategic nuclear cruiser. The new sub will be called Vladimir Monomakh.

Project 955 submarines thus replace strategic submarine cruisers of projects 667BDRM and 941, the construction of which was conducted before early 1990s. The development of this type of submarines of the 4th generation, Borei-1 (project 955), was started in mid-1980s at Rubin Design Bureau.In the middle of December, the Navy of Russia will receive the third of eight state-of-the-art submarines of Project 955 Borei, a strategic nuclear cruiser. In the middle of December, the Navy of Russia will receive the third of eight state-of-the-art submarines of Project 955 Borei, a strategic nuclear cruiser.

The first cruiser of this series, Yury Dolgoruky, was founded in 1996 at the Severodvinsk machine-building enterprise. The construction of the first cruiser was supposed to be completed in ten years. However, the Yury Dolgoruky was launched much later.

During the process of construction, the design of the cruiser was amended against the backdrop of failures that occurred to Bark missile complex. Submarines of this series became lighter after it was decided to equip them with lighter Bulava missiles. The missile bay of the submarines was changed too.

In 2006, Borei (Northwind) project almost ceased to exist as a carrier of strategic ballistic missiles. Due to a series of failures in testing the Bulava ballistic missile, Navy officials believed that it was time to redesign the submarine yet again for the use of cruise missiles.

In the long run, the Yury Dolgoruky, and the Alexander Nevsky subs were launched and passed into naval service.

Currently, domestic steel production can fully satisfy the need in submarine steel, even though Russia experienced the shortage of this type of steel not that long ago.

The Vladimir Monomakh is the third sub in the series and the first one that corresponds to design appearance most. The next vessel in the series - Knyaz Vladimir - carries the letter "A" in the project name - Borei-A. According to unconfirmed information, this may mean that with this ship, Russia will begin the production of submarines with 20, rather than 16 Bulava missile pits.

Specialists of the Severodvinsk machine-building enterprise are currently involved in the construction of several other submarines of Project 955: "Knyaz Vladimir", "Knuaze Oleg" and "Knyaz Suvorov". According to the state program of armaments before 2020, the Russian Navy is said to receive eight nuclear-powered ballistic missile submarines of Project 955 / 955A, Borei and Borei-A. The subs of Borei-A project, as representatives of Rubin Design Bureau said, will have a lower level of physical fields and, respectively, improved stealth and more advanced communication and detection systems. The subs will also have such features as improved crew habitability and survivability. The contract for the development of new submarines is evaluated at 39 billion rubles.

Project 955 is a new page in the development of the Russian nuclear submarine fleet. The subs are five times less noisy than vessels of 971 Pike-B and 949A Antey projects. Borei class submarines are first Russian nuclear submarines that move with the help of single-shaft water-jet propulsion system of high propulsion performance. Similarly to Pike-B project subs, Borei-class submarines have two hinged thrusters and retractable horizontal bow planes with flaps.

The hydroacoustic equipment is represented with a new station called "Irtysh-Amphora-B-055." This is a single automated digital sonar system that performs regular functions, such as noise-direction finding, echo-ranging, classification of targets, communication. The station also

performs the functions of small acoustics, such as measuring ice thickness and speed of sound, mine-detection, search for ice openings and ice leads, detection of torpedoes. The new station exceeds the range of a similar system installed on USA's state-of-the-art Virginia type submarines.

In addition, all Borei submarines are equipped with ascending rescue chambers for the whole crew. Unlike all predecessors, 955 project subs are capable of launching ballistic missiles while moving. To crown it all, a Borei submarine can launch a Bulava from under the Arctic ice.