

Archived Russia Chronology: Northern Fleet Facilities

Last update: February 2011

This annotated chronology is based on the data sources that follow each entry. Public sources often provide conflicting information on classified military programs. In some cases we are unable to resolve these discrepancies, in others we have deliberately refrained from doing so to highlight the potential influence of false or misleading information as it appeared over time. In many cases, we are unable to independently verify claims. Hence in reviewing this chronology, readers should take into account the credibility of the sources employed here.

Inclusion in this chronology does not necessarily indicate that a particular development is of direct or indirect proliferation significance. Some entries provide international or domestic context for technological development and national policymaking. Moreover, some entries may refer to developments with positive consequences for nonproliferation.

Andreyeva Bay

15 October 2003

NORWAY HELPS FINANCE INFRASTRUCTURE DEVELOPMENT IN ANDREYEVA BAY

On 15 October 2003, Norway's State Secretary of Foreign Affairs Kim Traavik and others from the Norwegian Ministry of Foreign Affairs participated in the opening of the newly remodeled 15km Murmansk-Andreyeva Bay highway--one of the projects financed through an infrastructure development agreement for Andreyeva Bay between the Murmansk Oblast administration, the federal enterprise SevRAO, and the government of Finnmark province, Norway. The road reconstruction, which cost Nkr 14.967 million (roughly \$2.1 million as of 15 October 2003) and began in September 2000, was necessary because the old road did not meet the safety requirements for transporting radioactive wastes from Andreyeva Bay. Murmansk Oblast governor Yuriy Yevdokimov stated that the agreement provides for more than 12 local restoration projects in the area, including the establishment of two checkpoints and a guard station equipped with telephones--a project that was primarily financed by Minatom but recently received Nkr 5.224 million (over \$741,000) from Norway--and a water pipeline reconstruction project to which Norway dedicated Nkr 7,902,730 (roughly \$1.1 million). A modular administrative complex was opened earlier under the agreement.

-"V Murmanskoy oblasti realizovany tri proyekta v ramkakh rossiysko-norvezhskogo soglashenii po reabilitatsii Guby Andreeva," Interfax, 15 October 2003.

25 July 2003

OVER TWO MILLION RUBLES EARMARKED FOR ANDREYEVA BAY

On 25 July 2003, Russian Minister of Atomic Energy Aleksandr Rumyantsev visited the Andreyeva Bay radioactive waste storage site and remarked that the area has improved considerably since 2000. This year alone, over 200

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million rubles (roughly \$6.6 million as of 25 July 2003) in Russia's federal budget were earmarked for renovation of the site. Western countries, including Norway, Sweden, and the United Kingdom, have also contributed funds. France has also expressed its readiness to assist in cleaning up the region, according to SevRAO Director Valeriy Panteleyev. The French funds would reportedly be used for work not only in Andreyeva Bay, but also in Gremikha. -"Radiatsionnaya obstanovka dazhe na khranilishche yadernykh otkhodov na Kolskom poluostruve znachitelno ukuchshalas, zayavil Aleksandr Rumyantsev," ITAR-TASS, 25 July 2003; in Integrum Techno, www.integrum.ru.

7 July 2003

\$8 MILLION FROM UNITED KINGDOM FOR ANDREYEVA BAY

According to Russian Deputy Minister of Atomic Energy Sergey Antipov, Russia anticipates signing contracts worth a total of \$56 million with the United Kingdom in the fall of 2003. These contracts will be for submarine dismantlement and other nuclear and environmental projects, Interfax reported on 7 July 2003. Antipov said that the United Kingdom had confirmed its readiness to allot \$750 million to Russia under the Global Partnership program in the next 10 years. Most of these funds will be spent on addressing nuclear and environmental problems in Russia. The first \$56 million is already earmarked for 2003.

Two \$8 million contracts will fund the scrapping of two Antey-class [NATO Name 'Oscar II'] SSGNs at Sevmash. Another \$8 million contract will be devoted to environmental cleanup at Andreyeva Bay, and a final \$8 million contract will fund the construction of a temporary nuclear fuel storage facility at Atomflot. In addition, the United Kingdom is prepared to provide \$16 million to the European Union's Northern Dimension Environmental Partnership, which is funding environmental cleanup in Northwest Russia. According to Antipov, the United Kingdom expects that no less than 80% of the funds it provides will be spent in Russia.

-"RF i Velikobritaniya osenyu mogut podpisat kontrakty na utilizatsiyu APL," Interfax, 7 July 2003.

6 June 2002

NORWEGIAN GOVERNMENT ALLOCATES MONEY FOR ANDREYEVA BAY

On 6 June 2002, Murmansk Governor Yuriy Yevdokimov and the governor of Norway's Finnmark province, Gunnar Kjonnoy, signed a series of agreements aimed at financing environmental rehabilitation projects in Murmansk. Included in the agreements are Nkr 14 million (approximately \$1.8 million as of 6 June 2002) to be spent on the rehabilitation of the Northern Fleet's largest nuclear waste and spent fuel storage facility at Andreyeva Guba. Norway has also promised Nkr 1.5 million (approximately \$191,000 as of 6 June 2002) for the decommissioning of radioisotope thermoelectrical generators used to power lighthouses.

["Norwegian government to allocate money to Murmansk region for nuclear safety projects," The Nuclear Chronicle from Russia, Bellona, www.bellona.no, 11 June 2002.

4 September 2001

RUSSIAN-NORWEGIAN AGREEMENT SIGNED TO START WORK ON IMPROVING CONDITIONS AT ANDREYEVA BAY

On 4 September 2001, the Murmansk Oblast administration signed an agreement with Norway's Finnmark County to start work on improving conditions at the Andreyeva Bay storage facility. The plan calls for creation of a deactivation center and a radiation control system, as well as construction of administrative buildings and housing for the facility's staff. The Norwegian government has already provided Nkr 9.705 million (over \$1.1 million as of 4

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September 2001) to implement the agreement and has pledged another Nkr 15 million (over \$1.7 million as of 4 September 2001) in 2002 for the same purposes. In mid-2002, the Norwegians will supply construction modules for the buildings. According to Murmansk Oblast Governor Yuriy Yevdokimov, by the end of 2001, Minatom will provide about 10 million rubles (about \$340,000 as of 4 September 2001) for realization of this joint project.

-Yelena Denisenko, "Pravitelstvo Norvegii perechislilo okolo 10 mln. norvezhskikh kron na obustroystvo khranilishcha otrabotannogo yadernogo topliva v Gube Andreyeva v Murmanskoy oblasti," RIA Novosti, 4 September 2001; in Yadernaya Rossiya segodnya, www.pircenter.org, 6 September 2001.

28 May 2001

NORWEGIAN EXPERTS SHOCKED BY STATE OF ANDREYEVA BAY

On 28 May 2001, a Norwegian delegation headed by Deputy Foreign Minister Espen Barth Eide visited Andreyeva Bay. It was the first time that a foreign delegation was granted access to the base. In an interview with Norway's NRK radio, Eide expressed his concern that the facility was in a state of serious decay. The Norwegian delegation was not granted access to the part of the base where containers with radioactive waste were lying in the open. Nevertheless, the Norwegians saw enough to convince them that urgent measures are needed. On 29 May 2001, Eide confirmed at a meeting of the Russian-Norwegian Nuclear and Radiation Safety Cooperation Committee in Kirkenes that Norway would allocate Nkr10 million (over \$1 million as of 28 May 2001) in 2001 to address problems at Andreyeva Bay. One of the projects the Norwegians are planning to fund is the construction of a roof over spent fuel storage tanks to prevent rain and snow from washing radioactive matter into the sea. Funding is dependent on whether Norwegian experts are allowed to monitor the site, but Russia may object because the Bolshaya Lopatka and Nerpichya nuclear submarine bases nearby can be seen from the storage facility. According to the Bellona Foundation, at least \$10 million is needed to improve safety and clean up Andreyeva Bay. Deputy Minister of Atomic Energy Valeriy Lebedev put the cost at \$20 million.

-"Sostoyalos zasedaniye komissii po yadernoy i radiatsionnoy bezopasnosti," Strana.ru, 29 May 2001; in Integrum Techno, www.integrum.ru; "Norway Ready to Provide Money for Solving Nuclear Waste Problem in Murmansk Region," Interfax, 30 May 2001; Vladislav Nikiforov, "Norwegian Experts Enter Nuclear Waste Site," Bellona Foundation, www.bellona.no; Ole Kristian Stroem, "Njet!" VG Nett, 29 May 2001, www.vg.no; Ole Kristian Stroem, "Atom-opprydning vil koste 200 mill," VG Nett, 29 May 2001, www.vg.no.

20 November 1999

MINATOM TO TAKE OVER ANDREYEVA BAY

On 20 November 1999 *Kommersant* reported that the Andreyeva Bay facility, still subordinate to the Ministry of Defense, would soon come under the control of Minatom.

-Vyacheslav Gudkov, "Anglichane unichtozhat rossiyskiye podlodki," Kommersant, 20 November 1999; in Natsionalnaya sluzhba novostey, <http://nel.nns.ru>.

June-August 1998

NORWAY FINANCES PROJECT TO CHANGE COURSE OF CONTAMINATED BROOK

24 February 1998

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DEFENSE MINISTRY ALLOCATES FUNDS FOR STORAGE SITES

The Russian Ministry of Defense has allocated 3 million rubles for reconstruction of a radioactive waste storage site and a spent nuclear fuel storage site at Andreyeva Bay. According to experts from an environmental corporation from Northern Europe, 80 percent of the radioactive waste in northwestern Russia is concentrated on and around the Kola Peninsula. The commander of Russia's fleet of nuclear-powered submarines, Vice Admiral Mikhail Motsak, suggested that a government enterprise, funded by the federal budget, be formed to replace the military unit responsible for collecting and storing radioactive waste, and for preparing it for transportation. Former Minister of Atomic Energy Viktor Mikhaylov made a similar proposal in 1996, but the project was never completed. In fall 1997, the Murmansk Oblast administration held a meeting during which Motsak addressed the critical issue of radioactive waste at Andreyeva Bay. A coordinating committee was created under the leadership of the Murmansk Governor Yuriy Yevdokimov, and a plan for dealing with these problems through the year 2010 was established. During Yevdokimov's December 1997 visit to Luleo, Sweden, agreements were reached with the United States and France regarding their participation in projects directed at preventing radioactive accidents, including initiatives in Murmansk. Therefore, according to Yevdokimov, "the problems are being solved."
-"V Andreyevoy gube zhivot nadezhday," Krasnaya zvezda, 24 February 1998, p. 3.

August 1997

FINNS SUSPEND WASTE PROCESSING PROJECT

Atomflot

28 August 2003

ATOMFLOT OFFICIAL ARRESTED FOR NUCLEAR MATERIALS TRAFFICKING

Russian authorities have arrested Alexander Tyulyakov, Atomflot deputy director for administrative issues, for attempting to sell radioactive materials. The arrest was first made public on 28 August 2003 by the Murmansk newspaper *Nord-Vest Kuryer*, and announced internationally four days later by the Norwegian environmental organization Bellona Foundation.[1,2,3]

The arrest that took place in late August 2003 resulted from a joint undercover operation conducted by Murmansk police and the local branch of the Federal Security Service (FSB). Secret agents acting as potential buyers contacted Tyulyakov after receiving a tip-off that he was trying to sell radioactive materials.[1,2,4,5] The details of the arrest remain uncertain. *Novyye izvestiya* reported that Tyulyakov was apprehended with a container holding uranium and radium, which he wanted to sell for \$50,000, whereas on October 20 *Nezavisimaya gazeta* reported that analysis of the material in his briefcase revealed that he was carrying nearly one kilogram of uranium-235.[6,7] Referring to an analysis by the Kola Science Center of the Russian Academy of Sciences (Apatity, Murmansk Oblast), *Kommersant* reported that Tyulyakov tried to sell 1.1 kg of a radioactive powder, which he stored in a sealed lead capsule placed in a special container. The level of radioactivity at 10 cm from the container was more than five times higher than allowable levels but at a meter was within the normal range.[8]

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During a search of Tyulyakov's apartment, garage, and car, law enforcement officials found ammunition for small arms and an additional amount of radioactive material[4,5,9,10] While *Izvestiya* specified that the 1.1 kg seized by authorities was a mixture of uranium-235, uranium-238, and radium,[5] London's *The Guardian* cited Andrey Petrukhin, head of the Murmansk police investigating unit, as saying: "The only thing I can say is that this stuff contains uranium-235, uranium-238, radium, and also products of their decomposition" and concluded that "the fact that the radioactive materials were found along with their waste products suggests that the box contained spent fuel." [8] The October 20 *Nezavisimaya gazeta* report said that the material in the garage was nearly two kilograms of "uranium-238, radium, and products of their decomposition." [7]

According to *Kommersant*, experts have established that the object, which contained the radioactive substance, was not manufactured in Murmansk Oblast and was, most probably, extracted from some complex apparatus. A source told *Kommersant* and *Izvestiya* that the government price for this substance, which is not for private sale, is about \$80 per kg, while Tyulyakov intended to sell it for \$55,000.[8,9] It is unclear where Tyulyakov obtained the radioactive materials – from Atomflot or from somewhere else. Both newspapers state that Atomflot does not store this type of radioactive substance [4,9], and Atomflot Director Aleksandr Sinyayev was reportedly furious over media allegations that the materials originated at Atomflot, saying that the enterprise "had nothing to do with Tyulyakov's dirty activities" and that those making such insinuations could be brought to court.[5] Sergey Zhavoronkov, former Murmansk Shipping Company chief radiologist who is now head of the local branch of Bellona, told news reporters that the substance could have been stolen from a non-nuclear enterprise that uses devices with radioactive substances.[8,9]

Some of Tyulyakov's colleagues indicated that the deputy director's lifestyle had raised suspicions that he had been involved in illegal activities for some time. The administrative oversight manager, who was involved in purchasing gasoline, oil-fuel, and other supplies for Atomflot, as well as selling scrap metal, 50-some year old Tyulyakov had a luxurious summer home, a spacious apartment in a respectable area of Murmansk, and an expensive foreign car despite a low official salary.[1,2,5,9]

Tyulyakov's arrest was not immediately revealed, leading to a host of rumors in Murmansk, from speculation that Tyulyakov had been arrested for embezzlement to accounts that he had attempted to sell nuclear fuel assemblies or that a former Murmansk Oblast gubernatorial candidate had been caught trying to purchase radioactive materials from him.[1,2] *Kommersant* explains that law enforcement agencies delayed giving details on the arrest for fear of inciting panic in Murmansk, and instead waited for the test results.[4] The authorities also wanted to find Tyulyakov's real clients. Some reports suggested that these clients were weapons traffickers who had received an order for a radioactive substance from a buyer in the Baltics.[1,2,4] It also appears that there may have been an interagency squabble between the police and FSB: the secret service was not happy that the police quickly informed the press of the arrest.[9]

In late September 2003, Tyulyakov was officially charged with illegal storage of weapons and explosives, and illegal handling of radioactive materials in accordance with Articles 220 and 222 of the Russian Criminal Code.[4,9,11]

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Sources:

- [1] Igor Zhevelyuk, "Tayny sledstviya. Za chto arrestovan zamestitel direktora 'Atomflota,'" *Nord-Vest Kuryer* online edition, 28 August-3 September 2003, <http://nwkurier.narod.ru>.
- [2] Charles Digges, "Atomflot Deputy Director Arrested on Suspicion of Smuggling of Nuclear Materials," *Bellona*, 1 September 2003, www.bellona.no.
- [3] The story did not surface in the central Russian and international press until late September and early October.
- [4] Vyacheslav Gudkov, "Na 'Atomflote' zapakhlo radiyem," *Kommersant*, 30 September 2003; in Integrum Techno, www.integrum.com.
- [5] Nadezhda Popova, "Operatsiya 'Yadernyy chemodanchik,'" *Nezavisimaya gazeta* online edition, 2 October 2003, www.ng.ru.
- [6] Irina Vlasova, "Gendirektor 'Atomflota' arestovan za sbyt urana," *Novyye izvestiya* online edition, 3 October 2003, www.newizv.ru.
- [7] Nadezhda Popova, "'Yadernyy pogreb' Rossii stal prokhodnym dvorom," *Nezavisimaya gazeta* online edition, 20 October 2003, www.ng.ru.
- [8] Vyacheslav Gudkov, "Zamdirektora 'Atomflota' prodal yadernuyu bombu," *Kommersant*, 3 October 2003; in Integrum Techno, www.integrum.com.
- [9] Vladimir Perekrest, "Gryaznaya bomba v yadernom chemodanchike," *Izvestiya* online edition, 3 October 2003, <http://main.izvestia.ru>.
- [10] Nick Paton Walsh, "Nuclear shipyard director held for uranium hoard," *The Guardian* online edition, 1 October 2003, www.guardian.co.uk.
- [11] Andrey Kirashev, "Zamdirektora 'Atomflota' otpravili pod strazhu," *Komsomolskaya pravda* (Murmansk edition), 26 September 2003; in Integrum Techno, www.integrum.com.

10 June 2003

ATOMFLOT TEMPORARY SPENT FUEL STORAGE SITE BUILT

According to a 10 June 2003 Interfax report, construction of a temporary spent fuel storage facility at Atomflot has been completed. The site will be commissioned in September 2003, after a final inspection has been undertaken by a government commission, which has yet to be formed. The facility, which was built with funds from the AMEC program, is designed to temporarily store spent fuel in 19 reinforced concrete containers.

- "V Murmanskoy oblasti postroyena nakopitelnaya ploshchadka dlya vremennogo khraneniya OYaT," Interfax, 10 June 2003.

26 May 2003

INCREASED TECHNICAL SECURITY MEASURES ON NEW ICEBREAKER

IA Regnum reported on 26 May 2003 that representatives from the Ministry of Economic Development and Trade, Minatom, the Russian Shipbuilding Agency, and the directors of numerous Russian shipyards, design bureaus, and Atomflot agreed to change reactor system maintenance procedures for the icebreaker *50 let Pobedy*. This change is intended to minimize the risk of accidents. The icebreaker will meet all international quality as well as security requirements and is scheduled to enter service in 2005.

- "Bezopasnost energoustanovki stroyashchegosya atomokhoda '50 let Pobedy' budet povyshena," IA Regnum, 26

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May 2003; in in Integrum Techno, www.integrum.ru.

7 May 2003

ATOMFLOT TO CONTINUE OPERATION OF ARKTIKA

On 7 May 2003, ITAR-TASS reported that a Gosatomnadzor commission has approved the continued operation of the icebreaker *Arktika*. The vessel's nuclear reactor has already been in service for 140,000 hours, which exceeds its designed service life by 50%. However, specialists from R&D institutions, design bureaus, and the Murmansk Shipping Company believe that the reactor can be used for 175,000 hours safely. The commission was satisfied with the condition of the *Arktika* reactor system. Therefore, Gosatomnadzor is scheduled to issue Atomflot a license for the continued operation of the *Arktika* in the near future.

-Vladimir Novikov, "Srok ekspluatatsii atomnogo ledokola 'Arktika' budet prodlen," ITAR-TASS, 7 May 2003; in Integrum Techno, www.integrum.ru.

6 March 2003

TEMPORARY SPENT FUEL STORAGE SITE TO ENTER SERVICE IN JUNE 2003

On 6 March 2003, Interfax reported that a temporary site for storing spent nuclear fuel will be put into service in early June 2003. The spent fuel will be kept in 19 sealed, reinforced concrete containers. Site construction is being performed by the Murmanskmorstroy trust within the framework of the Arctic Military Environment Cooperation (AMEC) program.

-"Ploshchadka dlya vremennogo khraneniya OYaT v Murmanskoy oblasti budet sdana v iyune," Interfax, 6 March 2003.

5 January 2003

LIQUID RADIOACTIVE WASTE TREATMENT PLANT TEST PUT OFF

Testing of a modernized liquid radioactive waste (LRW) treatment plant at Atomflot has been put off for an indefinite period because of technical faults during initial tests, Interfax reported on 5 January 2003. As Atomflot Director Andrey Sinyayev stated, the official plant opening was on 20 June 2001. However, it could not begin full-scale operation because of numerous malfunctions. The matter of complex testing will be discussed after the malfunctions in one of the plant's units are eliminated, probably by the end of January. However, as of December 2002, Minatom had not allotted the additional 9 million rubles (nearly \$283,000 as of December 2002) needed to complete the testing. The Norwegian government has not yet decided whether to resume financing start-up costs. This issue will be decided after the initial test results.

Funds to modernize the Russian unit were provided through the Murmansk Initiative. The contract for the modernization work was signed in December 1994. The total expenses amounted to some \$4.6 billion. The chief designer was St. Petersburg's VNIPIET. The processing capacity of the unit before modernization was 1,500-2,000 cubic meters per year. The unit is expected to process 5,000 cubic meters of LRW after the modernization, resolving the problem of LRW stored on the Kola Peninsula within five years. The modernized unit is to process LRW from both icebreakers and Northern Fleet vessels. According to Atomflot specialists, about 8,000 cubic meters of liquid and 14,000 cubic meters of solid radioactive waste are stored in the coastal zone of the Barents

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Sea.

- "V Murmanske otlozheny ispytaniya ustanovki po pererabotke radioaktivnykh otkhodov," Interfax, 5 January 2003; "Vvod v ekspluyatatsiyu ustanovki po pererabotke zhidkikh radioaktivnykh otkhodov v Murmanske otlozhen," Interfax, 2 December 2002.

5 December 2002

GREAT BRITAIN APPROPRIATES ABOUT \$1.1 MILLION FOR YAMAL AND ARKTIKA

On 5 December 2002, the Regnum information agency reported that the United Kingdom had decided to appropriate £700,000 (about \$1.1 million as of 5 December 2002) in the form of a grant to equip two icebreakers, *Yamal* and *Arktika*, with a new physical protection system in 2003. The funds will be allotted from a special British government fund as a part of the British assistance program for the handling of nuclear materials in the former Soviet Union. The physical protection system includes hidden and open surveillance devices, spatial control sensors, and other devices to prevent strangers from entering the vessel and restrict access to certain places on board the icebreakers.

In 1999, physical protection systems were installed on the icebreaker *Sovetskiy Soyuz* and the floating technical facility *Imandra*, and, in 2001, on the nuclear-powered transport vessel *Sevmorput*. The next vessels scheduled to receive the system will be the icebreakers *Taymur* and *Vaygach*. This project is chiefly financed by the United Kingdom, Sweden, Norway, and the United States. Substantial funds have also been allotted by the Russian Ministry of Transportation.

- "Murmanskaya oblast. 700 tysyach funtov sterlingov vydেলilo pravitelstvo Velikobritanii na oborudovaniye ledokolov 'Yamal' i 'Arktika' sistemoy fizzaashchity," IA Regnum, 5 December 2002; in Integrum Techno, www.integrum.ru; Vladimir Mikhaylov, "Zashchita dlya ledokolov," *Polyarnaya pravda*, 6 December 2002; in Integrum Techno, www.integrum.ru.

