



Norsk versjon // Russkaya Versiya (CP1251) // The Nikitin-process // Support us!

Bellona Report nr. 2:96. Written by: Thomas Nilsen, Igor Kudrik and Alexandr Nikitin.

The Russian Northern Fleet The Northern Fleet

Table of Contents

1 1	TT'
	History
	1110001

- ☐ 1.2 Organisation and responsibilities
- □ 1.3 The Northern Fleet today
 - □ 1.3.1 Economic conditions
 - □ 1.3.2 Reduced levels of competence in submarine crews
- □ 1.4 The future of the Northern Fleet
- □ Endnotes

[Home] [Search] [NFL Updated] [On to nuclear-powered vessels] [Back to introduction] [References] [Content]

1.1 History

The White Sea and the Barents Sea have been of importance to the Russian merchant fleet ever since the 15th century. The matter of access to ice free harbours in the north became of increasing importance after Germany became a significant naval power in the Baltic Sea. In 1895, construction began on a modern harbour in Aleksandrovsk (present day Polyarny) at the mouth of the Murmansk Fjord. The port was completed in 1899.[8] Events during World War I increased the strategic importance of the Kola Peninsula to Russia. The Kola Peninsula and the White sea played an important role in the transfer of military supplies to Russia, especially after the German conquest of the coastal areas as far as Estonia during World War I. A naval force dedicated especially to the northern region was established shortly after the outbreak of World War I. When the railway to Murmansk was opened in 1917, the rest of Russia was thereby connected to a ice free port which was open all year. The Soviet Fleet of the Northern Seas was established as a result of Joseph Stalin's visit to Polyarny during the summer of 1933.[9] In 1937, it was renamed the Northern Fleet. Prior to the outbreak of World War II, the Northern Fleet consisted of eight destroyers, 15 diesel-powered submarines, a formation of patrol boats, mine sweepers and some smaller vessels.[10]

During the Russian involvement in World War II (1941-1945), the harbours and ports on the Kola Peninsula were of great importance to the Soviet Union. The *Murmansk Convoys* carried large amounts of materiel and supplies from the western allies to Murmansk. Supplies were transported via railroad to assist the Russian war effort to the south. During the war, the Northern Fleet was given several new

ships as well as having vessels transferred from other Soviet fleets. However, most of these were lost during the war.

By the close of the war, the United States Navy had become considerably larger and more powerful than that of the Soviet Union. In order to catch up with the American head start, the Soviet Union began to build a large naval force of its own. The build-up of a modern fleet on the Kola Peninsula began towards the end of the 1950s. World War II use of submarines had shown the tactical and strategic possibilities of this weapon to advantage. However, the diesel submarines were severely handicapped in their inability to remain permanently submerged. This necessitates spending long periods on the surface, running the dieselengines in order to charge the batteries which powered the vessel when submerged.

The decision to develop and build nuclear submarines therefore constituted an important strategic turning point for the Soviet Navy, and the resolution to pursue this course was adopted by the Supreme Soviet on December 21, 1952.[11] In 1954, the first American nuclear submarine USS Nautilus was commissioned. Construction of the first Soviet nuclear submarine K-3 Leninsky Komsomol began in Molotovsk (now known as Severodvinsk) on September 24, 1955. The submarine was launched on August 9, 1957, and it was commissioned to the Northern Fleet on July 1, 1958. On July 3, she sailed out into the White Sea, and her reactors were started up for the first time on July 4, 1958. The submarine sailed to her base at Malaya Lopatka in Severomorsk-7 (now known as Zapadnaya Litsa) at which she would be stationed. In the period from 1950 to 1970, the Northern Fleet grew from having been the smallest to the largest and most important of the four Soviet fleets.[12] Six new naval bases some with nuclear submarine facilities were built on the Kola Peninsula from Zapadnaya Litsa in the west to Gremikha in the east. A number of smaller navy bases for other types of vessels were also established at the Pechenga Fjord in the west, Belomorsk to the east and Novaya Zemlya to the north. At the same time, five large naval vards were built on the Kola Peninsula and in Severodvinsk for the construction and maintenance of nuclear submarines. It was not long before the size of the Soviet fleet of nuclear submarines had surpassed that of the United States, with about two thirds of all Soviet submarines based with the Northern Fleet.

