

Russian Naval Shipbuilding

IS IT POSSIBLE TO FULFILL THE KREMLIN'S GRAND EXPECTATIONS?

PONARS Eurasia Memo No. 395

October 2015

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Russia's takeover of Crimea in 2014 and subsequent reinforcement of the region's military forces have been combined with a general increase in naval activity—including aggressive activity vis-à-vis NATO countries' maritime interests beyond the Black Sea. All this has led to increased international interest in Russian naval modernization plans. Although this modernization effort is going slowly, the Russian Navy's ability to place effective long-range cruise missiles on relatively small ships means that Russia remains a serious regional maritime power with the capability to threaten not only its neighbors but much of Europe in the event of a conflict.

Russian Naval Construction Plans

Strategic nuclear deterrence will remain the number one mission of the Russian Navy in the coming decades. For this reason, the construction of Russian nuclear submarines has received priority financing and has been largely insulated from budget cuts.

The main new submarine projects include the following:

- *Borei*-class ballistic missile submarines (SSBNs), which will replace the remaining Delta III and Delta IV submarines over the next 15 years. Three are commissioned, 3 are under construction, and 2 more are contracted.
- *Yasen*-class nuclear-powered submarines (SSNs), which are large and expensive. One is currently commissioned and a total of 8 are planned. Only 2 are likely to be completed by 2020 due to financial constraints on construction.
- New, smaller, and cheaper nuclear submarines. Two versions: one designed for protecting naval strike groups against attack submarines and the other to be

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armed with cruise missiles. Construction on these submarines will start in 1-2 years, with a production goal of 16-18 of them in service by 2040.

- *Kalina*-class diesel submarine with air independent propulsion (AIP). This will serve as the successor to the *Lada*-class submarine. Although the head of the Navy has said that an AIP design will be complete by the end of 2016, it is unclear how much progress has actually been made.

As for surface ships, the Navy is primarily building small ones at present, while finalizing designs for larger ships for the future. The main projects include:

- *Admiral Gorshkov*-class frigates (FFG). Construction of these ships has been unusually slow even by the glacial pace of recent Russian shipbuilding. Eight are currently under construction, with the first scheduled to be commissioned this year. At the current rate of construction, the Navy can expect to have 5 ships of this class by 2025, and 9 by 2030.
- *Admiral Grigorovich*-class frigates (FFG) (updated Soviet design). Six have been ordered to fill the gap left by the slow construction of the *Admiral Gorshkov*-class frigates. Construction of the last three ships has been suspended due to the end of military cooperation with Ukraine, which produced the gas turbines for these ships.
- *Steregushchiy*-class corvette (FFC). Four ships are in active service, 7 are under construction, and 9 more are under contract. Eighteen were originally planned to be built by 2020, although delays associated with Western sanctions are likely to reduce this number to 12-14.
- *Admiral Bykov*-class corvette (FFC). Two are under construction, with 4 more under contract and a total of 12 expected to be built over the next 10-15 years. These ships are expected to have greater range and more self-sufficiency than their predecessors.
- *Buyan-M*-class missile ships (PFG). These small ships are designed to be used primarily in the Caspian Flotilla and Black Sea Fleet. Three are in service, 2 are in sea trials, and 4 are under construction.
- *Lider*-class 15,000-ton nuclear destroyers (DDG). Construction is scheduled to begin in 2018-2019, with a goal of 12 in the fleet by 2035. Some analysts argue that financial limitations mean only 3-4 of these ships will be built.
- New large amphibious ships (LHD). These would have at least 14,000-ton displacement and be capable of conducting expeditionary missions. Construction of these ships is likely to start before 2020.

The Feasibility of Russian Shipbuilding Plans

Official statements related to naval shipbuilding give the appearance that the Russian Navy is undergoing a rapid revival. However, the reality is that many of these projects have faced lengthy delays and cost overruns. As a result, some of the most prominent naval procurement projects have been scaled back while others have been postponed for years at a time.

The main reasons for these delays and cost overruns involve a) long-term decline in naval research and development; b) an inability to modernize the shipbuilding industry, which is considered to be particularly outdated and poorly structured as compared to other sectors of the Russian defense industry (and has suffered more than other sectors due to Western sanctions); and c) pre-existing budgetary constraints that have been exacerbated in recent years by Russia's economic downturn.

Russia's current shipbuilding industry was primarily formed in the 1960-70s, and its ship design capabilities have changed little since the early 1980s. As a result, Russian naval research and development (R&D) has fallen several decades behind Western and Asian capabilities. Russian leaders recognized this problem in the late 2000s and sought to absorb Western knowledge through joint projects, such as the Russian version of the French Mistral amphibious assault ship. In addition, they organized joint projects with foreign designers such as Saipem, Wartsila, and STX in civilian shipbuilding. However, the freezing of military cooperation with NATO states in 2014 as a result of the Ukraine conflict has largely foreclosed the possibility of catching up by borrowing Western know-how. Russian naval R&D is therefore likely to remain significantly behind when compared to the Western state-of-the-art.