25 September 2002

ATOMFLOT SPENT FUEL STORAGE DISCUSSED

At a meeting between Murmansk Governor Yuriy Yevdokimov and State Secretary of the Norwegian Defense Ministry Gunnar Heloe on 25 September 2002, Yevdokimov brought the need to complete a temporary spent fuel storage site at Atomflot this year to the Norwegian's attention. The site is needed to facilitate the transport and processing of spent fuel from nuclear submarines and the civilian nuclear fleet. The use of the site would significantly speed up the removal of spent nuclear fuel from the region.

- "Perspektivy mezhdunarodnoy programmy AMEC obsudili v Murmanske gubernator Y. Yevdokimov i zam. ministra oborony Norvegii G. Kheloye," RIA RosBiznesKonsalting, 26 September 2002; in Integrum Techno, www.integrum.ru.

25 September 2002

ARGUMENT OVER OWNERSHIP OF MURMANSK SHIPPING COMPANY

LUKOIL has requested the initiation of a criminal case against former LUKOIL-Arktik-Tanker (LAT) Director Nikolay Kulikov, according to a report in *Vedomosti* on 25 September 2002. LUKOIL says that Kulikov did not turn over complete financial documents to the company's new management.

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The conflict between Kulikov and the new Murmansk Shipping Company manager began over the ownership of 70% of MSC shares. According to one of Kulikov's supporters, LUKOIL bought a controlling interest in MSC in October 1998 with \$15 million in credit from two foreign banks using four MSC ships as collateral. Later, those vessels became the property of the banks. However, others report that the controlling interest in MSC was bought for \$30 million, the credit was completely paid off, and the tankers were returned to LAT.

-'"LUKOIL' prosit MVD vzbudit delo protiv svoeyego byvshego top-menedzhera," Lenta.ru, 25 September 2002.

23 September 2002

LEPSE AGREEMENT SIGNED

On 23 September 2002, the final framework agreement was signed to release funds and to start working on the service ship *Lepse*.

10 September 2002

RUSSIA MAY LOSE NUCLEAR ICEBREAKER FLEET

On 10 September 2002, *Izvestiya* reported that Russia may soon be left without a nuclear-powered icebreaker fleet. Despite several government programs aimed at developing the nuclear icebreaker fleet, it has gradually decayed. As of September 2002, Russia had seven nuclear icebreakers. Two of them (*Lenin* and *Sibir*) have nearly completed their service lives, while two others (*Vaygach* and *Taymyr*) are low-powered and mainly used for navigation on northern rivers. The service lives of the other three icebreakers are scheduled to expire in 2003-2004.

According to First Deputy Minister of Transportation Vyacheslav Ruksha, the cost of building a new icebreaker is about \$250 million. Russia, which has been unable to finish building the *50-let Pobedy* icebreaker begun more than 10 years ago, does not have this kind of funding. *50-let Pobedy*, now 80% complete, may be cut up for scrap metal if construction is not completed by 2005. On 3 September 2002, the Ministry of Transportation adopted a decision on the preparation of a new contract for the completion of construction of the icebreaker. The icebreaker project will cost an additional 2.5 billion rubles (about \$79 million as of 17 September 2002), including 820 million rubles (about \$26 million as of 17 September 2002) required in 2003. In the opinion of icebreaker builders in St. Petersburg, the ship could be completed within three years if enough funds are received.

In the meantime, *Rossiya* and *Taymyr* may well be laid up in 2003 due to a lack of funds and the expiration of their reactors' service lives (the steam-generating units have service lives of 100,000 hours). However, their service lives could be extended to 150,000 hours. As a test, the service life of the *Arktika* was extended in 2000. According to the Afrikantov Experimental Machine Building Design Bureau in Nizhniy Novgorod, reactor service life could be extended to 175,000 hours, or even to 200,000 hours if the experiment with *Arktika* is successful. However, some scientists, such as Ilya Vaysmanch, the chief specialist at the Central Scientific and Research Institute of Shipbuilding Technology, disagree.

If Russia is to realize plans to explore oil deposits in the north, it reportedly needs to build 18 icebreaker platforms, 10 icebreakers (including three nuclear vessels) and no less than 60 ships for the engineering fleet. But the Russian icebreaker fleet can only break even if the freight traffic on the northern seaway is more than 4-5 million tons a

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year. At present, transit via this route totals under 2 million tons a year, as compared to 7 million tons during the Soviet period.

- Timur Khikmatov, "Rossiya riskuyet poteryat atomnyy ledokolnyy flot," *Izvestiya*, 10 September 2002; in *Arkhangelsk*, 17 September 2002; in Integrum Techno, www.integrum.ru; Svetlana Tsygankova, "Ledokoly na prikole. Rossiya mozhnet poteryat kontrol nad severnym morskim putem," *Trud*, No. 135, 6 August 2002; in Integrum Techno, www.integrum.ru; Timur Khikmatov, "Ledokoly na prikole," *Izvestiya*, No. 003, 11 January 2003; in Integrum Techno, www.integrum.ru.

5 August 2002

FIRST-GENERATION SUBMARINE DEFUELED AT SEVMORPORT

On 5 August 2002, Bellona reported that the service ship *Imandra* had started unloading spent nuclear fuel from an Echo II first-generation nuclear-powered submarine at Sevmorput Shipyard in Murmansk. The submarine, K-128/62, was commissioned in 1966 and taken out from operation in 1994. In 1989, the submarine's starboard reactor had its usage limited to 70% power. The last refueling of the submarine's reactors was performed at Sevmorput in 1982.

- "First generation submarine is being defuelled in Murmansk," Bellona, www.bellona.no, 5 August 2002.

27 March 2002

SOVETSKIY SOYUZ ICEBREAKER SUPPLIES ELECTRICITY TO SHORE

On 27 March 2002, the *Sovetskiy Soyuz* icebreaker, moored in the Murmansk port, tested its ability to provide the shore with electricity produced by the ship's power plant. The amount of electricity supplied was enough to provide power for the whole port infrastructure, including the port's cranes. This is the first time that an icebreaker has supplied power to the shore. The experiment was conducted by Atomflot in order to find ways to minimize the cost of servicing the loss-making icebreaker fleet. There are plans for three icebreakers to occasionally supply power to the shore.

- NTV Mir, 27 March 2002; in "Russian Nuclear-Powered Icebreaker Tests Supplying Electricity to Shore," FBIS Document CEP20020327000135.

13 February 2002

SERVICE LIFE OF NUCLEAR ICEBREAKER POWER PLANTS TO BE EXTENDED

On 13 February 2002, the Ministry of Transportation of the Russian Federation told Interfax that in 2002 it would extend the service lives of six nuclear icebreakers. In 2003, the power reactors on these icebreakers will have worked 100,000 hours and should be replaced. Modernization of the reactors will allow their service lives to be increased by another 50,000 hours and thus postpone retirement of the icebreakers until 2006-2008. There are 1.5 billion rubles (over \$48.5 million as of 13 February 2002) allocated for this purpose in the federal budget.

- "Mintrans RF nameren modernizirovat yadernyye reaktory ledokolov," Interfax, 13 February 2002.

26 November 2001

RUSSIAN ICEBREAKERS SEVERELY UNDERFUNDED

On 26 November 2001, Director of the Union of Russian Shipowners Kazimir Myatskyavichus told Interfax that the Russian fleet of nuclear icebreakers needs over 1 billion rubles (over \$33.6 million as of 26 November 2001) a year

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for maintenance, including 600 million rubles (over \$20 million as of 26 November 2001) to cover current expenses. According to Myatskyavichus, the Russian government allocated 420 million rubles (about \$14 million as of 26 November 2001) for the icebreaker fleet's needs in 2001; the projected government budget for 2002 provides the same amount of money.

- "Soderzhaniye atomnogo flota RF trebuyet svyshe 1 mlrd. rubley investitsiy v god," Interfax, 26 November 2001.

11 July 2001

ATOMFLOT READY TO ACCEPT FOREIGN SPENT FUEL

On 11 July 2001, the Rosbalt information agency reported that Atomflot Director Aleksandr Sinyayev had expressed his confidence in Atomflot's ability to become a transfer point for imported spent nuclear fuel. According to Sinyayev, foreign spent nuclear fuel will probably be delivered to Russia by sea, and Atomflot has the necessary facilities and experience to unload spent nuclear fuel off ships and load it onto special trains that will transport it further. A contract to perform this task would improve Atomflot's financial situation. The company had accumulated large debts as of July 2001.

- "Murmanskaya oblast. Zavod 'Atomflot' gotov stat perevalochnoy bazoy dlya peregruzki vvozimogo na territoriyu RF otrabotannogo yadernogo topliva," Rosbalt, 11 July 2001; in Regions.ru, 11 July 2001; in Integrum Techno, www.integrum.ru.

5 July 2001

ATOMFLOT FINANCIAL DIFFICULTIES

On 5 July 2001, the Rosbalt information agency reported that Atomflot owed over 50 million rubles (over \$1.7 million as of 5 July 2001) to various government budgets and extrabudgetary funds. In 2000 Atomflot received just 211 million rubles (almost \$7.4 million as of 31 December 2000) from the state, which covered only 24% of its needs. The rest of the money needed for operations was provided by MSC. In 2001 the state plans to allocate 380 million rubles (over \$13.3 million as of 1 January 2001) to fund icebreakers; most of the money will be used on ship repairs. Due to underfunding, MSC has proposed the privatization of Atomflot, but the Atomflot trade union sent a letter to President Putin asking him to prevent the transfer of the enterprise to MSC.

- "Murmanskaya oblast. Rabotniki predpriyatiya 'Atomflot' napravili Presidentu RF pismo s prosбой ne peredavat imushchestvo predpriyatiya Murmanskomu morskomu parokhodstvu," Rosbalt, 5 July 2001 in Regions.ru, 5 July 2001 in Integrum Techno, www.integrum.ru; "Murmansk. Generalnym direktorom OAO 'Murmanskoye morskoye parokhodstvo' naznachен Sergey Kiselev," Rosbalt, 19 May 2001 in Regions.ru, 19 May 2001 in Integrum Techno, www.integrum.ru; "Murmanskaya oblast. Soveshchaniye na remontno-tehnologicheskome predpriyatii 'Atomflot' po problemam ledokolnogo flota," Severnyy gorod, 27 February 2001 in Region.ru, 27 February 2001 in Integrum Techno, www.integrum.ru.

29 June 2001

ATOMFLOT ELECTRICITY MAY BE CUT OFF

On 29 June 2001, the Rosbalt information agency reported that Kolenergo, the Kola Peninsula regional electricity provider, intends to limit or even cut off the supply of electricity to its debtors, including Atomflot. Atomflot owes Kolenergo over 1.7 million rubles (over \$59,000 as of 29 June 2001).

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"Murmanskaya oblast. OAO 'Kolenergo' vvodit ogranicheniya po podache elektroenergii na 13 krupnykh promyshlennykh i voyennykh predpriyatiyakh oblasti," Rosbalt, 29 June 2001; in Regions.ru, 29 June 2001; in Integrum Techno, www.integrum.ru.

27 June 2001

IMANDRA ABOUT TO START DEFUELING NUCLEAR SUBMARINE

On 27 June 2001, Interfax reported that the *Imandra* service ship would start defueling a project 645 (NATO name 'Echo II') nuclear submarine within the next few days. The *Imandra* was designed to defuel nuclear-powered icebreakers. If defueling the Echo II is successful, the service ship will be used to defuel other first-generation nuclear submarines. There are about 30 decommissioned first-generation submarines in the Northern Fleet. (The *Imandra* has already defueled a second-generation Victor II-class nuclear submarine.

"V Murmanske vygruzyat toplivo iz APL pervogo pokoleniya," Interfax, 27 June 2001.

20 June 2001

LIQUID RADIOACTIVE WASTE PROCESSING FACILITY OPERATIONAL

On 20 June 2001, a liquid radioactive waste processing facility at Atomflot began test operations. The facility has the capacity to process all of the liquid radioactive waste that has accumulated in Murmansk Oblast nuclear facilities as a result of nuclear submarine dismantlement. It is expected to process 5,000m³ of liquid radioactive waste annually. The project, called the Murmansk Initiative, started in December 1994 and cost \$4.5 million. It was completed jointly by the US Environmental Protection Agency, Brookhaven National Laboratory, the Norwegian Ministry of Foreign Affairs, the Russian Ministry of Atomic Energy, additional Russian agencies, and scientists from all three countries. The facility was granted permission for one year of experimental operation.

- Rozaliya Zykhevskaya, "Unikalnaya ustanovka dlya pererabotki zhidkikh radioaktivnykh otkhodov voshla v stroy," *Polyarnaya zvezda*, 21 June 2001 in Integrum Techno, www.integrum.ru; "Modernized Nuclear Waste Disposal Installation Presented in Murmansk," Interfax, 20 June 2001.

23 May 2001

INTERIM SPENT FUEL STORAGE SITE TO BE BUILT AT ATOMFLOT

On 23 May 2001, the Rosbalt information agency reported that construction of an interim spent nuclear submarine fuel storage site at Atomflot should be completed in September 2001. Its projected capacity is 19 containers, each of which can hold 40t of spent fuel each. According to Nuklid Deputy Director Lev Chernenko, the project will cost 15 million rubles (over \$500,000 as of 23 May 2001). The money will come from the AMEC program and the federal program Nuclear and Radiation Safety in Russia 2000-2006. According to the Murmansk Oblast Committee on Conversion and Nuclear and Radiation Safety, the storage containers passed all the necessary tests and have been examined by US and Norwegian experts. Radio Rossii reported that the Murmansk city administration opposed building this storage site near the city. A city official was quoted as saying that the Murmansk administration had not received an official evaluation of potential dangers posed by the storage site. He was also upset because public opinion had not been taken into consideration when the decision to build the facility was made. By the end of 2001, two more interim storage sites with a capacity of 30 containers each will start operations: one at Zvezdochka in Severodvinsk and one at Zvezda in the Russian Far East.

Related content is available on the website for the Nuclear Threat Initiative, www.nti.org.



- "Nachalas podgotovka k khraneniyu yadernykh otkhodov," Rosbalt, 23 May 2001; in *Pravda Severa*, No. 93, 23 May 2001 in Integrum Techno, www.integrum.ru; Dmitriy Zhelobkov, "Vesti," Radio Rossii, 23 May 2001 in Integrum Techno, www.integrum.ru; "Murmansk. Segodnya proshli obshchestvennyye slushaniya, posvyashchennyye sozdaniyu v gorode ploshchadki dlya vremennogo khraneniya obluchennogo yadernogo topliva atomnykh podlodok Severnogo flota," SeverInform, 22 May 2001 in Regions.ru, 22 May 2001 in Integrum Techno, www.integrum.ru.

15 May 2001

NUCLEAR ICEBREAKER REACTORS BEING UPGRADED

On 15 May 2001, Vsevolod Peresyarkin, General Director of Central Fleet Research Institute in St. Petersburg, said at a meeting of the Russian Ministry of Transportation that the upgrading of seven icebreakers' nuclear reactors had started. According to Peresyarkin, the upgrades will increase the reactors' service life to 150,000 hours, allowing the icebreakers to stay in service until 2010-15. On 4 May 2001, *Severo-Zapadnoye veshchaniye* reported that the Russian Ministry of River Transportation and MSC had decided to repair the steam generator of the nuclear icebreaker *Sibir* and put the ship back into service. It had been decommissioned in 1993 due to defects in its steam generator. Experts have expressed conflicting opinions as to whether it is safe to cut out the old steam generator, which is directly connected to the ship's nuclear reactor.

- "Mintrans RF nameren razvivat atomnyy ledokolnyy flot na Sevmorputi," Interfax, 12 May 2001; "Budet vosstanovlena ekspluatatsiya atomnogo ledokola 'Sibir'," *Severo-Zapadnoye veshchaniye*, 4 May 2001; in *Vsya Rossiya*, No. 77 (458), 8 May 2001 in Integrum Techno, www.integrum.ru.

11 May 2001

LEPSE VILLAGE OPENS

On 11 May 2001, the Bellona Foundation reported that construction of the *Lepse* Village has been completed and the *Lepse* crew has moved into this new housing complex. The *Lepse's* fire alarm and radiation control and safety systems have been duplicated and installed in one of the buildings. They will allow the crew to monitor the ship's radiation levels without being exposed to the high levels of radiation on board. The staff will inspect the ship according to a preset schedule. MSC Chief Radiologist Sergey Zhavoronkin says that this will reduce radiation exposure by 50%. The project cost Nkr920,000 (over \$100,000 as of 11 May 2001) and was financed solely by the Bellona Foundation.

- Igor Kudrik, "Lepse Crew Moves to 'Village'," Bellona Foundation, 11 May 2001, www.bellona.no; Vyacheslav Gudkov, "Bellona postroila 'derevnyu' v Murmanske," *Kommersant (S-Peterburg)*, No. 83, 17 May 2001 in Integrum Techno, www.integrum.ru; "Korabl s radioaktivnymi otkhodami mozhet stat prichinoy ekologicheskoy katastrofy v Murmanske," NTV news, 12 May 2001 in Integrum Techno, www.integrum.ru.

23 March 2001

MSC TO PROCESS 3,000M³ OF LIQUID RADIOACTIVE WASTE ANNUALLY

On 14 March 2001, a newly modernized liquid radioactive waste processing facility at MSC was inspected by a state examining commission and approved for experimental operation. This facility is a joint Norwegian-Russian-

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US project that costs \$5 million. It has the capacity to process 3,000m³ of liquid radioactive waste a year. At this rate all liquid radioactive waste currently in storage can be processed in a five-year period. As of March 2001, about 8,000m³ of liquid radioactive waste were stored on the Kola Peninsula.

- "Voprosy podgotovki k predstoyashchemu v iyune visitu v Rossiyu premyer-ministra Norvegii obsudili glavy MID dvukh stran," ITAR-TASS, 14 March 2001 in Integrum Techno, www.integrum.ru; "Sever izbavlyayetsya ot radioaktivnykh otkhodov," *Nezavisimoye voyennoye obozreniye*, No. 10 (232), 23 March 2001 in Integrum Techno, www.integrum.ru; "Murmanskaya oblast. V Murmanske sostoyalas gospriyemka ustanovki po pererabotke zhidkikh radioaktivnykh otkhodov," Regions.ru, 15 March 2001 in Integrum Techno, www.integrum.ru.

14 February 2001

IMANDRA DEFUELS NUCLEAR SUBMARINE REACTORS

According to a 14 February 2001 report in *Polyarnaya pravda*, the service ship *Imandra* has been defueling decommissioned nuclear submarines, 80 of which have accumulated at Northern Fleet bases. The first reactor was successfully defueled in late 1999 at Nerpa. In 2000, *Imandra* defueled another two submarines at Polyarnyy. Three submarines, two in Polyarnyy and one in Sevmorput, are scheduled to be defueled in 2001. According to Atomflot technical director Stanislav Golovinskiy, the defueling helps *Imandra* make money. Thus, in 2000, *Imandra* earned 17 million rubles (about \$593,000 as of 14 February 2001), which allowed the service ship to turn a profit. *Imandra* is able to service four submarines a year and may begin defueling reactors from first-generation decommissioned submarines in Gremikha.

-Yuriy Zavyalov, "S OYaT ne shalyat. Potomu i zhivot dolgo. A 'Imandra' khranit otrabotannoye yadernoye toplivo davno i uspeshno," *Polyarnaya pravda*, 14 February 2001; in *Yadernyye Materialy*, No. 10, 7 March 2001.

12 February 2001

LENIN ICEBREAKER TO BECOME A MUSEUM

On 12 February 2001, SeverInform reported that the *Lenin* icebreaker is undergoing preparation for conversion into a historical museum on the Russian nuclear fleet and Arctic exploration. The conversion will cost an estimated 90 million rubles (over \$3 million as of 12 February 2001). Financing will be shared by the Russian government, Murmansk Oblast and city administrations, the Murmansk Commercial Port, and other regional companies.

- "V Murmanske idet podgotovka k pereoborudovaniyu pervogo v mire grazhdanskogo atomokhoda 'Lenin' v Muzei istorii otechestvennogo atomnogo flota," SeverInform, 12 February 2001; in Integrum Techno, www.integrum.ru.

10 February 2001

RUSSIA ALLOCATES 420 MILLION RUBLES TO ICEBREAKER FLEET

The 2001 federal budget allocates 420 million rubles (more than \$14.5 million as of 10 February) in subsidies to the Murmansk Shipping Company to compensate for reduced rates paid by certain companies, like some Krasnoyarsk kray logging companies.

- *Krasnoyarskiy rabochiy*; in *Vsya Rossiya*, 10 February 2001; in Integrum Techno, www.integrum.ru.

5 February 2001

GREENPEACE AGAINST SHIPPING RADIOACTIVE WASTE VIA NORTHERN SEA ROUTE

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The Norwegian branch of Greenpeace and Norway's Ministry of the Environment have spoken out against plans to transport radioactive waste from Europe to Japan on the Northern Sea Route, reported *Virtualnyy Peterburg* on 5 February 2001. They also requested that Murmansk Shipping Company (MSC) provide comprehensive information on the safety of such transports. According to MSC press service head Vladimir Blinov, the company received a request from the Japanese company Marubeni to study the technical aspects of radioactive waste transportation. Only the technical, not the judicial and political aspects of the problem were discussed. Many Russian experts think that the transportation of radioactive waste by the Northern Sea Route is less dangerous than by southern sea routes along the African coast or via ground transport.

- "Gripis' protiv transportirovki radioaktivnykh otkhodov Severnym morskim putem," *Virtualnyy Peterburg*, 5 February 2001.

11 January 2001

CERTIFICATION OF ATOMFLOT LIQUID RADIOACTIVE WASTE TREATMENT PLANT DELAYED

Certification of a treatment plant at Atomflot for liquid radioactive waste has been delayed due to technical problems and a lack of funds to fix them. Estimates of the cost of the project to date range from \$4 million to \$5 million. To complete the plant around \$180,000 is needed, while only \$40,000 is currently available. The Norwegian environmental group Bellona cites sources at MSC as saying that Norway and the United States (the project financiers) have not been asked to provide additional funds. In 2000, the plant was financed from the Russian budget. Officials suggest the plant will go on line in three months, whereas others suggest the end of 2001 is a more realistic estimate.

- Thomas Nilsen, "Murmansk LRW facility overruns new deadline," *Nuclear Chronicle from Russia* online edition, www.bellona.no, 11 January 2001.