Since 1958, there have been four generations of nuclear submarines and a number of nuclear-powered experimental submarines. The nuclear submarines are built at four different shipyards. By 1995, 245 nuclear submarines and four nuclear-powered surface ships had been delivered to the Navy. Two thirds of these vessels were delivered to the Northern Fleet, whereas only one third of the nuclear submarines were destined for the Pacific Fleet. [13] The first nuclear submarines to be assigned to the Pacific Fleet were delivered in 1961. [14] Nuclear submarines have never been assigned to the other two fleets of the Soviet Union, the Black Sea Fleet and the Baltic Sea Fleet. During the entire Soviet period, the expenses of the Navy were always covered by the state, and the Northern Fleet never had to contend with economic difficulties or problems in financing new projects.

1.2 Organisation and responsibilities [15]

The commander in chief of the Russian Navy is Chief Commander Feliks N. Gromov. The commander in chief of the Northern Fleet is Admiral Oleg A. Yerofeev. The Northern Fleet is organised into departments, each of which has a special area of responsibility. For example, the Technical Department with its offices in the Rosta district of Murmansk is responsible for day to day storage of nuclear waste and for the security of the nuclear submarines at Kola, whether in service or inactive.

The Russian Navy is responsible for the nuclear submarines as long as they are in active service or are moored at one of the Northern Fleet's naval bases. The Navy is also responsible for the three shippards that service and maintain the nuclear submarines. Otherwise, the state committee for the defence

industry (Goskomoboronprom) is in charge of the other shipyards. The Russian Ministry for Atomic Energy (Minatom) is responsible for the nuclear fuel that is used in the naval reactors, from the delivery of new fuel to the base to the receipt and reprocessing of spent nuclear fuel. The Russian Ministry of Transport is responsible for the freight of new and spent nuclear fuel by railroad.

In addition to the organisations mentioned above, there are a number of other state organisations and ministries which are responsible for ensuring that prescribed procedures are adhered to and correctly executed. The Ministry of Environment, the Ministry of Public Health, the Radiation Protection Authority *Gosatomnadzor* and the state committee for monitoring the public health along with the Ministry of Defence are responsible for working out nuclear safety regulations on board Navy vessels and storage/processing facilities for radioactive waste. The Ministry of Defence's internal regulatory authority is responsible for ensuring that these regulations are adhered to. In earlier years, *Gosatomnadzor* had partial responsibility for monitoring nuclear safety at the naval bases. (See <u>Chapter 4</u>). The Ministry for Situations of Emergencies is charged with averting and mitigating disasters.

In later years, a number of semi-private commercial companies have also appeared, especially in work entailing the dismantling of obsolete submarines and other naval vessels.

1.3 The Northern Fleet today

The Russian Northern Fleet has undergone some significant changes since 1989. With the disintegration of the Soviet Union in 1991 and extensive political reforms and changes in Russia came the end of the Cold War. There have been numerous disarmament agreements between the United States and Russia, including the START I and START II treaties. Military doctrine in both countries has changed, and a large part of the original military industrial complex is in the process of converting to civilian free-market production. The number of strategic submarines and nuclear warheads has been reduced, and the numbers will probably continue to decrease in the years ahead.

The year 1989 was the year in which the Soviet Navy had its largest number of nuclear submarines in operation ever - 196 in total. Now in 1996, there are 109 nuclear submarines in service, of which 67 belong to the Northern Fleet.[16] Other sources state the total of operational nuclear submarines in the Northern Fleet to be 84.[17] It is this latter number on which the START II treaty bases its overview for the present year. The reason for the difference between the two figures is that a number of nuclear submarines have been laid up without being considered actually out of service. Since the dissolution of the Soviet Union, western intelligence has always given a higher figure for the number of operational Russian nuclear submarines than correct.[18] The number of operational submarines in the Russian Navy will probably drop to approximately 80 by the year 2003.[19] The proportional allotment of these submarines between the Northern Fleet and the Pacific Fleet is unknown, but it seems most likely that the Northern Fleet will remain the larger of the two for the foreseeable future.