Western sanctions have also resulted in major problems with the production of ship components, particularly in navigation and communication equipment. Most of these components are not produced domestically in Russia, and the industry has long been dependent on imports from Europe for high quality components. Efforts to start domestic production are underway, but prices for domestic variants are relatively high while quality is relatively low.

Although it has improved somewhat in recent years, shipbuilding is one of the more poorly performing sectors of Russia's defense industry. Russian analysts argue that Russia's United Shipbuilding Corporation is the least effective of all state corporations in Russia's defense sector. This results from its excessive size, bloated management structures, and misguided efforts to combine military and civilian shipbuilding under a single corporate roof.

Financial Constraints

The State Armament Program (SAP) for 2011-2020 assigned five trillion rubles—a quarter of its total expenditures—to military shipbuilding. This amount was almost double the amount allocated to the ground forces and airborne forces combined. According to Russian analysts, currently announced naval procurement plans would require the amount of spending on military shipbuilding to increase to six to seven trillion rubles for the next SAP.

That said, funding the existing SAP through 2020 was beyond the means of the Russian government even prior to the budget crisis that began in 2014. While the percentage of Russian GDP devoted to military spending increased from 1.5 percent in 2010 to 3.4 percent in 2014, this higher level of spending was sustainable for the Russian economy at the time. However, 70 percent of the program's expenditures were scheduled for the second half of the ten-year program. Since Russia's economic growth was already slowing, fulfilling these plans would have required Russian military spending to increase to unsustainable levels of 6-8 percent of GDP even without the cuts in Russia's government budget required by the collapse of world oil prices.

Potential Russian Navy Order of Battle, 2020-2030

The following tables are based on the Russian Navy's announced construction plans, modified by an analysis of the financial and industrial constraints the Navy faces. These show that the Navy will substantially renew its submarines and small ships over the next fifteen years while it will just be starting on construction of a new generation of large surface combat ships.

Table 1. Submarines in the Russian Navy

Class	2020	2025	2030
<i>Delta III</i>	0	0	0
<i>Delta IV</i>	6	5-6	0-2
<i>Borei</i>	6	8-10	10-12
<i>Sierra I & II, Victor III</i>	0	0	0
<i>Oscar</i>	6	6	4-6
<i>Akula</i>	6	6	4-6
<i>Yasen</i>	2-3	6-8	6-8
New class SSGN	0	4-6	6-10
Kilo (project 877)	10-15	5-10	0
Improved Kilo (project 636.3)	6	6	6
Lada (project 677)	3	3	3
<i>Kalina</i>	0	4-6	6-10

The Russian Navy plans to have 12 SSBNs in active service by 2020. The three remaining Delta III SSBNs will be retired by this point, with six *Borei*-class SSBNs taking their place in the fleet. All six *Delta IV* SSBNs will most likely be retired in 2025-30. The Navy is planning to overhaul six *Oscar*-class guided-missile submarines (SSGNs) and six *Akula*-class SSNs, which will extend their lifespan by 12-15 years. Older classes, such as the *Sierra* and *Victor III*, will be retired before 2020. *Yasen*-class construction will proceed slowly, with no new orders expected after the current set of 6-8 are completed. Instead, the Navy will focus on the new class of nuclear submarines currently being designed. Older *Kilo*-class diesel submarines will be gradually retired as the *Kalina*-class begins to enter service in the early 2020s. The recently built improved *Kilo*-class and *Lada*-class submarines will serve as a bridge until a sufficient number of the *Kalina*-class are constructed.

Table 2. Large Combat Ships

Class	2020	2025	2030
<i>Kuznetsov</i> CV	1	1	1
<i>Kirov</i> CGN	1	2-3	2-3
<i>Slava</i> CG	2	3	3
<i>Sovremennyi</i> DDG	0	0	0
<i>Udaloy</i> DDG	8	7	4-5
<i>Lider</i> DDG	0	0-1	4-6
<i>Krivak I & II</i> FFG	0-2	0	0
<i>Neustrashimyi</i> FFG	2	2	1-2
<i>Admiral Grigorovich</i> FFG	3-5	3-6	3-6
<i>Admiral Gorshkov</i> FFG	2-4	4-6	8-10

The Navy is currently refurbishing its cruisers. The program should be complete by 2025, although it is not yet clear whether the *Admiral Lazarev Kirov*-class cruiser will be modernized or decommissioned. All *Sovremennyi*-class destroyers will be decommissioned before 2020, while six *Udaloy*-class destroyers will be modernized to extend their lifespan through the early 2030s. The total number of *Admiral Grigorovich* frigates to be constructed will depend on the state of defense cooperation with Ukraine. If no agreement can be reached on purchasing gas turbines for these ships, only three will be commissioned.