10 January 2001

NORWAY'S GAO CRITICIZES ATOMFLOT LRW STORAGE AND PROCESSING FACILITY PROJECT

4 January 2001

RUSSIA'S BUDGET ALLOCATES FUNDS TO COMPLETE 50 LET POBEDY ICEBREAKER

Russia's 2000 budget allocates 200 million rubles (about \$7 million as of 4 January 2001) to complete the *50 Let Pobedy* icebreaker under construction at the Baltic Shipyard. Murmansk Oblast Economic Department Head Vladimir Dovgan predicted that exploitation of Arctic oil and gas deposits will increase freight traffic on the Northern Sea route, leading MSC to require this new icebreaker. Currently Russia's nuclear icebreaker fleet has six active vessels, two of which sit idle due to lack of nuclear fuel.

- "Na dostroyku atomokhoda '50 Let Pobedy' byudzheth Rossii vydেলil 200 mln. rubley," ITAR-TASS, 4 January 2001; in Integrum Techno, www.integrum.ru.

17 November 2000

MOBILE MODULAR LIQUID RADWASTE FACILITY TO GO ON LINE BY THE END OF 2000

According to the Murmansk Oblast administration, a new mobile modular facility for processing liquid radioactive waste (LRW) will become operational at Atomflot by the end of December 2000. The new facility, which can treat

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5,000 cubic meters of LRW annually, will cover almost 50% of the Russian Navy's needs.

-"V dekabre remontno-tekhnicheskoye predpriyatiye 'Atomflot' nachnyet ekspluatatsiyu novoy modulnoy ustanovki po pererabotke zhidkikh radioaktivnykh otkhodov," Agenstvo voyennykh novostey, 17 November 2000; in Integrum Techno, www.integrum.ru.

14 November 2000

MSC PARTICIPATES IN UNLOADING AND TRANSPORTING SPENT NUCLEAR FUEL FROM NORTHERN FLEET SUBMARINES

MSC has signed a contract with the Northern Fleet to provide assistance in unloading spent nuclear fuel from the reactors of submarines that are to be dismantled, and in transporting the spent fuel to the reprocessing facility at Mayak. The nuclear fuel support vessel *Imandra* and tanker *Serebryanka* will be used for these purposes. (Two submarines have already been defueled by the *Imandra*.)

-Roman Fomishenko, "Ukroshcheniye atomokhodov," *Krasnaya zvezda*, No. 194, 13 October 2000; in Integrum Techno, www.integrum.ru.

2 November 2000

MURMANSK SHIPPING COMPANY MAY GET A COMPETITOR

Because of an ongoing conflict between the Murmansk Shipping Company and its main customer, Norilsk Nickel, regarding transportation rates, on 2 November 2001 Norilsk Nickel management asked the Russian government to create a second state shipping company in the Arctic in order to create competition for MSC. Krasnoyarsk Kray Governor Aleksandr Lebed suggested the alternative of using the resources of Norilsk Nickel and the Yenisey River Shipping Company to create a new shipping company.

- Leonid Zavorskiy, "Metallurgi vykhodyat v more," *Kommersant*, No. 207, 3 November 2000 in Integrum Techno, www.integrum.ru; *Krasnoyarskiy rabochiy*; in *Vsya Rossiya*, 26 October 2000 in Integrum Techno, www.integrum.ru.

25 October 2000

SERVICE LIFE EXTENSION CONSIDERED FOR NUCLEAR ICEBREAKERS

In light of an expected increase in the flow of goods along the Arctic sea route and the aging of the Russian nuclear icebreaker fleet, the Ministry of Transportation, Ministry of Atomic Energy, and Ministry of Science and Technology have been researching the possibility of extending the icebreakers' service lives, which are due to expire in three to seven years. The Severo-Zapad association believes that the icebreakers should serve up to 10 years more than originally planned.

-Andrey Vaganov, "Atomnyye ledokoly stanut dolgozhytelyami," *Nezavisimaya gazeta* online edition, <http://ng.ru>, 19 January 2000; *Delovoy Peterburg*; in *Vsya Rossiya*, 25 October 2000; in Integrum Techno, www.integrum.ru.

20 October 2000

ICEBREAKER RATES TO BE DETERMINED BY FEDERAL AUTHORITIES

In October 2000, the Russian government adopted a decree that takes away MSC's power to establish transportation rates and transfers it to federal authorities. From now on, icebreaker rates will be determined by

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the Ministry of Transportation in cooperation with the Ministries of Finance and Economic Development. MSC may still be able to influence rate levels because the state owes the company \$41.5 million in subsidies for deliveries to the Far North, and the company may demand payment of this debt or the imposition of special surcharges on top of regular icebreaker rates.

-Leonid ZavarSKIY and Sergey Paratov, "Kak provozhayut ledokoly," Kommersant, No. 197, 20 October 2000; in Integrum Techno, www.integrum.ru.

June 2000

ATOMFLOT LIQUID RADWASTE FACILITY TO BE COMPLETED IN FALL 2000

As part of the federal program entitled Handling, Processing, and Storage of Radioactive Waste and Spent Nuclear Materials from 1996 to 2005, Russia plans to complete construction of the *Landysh* Liquid Radioactive Waste Treatment Plant at Bolshoy Kamen and a radioactive waste processing facility at Atomflot in the fall of 2000. Unlike the *Landysh* plant, which uses an evaporation and bituminization method developed by US scientists, the Atomflot facility will apply a new method--developed by the All-Russian Scientific Research Institute of Chemical Technology--based on the multi-stage selective absorption of cesium and strontium. The method also involves the break-down of organic substances, electro dialysis, and the cementing of resulting solid wastes. According to an article in *Zelenyy mir*, the new Russian method consumes 100 times less energy than the US method and costs seven times less, or \$4 million. The Russian method can process up to 5,000 cubic meters of low-level radioactive waste per year, whereas the US technology can handle up to 7,000 cubic meters per year.

-A. Koval, *Zelenyy mir*, No. 11-12, 2000, p. 29.

25 May 2000

BELLONA'S LEPSE VILLAGE UNDER CONSTRUCTION

The Norwegian environmental organization Bellona Foundation is aiding the Murmansk Shipping Company (MSC) in the construction of the *Lepse* Village complex near the Atomflot dock where the *Lepse* is moored. The complex will house *Lepse* personnel and monitoring equipment, such as radiation sensor controls, fire alarms, and bilge water level monitors. Bellona and MSC began the *Lepse* complex project several years ago in order to minimize the radiation exposure of *Lepse* staff. The Village complex will allow staff to monitor the *Lepse* remotely, visiting the vessel just once every four hours. Bellona is donating 12 mobile homes, worth 1 million Norwegian kroner (\$109,500 as of 25 May 2000), which will be arranged into four three-story buildings. Private companies from various countries and Bellona itself are funding other set-up costs. A special federal commission deemed the donated homes "technical aid;" this status allowed the project to avoid paying customs tax. Norway and France have already agreed to assist with the *Lepse* Village. Other countries are awaiting the conclusion of bilateral agreements with Russia to avoid liability for potential accidents at Atomflot. According to Bellona, as of 27 August 2000, the first mobile home had been shipped. Bellona anticipates the opening of the complex on 1 October 2000.

- Irina Anokhina, "'Derevnya' stanet sovmeSTnym proyektom," Murmanskii vestnik, 25 May 2000, p. 2 in WPS Yaderniye Materialy, No. 14, 14 June 2000; NISNP E-mail Correspondence with Nils Bohmer, Bellona Foundation, 28 August 2000.

22 May 2000

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ARKTIKA'S SERVICE LIFE PROLONGED TO 175,000 HOURS

On 17 May 2000 a conference took place onboard the icebreaker *Arktika* with participants from all agencies that deal with the design and operation of nuclear icebreakers. The conference participants agreed to prolong the *Arktika's* service life by 75,000 hours, to a total of 175,000 hours. The *Arktika* has already worked for 142,000 hours; prior practice limited service time to 100,000 hours. Vyacheslav Ruksha, general director of the Murmansk Shipping Company, said that the service time for other nuclear icebreakers will be extended as well, allowing the icebreaker fleet to operate until 2012. The *Arktika* conference participants have not excluded the possibility of extending the service life of icebreakers to 200,000 hours. On 27 December 1999 the Ministries of Transportation, Atomic Energy, and Science agreed to extend the service life of icebreakers from 100,000 to 150,000 hours.

- Andrey Korolev, "Life time for nuclear icebreakers prolonged," Bellona Foundation, www.bellona.no, 22 May 2000; "Prodlen resurs raboty ledokola 'Arktika,'" www.regions.ru, 24 May 2000; "Prodlen srok sluzhby atomnykh ledokolov," *Izvestiya* online edition, 28 December 1999.

5 April 2000

ROSSIYA ICEBREAKER IN NEED OF REPAIR

The *Rossiya* returned to Murmansk, its home port, after a three-month tour in the Arctic. While Sevmorput experts report that the icebreaker is in satisfactory condition, they say that expensive repairs are needed to maintain its condition. However, it will only receive minor repairs before heading out to sea on 20 April 2000. It has not even been painted in the past few years, due to a shortage of money.

- "Spiral sobytiy," *Parlamentskaya gazeta*, 22 March 2000 in *Natsionalnaya sluzhba novostey*, <http://nel.nns.ru>, 22 March 2000; "Putin vyskazyvayetsya za razrabotku gosudarstvennoy sudokhodnoy politiki," *Interfax*, 5 April 2000.

February 2000

SEREBRYANKA TANKER ARRIVES IN MURMANSK WITH LIQUID RADIOACTIVE WASTE

The *Serebryanka* tanker, operated by Murmansk Shipping Company (MSC), arrived in Murmansk during the week of 21 February 2000 with 560 cubic meters of liquid radioactive waste (LRW) collected at a Northern Fleet base. The LRW will be treated at a processing facility owned by a nuclear icebreaker base, Atomflot. The Northern Fleet does not have its own LRW processing facilities; the fleet shipped 770 cubic meters of LRW from its bases to Atomflot in 1999. In 2000 MSC is expected to sign a contract with the navy to process an additional 600-800 cubic meters of LRW.

-*Nuclear Chronicle from Russia*, No. 1, January-March 2000, p. 15.

December 1999

IMANDRA DEFUELS VICTOR II SUB, FUEL SENT TO MAYAK FOR REPROCESSING

The nuclear fuel support ship *Imandra* successfully defueled the Victor II class nuclear submarine K-476 at the Nerpa shipyard. This is the first time a civilian support ship defueled a nuclear submarine. Between 26 November and 4 December 1999, the *Imandra*, which is part of the Atomflot fleet operated by Murmansk Shipping Company (MSC), transferred the fuel to the *Lotta*. The *Lotta* then loaded the fuel onto a train bound for the Mayak Production Association for reprocessing. Approximately 500 fuel assemblies were removed from K-476's two reactors. The spent fuel is expected to arrive at Mayak in January 2000. The spent fuel reprocessing is being

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financed through Minatom out of the federal budget. Minatom and the Ministry of Transportation have approved a plan for *Imandra* to de-fuel and reprocess the spent fuel from several nuclear submarines in 2000.

-Igor Kudrik, "Submarine defueled for sake of experiment," Bellona Foundation, 14 December 1999, www.bellona.no; Igor Kudrik, "Submarine spent fuel shipment underway," Bellona Foundation, 17 January 2000, www.bellona.no; Yuriy Banko, "I stal atomokhod grudoy metalla," *Parlamentskaya gazeta*, 26 January 2000, p. 5, in WPS Yadernyye Materialy, No. 2, 28 January 2000.

26 August 1999

US SPECIALISTS VISIT ATOMFLOT FACILITY

US specialists [most likely from the US Department of Energy] have arrived at the Atomflot facility in Murmansk to inspect the security systems there, *Vechniy Murmansk* reported on 26 August 1999. The Atomflot facility, which has received security upgrades as part of the US Department of Energy's MPC&A program, stores nuclear materials, including HEU fuel for nuclear icebreakers and submarines. The US specialists will pay special attention to the physical protection systems at the facility, including the television monitoring system, which keeps track of personnel entering and leaving the facility. The article pointed out that the need to ensure that the security systems are functioning was demonstrated by the July 1999 incident in which two Atomflot employees working on the service ship *Imandra* stole californium-252 and attempted to sell it in St. Petersburg.

-"Na 'Atomflote' novyy glaz," *Vechniy Murmansk*, 26 August 1999, p. 1 in WPS Yadernyye Materialy, 10 September 1999.

13 July 1999

AUTHORITIES ARREST FIVE FOR TRYING TO SELL STOLEN RADIOACTIVE MATERIAL

In St. Petersburg on 13 July 1999, the Northwest Regional Administration for Combating Organized Crime and the St. Petersburg Administration of the Federal Security Service (FSB) arrested five men who tried to sell 5g of californium-252 for \$50,000 and about 17kg of mercury for \$11,000.[1,2,3,4,5,6] A year after a St. Petersburg based criminal group approached 50 year-old Senior Machinist and Decontamination Specialist Yevgeniy Balanin in Murmansk about helping them procure californium-252, Balanin took advantage of his responsibility for removing spent nuclear components from the nuclear-powered icebreaker *Rossiya*. In September 1998, he shipped an empty container to the Atomflot storage facility, and carried 5g of californium-252 off the *Rossiya*. [1,2,7] Balanin and his accomplice, 43 year-old Nikolay Yefimovich, a radiation control technician aboard the service ship *Imandra*, packed the californium-252 inside a container filled with paraffin which they then placed within a canister of water.[1] Although the initial \$100,000 offer from the criminal group fell through, Balanin and Yefimovich headed to St. Petersburg with the californium-252 and the mercury,[1,2,3] which also came directly from the icebreaker,[6] in search of another buyer in July 1999. Authorities there arrested the two men and three others, including Balanin's 25 year-old son.[1,2,3]

Californium-252 is not weapons-usable, but it is a strong neutron emitter and is used to start up nuclear reactors. It can also be used to poison or murder because of the high penetrating capability of neutron radiation (three to 10 times more dangerous than gamma radiation).[1,5] Although Balanin and Yefimovich handled the material carefully, reports indicated that it nevertheless emitted radiation 350 times higher than the maximum permissible

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level.[1] Californium-252, produced at the All-Russian Scientific and Research Institute of Atomic Reactors (SRIAR) in Dmitrovgrad, is usually stored on board the *Imandra* in containers weighing 200kg . The material is transferred onto the icebreaker in a bucket-sized container, which can be carried by one person. Once spent, the californium-252 is transferred from the icebreaker to the Atomflot storage facility.[5] Authorities sent the confiscated californium-252 to the V.G. Khlopin Radium Institute Scientific Production Association for evaluation.[1] The crime of stealing radioactive materials falls under Article 221, Part 2 of the Russian Federation Criminal Code and is punishable by five to 10 years in prison.[1,2,3,4]

Since 1996, the United States and Russia, as part of the US Department of Energy's MPC&A Task Force program, have cooperated on upgrading physical protection of the icebreaker fleet's fresh fuel (HEU) stored on board the *Imandra*, the ship on which Yefimovich worked.(For more information on the upgrades, please see the US DOE MPC&A program reports from 1997 and 1998 in the full-text document section.) A source at the Murmansk Shipping Company stated that it has accounted for all the material aboard *Imandra*.[5] Although the theft from the *Rossiya* involved non-weapons-usable material, it nonetheless validates the insider theory, which posits that an employee working with the material, such as Balanin, may be best positioned and more likely to divert that material. (For further information about the *Imandra* and the *Rossiya* please see the Civilian-Use Naval Reactors section.)

Sources:

- [1] Vadim Nesvizhskiy, "Neytronnoye oruzhiye iz-pod poli," *Segodnya* online edition, 15 July 1999.
- [2] Andrey Tsyganov, "Moryaki torgovali izotopami s ledokola," *Kommersant*, win.www.online.ru, 15 July 1999.
- [3] Vasiliy Belousov, ITAR-TASS, 15 July 1999; in "Russia Arrests Men for Stealing Fissile Substances," FBIS Document FTS19990715000403.
- [4] "An Attempt in St. Petersburg to Sell a Radioactive Substance That Can Kill in a Few Days," *Gazeta.Ru*, 14 July 1999 in "Two Arrested With Radioactive Materials From Murmansk Facil," FBIS Document FTS19990719001940.
- [5] Igor Kudrik, "Nuclear icebreakers base robbed," Bellona Foundation, www.bellona.no.
- [6] Yuriy Vershov and Vadim Tyagniryadno, "Biznes na neytronakh," *Vremya MN*, No. 125, 15 July 1999.
- [7] Valeriy Kondakov, "Pochemu yadernoye toplivo popadayet v ruki pyanykh matrosov?" *Tribuna*, 14 July 1999, p. 1; in WPS Yadernyye Materialy, No. 28, 6 August 1999.

12 April 1999

GERMAN TOURIST DETAINED IN MURMANSK

Murmansk Oblast Federal Security Service officers detained Thomas Schmidt, a German tourist, for photographing the Atomflot repair enterprise in Murmansk and trying to find out how to gain access to the facility. Although Schmidt took pictures of restricted enterprises, approaches to them, and warships, further investigation determined that the photographs did not constitute state secrets. Authorities ultimately expelled Schmidt from Murmansk Oblast and confiscated his camera and film.

-Interfax, 12 April 1999; in "German Tourist Expelled from Siberian Region," FBIS Document FTS19990412001600.

December 1998

LUKOIL BUYS MURMANSK SHIPPING COMPANY

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Lukoil, the second largest oil company in Russia, bought the Murmansk Shipping Company (MSC), and has therefore assumed responsibility for the operation of Russia's seven nuclear-powered icebreakers and one nuclear-powered transport ship. Lukoil plans to use the icebreakers for gas and oil exploitation in the Barents Sea. Vyacheslav Ruksha, the new director of MSC, stresses the importance of maintaining the civilian nuclear fleet for these purposes. At the time of the purchase, only three icebreakers were in operation: the *Sovetskiy Soyuz*, the *Taymyr*, and the *Arktika*. MSC could not afford repairs or the purchase of nuclear fuel for the reactors of the other icebreakers, which are laid up at Atomflot.

-Thomas Nilsen, "Lukoil goes nuclear," Bellona Foundation, www.bellona.no, 1 December 1998.

16 April 1998

COMMISSIONING OF LIQUID WASTE PROCESSING FACILITY POSTPONED

Several problems have postponed the commissioning of the liquid waste processing facility at Atomflot to October 1998. These problems include concerns about tax exemption status for US funds transferred into Russia, increases in the cost of the project by \$750,000, and organizational problems. According to the Norwegian Foreign Minister, only Norway has reached an agreement with Russia on tax exemption status for the funding of this project. As part of a trilateral cooperation project involving Russia, Norway, and the United States, the facility is being expanded to handle a capacity of 5,000 cubic meters of liquid radioactive waste per year. Originally, the commissioning was scheduled for the end of 1997, and then extended to 1 April 1998.

-Igor Kudrik, "Commissioning of liquid waste processing facility in Murmansk postponed," *Bellona: Nuclear Chronicle from Russia* online edition, www.bellona.no, 16 April 1998.

February 1998

MURMANSK SHIPPING COMPANY CITES LOSSES IN PROPOSAL TO DROP ICEBREAKERS

Murmansk Shipping Company (MSCo) officials announced their decision to get rid of the fleet of nuclear icebreakers at the annual MSCo meeting in Moscow in early February 1998. MSCo blames the operation of the nuclear-powered icebreakers for part of the losses they suffered in 1997. Because all nuclear-powered vessels are federal property, their operating expenses are supposed to be covered by the federal government. However, in 1997 the state paid only a small part of the total expenses incurred during the operation of the icebreakers. MSCo officials are considering various options for what to do with the fleet. According to Vyacheslav Ruksha, director of MSCo's nuclear fleet, one option is to establish an Arctic Icebreaker Company as either a completely or partially independent venture. Discussions about the possibility of a split between MSCo and the nuclear fleet have continued with no resolution since 1993.

-Igor Kudrik, "Murmansk Shipping Company to part with nuclear ice-breakers," *Bellona: Nuclear Chronicle from Russia*, February 1998, p. 5.

4 April 1997

NUCLEAR WASTE ON BOARD LEPSE

During the last 30 years, several metric tons of uranium and its decay products have accumulated on the *Lepse*. Since Mayak, the sole spent fuel reprocessing plant in Russia, turned down the nuclear waste onboard the *Lepse* in the 1980s, the storage compartment was cemented and the ship was transformed into a "floating sarcophagus."

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According to Vyacheslav Ruksha, Director of Atomflot, the problem could possibly be solved by the construction of a temporary storage facility and the development of proper technology for unloading the nuclear waste. The *Lepse* continues to be an enormous threat not only to Murmansk, but neighboring states such as Norway. Norway and France had succeeded in securing \$11 million dollars from the European Parliament for the purpose of dealing with this problem, but the process was stopped by the arrest of retired naval officer Aleksandr Nikitin, accused of providing classified information to the Norwegian environmental organization Bellona. The waste cannot be reprocessed because the vitrification furnace at Mayak has been shut down, having outlived its lifespan. Yevgeniy Ryzhkov, head of Mayak's public relations center, has pointed out that due to the lack of funding the construction of two new electric vitrification furnaces--units No. 3 and No. 4--have not been completed as planned.

-Lana Gorbunova, Novosti newscast, 4 April 1997; "Problems with Nuclear Waste Disposal," FBIS-TEN-97-094.

25 November 1996

PLAN TO REMOVE SPENT NUCLEAR FUEL FROM LEPSE APPROVED

The European Commission (EC) Advisory Committee approved a four-year project to remove spent nuclear fuel from the Murmansk Shipping Company service ship, *Lepse*. The company SGN created the plan, working under contract with the EC. The plan proposes the transportation of about 600 spent fuel elements to Mayak for reprocessing. The plan may be delayed because Russian officials say that there are no available storage facilities for the material, and no spent fuel will be extracted until it can either be stored in Murmansk, or safely transported to Mayak. SGN proposed that Russia use TK-18 fuel storage casks to transport the fuel to Mayak. However, the Russian Ministry of Atomic Energy uses the TK-18 containers exclusively to store nuclear submarine spent fuel. The fuel in the *Lepse* came from civilian icebreakers, and Minatom will not permit its containers to be used to transport civilian spent nuclear fuel. Dual-purpose containers, designed for storage and transport, are another option for the project. The *Lepse* project will receive funds from abroad. France promises \$2 million, the EC's TACIS program will provide \$4 million, and Norway will contribute about \$5 million. The project aims to remove the 750,000 Ci worth of spent fuel from the *Lepse* before an accident occurs, which would contaminate the Barents Sea and Arctic Ocean. Extraction of the spent fuel requires the development of special equipment because of the poor condition of the vessel. Rust and rupturing of the vessel have created a precarious situation, and direct extraction is impossible and unsafe.

-"SGN Proposal Ok'D by Multinational Advisory Committee," *Post-Soviet Nuclear & Defense Monitor*, 25 November 1996, pp. 2-3.