In accordance with the START-II disarmament treaty, the number of strategic missiles on board Northern Fleet submarines will be reduced to a total of 1 750 by the year 2003. Most likely the number will be even smaller. Here a strategic nuclear missile is removed from a Delta-II class submarine at a naval base on the Kola Peninsula. Once their missiles have been removed, the nuclear submarines are then laid up.

Due to copyright restraints this photograph is only available in the printed version. The printed version can be ordered from us.

Military doctrine has also changed within the Northern Fleet. Once an ocean-going fleet of world-wide influence, its principal mission today is to defend the Russian borders. To illustrate, the patrolling only a few years ago.[20]

activity of the Northern Fleet in the Atlantic Ocean today has been reduced to 20% of what it used to be

Prior to the dissolution of the Soviet Union, nuclear submarines of the Soviet Navy patrolled both the East and West Coasts of the United States, the South China Sea and outside the Persian Gulf. Nowadays it is seldom that a Russian nuclear submarine will patrol in any of these waters. [21] Towards the end of 1995, increased Russian submarine activity was registered off the north-western coast of the United States, and Project 971 - Akula class nuclear submarines were discovered in international waters just outside the Bangor Naval Base in Washington state. In 1995 Submarines of the Akula class were also noticed off the east coast of the United States. In the same year, Project 949 A - Oscar-II-class submarines followed American aircraft carriers in both the Atlantic and Pacific oceans on a number of occasions.[22] At the same time, American submarines continue to patrol close into Russian territorial waters outside the Kola Peninsula. [23] A foreign nuclear submarine was discovered off the Kola coast as recently as March 1996.[24]



Foto, 35 kb.

The Northern Fleet has two such nuclear powered battle cruisers, and a third will be delivered over the course of 1996. Due to technical problems, the battle cruisers have been laid up over the past three to four years. These vessels are based at Severomorsk on the Murmansk Fjord.

Since 1989, the number of naval vessels in the Northern Fleet has been reduced by 40%. In addition, numerous ships have been placed on reserve, including a number of nuclear submarines. The number of crew has been reduced, and the Northern Fleet staff has been reorganised. [25] All of the first generation nuclear submarines (November, Echo, and Hotel classes) and 60 % of the second generation vessels (Victor, Charlie, Yankee, and Delta) classes are no longer in service. The number of surface ships in the Northern Fleet has been dramatically reduced, but only the oldest and most worn out of the vessels have been taken out of service altogether. According to Russian naval authorities, there are no plans to develop any further generations of nuclear submarines[26]. However, the fourth generation of nuclear submarines, the Severodvinsk class, is presently under development and will probably enter service in 1998.[27]

1.3.1 Economic conditions

Large parts of the former Soviet military industry are scheduled to be converted to civilian production, and the naval shipyards are no exception. Construction of nuclear submarines has halted at three of the four yards that formerly had this task. Other shipyards that used to build vessels for the navy now lie outside Russia's borders, including the shipyards at Sevastopol, Nikolaev, and Kerch which are all in the Ukraine. The construction of the new nuclear-powered battle cruiser Pyotr Veliky at the Baltiyskaya yard in St. Petersburg was postponed for several years until it finally underwent sea trials for the first time towards the end of 1995.

The Northern Fleet lacks the funds to carry out the necessary servicing and maintenance on its operational submarines. Subsequently, many of them remain in port. [28] For lack of servicing, the Northern Fleet's two nuclear-powered battle cruisers Admiral Ushakov and Admiral Nakhimov also remained in port for the whole of 1994 and 1995. Admiral Ushakov has not been at sea since sustaining machine damage in 1991, while Admiral Nakhimov has been moored for the last three years. Both ships are based in Severomorsk. [29] The Northern Fleet Command asserts that the lack of maintenance on

the nuclear submarines and other naval vessels leads to an inability to fulfil the terms of the present military doctrine. [30]