Table 3. Small combat ships

Class	2020	2025	2030
<i>Grisha</i> FFC	18-20	8-10	0
<i>Parchim</i> FFC	7	5-7	0-3
<i>Steregushchii</i> FFC	12-14	20-24	20-24
<i>Admiral Bykov</i> FFC	4-6	6-12	12-15
<i>Gepard</i> FFL	2	2	2
<i>Tarantul</i> PFG	13-15	8-10	0-3

Class	2020	2025	2030
<i>Nanuchka</i> PFG	8-10	0-4	0
<i>Bora</i> PFG	2	2	2
<i>Buyan</i> PG	3	3	3
<i>Buyan-M/Sarsar</i> PFG	12-14	20-24	30-32

The overall number of small combat ships is expected to remain fairly steady over the next fifteen years. The older classes of corvettes and missile ships will be gradually retired as new corvettes and missile ships are commissioned. The new *Sarsar*-class of missile ships that has been announced recently will be a further modification of the *Buyan-M*-class and will be built in the 2020s.

Table 4. Amphibious ships

Class	2020	2025	2030
<i>Ropucha</i> LST	12-15	8-10	0
<i>Alligator</i> LST	2-4	0	0
<i>Ivan Gren</i> LST	2	2	2
New class LST	0-1	2-3	6-8
New class LHD	0	0	2-3

The overall number of amphibious ships is likely to decrease over the next fifteen years due to the retirement of *Ropucha*-class tank landing ships (LST). The overall amphibious capability of the Navy will nonetheless increase as the replacement LSTs will be larger and more capable than the ships they are replacing, while the helicopter landing ships (LHD) will add a capability that the Navy has not previously possessed.

Implications

Regardless of what long-term development path the Russian Navy chooses to pursue, in the near to medium term it will remain almost exclusively a coastal defense and deterrence force. For the foreseeable future, the strength of the Navy will be in its submarines. Under any development scenario, Russian SSBNs will retain an adequate strategic deterrence capability. Meanwhile, Russian SSGNs will be sufficient to protect the SSBNs and deter enemy naval forces from attacks on Russian territory. These forces will be supported by a new generation of small- and medium-sized combat ships, most of which will be equipped with anti-ship and land-attack cruise missiles. These naval forces will be fully sufficient to ensure Russian dominance in neighboring waters.

They will not, however, provide Russia with the forces to make it even a near-peer competitor to the U.S. Navy. Even under the most optimistic projections, the Russian Navy will not have a serious expeditionary capability for at least 15 years. Planning for large amphibious ships and aircraft carriers is still very much in the early stages. Whether the Navy should build either type of ship is still highly disputed among both

the expert community and military planners. If they are built in the numbers currently being discussed and in the most likely timelines, then the United States may have to be prepared to deal with expeditionary Russian forces in the mid-to-late 2030s. It is far more likely, however, that financial and industrial limitations will lead to the cancellation or significant reduction of plans to develop a naval expeditionary capability.

Furthermore, out-of-area deployment capability is likely to deteriorate in the medium term as legacy Soviet-era large combat ships age and become less reliable. This trajectory will depend to some extent on the ability of the Russian Navy to successfully modernize its existing cruisers and *Udaloy*-class destroyers. If these programs are all carried out as currently planned, then the Navy will be able to continue to deploy large combat ships in numbers and frequency comparable to present-day rates until the next generation of destroyers are ready in the late 2020s. If these programs are fulfilled only partially or not at all, however, by 2025 the Navy will have few if any large combat ships capable of deploying regularly outside the immediate vicinity of their bases.

Overall, in the next 10-15 years the Russian Navy will most likely be good enough to defend the Russian coastline and ports. It will also be capable of posing a threat to its smaller neighbors and potentially to European NATO member states. The main source of the threat will be Russian ships' ability to launch land attack cruise missiles from a distance of up to 2500 kilometers away from the target. The launch of cruise missile strikes against targets in Syria from small ships in the Caspian Sea in October 2015 was a demonstration of this capability that was not lost on NATO planners or neighboring states. Ships capable of carrying out similar strikes could be based in the Black or Baltic Sea, where they would be well protected by ship-based and coastal air defenses. The construction of a fairly sizeable fleet of small missile ships and corvettes equipped with land attack cruise missiles, combined with a strong layered coastal air defense capability, obviates to a large extent the need to build a sizeable fleet of large combat ships. Russian missile ships will be able to target most of its smaller neighbors and a large part of Europe without leaving the relative safety of enclosed seas where Russian forces are dominant.

In summary, although the Russian Navy will continue to have problems with its platforms, its offensive capabilities will increasingly not be dependent on the size and range of its ships. The new generation of ships will allow the Navy to mount new generations of long-range cruise missiles in a modular fashion on a variety of platforms. While the Navy will not be able to project power globally or reach the levels of the U.S. Navy, it will be able to target U.S. allies in Europe and states it wants to influence on its borders. Since these countries are likely to be its primary targets in any case, Russia's naval capabilities will be good enough to achieve Russia's main maritime military goals in the short to medium term.

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