20 May 1996

SERVICE VESSEL HAS DANGEROUS LEVELS OF SPENT FUEL

Atomflot's service ship *Lepse* holds 643 spent fuel assemblies from decommissioned Soviet icebreakers. According to officials of the Murmansk Shipping Company, 430 of the spent assemblies are OK-900 type assemblies, most of which were brought aboard the *Lepse* after the 1966 loss of coolant accident on the *Lenin* icebreaker. The other 213 assemblies are of the earlier OK-150 design. The accident aboard the *Lenin* caused the spent fuel to swell, preventing it from fitting into *Lepse*'s vertical storage tubes. Nonetheless, *Lepse* workers pounded the fuel into the tubes, damaging many assemblies with sledgehammers. The damaged assemblies were placed in the hold and plugged with concrete. The current dose rate at the edge of the plug is estimated at 25 to 50 millisieverts (mSv)

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per hour. Under the plug, the dose rate is 2 Sv per hour. Five to ten percent of the spent fuel is reported to have broken or stripped cladding. According to Russian officials, new TK-12 casks are needed, at an estimated cost of \$500,000 per cask, with each holding 21 spent fuel assemblies. Removing the entire inventory of spent fuel from *Lepse* will cost a total of \$175 million.

-Mark Hibbs, "Unstable Soviet Ice-Breaker Fuel Poses Bigger Peril Than All Other Arctic Waste," *Nuclear Fuel*, 20 May 1996, p. 8.

6 May 1996

SPENT FUEL DELIVERED TO MAYAK FROM ICEBREAKER FLEET

After a three year delay, spent fuel from the Russian icebreaker fleet is now being transported from the Atomflot base to the RT-1 reprocessing plant at Mayak. Spent fuel is discharged on the average every 3-4 years from seven icebreakers operating in the Arctic Ocean. Spent fuel is stored on the *Imandra* and *Lotta* Atomflot service ships, which together hold nearly 6,500 assemblies, equivalent to about 25 cores. Spent fuel is water-cooled and thereafter removed from the ships and transported to RT-1 by rail. The transport ceased in 1994 due to the lack of funds. In 1994, when the shortage of storage capacity on the service ships in Murmansk threatened to disable the icebreaker fleet, the transport resumed with 5 metric tons heavy metal (HM) of spent fuel removed to Mayak. By May 1996, 1 MTHM more was delivered. Deliveries have been limited by transportation problems, including the lack of train cars capable of holding TUK-18 casks filled with spent icebreaker fuel and withstanding 40-ton loads. Moreover, Mayak has been raising prices of reprocessing fuel to "Western levels" considered to be about \$ 1,500/kgHM.

-Mark Hibbs, "Ice-breakers Paid \$4.5-Million For RT-1 Reprocessing in 1995," *Nuclear Fuel*, 6 May 1996, pp. 10-11.

5 December 1995

BELLONA DISCOVERS FUEL ELEMENTS ON A CARGO SHIP

Representatives of a Norwegian environmental firm Bellona discovered 624 nuclear fuel elements at the cargo ship *Lepse* in Murmansk. Reportedly, these elements were unloaded from the nuclear ship *Lenin* and later bituminized. Russians charged the firm with revealing Russian national secrets.

-Mikhail Stoyanov, "The Secret Of 'Lepse'," *Moskovskaya pravda*, 12 May 1995, pp. 1, 7.

6 July 1995

NORWAY AND THE UNITED STATES ASSIST IN WASTE PROCESSING

Atomflot has successfully completed an agreement with Norway and the United States on conducting a joint project on processing liquid radioactive waste. It hopes to soon find similar ways to handle solid radioactive waste. Atomflot expects to send a third train-load of solid radioactive waste to Mayak for reprocessing.

- "Nuclear Talks In Murmansk," *Murmanskiy vestnik*, 6 July 1995, p. 2.

Gadzhijevo

18 June 2003

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MOST NAVAL BASE DEATHS CAUSED BY HEART FAILURE OR SUICIDE

On 18 June 2003, IA Regnum reported that the chief causes for mortality at the Polyarnyy and Gadzhiyevo bases were heart failure and suicide. At Polyarnyy, two servicemen committed suicide in the first half of 2003. In 2002, 14 servicemen passed away, the majority from heart failure. Four of the 14, however, committed suicide, while two died during criminal activities. At Gadzhiyevo, four cases of mortality were registered among servicemen under the age of 40 in 2002. Three of them died of heart failure and one committed suicide.

- "Voyennaya prokuratura nazyvayet prichiny smertey na Severnom flote: samoubiystva i ostraya serdechnaya nedostatochnost," IA Regnum, 18 June 2003; in Integrum Techno, www.integrum.ru.

16 January 2003

RETURN OF YEKATERINBURG TO NORTHERN FLEET EXPECTED BY MID-2003

Interfax reported on 16 January 2003 that repairs to the Delfin-class [NATO name 'Delta-IV'] ballistic missile nuclear submarine (SSBN) *Yekaterinburg*, undertaken at the Zvezdochka shipyard in Severodvinsk over the past four years, have been completed. Due to adverse weather conditions, however, it is anticipated that the *Yekaterinburg* will remain in Severodvinsk until at least June 2003 at which point it would return to Gadzhiyevo for ensuing re-entry into service.

- "V Severodvinske posle remonta podpisan akt priyema-sdachi APL 'Yekaterinburg'," Interfax, 16 January 2003.

13 September 2002

NORTHERN FLEET SUBMARINE FLOTILLA AT GADZHIYEVO DISBANDED, SQUADRON FORMED

On 13 September 2002, Agentstvo voyennykh novostey reported that the 3rd Strategic Submarine Flotilla based in Gadzhiyevo has been disbanded and transformed into the 12th Submarine Squadron in accordance with a directive of the Naval Main Staff. The new squadron will retain the Project 667 Akula-class [NATO name 'Typhoon'] nuclear submarines moored to the piers at Gadzhiyevo and the Project 667 BDRM Delfin-class [NATO name 'Delta-4'] ballistic missile nuclear submarines attached to the neighboring Olenya Bay Naval Base. In addition to these military assets, the new 12th Submarine Squadron will oversee the reactor compartments afloat in Sayda Bay. This is the third reduction of combat formations in the Northern Fleet since December 2001, and completes the Russian Navy reform plan for the Northern Fleet. In August 2002, the 1st Multipurpose Nuclear Submarine Flotilla in Zapadnaya Litsa was transformed into the 11th Submarine Squadron, while in December 2001 the 40th Diesel Submarine Division in Yekaterininskaya Bay, Polyarnyy, was disbanded.

- Agentstvo voyennykh novostey, 13 September 2002 in "Russia: Strategic submarine flotilla reduced in Northern Fleet," FBIS Document CEP20020913000065; Vitaliy Bratkov, "Glavnaya yaderno-strategicheskaya flotiliya Rossii 'usokhla' do eskadry," www.pravda.ru; in Integrum Techno, www.integrum.com; Interfax; in *Moryak severa*, 29 October 2002; in Integrum Techno, www.integrum.com.

May 2000

OFFICERS SENTENCED FOR THEFT OF BATTERIES FROM SUB TORPEDOES

In May 2000, a military court sentenced 12 men (2 officers, 3 warrant officers, and 7 sailors) for the theft of batteries from submarine torpedoes. The thefts were discovered in February 1999. Each battery contains approximately 150kg of silver and costs about 1.2 million rubles (about \$42,500 as of 31 May 2000). The thieves

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removed the batteries from the torpedoes, replaced them with bricks, and then took the batteries apart in order to take them off the naval base in sections. The leadership of the guard forces was involved in the theft. In November 1998, torpedo and missile unit Chief of Staff Captain Vladimir Pospelov learned that thieves were earning a lot of money from the sale of silver stolen from base torpedoes. As the captain was \$2,000 in debt, he decided to steal some himself, and invited the deputy commander of the torpedo ammunition unit, Captain Oleg Yerostenko, and a warrant officer to join him. The warrant officer involved two contract sailors, who, when they went on watch, removed the batteries from specific torpedoes indicated by the officers. This first theft netted \$7,300. The court found that the officers were not involved in subsequent thefts. The sailors and warrant officers knew which torpedoes were likely to be loaded onto submarines, and did not touch those weapons. Instead, they went after the batteries of torpedoes that had exceeded their service lives. Twenty Gadzhiyev military personnel were eventually involved in the theft of batteries from 22 torpedoes, worth 26.4 million rubles (about \$936,000 as of 31 May 2000). Eight of the thieves are in hiding; a federal search has been announced. The court's sentence reportedly shocked base submariners by its severity: Pospelov got six years, Yerostenko five years, and seven others from three years eight months to seven years in prison. Only the warrant officer and two sailors were not sentenced to incarceration. The men were also ordered to pay 9.7 million rubles (about \$344,000 as of 31 May 2000) in restitution.

-Vyacheslav Gudkov, "Moryaki torgovali torpednymi akkumulyatorami," *Kommersant* online edition, www.online.ru, 31 May 2000; NTV, 26 May 2000; in "Northern Fleet Officers Sentenced for Theft at Gadzhiyev," FBIS Document CEP20000526000073.

25 December 1999

VERKHOTURYE SSBN REPAIRS COMPLETED

On 25 December 1999 the *Verkhoturye*, a *Delta-IV* class SSN also known as K-51, was formally transferred from the Zvezdochka State Machine-Building Enterprise to the Northern Fleet. The *Verkhoturye* was sent to Zvezdochka in mid-1993; repairs were completed in 1998. However, due to financing difficulties, the SSN's test runs were delayed. It has undergone three test runs to the White Sea, and is scheduled to head for Gadzhiyev in May-June 2000.

-Anatoliy Popov, "APL 'Verkhoturye' snovo v stroyu," *Pravda severa*, 3 January 2000; in Natsionalnaya sluzhba novostey, <http://nel.nns.ru>.

September 1999

CAPTAIN STEALS PALLADIUM FROM AIR FILTER CARTRIDGES ON PANTERA

A naval officer and a civilian accomplice collaborated to steal the powdered palladium metal contained in FK-P air filter cartridges from the *Akula*-class SSN *Pantera* docked at the Gadzhiyev Naval Base. The two pillaged 59 cartridges, each containing approximately 4kg of palladium worth about \$450. The officer, a captain in charge of the submarine chemical service, removed the cartridges from the submarine and transferred them to the civilian accomplice. The civilian extracted the palladium powder and refilled the cartridges with powdered coal, which is the same color. He returned the cartridges to the captain, who reloaded them onto the submarine. The civilian sold the palladium to a predetermined customer. The theft was detected after the captain was transferred to another submarine, and his replacement noticed powder leaking from a cartridge. The captain received \$9,000

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from the sale, and damages to the Northern Fleet are estimated at 2.2 million rubles (approximately \$85,000 as of 11 September 1999). Authorities arrested the captain, but the civilian escaped. Both face up to 10 years in prison for grand larceny. Fortunately, the captain's replacement detected the theft before the *Pantera* went to sea, averting a potentially hazardous situation for the crew. Northern Fleet Acting Prosecutor Captain Vladimir Mulov agreed that there may have been serious consequences, but noted that all equipment on board a submarine is checked prior to departure.

-Vyacheslav Gudkov, "S atomnoy podlodki ukrali chistyy vozdukh," *Kommersant* online edition, 10 September 1999; Igor Sorokin, *Moscow NTV*, 11 September 1999; in "Nuclear Submarine Scam Costs Russian Navy R2 Million," FBIS Document FTS19990912000500.

5 June 1999

PROSECUTOR RELEASES MORE DETAILS ON 1998 SUB SHOOTING

23 April 1999

TEN ARRESTED FOR STEALING TORPEDO PARTS

A joint investigative team of the Gadzhiyev military prosecutor's office and the local department of the Federal Security Service Directorate for the Northern Fleet has arrested 10 of 12 members of a well-organized criminal ring of navy personnel including sailors, warrant officers, and commanding officers at the Gadzhiyev Naval Base for stealing and selling the silver from silver-zinc torpedo batteries. Each battery contains at least 120kg of high-quality silver. From October 1998 through January 1999, sailors removed and sold the silver from several torpedoes, resulting in large profits for those involved and in damages to the Northern Fleet totaling about 1.5 million rubles (approximately \$60,000). The sailors have already repaid 40,000 rubles (approximately \$1,600) to the Northern Fleet. They face up to 10 years in jail. According to a preliminary investigation, each participant in the group carried out a specific role in the well-designed thefts. The commanding officers knew the torpedo loading schedule and informed the sailors about which torpedoes could be plundered. The officers prepared documentation in order to keep the scheme from being discovered. The compulsory service and contract sailors, who had access to the torpedo storage facility, removed the batteries and carried them off the base. The warrant officers traveled off the military installation and made the sale. Gadzhiyev is conducting mass torpedo inspections on nuclear submarines and at the torpedo storage facility, even though, according to Gadzhiyev military prosecutor Major Vadim Zavalishin, no damaged torpedoes were loaded onto submarines. The prosecutor's office reported that the number of shortages and thefts in the Northern Fleet doubled between 1997 and 1998. The "disastrous state of affairs in the families of seamen," consistent wage delays of three to four months, and lack of funds for food and travel out of the north during summer have all contributed to increased criminal activity in the Northern Fleet.

-Vyacheslav Gudkov, "Moryaki razvorovali boyevyye torpedy," *Kommersant* online edition, 23 April 1999; Vasily Belousov, ITAR-TASS, 23 April 1999 in "Russian Seamen Face Jail for Stealing Nuke Torpedoes," FBIS Document FTS19990424000097.

11 September 1998

SAILOR KILLS EIGHT, COMMITS SUICIDE ON VEPR

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7 July 1998

NOVOMOSKOVSK LAUNCHES A SATELLITE

21 September 1995

KOLENERGO FORCED TO RETURN POWER TO GADZHIYEVO BASE

The Kola Peninsula power company, Kolenergo, shut off power to the Gadzhiyevo Northern Fleet submarine base due to \$4.4 million in unpaid electrical bills. The cut-off caused the reactors of at least one, and maybe as many as four, decommissioned submarine to overheat. Admiral Oleg Yerofeyev, Commander of the Northern Fleet, finally forced the company at gunpoint to restore power to the base, preventing a meltdown of the submarines' reactors. Armed patrols were deployed to the Kola Peninsula and Arkhangelsk regional power substations to avoid any additional cut-offs.

Sources:

[1] Interfax, 25 September 1995; Doug Clarke, "Power Cut-Off Nearly Causes Nuclear Submarine Disaster," OMRI Daily Digest, 22 September 1995, p. 2.

[2] Mark Hibbs, "Power Restored At Gunpoint Averts Russian Sub Core Melt," *Nucleonics Week*, 28 September 1995, p. 12.

[3] David Hoffman, "Russian Troops Get Electricity By Force," *Washington Post*, 23 September 1995, p. A22.

[4] *Krasnaya zvezda*, 23 September 1995, p. 1; in "Power Industry's 'Nuclear Terrorism' Viewed," FBIS-SOV-95-187, 23 September 1995.

[5] "Russia Bars Power Cutoffs To Deadbeat Military Sites," *Washington Times*, 24 September 1995, p. A9.

[6] "Power Cuts Hit Military Sites," *Nuclear Engineering International*, December 1995, pp. 6-7.

Gremikha

8 September 2003

NUCLEAR SUBMARINE K-370 ARRIVES AT POLYARNYY

On 4 September 2003, the Project 627A nuclear attack submarine K-370 arrived at Polyarninskiy Shipyard, also known as Shipyard No. 10, where it will be dismantled. The submarine was towed from Gremikha Naval Base without the use of pontoons.

- "Na polyarninskiy sudoremontnyy zavod na utilizatsiyu dostavlena APL K - 370", MurmanNews.Ru, 8 September 2003; in Integrum Techno, www.integrum.ru.

30 August 2003

SSN SINKS IN BARENTS SEA

On 30 August 2003, the Project 627A nuclear attack submarine K-159 sank in the Barents Sea, three miles northwest of Kildin Island, at a depth of 238m. The decommissioned nuclear submarine, in service from 1963 to 1988, was being towed from the Gremikha Naval Base to Nerpa Shipyard, in Snezhnogorsk.

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The K-159 was the thirteenth submarine to be dispatched for dismantling from Gremikha this year. The newer submarines were transported without the assistance of pontoons, while older submarines like the K-159 were towed with the support of four pontoons due to problems with buoyancy.[1] When pontoons are used, a small crew remains on board the submarine to monitor the compartments and towing equipment.[2] According to a later statement by Captain 2nd Rank Sergey Zhemchuzhnov, in charge of the towing vessel and deputy commander of the submarine division of Ostrovnoy Garrison (home of Gremikha Naval Base), the pontoons assisting K-159 were designed to maintain a vessel afloat, but not for towing. He also noted that these particular pontoons were built in the 1940s, and that the crew had to add air to the pontoons at least every five hours.[1] Another method used to transport submarines is the use of a dry dock. This is the safest, but most expensive method and is rarely used. All previous Gremikha submarines successfully reached their destinations, although in September 2002 the two rear pontoons attached to the K-21 submarine suddenly tore off during transport, despite good weather. There was no investigation of that incident.[1] However, the K-370, which was towed together with the K-159 but without pontoons, successfully reached Polyarnyy on 4 September.[2]

According to news reports, at approximately 2:20am the left rear pontoon supporting K-159 was torn off, causing the submarine to list to one side while water leaked into the open hatch. Class 627A submarines like the K-159 can list 12 degrees before they sink. The last report from the K-159, which indicated that it was listing 10 degrees, was received at 2:45am. A rescue boat left the tug and headed for the submarine, but was unable to find survivors quickly in the dark, with heavy seas. However, before the list reached a 10-degree angle, regulations required the crew to abandon the boat as fast as possible. An investigation will seek to ascertain why this did not occur.

Unnamed naval sources told journalists that helicopters had immediately flown out to the scene of the disaster but had spotted the other vessel (the K-370) and returned to shore. However, other sources indicated that Russian helicopters would not have been allowed to fly at night, especially during a storm.

Several reasons have been given for the sinking of the K-159.[2,3] The press service of the Russian Defense Ministry stated that the K-159 sank because the pontoons keeping it afloat were torn off by a storm.[2] As a result, Russian Defense Minister Sergey Ivanov has temporarily banned the transfer of decommissioned nuclear submarines to scrap yards using pontoons.[3]

Investigators from the Main Military Prosecutor's Office have also cited the pontoons as the cause of the disaster; they determined that one of the pontoons on the left side of the submarine was poorly fastened and that the K-159 sank after taking on water through the main hatch. However, according to AFP, the main cause of the tragedy was a leak in the ninth (rear) and, later, eighth compartments. When both compartments filled with water, the extra pressure on the pontoons caused the mountings to break.[4] Commander-in-Chief of the Navy Admiral Vladimir Kuroyedov emphasized that the transportation speed was higher than the allowable limit. [CNS note: High speeds can result in leaks in the rear of the submarine.]

When the submarine was near Kildin Island, at about 2:00am on 30 August, Captain 2nd rank Sergey Lappa, the K-159 escort team commander, radioed the tug and reported that the submarine was taking on water in the stern compartment. The pontoons were then in place. According to Lappa, water was seeping into the stern

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compartment through the graphite compressors. The crew first detected a list with a mechanical device. They then inspected the ninth compartment and discovered water in it. According to AFP the sailors tried to close the hatch between compartments nine and eight. However, water started overflowing into the eighth compartment.

The crew then tried to form an air cushion in the eighth compartment through the use of high pressure. Unfortunately, the K-159 didn't have enough air for the operation. When it became clear that the crew could not stop water from coming in, some sources report that Lappa called the tug and asked to have the submarine grounded off Kildin Island.[5] Zhemchuzhnov has stated that he remembers no such conversation, and that towing the vessel and grounding it during a storm would have been highly risky and would not have made saving the submariners easier (though subsequently recovering the submarine itself would have been facilitated). In any event, the K-159 was not grounded. Zhemchuzhnov, who earlier had ordered the crew to fight to keep the submarine afloat, says that at 1:50am he ordered them to put on warm clothing and expect a rescue team.[1] Maintaining the submarine afloat was a very difficult task: its condition was such that when the two stern compartments were flooded, the bow would have risen above the surface and the submarine probably would have sunk in a matter of minutes.

There were 10 crewmembers aboard. Just one of them was rescued; the bodies of two others later were retrieved from the water. As a result of the accident, Northern Fleet Commander Admiral Gennadiy Suchkov was temporarily dismissed from his post by President Vladimir Putin. The Main Military Prosecutor's office charged Zhemchuzhnov with violating navigation rules in accordance with Russian Federation Penal Code article 352 [5].

Two fueled nuclear reactors are still onboard the submarine. The Malakhit Design Bureau (the designer of Project 627A) was designated to lead the lifting operation by a joint decision of the Russian Shipbuilding Agency, Ministry of Atomic Energy and Ministry of Defense. Admiral Kuroyedov did not exclude the participation of the foreign specialists in the lifting operation, which is planned for July-August 2003.[6]

Sources:

[1] Igor Zhevelyuk, "Posledniy doklad s K-159," *Kuryer Nord-Vest*, 9 October 2003; in Integrum Techno, www.integrum.ru.

[2] "Murmanskaya oblast. Sergey Ivanov: Moryaki zatonuvshyey podvodnoy lodki K-159 ni v chem ne vinovaty," *Regions.Ru*, 1 September 2003.

[3] "Submarine sinking was not caused by loss of air-tightness - Defense Ministry," *Interfax*, 3 September 2003.

[4] "Murmanskaya oblast. Podlodka K-159 zatonula iz-za techi v khvostovoy chasti," *Regions.Ru*, 3 September 2003.

[5] "Ekipazh APL K-159 pogib po prikazu komandovaniya," *RBC.ru*, 4 September 2003.

[6] "Admiral Kuroyedov nastavayet na podyeme APL 'K-159,'" *Interfax - Novosti*, 11 September 2003; in Integrum Techno, www.integrum.ru.

8 January 2003

RECONSTRUCTION OF DOCK TO UNLOAD IRRADIATED FUEL COMPLETED

On 8 January 2003, *Interfax* reported that the reconstruction of dry dock CD-10 at Gremikha has been completed. The dock is designed to unload spent nuclear fuel from liquid-metal-cooled reactors.

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Gremikha is the second largest onshore storage site for Northern Fleet spent nuclear fuel and the largest site for storing decommissioned submarines, most of which are first-generation boats. Around 800 spent-fuel assemblies are stored at Gremikha (100 in a drained pool and 700 in containers on open platforms). These assemblies contain 1.4 tons of radioactive compounds. There are also six nuclear reactors with liquid metal coolant from project 705 (Alfa-class submarines). In addition, there are 19 nuclear submarines and 38 reactors with unloaded irradiated nuclear fuel, which are stored at base piers.

- "Na Kolskom poluostrove rekonstruyirovan dok dlya vygruzki obluchennogo topliva," Interfax, 8 January 2003; N.N.Melnikov, "Tekhnologicheskiye aspekty problemy nerasprostraneniya yadernykh materialov na severo-zapade Rossii" paper presented at the conference "Strengthening Cooperation Between the U.S. and Russia on Nuclear Nonproliferation," 23-25 October 2002, Moscow.