In 1994, only 35% of the funds especially earmarked for the Northern Fleet, were actually transferred.[31] According to the 1994 budget, 600 billion roubles should have been transferred to the Northern Fleet, but this was never actually done.[32] The funds that were transferred went largely to pay wages and to cover social services for Northern Fleet personnel. 1995 was an even harder year than 1994. Due to high inflation, the Northern Fleet's entire annual budget was spent within the first six months of the year,[33] forcing severe cutbacks on the operation and maintenance of ships and naval bases.[34] On several occasions, the payment of wages was delayed, and this resulted in naval officers refusing to go to sea on patrol duty. There have been several instances over the past two years where the Northern Fleet was obliged to recruit officers from various neighbouring bases in order to assemble a crew for a ship due to go out on patrol. At times, even the nuclear submarines have been sent out on patrol without the full complement of officers.[35] It has become quite common that officers are not paid when they go on vacation. In 1995, the wages of naval officers at Zapadnaya Litsa for the months of June, July and August were not paid until September. Even now in 1996, the wages for the first months of the year were delayed for several months.[36]



Foto, 49 kb.

Due to the Northern Fleet's considerable economic problems, crews on board the nuclear submarines do not always receive their salaries on schedule. On numerous occasions, nuclear submarines have been sent out on patrol without the full complement of qualified officers.

At present, the Northern Fleet is unable to pay for the services formerly provided by the state. Many of the companies and shipyards whose services are directed towards the activities of the Northern Fleet receive no economic assistance from the state either, and must try to survive according to the economic principles of the free market. In January 1996, the Northern Fleet owed 40 billion roubles in wages to workers at the various shipyards and other factories. The Northern Fleet's total debt to the shipyards is in the realm of 200 billion roubles. [37]

On September 21, 1995, the power company *Kolenergo* shut off electricity to the naval base Gadzhievo as well as to the weapons storagefacilities there. This action was precipitated by a long-standing unpaid electricity bill amounting to about 4.5 million USD. Power was restored again 40 minutes later when the Northern Fleet sent armed guards to the transformer station.[38] The Northern Fleet Command later stated that never again would *Kolenergo* dare to shut off the power.[39] On September 26, the power was again shut off for 20 minutes, this time at the military shipyard *Sevmorput*.[40]

Admiral Yerofeev has suggested a number of measures by which the Northern Fleet might earn funds and improve its economic condition until the political situation in Russia stabilises. For example, the Northern Fleet could sell a number of its ships to other countries and retain for itself the proceeds of the sale. Training of the crew for these ships could also raise income for the Northern Fleet. However, according to present rules, this kind of extra income can only be used towards welfare or social benefits for the officers. [41]

Another way to improve the financial situation would be to permit the naval shipyards to carry out the dismantling of naval vessels and sell the salvaged metals for scrap. The Northern Fleet is also considering renting/leasing to non-military research institutions engaged in scientific research in the Arctic region. For example, in June 1995, Germany used one of the Northern Fleet's Delta-III submarines to launch an experimental rocket. The launch took place just outside the Gremikha naval base in the southern part of the Barents Sea. The experimental rocket was launched from a depth of 50

meters on an RSM-50 (SS-N-18) type booster. This type of booster was originally designed to launch nuclear warheads, but is now obsolete. The German experimental launch was the second such venture for the Northern Fleet; the first took place in 1994. On this occasion, the Northern Fleet worked with the Russian space centre, and was only paid for the time that the submarine was in use. However, the Northern Fleet was willing to accept these terms, for it presented an opportunity to train the crew in an unusual exercise, an opportunity they would not otherwise have had. [42]

In August 1995, a Northern Fleet Project 671 RTM submarine (Victor-III class) was used to transport potatoes and fruit from the Kola Peninsula to the Yamal Peninsula on the northern coast of Siberia. The missiles had been removed from the missile compartment to increase the cargo space for potatoes.[43] The concept of using military nuclear submarines to transport civilian cargo is under further study, thus there have been no conclusions. The Russian Navy emphasises that the use of military vessels for civilian commissions is only intended as a temporary stopgap in the transitional period until the economic situation has stabilised.[44]

Other opportunities may arise with the development of the oil and gas fields in the Arctic seas. Nuclear submarines could possibly be used in geological studies and to transport oil. The Moscow-based company Sudoexport has presented plans to rebuild nuclear submarines into civilian oil tankers. [45] The transport route would run from the oil terminals along the northern coast of Siberia and Arkhangelsk County to various oil ports. Each submarine is estimated to have a carrying capacity of 830 tons and with a crew of 35 men. For entry into the harbours of countries that either prohibit or do not desire visits from nuclear-powered vessels, the diesel engines could be used inside the harbour areas. The same company has also presented plans to rebuild nuclear submarines into civilian container ships. [46] Transport routes of particular interest are the passages from Northern Europe to Asia. The submarine's ability to travel submerged makes it independent of ice conditions at sea and permits an even more rapid transit time between east and west. Potential cargo capacity is estimated to be 20 containers with a cargo of 900 m³. Tourist cruises in the north on board nuclear submarines have also been considered.



Illustration, 17 kb. The company Sudoexport has developed plans to rebuild military nuclear submarines into civilian nuclear powered container carrying submarines with the intent of utilising them along the Northeast passage from North-western Russia to the markets in Asia.



Illustration, 12 kb.

Plans exist to rebuild military nuclear submarines into civilian oil tanker submarines for use especially in the development of new oil fields along the coast of Siberia. The oil tanker submarines would be used in waters impassable to ordinary oil tankers due to the ice conditions.

1.3.2 Reduced levels of competence in submarine crews

Until 1991, Soviet submarine crews were trained at three different training centres within the Soviet Union: Paldiski in Estonia, Sevastopol in the Ukraine, and Sosnovy Bor outside St. Petersburg. The training centre in Sevastopol was the largest of the three and operated highly advanced computer and reactor simulators, turning out 500 submarine officers a year. [47] However, ever since the Ukraine achieved independence, the Russian Navy has not utilised this centre. Of all Soviet specialists and operators of naval reactors, 80 percent of them received their training at the naval college in Sevastopol, while the remaining 20 percent were trained at the Dzerzhinsky Naval College in St. Petersburg. [48]



Foto, 41 kb. Foto, 57 kb.

Many of the Soviet Union's submarine officers were trained at the naval colleges in Sevastopol (Ukraine) and here at Paldiski (Estonia). Following the dissolution of the Soviet Union, these establishments were closed. At the present time, work is ongoing in Paldiski to dismantle the two nuclear submarine models which include the reactors.

Two mock submarines were built in Paldiski, to represent both the first and second generations (Project 667 BR - Delta-I class and Project 659 - Echo-II class), and each one had a functional naval reactor installed. The Paldiski reactors were shut down in 1989 and both the reactors and the mock submarines are now being dismantled. [49] Officers for the Project 941-Typhoon class, 667 A - Yankee class and 667 BDRM - Delta I-IV classes were also trained at Paldiski.[50]

The naval training college in Sosnovy Bor outside St. Petersburg has three operational experimental reactors very similar to those installed in the nuclear submarines. Testing of nuclear fuel and the development of naval reactor technology is carried out here. A fourth research reactor is being built.[51] All training of crews and service personnel for nuclear submarines now takes place at Dzerzhinsky Naval College in St. Petersburg. The college has a rather limited capacity, and this has contributed to an overall reduction in the competence of Russian nuclear submarine crews.

The lack of sufficient funds to keep the nuclear submarine fleet running has led to present day officers receiving far less training in operational routines than was the case a few years ago. Furthermore, the deteriorating social conditions and low wages for officers of the Northern Fleet result in fewer and fewer of them electing to renew their five year contracts with the navy, and the heavy turnover of officers reduces the overall level of competence even further.[52]

The Russian naval officer of today has fallen from being one of the most privileged members of Soviet society to one whose work is far less valued. The 1990s have brought dramatic changes in the social conditions of the Soviet naval officer, few of which have been positive. With the severe cuts in the Russian Navy's budget, special privileges and welfare benefits for navy personnel and shipyard workers have also been sharply reduced. [53] The naval shipyards which once worked under state directives, now operate as independent tax-paying entities who depend on the Navy remunerating the work that has been commissioned. Some of the ship repair crews have not been paid for several months. [54] Due to a lack of financing, much of the former activity has come to a standstill. As a result, the vard infrastructure is slowly falling apart. [55] Subsequently, safety levels in the maintenance of both operational as well as inactive submarines are being compromised. One of the more serious breaches in safety is the failure to properly maintain the storage facilities for spent nuclear fuel and radioactive waste. Commander-in-Chief of the Northern Fleet, Admiral Oleg Yerofeev stated in April 1995 that "the problems of storing spent nuclear fuel, radioactive waste, inactive submarines and the lack of servicing for the submarines in active service are a problem not only for the Northern Fleet, but also for the Russian state. Therefore, it would be natural not only for the Fleet to take necessary action, but also for the Ministry for Situations of Emergency, Emercom, also to act. If measures are not taken to address the situation today, over a period of time the situation could become critical and lead to an ecological disaster."[56]