21 December 2002

STATUS OF OSTROVNOY DISCUSSED

On 21 December 2002, Murmansk Oblast Governor Yuriy Yevdokimov and Assistant to the Commander-in-Chief of the Russian Navy Mikhail Barskov agreed to maintain the closed city (ZATO) status of Ostrovnoy, the former naval base located in Gremikha. ZATO Ostrovnoy was founded in Gremikha in 1994 after the submarine squadron of the Yokanga naval base was disbanded.

-"Vlasti Murmanskoy oblasti i komandovaniye VMF RF soglasny s sokhraneniye osobogo statusa byvshey voyenno-morskoy bazy v Gremikhe," Interfax, 21 December 2002.

24 April 2002

OLD DECOMMISSIONED NUCLEAR SUBMARINES TO BE TRANSFERRED FROM GREMIKHA TO ARA GUBA

On 24 April 2002, *Trud* reported that the Northern Fleet would transfer in the near future 17 old decommissioned nuclear submarines [four Kit-class [NATO name 'November'] SSNs, 10 Kefal I-class [NATO name 'Victor I'] SSNs, and three Kefal II-class [NATO name 'Victor II'] SSNs] from Gremikha Naval Base to Ara Bay Naval Base in Vid'yayev for further dismantlement. The submarines will have to be transported inside floating docks. The operation will have to take place in calm weather to ensure the safety of the endeavor.

-Sergey Ishchenko, "Radioaktivnaya eskadra. 190 spisannykh atomokhodov tayat smertelnuyu opasnost," *Trud*, 24 April 2002, p.1; in WPS Yadernyye Materialy, No. 15, 8 May 2002.

June 2001

MILITARY COURT SENTENCES OFFICERS FOR THEFT OF PALLADIUM AIR FILTER CARTRIDGES

In June 2001, the Severomorsk garrison court convicted three Ostrovnoy Garrison officers for stealing and selling FK-P air filter cartridges, which contain about 130g-140g of palladium each. The group included garrison commander Captain Aleksandr Kupchenko, UFSB senior representative Captain Aleksandr Okladnikov, and seaman Vladimir Nani. Between spring 1999 and March 2000 the group stole 135 canisters worth about 10.8 million rubles (over \$370,000 as of 29 June 2001). The canisters were sold in Murmansk for \$400 each. The thieves received prison sentences of three-and-a-half to four-and-a-half years.

-Andrey Riskin, "Ordena i pogony ne spasli ot tyurmy," *Nezavisimaya gazeta - regiony*, 19 June 2001; in Integrum Techno, www.integrum.ru.

Related content is available on the website for the Nuclear Threat Initiative, www.nti.org.



1 December 2000

UNITED KINGDOM CONFIRMS ITS FINANCIAL SUPPORT FOR NUCLEAR SAFETY IN MURMANSK OBLAST, DISCUSSES DISMANTLEMENT AT GREMIKHA

17 April 2000

FORMER OSTROVNOY MILITARY INTELLIGENCE HEAD CHARGED WITH THEFT OF AIR FILTER CARTRIDGES

The Vologda news agency SeverInform reported that the Northern Fleet military prosecutor had arrested Captain Aleksandr Okladnikov, former head of the Ostrovnoy Garrison Military Counterintelligence Department, and Captain Aleksandr Kupchenko, head of the Ostrovnoy Garrison. The men have been indicted in connection with the disappearance of 135 air filter cartridges, which were stored in the Ostrovnoy Garrison Military Counterintelligence Department. The palladium contained in each cartridge can reportedly fetch up to \$1,000 on the black market. The air filters, from decommissioned submarines, disappeared when Okladnikov was in charge of the department.

-*"Voyennaya prokuratura Severnogo flota vzbudilo ugovnoye delo protiv byvshego nachalnika otdela voyennoy kontrrazvedki garnizona Ostrovnoy," SeverInform, 17 April 2000; in National News Service, www.nns.ru.*

20 March 2000

SPENT FUEL STORAGE FACILITY MAY BE BUILT AT GREMIKHA

Minatom has suggested building a temporary spent nuclear fuel storage facility at Gremikha Naval Base. Gremikha is the only Northern Fleet naval base with no operational submarines; Minatom reportedly believes this will make it easier to get access to the facility. Murmansk Oblast Governor Yuriy Yevdokimov supports the project. If Gremikha is chosen as a storage site, a storage platform with a service life of up to 50 years will be constructed to hold the spent fuel casks. Most likely, 80MT casks would be used at Gremikha. Minatom is also considering Nerpa Shipyard and Polyarninskiy Shipyard as nuclear fuel storage sites; it is unlikely that storage platforms will be established at all three locations.

[Thomas Nilsen, "Mayak Spent Fuel Storage Moves to Kola," *The Nuclear Chronicle from Russia* online edition, www.bellona.no/imaker, 20 March 2000.

6 August 1999

TWO SAILORS GO ON SHOOTING SPREE AT GREMIKHA

At 0400 local time on 6 August 1999, two sailors, 20 year-old Ivan Fomushkin and 19 year-old Vladimir Tarasov, went on a shooting spree at the Gremikha Naval Base with no apparent motive. Armed with an axe, the two sailors attacked a sentry guarding a radioactive waste storage facility at Gremikha and stole his assault rifle. Though wounded, the sentry managed to sound the alarm, and four guards responded. In the ensuing fire fight, two of the guards and their chief, Senior Lieutenant Yezhov, were killed. The sailors then entered the guardhouse, which was occupied by three seamen, and fired shots into the ceiling. A ricocheting bullet wounded one of the three, the assistant duty officer. The two sailors held the three occupants hostage in the guardhouse, made no demands, refused to negotiate with police and command units, and finally released the wounded assistant duty officer. When Northern Fleet senior officers and associates of the military prosecutor arrived by helicopter at 0900, the two sailors, fearing an assault, used one of their hostages as a shield to escape from the guardhouse to a nearby

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truck. While the two sailors attempted, without success, to start the truck and to find a new hiding place, the hostages managed to escape. The police and command units surrounded the sailors and opened fire, killing Fomushkin and wounding Tarasov. Tarasov ultimately committed suicide by shooting himself in the stomach with the assault rifle. Both sailors were senior servicemen with only two months left until their discharge. According to *Nezavisimaya gazeta*, the incident could have had "absolutely unpredictable" consequences if the two sailors had succeeded in evading the guards and gaining access to the radioactive waste storage facility or any of the several decommissioned nuclear submarines stored at Gremikha. The article does not make clear what objectives, if any, the two sailors had in mind when they attacked the sentry.

-Vyacheslav Gudkov, "Voyna na baze yadernykh submarin," *Kommersant* online edition, 7 August 1999; Aleksandr Alf, "Soldaty 'dyryavyat' yadernyy shchit," *Nezavisimaya gazeta*, <http://home.mosinfo.ru>, 7 August 1999.

Nerpa

9 October 2003

GERMANY ALLOCATES €300 MILLION FOR DISMANTLEMENT AND REACTOR STORAGE ASSISTANCE

Minatom and the German Ministry of Economics and Labor signed an agreement in Yekaterinburg on the provision of assistance for the safe disposal of nuclear-powered submarines in Northwest Russia. Germany has committed €300 million to the project in 2003-08. These funds will be spent refurbishing nuclear submarine dismantlement facilities at Nerpa Shipyard, building an up-to-date storage facility for submarine reactor compartments and a low- and intermediate-level radioactive waste conditioning facility at Sayda Bay, repairing a floating dock that will be used to tow reactor compartments, providing a computer-assisted waste monitoring system for Sayda Bay, and helping to clear the bay of shipwrecks. During the first stage of the project, the submarines and three-compartment modules currently stored afloat in Sayda Bay will be towed to Nerpa, where the reactor compartments will be cut out, given a biological shield, and welded shut. Other protective measures will also be undertaken to ensure that the reactor compartments do not threaten the environment. They will then be towed back to Sayda and stored at the new onshore facility.

8 October 2003

NERPA CONTRACT WITH GERMANY DRAWN UP FOR STORAGE SITE

Nerpa Shipyard Deputy Director for International and Commercial Affairs Oleg Yerin reported that a group of German specialists investigating a possible contract between Germany and the Nerpa Shipyard for the construction at Sayda Bay of a regional storage site for reactors removed from decommissioned nuclear submarines had completed their on-site work. Negotiations had been underway for seven months and, as planned, the October 8 meeting resulted in the text of the contract--which has not yet been finalized--being drawn up. -"Germaniya pomozhet obespechit radiatsionnyuyu bezopasnost na Kolskom poluostrove," Interfax, 8 October 2003.

9 June 2003

FOREIGN ASSISTANCE FOR SUBMARINE DISMANTLEMENT AND REACTOR STORAGE

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According to *Severnaya subotnaya gazeta*, representatives of the German and British Ministries of Economy and Labor are to visit the Nerpa Shipyard. These officials will examine the shipyard's capabilities with respect to the planned dismantlement of Russian submarines. One of the topics to be discussed with German specialists will be the construction of a land-based storage complex in Sayda Bay for reactor compartments from dismantled submarines.

- "V Sayda-gube postroyat kompleks khraneniya reaktornykh otsekov utilizirovannykh podlodok," www.regions.ru, 9 June 2003; in Integrum Techno, www.integrum.com.]

6 March 2003

VICTOR-CLASS SUBMARINE DEFUELED

Interfax reported that the unloading of spent nuclear fuel from the reactors of a Victor-class second-generation general-purpose submarine at Nerpa had been successfully completed.

- "Spetsialisty 'Nerpy' vygruzili OYaT iz atomokhoda klassa 'Viktor'," Interfax, 6 March 2003.

31 October 2002

NERPA'S FUTURE DISCUSSED

The future of Nerpa was discussed at a meeting held between Russian Shipbuilding Agency head Vladimir Pospelov, Murmansk Oblast Governor Yuriy Yevdokimov, and Northern Fleet Commander Gennadiy Suchkov. Meeting participants expected that after two or three years Nerpa might begin dismantling general-purpose submarines as part of a new program under the G8 Global Partnership Against the Spread of Weapons and Materials of Mass Destruction. As of late 2002, the dismantlement of submarines under the CTR program was coming to an end. Additional funds are needed to keep Nerpa running.

- Nikolay Sigin, "Delovye vstrechi," *Murmanskiy vestnik*, No. 213, 2 November 2002; in Integrum Techno, <http://afnet.integrum.ru>; "Murmanskaya oblast. Sudoremontnyy zavod 'Nerpa' nuzhdayetsya v podpitke do nachala realizatsii programmy '10 na 10 cherez 10'," *MurmanNews.Ru*, 1 November 2002; <http://afnet.integrum.ru>.

5 September 2002

NERPA MAY FACE BANKRUPTCY

Bellona reported, with reference to NTV, that the Nerpa Shipyard may go bankrupt. To date, all submarine dismantlement operations have been financed through the Cooperative Threat Reduction program. Nerpa dismantled six nuclear submarines in 10 years. The head of Nerpa has proposed dismantling old general-purpose submarines, which are a major threat to the environment. However, these submarines are not perceived as a threat to US security and cannot be dismantled under current rules governing the CTR program. Nerpa officials hope that Norway might fund their dismantlement.

- "Nerpa Shipyard Can Go Bankrupt Without US Money," Bellona, www.bellona.no, 5 September 2002.

5 September 2002

NERPA COMPLETES FIRST FOREIGN COMMERCIAL CONTRACT

On 5 September 2002, *Novosti-online* reported that Nerpa had successfully completed its first international project. The shipyard constructed a 36-meter floating dock with a 10-meter bridge for Norway. The gross weight of

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the entire structure is 40 tons. The floating dock will be anchored in the Norwegian seaport of Vardø for mooring small coastal ships, and will start operating during the third week of September. Norway has already placed a second order with Nerpa.

- "Norvezhskiy zakazchik ostalsya dovolen," *Rybnaya stolitsa*, 5 September 2002, p. 2; in "Na Snezhnogorskom sudoremontnom zavode 'Nerpa' proizoshlo vazhnoye sobytiye - priyeezhali norvezhskiye zakazchiki," *Novosti-online*, 5 September 2002; in *Integrum Techno*, www.integrum.com.

6 May 2002

CTR PROGRAM AT NERPA TO END IN JUNE 2002

Nerpa Chief Engineer Rostislav Rimdenok told Interfax that the shipyard is expected to complete its participation in the Cooperative Threat Reduction program by dismantling a Kalmar-class [NATO name 'Delta III'] SSBN in June 2002. Nerpa would like the program to continue but, according to Rimdenok, the US side is only interested in financing dismantlement of third-generation Russian nuclear submarines. This is not acceptable to the Russian military as these boats form the backbone of the Russian Navy. Instead, the Russians would like to receive assistance in the dismantlement of decommissioned first-generation submarines. Of 57 such submarines, only nine have been defueled and two scrapped. The United States, however, plans to finance completion of a nuclear defueling facility at Sevmash in Severodvinsk instead, where it will continue work on SSBNs of more recent vintage.

- *Agentstvo voyennykh novostey*, 6 May 2002; in "Intl Nuclear Submarine Disposal Program Wraps Up in Murmansk," FBIS Document CEP200202596000115.

26 April 2002

KURSK ARRIVES AT NERPA FOR DISMANTLEMENT

The *Kursk* submarine arrived at the Nerpa Shipyard, where it is expected to be dismantled in the fall of 2002. Before scrapping begins, the seven P-700 Granit [NATO name SS-N-19 'Shipwreck'] cruise missiles remaining on board will be removed from the *Kursk's* damaged launch tubes. Then the submarine will be defueled and the vessel's hull will be scrapped. It is unclear how this work will be financed as the Nerpa Shipyard has not yet received any money for the dismantlement. In addition, according to the Murmansk Oblast legislative assembly, the Russian Ministry of Defense still owes the shipyard in Roslyakovo about 150 million rubles (about \$4.8 million as of 26 April 2002) for prior clean-up work done on the *Kursk*.

- *Radio Rossii*, 26 April 2002 in "Russian Nuclear Submarine Kursk Arrives at Nerpa Repair Yard," FBIS Document CEP20020426000292; Interfax, 26 April 2002; in "Defense Ministry Owes R150 Million to Roslyakovo Plant for Kursk Work," FBIS Document CEP20020426000309.

28 March 2002

K-19 TO BE SCRAPPED JUST AS MOVIE ABOUT TRAGEDY SET TO BE RELEASED

On 28 March 2002, the *K-19* nuclear submarine was sent to the Nerpa Shipyard for dismantlement. The ship was decommissioned and its reactor removed in the 1970s; it has been in Ara Bay since 1990. The ship's history, which earned it the nickname "Hiroshima," includes a 1961 reactor accident that killed eight members of the crew, and a 1972 fire that killed another 28. Shortly after the second accident the *K-19* was decommissioned from the Northern Fleet. In July 2002, an American movie about the accident, made by National Geographic, will be

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released, starring Harrison Ford as former Soviet Navy Captain Nikolay Zateyev.

- "Legendaraya podlodka K-19 otpravlena na utilizatsiyu," Interfax, 28 March 2002; "Plavuchaya 'Khiroshima' otpravlena na utilizatsiyu," *Izvestiya*, 29 March 2002; "Nuclear Submarine Sent for Scrapping," RIA-Novosti, 28 March 2002; in FBIS Document CEP20020328000135.

19 March 2002

NIZHNIY NOVGOROD NUCLEAR ATTACK SUBMARINE TO RETURN TO ACTIVE SERVICE IN THE NORTHERN FLEET

The press service of the Nizhniy Novgorod Oblast administration announced that according to Admiral Gennadiy Suchkov, commander of the Northern Fleet, the Kondor-class [NATO name 'Sierra II'] SSN *Nizhniy Novgorod* would not be dismantled and would return to the Northern Fleet. Since December 2000, when the submarine arrived at the Nerpa Shipyard, the navy has been considering dismantling the submarine. Suchkov also said that repair of the *Nizhniy Novgorod* had begun.

-Agenstvo voyennykh novostey, 19 March 2002; in "Northern Fleet to Get Back Nizhny Novgorod Nuclear Submarine," FBIS Document CEP20020319000129.

24 January 2002

SUBMARINE DISMANTLEMENT PROCEEDS AS PLANNED

On 24 January 2002, Deputy Director of Nerpa's International and Marketing Department Oleg Yenin said that a visiting US Department of Defense delegation headed by Michael Cool confirmed that dismantlement of a Murena-M class [NATO name 'Delta II'] SSBN was proceeding as scheduled. The submarine has been defueled and has had its SLBM silos cut out.

-ITAR-TASS, 24 January 2002 in "Russia Dismantles Decommissioned Delta-2 Type Nuclear Submarine," FBIS Document CEP20020124000392.

13 December 2001

SERVICE SHIP COLLIDES WITH SUBMARINE AT NERPA

The nuclear service ship *Imandra* collided with the diving planes of a submarine, which was laid up at Nerpa shipyard. The resulting hole in the ship's hull was fixed by 15 December. No radioactive discharge was reported as the result of the incident.

["Nuclear Powered Icebreakers. *Imandra* collided with laid-up submarine," *Bellona: Nuclear Chronicle from Russia*, www.bellona.no, 21 December 2001.

17 February 2001

CONSTRUCTION OF SOLID RADIOACTIVE WASTE COMPACTING FACILITY AT NERPA DISCUSSED

According to a 17 February 2001 article in *Krasnaya zvezda*, attempts to obtain funds for building a solid radioactive waste compacting facility at Nerpa are being made in Murmansk Oblast. The facility would allow solid radioactive waste to be reduced six-fold. At present, \$20,000 are needed to bury just one cubic meter of radioactive waste.

- "Tam, za polyarnym krugom," *Krasnaya zvezda*, No. 032, 17 February 2001; in Integrum Techno, www.integrum.com.

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2 October 2000

PM-12 NUCLEAR FUEL TRANSFER SHIP SECURITY SYSTEM MODERNIZED

The US Department of Energy (DOE) announced that modernization of security systems on the PM-12 service ship, based at Nerpa Shipyard, had been completed. The ship conducts refueling for nuclear submarines and icebreakers. The upgrade improved protection against theft or diversion of nuclear materials aboard the ship. In 1999, a similar modernization was completed on PM-63, based in Severodvinsk. One more service ship is scheduled for security enhancement. The work is being done as part of cooperation between the DOE and the Russian Federation.

- "SShA okazali sodeystviye Rossii v uluchshenii na odnom iz voyennykh korably Severnogo flota sistemy smeny yadernogo topliva dlya podvodnykh lodok," ITAR-TASS, 3 October 2000 in Integrum Techno, www.integrum.ru; "US Energy Department and Russian Navy Complete Security Upgrades of Submarine Service Ship," Department of Energy Press Release, 2 October 2000.

20 March 2000

SPENT FUEL STORAGE FACILITY MAY BE BUILT AT NERPA

Minatom has proposed building a temporary spent nuclear fuel storage facility at Nerpa Shipyard. Nerpa is considered to be one of the best potential locations for a new modular dry storage facility, which is being planned by the four-state Industrial Group as part of the Federal Environmental Spent Nuclear Fuel Facility in Northwest Russia project. Nerpa already has equipment for removal of spent fuel from submarine reactors, and employs many workers experienced in handling spent nuclear fuel. However, Minatom is also considering the Gremikha Naval Base and Polyarninskiy Shipyard as possible nuclear fuel storage sites; it is unlikely that storage facilities will be established at all three locations.

- Thomas Nilsen, "Mayak Spent Fuel Storage Moves to Kola," *Nuclear Chronicle from Russia* online edition, www.bellona.no/imaker, 20 March 2000.

December 1999

CIVILIAN SHIP IMANDRA DEFUELS VICTOR-II NUCLEAR SUBMARINE K-476 AT NERPA

August 1999

US PROMISES RUSSIA \$15 MILLION FOR SUBMARINE DISMANTLEMENT AT NERPA

18 May 1998

WORKERS STRIKE

Female workers from Nerpa's galvanization workshop began a hunger strike on 14 May 1998. Workers from the transport workshop joined the strike, which has immobilized the shipyard. The Nerpa shipyard has not paid workers for eight months because the Ministry of Defense still owes more than 74 million rubles (\$12 million) to Nerpa for repairs completed on nuclear submarines.

- Vesti newscast, 18 May 1998 in "Russian TV Shows Striking Subyard," FBIS-UMA-98-139.

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May 1998

CONTRACT AWARDED TO NERPA SHIPYARD

The Defense Special Weapons Agency has named Nerpa as the only facility that meets the standards for information, resources, and expertise required for a contract to dismantle one nuclear submarine, a *Delta*-class SSBN. The contract also provides for the off-loading and shipment of the nuclear fuel from this submarine to the Mayak storage site. This contract is part of the CTR program.

-*"SLBM Launcher and SSBN Dismantlement in Russia," Post-Soviet Nuclear & Defense Monitor, 12 May 1998, p. 7.*

5 May 1998

WASTE FACILITY FOR MURMANSK OBLAST

Acting Minister of Atomic Energy Yevgeniy Adamov and Murmansk Oblast Governor Yuriy Yevdokimov signed an agreement providing for a Minatom state enterprise for radioactive waste and spent fuel storage to be established in Murmansk Oblast. Vladimir Dovgan, the oblast Industry, Transportation, and Communications Committee chairman, reported that the waste facility will be based at the Nerpa shipyard. Nerpa has equipment and personnel capable of scrapping decommissioned nuclear submarines. Northern Fleet spent fuel storage bases and various specialized companies like Atomflot will be involved in the new enterprise. Dovgan reported that the Norwegian government is willing to participate in the project and that English, French, and German organizations have offered financial support to help solve the problem of radioactive waste storage. Minatom agrees that this funding must go directly to Murmansk Oblast. First Deputy Minister of Defense Nikolay Mikhaylov is seeking a way to allow international experts to inspect Russian nuclear fuel storage facilities and independently determine the operational costs at these facilities. For several years, Murmansk Oblast has been unable to receive consent on this matter from the Ministry of Defense, but progress is being made. Several issues remain unresolved: the location of the facility and the time frame of its construction are still undetermined and the new facility for reprocessing liquid radioactive waste at Atomflot has not been completed. Dovgan reported that working groups on specific cooperation areas are being created to fulfill the agreement and to determine the time frame and costs of the project.

-Vladimir Tatur, "Budut razgrebat yadernuyu pomoyku," *Vecherniy Murmansk*, 8 May 1998, p. 2.

31 March 1998

US SUPPLIES NERPA WITH DISMANTLEMENT EQUIPMENT

According to an intergovernmental agreement, the United States has supplied the Nerpa shipyard with special equipment for the dismantlement of nuclear-powered submarines at a Murmanskpromstroy facility under construction. The equipment, part of a CTR project designed to improve Nerpa's submarine dismantlement infrastructure, included guillotine blades, cable choppers, cutting tools, and excavators. However, the Russian government may not be able to fulfill its part of the agreement any time soon, according to Nerpa director Pavel Steblin, since the facility's debt has reached 22 million rubles (\$3.6 million). Employees have had to work without pay.