1.4 The future of the Northern Fleet

The future of the Northern Fleet will largely depend on the development of military and political events in Russia. Economic and regional developments in the Arctic region will also affect the fate of the

Northern Fleet. Although the entire build-up of the Northern Fleet was a product of the arms race and the Cold War, it is improbable that the Northern Fleet would be reduced to 1950 levels, despite the fact that the Cold War has now ended. The new military doctrine of Russia emphasises that the Northern Fleet's primary mission is to defend Russian territory. [57]

Assuming that the terms of the START-II treaty are fulfilled, by the year 2003 over 50 percent of Russia's strategic nuclear warheads will be carried on nuclear submarines as opposed to just under 25 percent today. [58] According to the START-II Treaty, a maximum of 1 750 nuclear warheads may be placed on Russian submarines. This means that the number of nuclear weapons onboard submarines as a total will decrease, but the strategic position of the Northern Fleet will be far more important in Russian nuclear strategy than it is today. According to Russian military experts, the Russian Navy in the future will need to retain a maximum of 16 strategic nuclear submarines, 21 attack submarines, and 12 tactical submarines. [59] Western experts maintain that even fewer submarines will be required.

If the number of permitted strategic nuclear warheads per submarine is decisive for the number of submarines Russia chooses to maintain in service, the six Project 941 - Typhoon class submarines in combination with seven submarines from the Project 667 BDRM - Delta-IV class should prove sufficient. These 13 nuclear submarines can carry 1 750 nuclear warheads between them; however, it seems unlikely that Russia would choose a defence system based solely upon strategic nuclear submarines. A new Project 971 - Akula class attack submarine is scheduled for delivery in 1996.[60] Furthermore, there are three nuclear submarines of the new Project 885 - Severodvinsk class currently under construction, a type that can be used both as a strategic and attack submarine.[61]

The reduction in the number of nuclear warheads as a result of the START-I and START-II Treaties is shown in the table below. The table also compares the nuclear balance between the United States and Russia, as well as the distribution of nuclear warheads on land and at sea:[62]

Text version of table 2

Number of Warheads Sep	tember 1, 19	Number permitted: START-I	Number permitted: START-II		
Missile type	Soviet Union	USA	After 7 years	After 7 years	2003
Ballistic missiles	9.416	8.210	4.900	Not specified	
Intercontinental missiles	5.958	2.000	1.540	1.200	
Submarine launched missiles	2.804	5.760	Not specified	2.160	1.700 - 1.750
Total	18.178	15.970		(c)	

Table 2: The nuclear balance between the USA and Russia.

The future number of strategic submarines in the Northern Fleet will ultimately depend on the development of the political and economic situation in Russia. [63]

Some of the largest challenges facing the Russian Navy at this time are the problems associated with the decommissioning of ageing submarines and the storage and transport of spent nuclear fuel and radioactive waste. According to the Russian Ministry of Defence, at the present level of funding it will be impossible to solve any of these problems. At present, plans exist only on paper as to how to execute the work through the years 2005-2010.[64] Yet the task of dismantling the force of ageing submarines

must be seen in a much longer perspective. The overhanging danger of accidents and radioactive leakage from laid up nuclear submarines increases from year to year, and both from an environmental and economic perspective, it is important that the decommissioning of nuclear submarines and the securing of storage facilities for spent nuclear fuel and radioactive waste is undertaken quickly. Otherwise, as the technical condition of these vessels and installations continues to deteriorate, it will become far more expensive to solve the problems associated with them. [65]



Insufficient training of submarine crews can have serious consequences in the event of an accident. The officer pictured here is being trained in emergency procedures within the reactor compartment of a Typhoon submarine.

Due to copyright restraints this photograph is only available in the printed version. The printed version can be ordered from us.



Photo.

If the START-II treaty is fulfilled, 50 percent of Russian strategic nuclear warheads will be places on submarines in 2003. This means that the Northern Fleet will play an even more important role within the Russian nuclear strategy. Many of the nuclear missiles will be carried by submarines of the Delta class, seen in this picture.

Due to copyright restraints this photograph is only available in the printed version. The printed version can be ordered from us.



Photo

LOWERED SOCIAL CONDITIONS: The social conditions for officers of the Northern Fleet have worsened considerably in the nineties. At times, several months passes between each pay day. Consequently, the number of officers renewing their five year contracts with the navy is diminishing. On several occasions, nuclear submarines on patrol have sailed with fewer qualified officers than regulations provide. This severely weakens the safety on board.

Due to copyright restraints this photograph is only available in the printed version. The printed version can be <u>ordered</u> from us.



Photo.

TORPEDOES WITH NUCLEAR WARHEADS: On board the gigantic Typhoon submarines, a storage room contains torpedoes ready to be armed with nuclear warheads, to be fired at other submarines in battle. Each Typhoon can carry 18 of these torpedoes.

Due to copyright restraints this photograph is only available in the printed version. The printed version can be <u>ordered</u> from us.



Photo

CLUSTERED TOGETHER IN TIGHT ROWS: At the Naval base Gadzhievo on the Kola Peninsula, strategic and attack submarines are stationed. During the Cold War more than 240 nuclear submarines were put to operation within the Soviet Union. The numbers have been severely reduced during later years; today the Northern Fleet operates 67 nuclear submarines. The real challenge of today is to ensure secure demolishing and storage of all the submarines that have been and will be taken out of operation. The balance of these are today rusting in at the Naval bases along the Kola coast and in Severodvinsk.

Due to copyright restraints this photograph is only available in the printed version. The printed version can be <u>ordered</u> from us.



Photo.

FOR SCRAPPING this officer is painting on the ballistic nuclear missile from a nuclear submarine. The missiles being taken out of Northern Fleet submarines are temporarily stored, among other places, here in the Okolnaya bay, north of Severomorsk. To the right in the background, the simple fence protecting the nuclear missiles against intruders is discernible. The missiles are stored out in the open, during the summer as well as the winter. The old nuclear warheads of these missiles are to be transported to storage facilities in Siberia.

Due to copyright restraints this photograph is only available in the printed version. The printed version can be ordered from us.



Photo

45 KILOMETRES FROM NORWAY: This is the Northern Fleet nuclear submarine base situated closest to the Norwegian border. Accidents within the reactors on board these submarines, or on some of the nuclear waste storage facilities located in the same fjord, may lead to radioactive contamination reaching the populations of both the Kola Peninsula and Northern Norway. Civilian Russian authorities are still not allowed entrance to these military bases to inspect the nuclear safety. Due to copyright restraints this photograph is only available in the printed version. The printed version can be ordered from us.

[Home] [Search] [NFL Updated] [On to nuclear-powered vessels] [Back to introduction] [References] [Content]

Endnotes

- [8] Skogan, J. K., Russland og betydningen av Kola-halvøya i historisk lys , 1992. Return
- [9] Osipenko, L., Zhiltsov, L., and Mormul, N., Atomnaya Podvodnaya Epopeya, 1994. Return
- [10] Ibid. Return
- [11] Decree no. 570-2011, December 21, 1952, signed by Joseph Stalin in Moscow. Referenced in L. Osipenko, L. Shiltsov, and N. Mormul, *Atomnaya Podvodnaya Epopeya*, 1994. <u>Return</u>
- [12] Skogan, J. K., The Soviet Union's Northern Fleet 1968-85, NUPI Report no. 105, 1986. Return
- [13] Pavlov, A. S., Military Vessels in the Soviet Union and Russia 1945 1995, 1994. Return
- [14] Krasnaya Zvezda, January 28, 1995. Return
- [15] Kværner Moss Technology as., Disposal of Russian nuclear submarines, January 19. 1996. Return
- [16] Calculations made from Pavlov, A. S., 1994, and Jane's Fighting Ships 1995-96, 98th edition. Return
- [17] Nevskoye Vremya (St Petersburg), February 22, 1996, and Jane's Fighting Ships 1995-96, 98th edition Return
- [18] Nezavisimaya Gazeta, "The Fleet that we Lost", January 1996. Return
- [19] Office of Naval Intelligence, Worldwide Submarine Proliferation in the Coming Decade, 3rd version, May 1995. Return
- [20] Nezavisimaya Gazeta, April 22, 1995, interview with commander-in-chief of the Northern Fleet, Admiral Oleg A. Yerofeev. Return
- [21] Office of Naval Intelligence, World-wide Submarine Proliferation in the Coming Decade, 3rd