-Yuliya Bakayeva, "Murmansk: submarinu - pod gilotinu," *Delovoy vtornik*, No. 12, 31 March 1998, p. 2;

"Infrastructure Improvement for Submarine Development at Nerpa Ship Repair Yard," *Post-Soviet Nuclear & Defense Monitor*, 23 February 1998, p. 12.

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February 1995

REPAIR YARD IS POORLY SECURED

According to Mikhail Kulik, Researcher for the Military Prosecutor's Office of the Northern Fleet, security around the Murmansk ship repair yards is gravely lax. He reported that there are multiple breaches in the fencing, there is no surveillance around the entire perimeter, entrances can be reached with no difficulty, and the rudimentary alarm system can easily be deactivated.

-Mikhail Kulik, *Yadernyy kontrol*, no. 2, February 1995.

Olenya Bay

13 September 2002

NORTHERN FLEET SUBMARINE FLOTILLA DISBANDED, SQUADRON FORMED

Agentstvo voyennykh novostey reported that the 3rd Strategic Submarine Flotilla based in Gadzhiyevo has been disbanded and transformed into the 12th Submarine Squadron in accordance with a directive of the Naval Main Staff. The new squadron will retain the Project 667 Akula-class [NATO name 'Typhoon'] nuclear submarines moored to the piers at the Yagelnaya Naval Base and the Project 667 BDRM Delfin-class [NATO name 'Delta-4'] ballistic missile nuclear submarines (SSBNs) attached to the Olenya Bay Naval Base. In addition to these military assets, the new squadron will oversee the reactor compartments currently afloat in Sayda Bay.

-Agentstvo voyennykh novostey, 13 September 2002 in "Russia: Strategic submarine flotilla reduced in Northern Fleet," FBIS Document CEP20020913000065; Vitaliy Bratkov, "Glavnaya yaderno-strategicheskaya flotiliya Rossii 'usokhla' do eskadry," www.pravda.ru; in Integrum Techno, www.integrum.com.

Polyarninskiy

28 April 2003

WAGE ARREARS WILL NOT BE PAID UNTIL END OF YEAR

According to Polyarninskiy Shipyard Director Captain A. Kolner, arrears for two months' pay will not be made up until the end of 2003. While the shipyard will be operating at full capacity with Northern Fleet orders, funding is insufficient to pay wage arrears that have accumulated from previous years.

-E. Izosimov, "Zadolzhennost po zarplate gradoobrazuyushchem predpriyatii Polyarnogo sokhranitsya do kontsa goda," *Severnaya subbotnaya gazeta*, 28 April 2003 in IA Regnum, 28 April 2003; in Integrum Techno, www.integrum.ru.

28 April 2003

CLOSED CITY ENTRY REGULATIONS EASED

New regulations on the entry of Russian citizens into the closed territory of Polyarnyy have come into force. The entrance regulations drafted by city authorities and approved by military commanders and the local FSB and

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Interior Ministry offices, simplify entry for certain government representatives. Checkpoints are now equipped with lists of 24 government bodies, the employees of which can pass through checkpoints with a certificate and an order issued by the commander. Private companies continue to have to obtain entry permission from a special department of the Northern Fleet's Kola Flotilla. Russian citizens can receive an access pass valid for up to three months; earlier plans had called for one-year passes. Visitors planning to stay longer than 10 days have to register with the passport and visa authorities and pay for municipal services. Those who do not comply are put on a "black list" and denied access.

-E. Kublikova, "Vstupila v deystviye novaya instruktsiya, uproshchayushchaya poryadok vezda v ZATO Polyarnnyy organizatsiy i lits s rossiyskim grazhdanstvom," *Severnaya subbotnaya gazeta*, 21 April 2003; in IA Regnum, 28 April 2003; in Integrum Techno, www.integrum.ru.

8 August 2002

ACCIDENT ON NUCLEAR SUBMARINE UNDERGOING DEFUELING REPORTED

Trud-7 reported an accident on the Echo 2-class nuclear submarine K-104 on June 29, 2002. While the submarine was undergoing defueling in a floating dock at Polyarninskiy the hull suddenly tipped to port and its hull hit the bottom of the dock. No one was injured, and radiation levels were reported to be within the norm. The newspaper pointed out that the accident was kept secret for more than a month and was made public only on 6 August 2002. The shipyard administration did not view the accident as dangerous as the vessel had already been defueled. According to Aleksandr Smyshlyayev, deputy head of the Polyarninskiy civil defense and emergency directorate, there were no flammable substances on board, although other sources suggested up to 15 tons of petroleum, oil, and lubricants may have been on vessel. According to a commission set up to investigate the accident, workers might have made a mistake while assembling the keel blocks. The floating dock remained stable. Its sideboards were patched up and new keel holders installed. Dismantlement of the tilted submarine continued. This made the operation non-standard.

-Svetlana Petrova, "Atomnaya lodka poteryala ravnovesiye," *Trud-7*, 8 August 2002, in Integrum Techno, www.integrum.ru; TVS television, 7 August 2002; in "Minor accident occurs during repair of disused Russian nuclear submarine," FBIS Document CEP20020808000014; Igor Kudrik, "Nuclear Submarine Emergency In Floating Dock During Decommissioning," 7 August 2002, www.bellona.no.

7 August 2002

POLYARNINSKIY'S TROUBLES

On 7 August 2002, Bellona reported that Polyarninskiy had failed to obtain work dismantling submarines. Meanwhile, the shipyard has had problems with the condition of submarines stored at the facility, and spent fuel shipped to Mayak. According to the commander at Sayda Bay, where many Northern Fleet submarines and submarine compartments are stored, the reactor compartments and partially dismantled submarines from Polyarninskiy usually are in poor condition with gamma radiation emissions. In 2002, Polyarninskiy was the source of improperly handled spent fuel that was shipped to Mayak.

-Igor Kudrik, "Nuclear Submarine Emergency in Floating Dock during Decommissioning," 7 August 2002, www.bellona.no.

Related content is available on the website for the Nuclear Threat Initiative, www.nti.org.



21 December 2001

IMANDRA DEFUELS VICTOR III SUBMARINE AT POLYARNINSKIY

On 21 December 2001, Bellona reported that the *Imandra* service ship had defuelled the Victor III-class submarine K-254 at the Polyarninskiy Shipyard in November.

- "Nuclear Powered Icebreakers. Imandra collided with laid-up submarine," *Bellona: Nuclear Chronicle from Russia*, www.bellona.no, 21 December 2001.

27 March 2001

SOLID RADIOACTIVE WASTE COMPACTING AND PROCESSING FACILITY START UP PLANNED IN 2001

According to a 27 March 2001 article in *Virtualnyy Peterburg*, plans call for putting a facility for compacting and processing solid radioactive waste stored on the Kola Peninsula into operation in 2001. However, financing of the \$91 million project has been delayed.

- "Murmanskaya oblast: ot atomnykh otkhodov do nikelya," *Virtualnyy Peterburg*, 27 March 2001; in Integrum Techno, www.integrum.com.

22 March 2001

POLYARNINSKIY TO RECEIVE NEW RADIATION MONITORING SYSTEM

The United States, Norway, and Russia plan to install a new remote radiation monitoring system at Polyarninskiy Shipyard. The project is being implemented within the framework of the Arctic Military Environmental Cooperation (AMEC) Program. The monitoring system will use terrestrial and underwater smart sensors to measure radiation, radio-modems for data transmission, and a computerized display system for constant monitoring and historical comparisons. It will cost less than \$1 million. Installation should be complete by summer 2001 and testing is planned for spring or summer 2002. Preliminary approval had been given to place a similar system at the Severomorsk Naval Base.

- "US, Norway and Russia Develop Sub Base Monitoring System," *Nuclear Waste News*, Vol. 21, No. 12, 22 March 2001.

1 December 2000

UNITED KINGDOM CONFIRMS ITS FINANCIAL SUPPORT FOR NUCLEAR SAFETY IN MURMANSK OBLAST, DISCUSSES SOLID RADWASTE PROCESSING AT POLYARNYY

20 March 2000

SPENT FUEL STORAGE FACILITY MAY BE BUILT AT POLYARNINSKIY

The interdepartmental coordinating body Nuklid, a division of the Ministry of Atomic Energy established to handle nuclear waste safety projects, proposed Polyarninskiy Shipyard as a possible temporary spent fuel storage location. The shipyard has expressed interest in taking part in nuclear submarine dismantlement. Polyarninskiy has the equipment to unload spent nuclear fuel from submarine reactors and houses one of the Northern Fleet's 326M spent nuclear fuel storage barges. Minatom is also considering Nerpa Shipyard and Gremikha Naval Base as nuclear fuel storage sites; it is unlikely that storage platforms will be established at all three locations.

[Thomas Nilsen, "Mayak Spent Fuel Storage Moves to Kola," *Nuclear Chronicle from Russia*, www.bellona.no, 20

Related content is available on the website for the Nuclear Threat Initiative, www.nti.org.



March 2000.

21 December 1995

UNPAID WAGES RESULT IN BLOCKADE BY WORKERS

Military officials promised the delivery of overdue wages to shipyard workers. The workers had blockaded a nuclear submarine that they had repaired protesting their lack of pay since August 1995. The Northern Fleet had threatened to cut off heat to the city of 30,000 and press charges against the workers.

-*"In Russia," Post-Soviet Nuclear and Defense Monitor*, 11 January 1996, p. 12.

Sayda Bay

9 October 2003

GERMANY ALLOCATES €300 MILLION FOR DISMANTLEMENT AND REACTOR STORAGE ASSISTANCE

On 9 October 2003, Minatom and the German Ministry of Economics and Labor signed an agreement in Yekaterinburg on the provision of assistance for the safe disposal of nuclear-powered submarines in Northwest Russia. Germany has committed €300 million to the project in 2003-08. These funds will be spent refurbishing nuclear submarine dismantlement facilities at Nerpa Shipyard, building an up-to-date storage facility for submarine reactor compartments and a low- and intermediate-level radioactive waste conditioning facility at Sayda Bay, repairing a floating dock that will be used to tow reactor compartments, providing a computer-assisted waste monitoring system for Sayda Bay, and helping to clear the bay of shipwrecks. The German company Energiewerke Nord (EWN) will act as general contractor, while the work will be carried out by Russian companies. The first step is to construct a 5.5 hectare land-based interim reactor storage facility and other infrastructure at Sayda. The reactor storage facility is to house reactor compartments from 120 dismantled submarines; to date, approximately 40 of these vessels have already been scrapped. The reactor compartments will be held in storage for at least 70 years prior to further dismantlement. During the first stage of the project, the submarines and three-compartment modules currently stored afloat in Sayda Bay will be towed to Nerpa, where the reactor compartments will be cut out, given a biological shield, and welded shut. Other protective measures will also be undertaken to ensure that the reactor compartments do not threaten the environment. They will then be towed back to Sayda and stored at the new onshore facility.

-*"German-Russian Project for the Safe Disposal of Nuclear-Powered Submarines in Northwest Russia,"* German Ministry of Economics and Labour, www.bmwi.de.

8 October 2003

NERPA CONTRACT WITH GERMANY DRAWN UP FOR SAYDA STORAGE SITE

Nerpa Shipyard Deputy Director for International and Commercial Affairs Oleg Yerin reported that a group of German specialists investigating a possible contract between Germany and the Nerpa Shipyard for the construction at Sayda Bay of a regional storage site for reactors removed from decommissioned nuclear submarines had completed their on-site work. Negotiations had been underway for seven months and, as planned, the October 8 meeting resulted in the text of the contract--which has not yet been finalized--being drawn up.

Related content is available on the website for the Nuclear Threat Initiative, www.nti.org.



"Germaniya pomozhet obespechit radiatsionnuyu bezopasnost na Kolskom poluostrove," Interfax, 8 October 2003.

16 May 2003

ADDITIONAL REACTOR COMPARTMENTS TO BE STORED IN SAYDA BAY

On 16 May 2003, IA Regnum reported that four additional reactor compartments will be stored in Sayda Bay. Three of the compartments are currently at the Nerpa Shipyard, and another at the Polyarninskiy Shipyard. One of the compartments at Nerpa is the reactor bloc from the *Kursk* SSGN.

"Reaktornyye otseki APL 'Kursk' budut vremenno khranitsya v Sayda-Gube," IA Regnum, 16 May 2003; in Integrum Techno, www.integrum.ru.

30 January 2003

REACTOR DISASSEMBLY AND STORAGE AT SAYDA BAY

According to the director of Energiewerke Nord GmbH (EWN), Dieter Rittscher, the company has been in negotiations with Russian military officials regarding the disposition of at least 120 reactor compartments in Sayda Bay by 2009. This would be undertaken within the framework of the G8 Global Partnership. Rittscher expects a contract to be signed by early summer. According to him, 60 reactor compartments are floating in Sayda Bay. However, the German Foreign Ministry cites approximately 40 compartments, and Minatom a total of 43 as of February 2001. These would be lifted out of the water and the reactor segments cut out. Then, this radioactive metal would be safely disposed of in a new land-based storage facility. The necessary infrastructure, including dock, crane, disassembly, and storage facilities will be built by 2005. Rittscher claims that EWN has become one of the leading experts in the dismantlement of highly contaminated nuclear facilities. EWN specialists are also working at Chernobyl.

"Greifswalder Atomexperten rüsten U-Boote ab," *Ostsee-Zeitung* online edition, www.ostsee-zeitung.de, 30 January 2003; "The German Contribution to the G8 Global Partnership Against the Spread of Weapons and Materials of Mass Destruction," Center for Nonproliferation Studies, <http://cns.miis.edu>; Valeriy Anuchin, "Sobytiya," TV-Tsentr, 22 February 2001 in "Radiatsionnaya opasnost v Barentsevom more," Monitoring teleradioefira, 22 February 2001 in Integrum Techno, www.integrum.ru; "Auswärtige Aktivitäten," EWN, www.ewn-gmbh.de.

13 September 2002

NORTHERN FLEET SUBMARINE FLOTILLA DISBANDED, SQUADRON FORMED

On 13 September 2002, Agentstvo voyennykh novostey reported that the 3rd Strategic Submarine Flotilla based in Gadzhiyev has been disbanded and transformed into the 12th Submarine Squadron in accordance with a directive of the Naval Main Staff. The new squadron will oversee the reactor compartments currently afloat in Sayda Bay.

-Agentstvo voyennykh novostey, 13 September 2002 in "Russia: Strategic submarine flotilla reduced in Northern Fleet," FBIS Document CEP20020913000065; Vitaliy Bratkov, "Glavnaya yaderno-strategicheskaya flotiliya Rossii 'usokhla' do eskadry," www.pravda.ru, in Integrum Techno, www.integrum.com.

16 May 2001

FUNDS APPROVED FOR LONG-TERM REACTOR COMPARTMENT STORAGE FACILITY

Related content is available on the website for the Nuclear Threat Initiative, www.nti.org.



On 16 May 2001, Yamal Inform reported that the Interdepartmental Commission on Siting Murmansk Oblast Production Facilities had approved approximately \$70 million for construction of a long-term reactor compartment storage facility in Sayda Bay, despite protests by the local population and Skalistyy Mayor Vladimir Musatyan's concerns regarding the project design.

"Murmanskaya oblast. Na Kolskom poluostrove budet postroyen punkt dlitel'nogo khraneniya vyrezannykh reaktornykh otsekov atomnykh podvodnykh lodok," Regions.ru, 16 May 2001; in Integrum Techno, www.integrum.ru.

February 2001

SAYDA BAY THEFT PROBLEMS

In February 2001, a guard at the Sayda Bay storage facility told TV-Tsentr that the facility's guards did not have any weapons and the facility did not have a fence around it. Criminals looking for non-ferrous metal find it easy to access the site. Thieves have even been detained inside nuclear submarine reactor compartments, according to the article.

-Valeriy Anuchin, "Sobytiya," TV-Tsentr, 22 February 2001 in "Radiatsionnaya opasnost v Barentsevom more," Monitoring teleradioefira, 22 February 2001 in Integrum Techno, www.integrum.ru.

1 December 2000

UNITED KINGDOM CONFIRMS ITS FINANCIAL SUPPORT FOR NUCLEAR SAFETY IN MURMANSK OBLAST, DISCUSSES SAYDA BAY REACTOR STORAGE PROJECT

23 March 2000

GADZHIYEVO NOT ALLOWED TO HOLD REFERENDUM ON REACTOR STORAGE PLANS

On 23 March 2000 the Gadzhiyevo city court overruled a city council proposal to hold a referendum on 26 March asking citizens if they wanted a reactor storage facility to be built in Sayda Bay. Murmansk Oblast officials noted that a referendum would have no legal effect on the eventual decision regarding the location of the storage facility. City Council Chairman Vladimir Musatyan said that the city council would obey the court decision, then re-evaluate their position.

-Thomas Nilsen, "Gadzhievo would have voted 'no' to reactor storage," 27 March 2000 Bellona, www.bellona.no.

January 2000

GADZHIYEVO PROTESTS REACTOR COMPARTMENT STORAGE PLANS, CALLS FOR REFERENDUM

In January 2000 the Gadzhiyevo City Council said that it would hold a referendum on plans to build a new onshore storage facility for reactor compartments in nearby Sayda Bay. As of January 2000 there were 25 compartments tied to piers in Sayda Bay, which is located just 2km from the Gadzhiyevo city border.[1] An electricity substation, Gadzhiyevo's water supply system, and the city cemetery are located in Sayda Bay.[2] Northern Fleet officials said that the onshore site would hold 77 reactor compartments; on-shore storage would be much safer than leaving the compartments in the water. A commission, headed by Murmansk Oblast Deputy Governor Valentin Luntsevich, has been established to look into the matter. On 10 December 1999 Luntsevich met with representatives from Gadzhiyevo and Snezhnogorsk, the Murmansk Oblast State Committee For Environmental

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Protection, and the Northern Fleet, and issued a protocol indicating that the project would not proceed until an environmental impact study and social survey had been carried out by state experts.[3] As of January 2000, oblast authorities were awaiting the results of the environmental study as well as a detailed technical description of the project.[1] The referendum is to be held on 26 March 2000, at the same time as the presidential elections.

-Igor Kudrik, "Reactor compartments to be stored onshore," 13 January 2000, Bellona, www.bellona.no;
 Murmansk Governor's Press Service, 1 December 1999 in "FYI -- Murmansk Media Highlights," 13 December 1999, FBIS Document FTS19991213000934; Murmansk Governor's Press Service, 10 December 1999 in "FYI -- Murmansk Media Highlights," 13 December 1999, FBIS Document FTS19991213000934; "Submarine reactor sections unwanted," 3 February 2000, Bellona Foundation, www.bellona.no.

24 November 1999

SAYDA BAY SUGGESTED AS SITE FOR NEW NORTHERN FLEET REACTOR COMPARTMENT STORAGE FACILITY

Representatives of Minatom, the military, and closed cities met in Snezhnogorsk to discuss the siting of a new facility to store reactors removed from Northern Fleet nuclear submarines. One of the likely sites is Sayda Bay, although city council deputies from nearby Gadzhiyevvo protested that the area already has a number of nuclear facilities.

-"Vremya skvoz fakty," *Na strazhe Zapolyarya*, 24 November 1999 in East View Database of Russian Military and Security Periodicals, <http://news.eastview.com>.

Severodvinsk

19 April 2003

NEW CONSULTATIVE COUNCIL TO INCLUDE SHIPYARD DIRECTORS

The mayor of Severodvinsk has introduced a new council of chairmen, which is composed of the directors of the Sevmash, Zvezdochka, Arktika, and Polyarnaya Zvezda Shipyards as well as the commander of the Belomorsk Naval Base along with a number of other enterprise directors. The council is purely consultative.

-Yelena Boyko, "Sovet direktorov - v pomoshch meru," *Pravda Severa*, 19 April 2003 in Integrum Techno, www.integrum.ru; "Arkhangelskaya oblast: Glava administratsii Severodvinska sozdayet sovet direktorov predpriyatiy goroda," IA Regnum, 14 April 2003 in Integrum Techno, www.integrum.ru.

19 March 2003

SEVERODVINSK COURT CONVICTS 11 FOR 2001 NUCLEAR SUBMARINE RUDDER BLADE THEFT

On 19 March 2003 the Severodvinsk city court convicted 11 members of a criminal group of stealing a nuclear submarine rudder blade from the Sevmashpredpriyatiya military wharf on 16 July 2001. Businessman Aleksandr Stepochkin, who has a prior record of extortion, and Aleksey Menshikov, an employee of the wharf, were sentenced to six years in jail for organizing the theft, while the others received from three to five years for their complicity in the crime. Court documents indicate that the two ringleaders bribed the director of the wharf's railroad depot and two of its drivers, along with security guards and loaders at the plant. Together, on 16 July 2001, they used two trucks to remove "nonferrous scrap metal," which was actually a rudder blade made from a

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titanium alloy and valued at 4,616,000 rubles. The metal was sold for sold for approximately 300,000 rubles. Neither the purchases nor the rudder blade itself had been found as of 20 March 2003. Each accomplice reportedly received between 6,000 and 12,000 rubles for their part in the plan.

-Vitaliy Bratkov, "S voennoy verfi ukrali... rul atomnoy submariny!" *Pravda.Ru*, 25 March 2003 in Integrum Techno, www.integrum.ru; Anton Shoshin, "Oboronnyy zakaz," *Izvestiya*, 20 March 2003 in Integrum Techno, www.integrum.ru; Maksim Burkovskiy, "Ukrali rul submariny," *IA "Nord Media Kompani*," 28 March 2003 in Integrum Techno, www.integrum.ru.

31 January 2003

SEVMASH ACCOUNTS FOR MAJOR SHARE OF CITY'S TAX INCOME

According to *Konoshskiy kuryer*, Sevmash, with 27,000 employees, accounts for one-third of Severodvinsk's tax income. Other businesses have a total of 33,000 employees, and pay just 10% of the city's taxes. These businesses deprive the city of 200-250 million rubles (about \$7.1-8.8 million as of 21 January 2003) per year in taxes, states the paper. [However, the source does not provide any further information on how this estimate was reached, or the salaries paid and profitability of other Severodvinsk companies.]

-"Deneg ne khvatayet. Vinovaty predprinimateli?," *Konoshskiy kuryer*, 21 January 2003 in Nord Media Kompani, 31 January 2003 in Integrum Techno, www.integrum.ru.

7 July 2001

SEVERODVINSK WILL NOT ACCEPT MORE DECOMMISSIONED SUBMARINES

On 7 July 2001, *Izvestiya Peterburg* reported that the Arkhangelsk Oblast Environmental Protection Committee had prohibited the military from towing any additional decommissioned nuclear submarines to Severodvinsk because in July 2001 there were already 15 such vessels awaiting dismantlement in Severodvinsk military ports.