version, May 1995. Return

[22] Jane's Defence Weekly, January 3, 1996. Return

[23] Nezavisimaya Gazeta, April 22, 1995, interview with commander-in-chief of the Northern Fleet, Admiral Oleg A. Yerofeev. Return

[24] Interfax, March 14, 1996. Return

[25] Office of Naval Intelligence, World-wide Submarine Proliferation in the Coming Decade, 3rd version, May 1995. Return

[26] Nezavisimaya Gazeta, April 22, 1995, interview with commander-in-chief of the Northern Fleet, Admiral Oleg A. Yerofeev. Return

[27] Jane's Fighting Ships 1995-96, 98th edition. Return

[28] Ibid. Return

[29] Jane's Defence Weekly, November 4, 1995. Return

[30] Nezavisimaya Gazeta, April 22, 1995, interview with commander-in-chief of the Northern Fleet, Admiral Oleg A. Yerofeev. Return

[31] Murmansky Vestnik, January 5, 1995. Return

[32] Northern Fleet's Press release, September 22, 1995. Return

[33] Na Strazhe Zapolyarya, April 19, 1995. Return

[34] Na Strazhe Zapolyarya, April 19, 1995. Return

[35] Morskoy Sbornik, no. 6, 1995 and no. 12, 1994. Return

[36] Vladimir Pyzh, Northern Fleet spokesman to the press, Severomorsk, March 5, 1996. Return

[37] Polyarnaya Pravda, January 24, 1996. Return

[38] Polyarnaya Pravda, September 26, 1995. Return

[39] Northern Fleet Press Release, September 22, 1995. Return

[40] Radio Murmansk, September 27, 1995. Return

[41] Ibid. Return

[42] Izvestiya, June 3, 1995. Return

[43] Rossiyskaya Gazeta, September 14, 1995. Return

[44] Nezavisimaya Gazeta, April 22, 1995, interview with commander-in-chief of the Northern Fleet, Admiral Oleg A. Yerofeev. Return

[45] Sudoexport, Undersea tanker, Moscow 1994. Return

[46] Sudoexport, Undersea transport container carrier, Moscow 1994. Return

[47] Morskoy sbornik, No. 1 - 1994. Return

[48] Morskoy sbornik, No. 2 - 1993. Return

[49] Bellona inspection, June 22, 1995. Return

[50] Ibid. Return

[51] The Baltic Region - Our Habitat, E-mail newsletter 1995, bodorov@glas.apc.org. Return

[52] Morskoy sbornik, no. 7-1994. Return

[53] Morskoy sbornik, nos. 3, 9, and 12, 1993 and no. 7, 1994. Return

[54] Na Strazhe Zapolyarya, April 19, 1995. Return

[55] Polyarnaya Pravda, February 28, 1995. Return

[56] Nezavisimaya Gazeta, April 22, 1995, interview with commander-in-chief of the Northern Fleet, Admiral Oleg A. Yerofeev. Return

[57] Ibid. Return

[58] Office of Naval Intelligence, World-wide Submarine Proliferation in the Coming Decade, 3rd version, May 1995. Return

[59] Nezavisimaya Gazeta, April 22, 1995, interview with commander-in-chief of the Northern Fleet, Admiral Oleg A. Yerofeev. Return

[60] Severny Rabochy, January 19, 1995. Return

[61] Jane's Fighting Ships 1995-96, 98th edition. Return

[62] Nezavisimaya Gazeta, February 10, 1996. Return

- [63] Krasnaya Zvezda, April 15, 1995. Return
- [64] Murmansky Vestnik, March 15, 1995. Return
- [65] Krasnaya Zvezda, July 13, 1995. Return

© Copyright Bellona // Reproduction recommended if sources stated Last updated 1997-07,16 bellona@sn.no