-Viktor Filippov, "Ustalyye podlodki," *Izvestiya Peterburg*, No. 120, 7 July 2001; in Integrum Techno, www.integrum.ru.

3 July 2001

CONFERENCE ON SUBMARINE DISMANTLEMENT AND RELATED ENVIRONMENTAL PROBLEMS OPENS IN SEVERODVINSK

On 3 July 2001, the six-day conference "Environmental Problems of Nuclear Submarine Dismantlement" opened in Severodvinsk. Participants included officials from Minatom and the Russian Shipbuilding Agency, experts from research centers and design bureaus, foreign scientists and officials, and representatives of environmental organizations. Viktor Akhunov, the head of the Minatom Directorate for the Environment and Nuclear Facility Decommissioning, said at the seminar that all decommissioned nuclear submarines could be dismantled by 2007. The conference participants outlined the major tasks in the dismantlement process: creating a transport system and long-term reactor storage sites; manufacturing special transport ships for containers with radioactive waste and spent nuclear fuel; upgrading existing storage sites and constructing new ones; manufacturing containers for radioactive waste; developing technologies for dealing with toxic waste produced in the dismantlement process; providing dosimeter and environmental monitoring devices; strengthening the legal framework surrounding nuclear submarine dismantlement; retraining retired military staff from dismantled submarines; and improving

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public information regarding dismantlement issues.

-"Arkhangelskaya oblast. V Severodvinske otkrylsya seminar 'Ekologicheskiye problemy utilizatsii podvodnykh lodok'," *Pravda Severa*, 3 July 2001 in Regions.ru, 3 July 2001 in Integrum Techno, www.integrum.ru; Viktor Filippov, "Ustalye podlodki," *Izvestiya Peterburg*, No. 120, 7 July 2001 in Integrum Techno, www.integrum.ru; "Vyvody i rekomendatsii po itogam raboty mezhdunarodnogo seminaru 'Ekologicheskiye problemy utilizatsii atomnykh podvodnykh lodok'," *Zvezdochka*, www.star.ru.

22 May 2001

INFORMATION ON QUANTITY OF SOLID RADIOACTIVE WASTE AND SPENT FUEL IN SEVERODVINSK DEEMED SECRET

According to a 22 May 2001 article in *Delovoy Peterburg*, the Russian Shipbuilding Agency has issued an order that prohibits Sevmash and Zvezdochka from providing the mass media with information on how much solid radioactive waste and spent nuclear fuel is stored at the two facilities.

-Ivan Moseyev, "'Mogilnyy' proyekt dostalsya Arkhangel'sku," *Delovoy Peterburg*, 22 May 2001, p.7; in WPS *Yadernyye materialy*, No. 22, 8 June 2001.

15 May 2001

SEVERODVINSK TO GET RADIATION SAFETY CONTROL OFFICE

According to Andrey Mikhaylov, a journalist with Severodvinsk's *Severnnyy rabochiy* newspaper, an announcement regarding the establishment of a SevRAO office in Severodvinsk was made during a meeting of a Russian-Norwegian group dedicated to preventing radioactive contamination of the Arctic, reported Rosbalt on 15 May 2001. The Severodvinsk office is expected to open by the end of 2001.

-"Minatom otkroyet v Severodvinske predstavitel'stva po kontrolyu radioaktivnoy bezopasnosti v regione," Rosbalt, 15 May 2001; in Integrum Techno, www.integrum.ru.

13 March 2001

FLOATING NUCLEAR POWER PLANT PLANNED FOR SEVERODVINSK

1 February 2001

NUCLEAR SUBMARINE DISMANTLEMENT IN ARKHANGELSK OBLAST UNSATISFACTORY

Rosbalt information agency reported that the Arkhangelsk Oblast Administration Environmental Protection and Nature Management Board deemed the dismantlement process at Severodvinsk shipyards and the Belomorskaya naval base unsatisfactory. Presently, there are five nuclear submarines at Sevmash, only one of which has been defueled, and four nuclear submarines with nuclear fuel are floating at the Belomorskaya naval base. According to Zvezdochka's nuclear and radiation safety division head, Anatoliy Shepurev, the situation has been caused by a lack of funding: the 2000 federal budget provided funding to maintain just two fueled submarines and two civilian crews.

-"Rabota po utilizatsii atomnykh podvodnykh lodok, provodimaya na predpriyatiyakh Severodvinska, priznana neudovletvoritel'noy," Rosbalt, 1 February 2001; in MA Foris, 3 February 2001; in Integrum Techno, www.integrum.ru.

Related content is available on the website for the Nuclear Threat Initiative, www.nti.org.



24 May 2000

SEVERODVINSK SEEKS "CLOSED CITY" STATUS

On 24 May 2000 the Arkhangelsk Oblast press office reported that Governor Anatoliy Yefremov sent a letter to the federal government requesting that Severodvinsk be given "closed city" status. If granted closed city status, Severodvinsk will come under federal jurisdiction and will receive funding from the federal budget and various tax exemptions. Those promoting the change point to estimates that the city's budget will double from 300 million rubles (\$10.6 million as of 24 May 2000) to 600 million rubles (\$21.2 million as of 24 May 2000), and the city's regional tax will decrease by 41 million rubles (\$1.4 million as of 24 May 2000). Oblast authorities are supporting the change as it will relieve them of responsibility for the defense enterprises located there. Some hope that closed city status will attract foreign investment to Sevmash and Zvezdochka.

-"Severodvinsk mozhet obresti status zakrytogo territorialnogo obrazovaniya," *Regions.ru*, 24 May 2000 in National News Service, <http://nel.nns.ru>; "Severodvinsk to become closed city," Bellona, www.bellona.no, 24 May 2000.

Sevmash

30 April 2003

CONTAINER FOR SPENT FUEL CONSTRUCTED

The first of 24 storage containers to be constructed this year to house spent nuclear fuel from dismantled submarines has been produced at Sevmash. The construction was financed by the US Department of Defense within the framework of the Cooperative Threat Reduction Program. Some of the containers will be sent to the Russian Far East, and the rest will be used at the Zvezdochka Shipyard. The containers are intended to last for 50 years. According to the Defense Threat Reduction Agency (DTRA), which is part of the Defense Department, a total of 25 containers are planned as the first increment. Approximately 100 casks eventually will be procured.

-"Pervyy konteyner dlya otrabotannogo yadernogo topliva izgotovlen na 'Sevmashe'," *Izvestiya v Arkhangel'ske*, 30 April 2003 in Nord Media Kompani, 8 May 2003 in Integrum Techno, www.integrum.ru; "Spent Naval Fuel Disposition," DTRA, www.dtra.mil; "Program Plan and Report on Proposed Obligations for the Arctic Military Environmental Cooperation Program FY 1999," AMEC, <https://osiris.cso.uiuc.edu>.

25 April 2003

FLOATING REACTOR CONSTRUCTION PLANS SHOULD BE REEXAMINED--MATVIYENKO

According to Valentina Matviyenko, the presidential envoy to the Northwestern Federal District, the decision to construct floating nuclear power stations needs to be carefully reexamined due to the high cost and questions concerning the financial viability of the endeavor. But she announced her support for the awarding of government defense contracts to Sevmash. She warned, however, that the general refitting of the Russian Armed Forces is not going to lead to a return to previous levels of work.

-"Resheniye o stroitelstve plavuchikh AES na 'Sevmashpredpriyatii' trebuyet tshchatelnoy prorabotki, schitayet Matviyenko," *Interfax*, 22 April 2003; "V. Matviyenko: Vopros o stroitelstve na GUP 'PO Sevmashpredpriyatiiye' plavuchikh atomnykh elektrostantsiy predstoit tshchatelno prorabotat," *NAUFOR*, 23 April 2003 in Nord Media Kompani, 25 April 2003 in Integrum Techno, www.integrum.ru.

Related content is available on the website for the Nuclear Threat Initiative, www.nti.org.



19 April 2003

NEW CONSULTATIVE COUNCIL TO INCLUDE SHIPYARD DIRECTORS

The mayor of Severodvinsk has introduced a new council of chairmen, which is composed of the directors of the Sevmash, Zvezdochka, Arktika, and Polyarnaya Zvezda Shipyards as well as the commander of the Belomorsk Naval Base along with a number of other enterprise directors. The council is purely consultative.

- Yelena Boyko, "Sovet direktorov - v pomoshch meru," *Pravda Severa*, 19 April 2003 in Integrum Techno, www.integrum.ru; "Arkhangelskaya oblast: Glava administratsii Severodvinska sozdayet sovet direktorov predpriyatiy goroda," IA Regnum, 14 April 2003 in Integrum Techno, www.integrum.ru.

14 April 2003

HIGHEST ILLNESS RATE AT SEVMASH

At a meeting of union representatives from all shipyards in April 2003, statistics were released indicating that Sevmashpredpriyatiye had the highest number of illnesses per 1,000 workers per year. More than 57 workers were sick at the Severodvinsk yard, followed by the Yaroslavskiy Ship Repair Plant's 26.5 cases. Among the most frequent illnesses was chronic toxipathy -- a disease caused by poisoning. The article did not provide information on the source of the toxins.

-Vitaliy Bratkov, "Korabely Sevmasha khvorayut bolshe vsekhn v sudostroitelnoy otrasli," www.pravda.ru, 14 April 2003 in Integrum Techno, www.integrum.ru; "Health Library: Dorland's Illustrated Medical Dictionary," MerckSource, www.mercksource.com.

29 March 2003

ANTI-TERRORIST TRAINING AT SEVMASH

Sevmash security, regular and special police forces, as well as FSB agents underwent a training exercise on combating terrorist attacks against the shipyard's territory. The exercise entailed two "terrorists" kidnapping a guard and threatening to kill him. Police seemingly gave in to their demands, but actually made plans and then successfully stormed the facility and apprehended the "criminals."

-Olga Makarova, "V minuvshuyu subbotu na Sevmashe predotvrashchen 'terakt'. K schastyu, eto byli ycheniya," *Korabel*, No. 25, 1 April 2003; in Integrum Techno, www.integrum.ru.

28 March 2003

SEVMASH RECEIVES MORE FUNDS FOR GOVERNMENT CONTRACTS

According to data released by the Ministry of Economic Development and Trade as well as by the Russian Shipbuilding Agency, the defense sector has grown by 14.6% over the past year. The submarine industry has grown as well: Sevmash received almost 33% in additional financing for government contracts. These contracts include the construction of a fourth-generation nuclear submarine as well as the completion of the modernization of the *Dmitriy Donskoy*.

-P. Sotkin, "Sudostroyeniye yavno na podyeme," *Korabelnaya storona*, 11 March 2003; in Nord Media Kompani, 28 March 2003; in Integrum Techno, www.integrum.ru.

25 March 2003

Related content is available on the website for the Nuclear Threat Initiative, www.nti.org.



ALTERNATIVE OPPORTUNITIES FOR SEVMASH

On 14 March 2003, *Ekspert Severo-Zapad* reported that an order for two tankers by a Swedish company had been annulled. Sevmash blamed the Swedish company, saying it had not provided financing on time, which the Swedes denied. A similar case involving an annulled Greek order for catamarans took place a half-year ago. *Ekspert Severo-Zapad* thus supposes that Sevmash may be unable to deal with foreign orders in the face of significantly increased Russian defense contracts.[1]

According to other sources however, these contract annulments were not related to Sevmash capacity, but rather to foreign financing problems (as in the Swedish case) and to circumstances related to 11 September 2001 (the offices of the Greek corporation were located in the World Trade Center). Sevmash continues to be open for contracts in the civilian sector and says it is looking for reliable partners.[2] Sevmash has been active in the construction of barges and tugs for foreign companies, such as Promaris [3,6]. Aside from shipbuilding, Sevmash has made a foray into the production of oil and gas exploitation platforms in cooperation with Kellogg, Brown and Root (part of the US corporation Halliburton)[4,5,6], equipment for reactors,[7] and flat cars for the transportation of lumber.[8] Sevmash's conversion programs are supposed to reach 50% of overall output.[7]

Sources:

[1] "Sevmashpredpriyatiye ne spravlyaetsya s shvedskim zakazom na stroitelstvo dvukh tankerov," *Ekspert Severo-Zapad* online edition, No.9, 10 March 2003; in Integrum Techno, www.integrum.ru.

[2] Vitaliy Bratkov, "Flagman atomnogo voennogo korablestroyeniya sprosonok nayekhal na pressu," www.pravda.ru, 25 March 2003; in Integrum Techno, www.integrum.ru.

[3] "Buksiry gotovyat k otpravke v Niderlandy," *Ekonomika i vremya* online edition, No. 29 (416), 29 July 2002; in Nord Media Kompani 2 August 2003; in Integrum Techno, www.integrum.ru.

[4] Vitaliy Bratkov, "Korabely-atomshchiki stanoviyatsya... burovikami," www.pravda.ru, 17 March 2003; in Integrum Techno, www.integrum.ru.

[5] "Na oboronnoy verfi Sevmash v Severodvinske vozobnovilos stroitelstvo morskoy burovoy platformy dlya raboty v Arktike," ITAR-TASS, 21 August 2003; in Nord Media Kompani, 23 August 2002; in Integrum Techno, www.integrum.ru.

[6] "Sevmash, admiral korabelov rossiyskikh," www.pravda.ru, 18 December 2002; in Nord Media Kompani, 27 December 2003.

[7] "Konversiya diktuyet...," *Ekonomika i vremya* online edition, No. 2 (398), 13 January 2003; in Nord Media Kompani, 17 January 2003; in Integrum Techno, www.integrum.ru.

[8] "Na Sevmashe moderniziruyut platformy," *Ekonomika i vremya* online edition, No. 2 (398), 13 January 2003; in Nord Media Kompani, 17 January 2003; in Integrum Techno, www.integrum.ru.

21 March 2003

TAX PENALTIES WAIVED FOR SEVERODVINSK SHIPYARDS

Penalties for overdue tax payments have been waived for the companies associated with the Russian State Center for Atomic Shipbuilding (GRTsAS), which include the Sevmash and Zvezdochka Shipyards. These companies have been unable to pay taxes as the Russian government had not made payments or paid late for shipyard orders. The accumulated tax penalties totalled approximately 300-370 million rubles (about \$9.6-11.8 million as of 21 March

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2003).

-Mikhail Boyev, "Peni i shtrafy," *Korabel*, 4 March 2003 in Nord Media Kompani, 21 March 2003 in Integrum Techno, www.integrum.ru; "GRTsAS," *Severnyy rabochiy*, 13 February in Nord Media Kompani, 21 March 2003 in Integrum Techno, www.integrum.ru; "Deputaty prostili dolgi Severodvinsku," *VolgaInform*, 12 February 2003 in Nord Media Kompani, 14 February 2003 in Integrum Techno, www.integrum.ru.

7 March 2003

SPONSORSHIP ASSISTANCE RECEIVED IN SEVERODVINSK

On 7 March 2003, *Moskovskaya pravda* reported that the Moscow city government has provided assistance to Sevmash on several occasions. When the shipyard stood still due to lack of federal funding, Moscow issued a loan to start the construction of the fifth-generation nuclear submarine, *Yuriy Dolgorukiy*. Moscow also helps to address the social problems of shipbuilders and naval officers by building homes for retired officers, by sending medical doctors, and by organizing Black Sea resort holidays for shipbuilders' children. *Moskovskaya pravda* says that the families of Moscow's servicemen, who make up a fair proportion of the crew, can therefore rest assured that their sons are serving in the best-equipped crews. Various city boroughs of Moscow and other cities engage in another form of assistance: they sponsor nuclear cruisers or submarines. This is the case with the city of Bryansk, for example, which is providing assistance to the crew of the SSBN *Bryansk* while the submarine is undergoing repairs far from its home base. The naval base at the shipyard is unable to supply the crew, as it is supposed to do.

- "Podlodku '641-B' zhdut v Den goroda," *Moskovskaya pravda*, 6 March 2003 in Nord Media Kompani, 7 March 2003 in Integrum Techno, www.integrum.ru; Yelena Boyko, "Kogda zhe flot Rossii perestanet byt 'sukhoputnym'?", *Pravda Severa*, 21 March 2003 in Nord Media Kompani, 21 March 2003 in Integrum Techno, www.integrum.ru; "Deputat Gosdumy organizovuyet sheftstvo nad ekipazhem podvodnoy lodki 'Bryansk'," *Rosbalt*, 18 March 2003 in Nord Media Kompani, 21 March 2003 in Integrum Techno, www.integrum.ru.

31 January 2003

SEVMASH BUILDING TWO SUBMARINES FOR CHINA

According to a 31 January 2003 report in *Promyshlennyye novosti*, Sevmash has begun building two Vashavyanka-class [NATO name 'Kilo'] diesel-electric submarines for the Chinese Navy. Varshavyankas are mainly used for anti-submarine defense and are extremely quiet. The two boats will be built simultaneously. According to the contract, signed between Russia and China in May 2002, Russia will build eight Varshavyankas for China by 2005 at a total cost of more than \$1.6 billion (\$200 million each). Submarine construction has already begun in St. Petersburg and Nizhniy Novgorod. The start in Severodvinsk was delayed due to difficulties between Sevmash and the Rosoboroneksport arms sales agency regarding the terms of construction.

-"V Severodvinske nachali stroit dve podvodnyye lodki dlya VMS Kitaya," *Promyshlennyye novosti*, 17 January 2003 in Nord Media Kompani, 31 January 2003 in Integrum Techno, www.integrum.ru; "Stroitelstvo submarin zatyagivayetsya," *Ekonomika i vremya*, 20 January 2003 in Nord Media Kompani, 24 January 2003 in Integrum Techno, www.integrum.ru; "Sevmash porabotayet na oboronu Kitaya," *Izvestiya v Arkhangel'ske*, 5 December 2002 Nord Media Kompani, 6 December 2002 in Integrum Techno, www.integrum.ru.

11 December 2002

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SEVMASH LAYS OFF SEVERAL HUNDRED EMPLOYEES

Several hundred employees were laid off at Sevmash in December 2002. On 11 December, Sevmash Deputy Director Viktor Darda announced that the reduction of personnel is being carried out due to enterprise restructuring, aimed at the integration of modern equipment and new technology.

According to Sevmash's collective agreement with its workers, Sevmash has the right to lay off 3.5% of its employees per quarter without taking the opinion of their union into consideration. During the first nine months of 2002, only 0.45% of the total number of employees were laid off (128 people). While some employees believe that there is no such agreement in force at present, Director of Human Resources Vladimir Novoselov said that the agreement signed in 1997 specifies that it will be automatically renewed until a new agreement is signed. According to Novoselov, in 2002, 70% of the laid-off employees were already receiving retirement compensation. He also mentioned that 95% of those laid off had nothing against leaving the enterprise.

The employees that were laid off will receive monetary reimbursement in the amount of their wages for six months; they were also notified two months prior to the reduction. Enterprise leaders deny that the layoffs are the result of cuts in defense contracts.

- "Arkhangelskaya oblast. Sokrasheniye shtatov na 'Sevmashe'," IA Regnum, 11 December 2002 in Integrum Techno, www.integrum.ru; "Uvolneniye na pensiyu," *Izvestiya v Arkhangelske*, 8 February 2003 in Integrum Techno, www.integrum.ru; "'Sevmash' uvolnyayet 700 lishnikh rabotnikov," *Izvestiya.Ru*, 18 December 2002 in Integrum Techno, www.integrum.ru.

6 December 2002

GEPARD DEBTS PAID

IA Regnum reported on 6 December 2002 that the Ministry for Defense had paid its debts to Sevmash for the construction of the *Gepard* SSN. The costs for the submarine amounted to over 500 million rubles (\$16.7 million as of 4 December 2001, when the submarine was commissioned.)

- "Ministerstvo oborony pogasilo dolg za postroyennuyu podlodku 'Gepard'," IA Regnum, 6 December 2002; in Integrum Techno, www.integrum.ru.

21 August 2002

SEVMASH UNION PROTESTS ENERGY RATE HIKES

Sevmash union leaders have approached Yuriy Spiridonov, the head of the Oblast legislature's Commission on the Fuel and Energy Sector and Public Housing and Utilities, with a request to inform Russian President Putin about the unacceptability of increases in energy and heating costs, given current socio-economic conditions. Spiridonov assured them that this topic would be included in the Oblast legislature's October agenda.

- "Profkom Sevmasha protiv povysheniya energotarifov," *Izvestiya v Arkhangelske*, 22 August 2002; in Nord Media Kompani, 23 August 2002; in Integrum Techno, www.integrum.ru.

10 July 2002

THREE TYPHOON SUBMARINES TO BE DISMANTLED

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On 10 July 2002, the Russian Navy announced that it will dismantle three of its six Akula-class (NATO name 'Typhoon') submarines. The funding for the dismantlement will come from the U.S. CTR program. Work on the first submarine began at Sevmash. The decision to scrap another two Akulas was based upon the projected cost of modernization and the lack of funding.

-"Russia to scrap world's biggest subs," 11 July 2002, Johnson's Russia List #6348; Vitaliy Mironov, "'Akuly' vybrasyvayutsya na bereg," *Novyye izvestiya*, 10 July 2002 in "Universal Database of Central Newspapers," www.eastview.com.

5 July 2002

SEVMASH TO BUILD FLOATING REACTORS

On 5 July 2002, the scientific and technical council of the Russian Ministry of Atomic Energy approved a plan for Sevmash to build floating nuclear reactors, according to Yuriy Kondrashov, Sevmash deputy engineer. The first reactor will take 39 months to build and will be used by the shipyard itself, according to Kondrashov. In contrast, Vilyuchinsk Mayor Aleksandr Markman and other sources have been quoted as saying that the first reactor from Sevmash will be placed in Krasheninnikov Bay, Vilyuchinsk, Kamchatka. Markman said that the financing of the project would begin in the third quarter of 2002, and the reactor would be completed in 2005.

-Agentstvo Voyennykh Novostey, 5 July 2002 in "Sevmashpredpriyatiye shipyard to build floating power stations soon," FBIS Document CEP200207050001000; Oksana Tetera, "Budushcheye Vilyuchinska - v edinenii s flotom," *Tikhookeanskaya vakhta*, 22 March 2002 in "Universal Database of Military and Security Periodicals," www.eastview.com.

26 June 2002

TYPHOON SSBN COMPLETES REPAIRS

The Sevmash shipyard returned the *Dmitriy Donskoy*, a Project 941 Akula [NATO name 'Typhoon'] SSBN, which had spent 12 years at the shipyard undergoing repairs, to active service. Defense Minister Sergey Ivanov, who participated in the launching ceremony, said that the *Dmitriy Donskoy* will serve as a test-bed for a new SLBM type. However, at the time of relaunch, the *Dmitriy Donskoy* had no missile system installed, making the submarine less than fully operational. The Bark SLBM originally intended for the submarine was cancelled, and the Bulava SLBM is not expected to start flight tests before 2005. Admiral Gennadiy Suchkov, commander of the Northern Fleet, told reporters that, apart from the *Dmitriy Donskoy*, only two other Akula-class submarines are still operational. One Akula is in the process of dismantlement, while two others have also been slated for elimination. Commenting on the *Dmitriy Donskoy's* relaunch, Ivanov said that no major changes were in store for the nuclear submarine force. Ivanov noted that the Ministry of Defense had strict financial limits, but promised that the Russian government will pay all debts owed to shipbuilding plants by the end of 2002.

-"Russia Nuclear Sub Launched after 12-Year Overhaul," BBC Monitoring, 26 June 2002 in Lexis-Nexis Academic Universe, www.lexis-nexis.com; Aleksandr Belkin, "Potemkinskiye eskadry," www.grani.ru, 24 July 2002.

"Tri iz shesti strategicheskikh 'Akul' budut utilizirovany, zavavlyayet komanduyushchiy Severnym flotom," Interfax, 4 July 2002; "Russian Defence Minister Says No Major Changes in Nuclear Submarine Fleet," BBC Monitoring, 26 June 2002 in Lexis-Nexis Academic Universe, www.lexis-nexis.com.

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24 June 2002

RUSSIA TO RELAUNCH TYPHOON AFTER REPAIRS

A Sevmash official announced that a Project 941 Akula [NATO name 'Typhoon']-class ballistic missile nuclear submarine will be relaunched on 26 June 2002, having completed repairs and modernization at Sevmash. [This submarine is the *Dmitriy Donskoy*.] The work on the submarine lasted for over 10 years due to financing problems. An official at the shipyard said that some of the new components on the Akula submarine will be used on the fourth-generation Borey class submarines, if they test well. It is estimated that the modernization of the Project 941 vessels will prolong their service lives until 2010 or longer.

- "Russia poised to relaunch nuclear submarine after modernization," Moscow Agentsvo Voyennykh Novostey, 25 June 2002, FBIS Document CEP20020624000290.

20 June 2002

NORWAY'S STATOIL MAY ORDER BARGES FROM SEVMASH

According to Sevmash spokesperson Raisa Elimelakh, Norway's Statoil may contract with Sevmash to build barges to be used in the development of the Belosnezhka gas field in the Barents Sea. Sevmash equipment for drilling oil and gas on Arctic shelves attracted the Norwegians' attention at the Euro-Arctic oil and gas industry seminar on 4 June 2002. Negotiations with Statoil began shortly thereafter, and Statoil officials are expected to visit Sevmash in the near future to discuss contract details.

- Agentstvo Voyennykh Novostey, 20 June 2002; in "Norway's Statoil may order barges in Russia," FBIS Document CEP20020620000120.

28 May 2002

FUNDING PROBLEMS AT SEVMASH

On 28 May 2002, Sergey Mironov, speaker of the Russian Federation Council, promised Sevmash workers that he would address the issue of Ministry of Defense debts. Workers at Sevmash have still not been paid for the construction of the submarine *Gepard*. The Defense Ministry owes 20% of the cost of construction, or 542 million rubles (\$17.3 million as of 28 May 2002). The continuing funding problem underscores a larger trend in the navy: the undertaking of new projects for which the navy has inadequate funds. Yuriy Sivkov, Arkhangelsk Oblast representative to the Federation Council, claims that the military owes the defense industry in excess of 8 billion rubles (approximately \$255 million as of 29 May 2002). According to Sivkov, money to pay the debt is regularly transferred from the government to the Ministry of Defense, but then vanishes. Government attempts to take over Defense Ministry debts have only resulted in a reshuffling of accounting ledgers. The Defense Ministry's unreliability is putting a strain on the defense industry, as well as affecting the quality of construction work and ship repairs. Defense Minister Sergey Ivanov has said that the Russian state will pay the entire amount that it owes to Sevmash.

- "S. Mironov Promised Sevmashpredpriyatiye Workers He Will Again Take Up Question of Arrears Relating to Commissioned Nuclear Submarine Gepard with Russian Federation Defense Ministry," Agentstvo Biznes Novostey, 28 May 2002 in "Mironov Will Ask Defense Ministry to Ensure Submarine Builders Are Paid," FBIS Document CEP20020528000318; "Zabyli zaplatit," *Nezavisimoye Voyennoe Obozreniye*, 26 April 2002 in Universal Database of Military and Security Periodicals, www.eastview.com; Vladimir Kalinin, "Gepard Is A White Elephant," Grani.ru, 23

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April 2002 in "Navy Criticized for Ship Repair, Construction Shortcuts," FBIS Document CEP20020424000086;
Interfax, 26 June 2002 in "State to pay Sevmash for Gephard Sub," FBIS Document CEP2002062600227.

20 May 2002

SEVMASH TO COMPLETE REPAIRS OF A TYPHOON SSBN IN JUNE 2002

On 20 May 2002, Agenstvo Voyennykh Novostey reported that, according to anonymous sources at Sevmash, the shipyard is due to complete repairs and upgrades on an Akula-class [NATO name 'Typhoon'] SSBN in June 2002. Repairs of the submarine took 10 years to finish due to inadequate financing. The upgraded submarine features some new equipment, which may be installed on Borey-class SSBNs if its performance on the Typhoon is satisfactory.

-Agenstvo voyennykh novostey, 20 May 2002; in "Modernized Typhoon Sub Ready to Re-Enter Russian Navy's Inventory," FBIS Document CEP20020520000104.

26 April 2002

SEVMASH ENERGY DEBTS ELIMINATED

The press service of the Arkhangelsk Oblast utility company Arkhenergo announced that the electricity supply to Sevmash had been completely restored after the shipyard had paid in full all its electricity debts, which amounted to approximately 20 million rubles (over \$640,000 as of 26 April 2002). The utility company also agreed to eliminate Sevmash heating debts, which amounted to over 39 million rubles (over \$1.25 million as of 26 April 2002) in exchange for fuel oil supplies from the LUKOIL company at a negotiated price. [LUKOIL ordered construction of five tankers at Sevmash, which may explain its willingness to supply fuel to Arkhenergo.]

-"Energosnabzheniye 'Sevmashpredpriyatiya' vosstanovleno," Interfax, 26 April 2002; Nikolay Smirnov, "'LUKoil' stroit tankery," *Korabelnaya storona*, www.vdvsn.ru, 12 August 2002.

23 April 2002

SEVMASH ENERGY SUPPLY CUT BY 15 PERCENT

On 23 April 2002, local utility companies cut the electricity supply 15% and limited the hot water supply to Sevmash. The facility owes 20 million rubles (over \$640,000 as of 23 April 2002) for electricity and 39 million rubles (over \$1.25 million as of 23 April 2002) for heat.

-Radio Rossii, 23 April 2002; in "Local Supplier Reduces Power to Severodvinsk Submarine Shipyard," FBIS Document CEP20020423000102.

26 December 2001

A SPECIAL FUND MAY BE CREATED TO FINISH CONSTRUCTION OF BELGOROD SSGN

On 26 December 2001, the new Commander of the Northern Fleet Vice Admiral Gennadiy Suchkov expressed hope during a visit to Sevmash that construction of the Antey-class [NATO name 'Oscar II'] SSGN *Belgorod* would be completed. Suchkov mentioned the possibility of creating a special fund with the Belgorod city administration to attract additional financial resources to finish construction of the submarine.

-"Komanduyushchiy Severnym flotom predlagayet sozdat spetsfond dlya zaversheniya stroitelstva APL 'Belgorod'," Interfax, 26 December 2001.

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15 December 2001

GEPARD SETS SAIL FOR GADZHIYEVO

The *Gepard* left Sevmasch for the Gadzhiyevo Naval Base, where it will join the 24th nuclear submarine division. The submarine was commissioned on 4 December 2001 during a ceremony attended by Russian President Vladimir Putin.

- "New Gepard Nuclear Submarine Leaves for North Sea Base," Interfax, 15 December 2001; in "New Gepard Nuclear Submarine Leaves for North Sea Base," FBIS Document CEP20011215000117.

25 October 2001

RUSSIA MAY SELL ADMIRAL GORSHKOV TO INDIA FOR \$1.5 BILLION

On 25 October 2001, Deputy Prime Minister Ilya Klebanov announced that by the end of 2001 Russia hoped to sign a contract with India to sell the heavy aircraft carrier *Admiral Gorshkov* for \$1.5 billion. Anil Trigunayat, a spokesperson for the Indian embassy in Moscow, said that there is no deadline for signing the contract and that the negotiations will go on as long as necessary. On 10 October 2001, Sevmasch General Director David Pashayev announced that Russia and India had signed a protocol on technical issues pertaining to work to be completed on the aircraft carrier prior to its transfer to India. The *Admiral Gorshkov* has been berthed at Sevmasch for two years awaiting repairs.

- Mikhail Kozyrev, "Avianosets k Rozhdestvu," *Vedomosti*, 26 October 2001 in Universal Database of Central Russian Newspapers, <http://news.eastview.com>; "Russia, India Wrap up Discussion of Technical Issues on Admiral Gorshkov Cruiser," Interfax, 10 October 2001 in "Russia, India Sign Protocol on Technical Issues for Admiral Gorshkov Carrier," FBIS Document CEP20011010000444.

19 September 2001

GEPARD READY TO JOIN RUSSIAN NAVY

On 19 September 2001, Sevmasch spokesperson Raisa Elimelakh said that the *Gepard*, a Bars [NATO name 'Akula II'] class SSN, is ready to be handed over to the Russian Navy. She said that Sevmasch experts aboard the boat had already been replaced with navy staff. The submarine is scheduled to be commissioned by the Russian Navy in late October 2001.

- "'Gepard' gotova k peredache v sostav VMF Rossii," Interfax, 19 September 2001.

22 June 2001

SEVERODVINSK ENTERS TESTING STAGE

Russian Navy Commander-in-Chief Vladimir Kuroyedov told Interfax that the *Severodvinsk*, a fourth-generation SSGN, had begun sea trials. Kuroyedov said that the submarine is in the final stage of construction, but the testing timetable depends on financing. Construction of the *Severodvinsk* started at Sevmasch in 1993.

- "Noveyshaya atomnaya submarina VMF Rossii vykhodit v more," Interfax, 22 June 2001.

11 June 2001

GEPARD ENTERS FINAL TESTING STAGE

On 10 July 2001, the *Gepard*, a Bars [NATO name 'Akula II'] class SSN, began its final sea trials. During the trials,

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which will last through July 2001, the submarine will test its RK-55 Granat [NATO name SS-N-21 'Sampson'] cruise missile system. The tests will be supervised by a state commission. Upon completing the tests, the submarine will return to Sevmash for a thorough examination, hull cleaning, and painting. Then, an acceptance certificate will be signed by which the *Gepard* will officially join the Northern Fleet.

-Nadezhda Breshkovskaya, Ivan Safronov, "'Gepard' budet zhdad Vladimira Putina," *Kommersant*, 11 July 2001, No. 120; in Integrum Techno, www.integrum.ru.

30 May 2001

SEVMASH TO MANUFACTURE FOUR PONTOONS FOR KURSK SALVAGE OPERATION

On 30 May 2001, Sevmash signed a contract with the Rubin Central Design Bureau for Marine Engineering and the Mammoet Transport BV Company (the Netherlands) to construct four pontoons to be used for transportation of the *Kursk* submarine to Roslyakovo after the submarine is lifted from the bottom of the Barents Sea. According to Sevmash spokesperson Raisa Elimelakh, the pontoons will be ready by early September.

-Aleksandr Filippov, "V plenu chuzhykh otsekov," *Izvestiya*, 31 May 2001; in Integrum Techno, www.integrum.ru.

12 May 2001

RUSSIAN DEFENSE MINISTRY NOT PAYING DEBTS TO SEVMASH

Sevmash spokesperson Raisa Elimelakh said that in spite of a Russian government decision to pay off its debts to the enterprise for defense contracts--totaling over 2 billion rubles in early 2001 (over \$69 million as of 12 May 2001)--the Russian Defense Ministry has not made any payments. Therefore, Sevmash has been unable to pay its taxes to the local and federal budgets. According to Elimelakh, in 2000 the enterprise had to focus more on civilian production because the state was not paying for its defense contracts.

-"Rossiyskiy tsentr sudostroyeniya okazalsya v slozhnoy situatsii iz-za dolgov voyennykh," Interfax, 12 May 2001.

4 April 2001

KUROYEDOV CONFIRMS THAT ADMIRAL GORSHKOV AND ADMIRAL NAKHIMOV WILL BE REPAIRED

Sevmash spokesperson Raisa Elimelakh told ITAR-TASS that Russian Navy Commander-in-Chief Vladimir Kuroyedov had confirmed during his visit to Severodvinsk that the heavy aircraft carrier *Admiral Gorshkov* and the nuclear missile cruiser *Admiral Nakhimov* would be repaired. Both ships have been at Sevmash for two years, but the enterprise has not received any funding for their repairs, according to Elimelakh. The exact cost of repairs is unknown, though repairs of the nuclear missile cruiser *Admiral Ushakov*, which is at Zvezdochka, will cost more than 2 billion rubles (almost \$70 million as of 4 April 2001).

-"Glavkom VMF podtverdil v Severodvinske, chto kreysera 'Admiral Gorshkov' i 'Admiral Nakhimov' budut otremonirovany," ITAR-TASS, 4 April 2001 in Integrum Techno, www.integrum.ru; RTR, "Vesti," 2 April 2001 in Integrum Techno, www.integrum.ru.

20 February 2001

SEVMASH DISMANTLEMENT BUDGET SHRINKS

A 20 February 2001 report in *Pravda Severa* indicated that during 2000 Sevmash received 50 million rubles (over \$1.7 million as of 20 February 2001) for maintenance of decommissioned nuclear submarines awaiting

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dismantlement. In 2001, the state budget allocates only 25 million rubles (about \$870,000 as of 20 February 2001) for this purpose.

-Nadezhda Breshkovskaya, "Komu bolshe nuzhen yadernyy mogilnik na Novoy Zemle: nam ili gosudarstvu?" *Pravda Severa*, 20 February 2001 in WPS Yadernyye materialy, No. 12, 23 March 2001.

31 January 2001

HEAT TO SEVMASH CUT

Arkhenergo spokesperson Petr Chechel said that because Sevmash owes Arkhenergo over 100 million rubles (over \$3.5 million as of 31 January 2001), on 31 January 2001 at 3pm provision of heat would be cut a further 15%; Sevmash already had its heat reduced by 25% on 29 January 2001. Some of the enterprise's auxiliary facilities would receive less electricity as well. According to Chechel, Arkhenergo experts are sure that reducing electric power supply will not compromise Sevmash radiation safety.

-"Sankt-Peterburg: Segodnya s 15.00 'Arkhenergo' vvedet dopolnitelnyye ogranicheniya na postavku teploenergii GP 'Sevmashpredpriyatiye'," RIA RosBiznesKonsalting, 31 January 2001 in Integrum Techno, www.integrum.ru.

24 January 2001

PRIVATIZATION OF SEVMASH RUMORED

On 24 January 2001, *Pravda Severa* reported rumors that Sevmash may be privatized. According to the paper, several big steel and raw materials companies have expressed interest in Severodvinsk shipyards. Sevmash Deputy Director Eduard Borisov replied that privatizing Sevmash is not feasible. State Duma Deputy Aleksandr Piskunov said that privatization is unrealistic due to the absence of necessary legislation. Aleksandr Mlotok, head of the Severodvinsk Administration Property Management Committee, said that it was quite possible that Sevmash would become a joint stock company with all shares owned by the government.

-"VPK poydet 's molotka'?" *Pravda Severa*, 24 January 2001; in Integrum Techno, www.integrum.ru.

17 January 2001

GEPARD NEEDS ADDITIONAL FUNDS

On 17 January 2001, Sevmash spokesperson Raisa Elimelakh said that the enterprise needs 500 million rubles (over \$17.6 million as of 17 January 2001) to complete the *Gepard*, a Bars [NATO name 'Akula II'] class submarine. This amount exceeds previous estimates. On 16 January 2001, Elimelakh told ITAR-TASS that the submarine would be commissioned on Russian Navy Day, 29 July 2001.

"Na dovodku APL 'Gepard' neobkhodimo 500 mln. rubley - PO 'Sevmashpredpriyatiya'," SeverInform, 18 January 2001 in Integrum Techno, www.integrum.ru; "Russia to Launch New Submarine in July 2001," ITAR-TASS, 16 January 2001 in "Russia to Launch New Nuclear-Powered Submarine on Navy Day 2001," FBIS Document CEP20010126000314.

17 December 2000

GEPARD SSN TO BEGIN SEA TRIALS

According to Admiral Viktor Kravchenko, chief of the Main Staff of the Russian Navy, sea trials of a new multipurpose SSN, named *Gepard*, will begin on 17 December 2000. As of 8 December 2000, the vessel was

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undergoing final dock trials. Russian Navy Commander-in-Chief Vladimir Kuroyedov stated that testing at sea would last two weeks. *Gepard* is a Project 971 Bars [NATO name 'Akula'] class vessel designed to destroy ships and coastal installations. According to Sevmash representatives, the submarine has a displacement of up to 12,770 tons, a maximum speed of 35 knots and a diving depth of 600m. It is armed with 28 *Granat* RK-55 nuclear cruise missiles with a range of 3,000km. The nuclear yield of each missile is 200 kilotons. *Gepard* is also armed with torpedoes and antisubmarine cruise missiles.

- "Khodovyye ispytaniya APL 'Gepard' nachnutsya 17 dekabrya - nachalnik shtaba VMF Rossii," Interfax, 8 December 2000; Yevgeniy Revenko, *Vesti* newscast, 6 December 2000 in "New Nuclear Submarine's Missile Said Capable of Beating US ABM System," FBIS Document CEP200111206000361.

5 October 2000

ADMIRAL GORSHKOV AIRCRAFT CARRIER TO BE UPGRADED AT SEVMASH

Sevmash has been contracted to upgrade the heavy aircraft carrier *Admiral Gorshkov* that was sold to India in October 2000. The contract will provide work for 3,000 workers for more than two years. The total cost of the contract is \$500 million. The vessel can carry 16 Yak-38 vertical takeoff and landing aircraft and 19 helicopters.

- "Tyazhelyy avianesushchiy kreyser 'Admiral Gorshkov' budet modernizirovan v Severodvinske po zakazu VMS Indii," ITAR-TASS, 5 October 2000; in Integrum Techno, <http://integrum.ru>.

September 2000

GEPARD ENTERS TESTING STAGE

In September 2000, Sevmash began comprehensive testing of the *Gepard*, a Bars [NATO name 'Akula II'] class submarine. The submarine is supposed to be commissioned by the end of 2000, but the Sevmash press service reported that as of fall 2000 the enterprise still needed over 130 million rubles (over \$4.6 million as of 15 September 2000) to complete the submarine.

- "VMF RF poluchit novuyu podvodnuyu lodku. V Severodvinske nachalis ispytaniya novoy atomnoy podvodnoy lodki 'Gepard'," Agenstvo politicheskikh novostey, 15 September 2000.

September 2000

ARKHENERGO CUTS OFF ENERGY AND WATER SUPPLY TO SEVMASH

In early September 2000, Arkhenergo, the Arkhangel'sk regional power supply company, ordered that hot water supplies to Sevmash be cut off due to unpaid debts. In turn, Sevmash reportedly ordered that cold water supplies to the only operating power station in Severodvinsk be cut off. This could interrupt the power supply to all military enterprises in Severodvinsk and compromise the radioactive safety of the region. As of September 2000, Sevmash owed Arkhenergo 212 million rubles (about \$7.6 million as of 8 September 2000) for electricity and heat. On 26 September 2000, Sevmash workers plan to picket Arkhenergo's head office to protest energy supply interruptions and high rates.

- Nasonkin, "Ya ne to eshche skazal by," *Pravda Severa*, No.166, 12 September 2000 in Integrum Techno, <http://integrum.ru>; "'Arkhenergo' otklyuchayet Tsentrom atomnogo sudostroyeniya v Severodvinske ot goryachego vodosnabzheniya," Interfax, 8 September 2000; "V Severodvinske trudovoy kollektiv PO 'Sevmashpredpriyatiye' 26 sentyabrya provedyet aktsiyu protesta," Interfax, 22 September 2000.

Related content is available on the website for the Nuclear Threat Initiative, www.nti.org.



6 September 2000

SEVMASH TO CONSTRUCT VESSEL FOR RAISING KURSK

Russian President Putin has approved plans for Sevmash to construct a special vessel to raise the *Kursk* submarine, which sank in the Barents Sea on 12 August 2000.

"Vesti: Sevmash primet uchastiye v podeme 'Kurska'," *Pravda Severa*, No.162, 6 September 2000; in Integrum Techno, <http://integrum.ru>.

6 July 2000

SEVMASH OFFICIALS ACCUSED OF EMBEZZLEMENT IN METAL SALE TO IZHORSKIY ZAVOD

Nikolay Zabotin, former head of Sevmash's equipment department; Zabotin's deputy Mikhail Gospodarik; and Yuriy Filipitskiy, former head of Sevmash's financial and technical supply department, are accused of selling rolled metal and metal stampings to Izhorskiy Zavod at scrap metal prices. The goods were later sold to Sweden.[1,2] The Severodvinsk city court began hearing the case in 1996. In December 1999 the court sentenced Zabotin, Gospodarik, and Filipitskiy to five years in prison.[3] The Arkhangelsk Oblast court later revoked the sentence on the grounds of legal technicalities and forwarded the case to a different city court.[2] The trial is to conclude on 14 July 2000.

-"Strategicheskiy metal uplyl v Shvetsiyu," *Pravda Severa*, 15 July 2000 in National News Service, <http://nel.nns.ru>; Olga Tretyakova, "Prigovor otmenen," 18 August 1999 in National News Service, <http://nel.nns.ru>; TVS, 5 July 2000; in "V Severodvinskom gorodskom sude prodolzhlis slushanya dela o khishcheniyi chernogo metalla s Sevmashpredpriyatiya," Internovosti, 6 July 2000.

16 January 2000

SEVMASH TO COMPLETE MODERNIZATION AND REPAIRS OF TYPHOON SSBN

According to a 16 January 2000 article in *Jane's Defence Upgrades*, Sevmash has been conducting upgrades and repairs on an Akula [NATO name: 'Typhoon'] class SSBN. The submarine is expected to return to the Northern Fleet early in 2000.

-"Russia - Recent ship modernization," *Jane's Defence Upgrades*, Vol. 4, No. 2, 16 January 2000 in Lexis-Nexis Academic Universe, <http://web.lexis-nexis.com>.

29 April 1999

NEW BUDGET BENEFITS SEVERODVINSK

Severodvinsk shipyards are anticipating a better financial year due to a surprisingly large 1999 federal budget allocation. The new budget plan indicates the scope of work necessary to complete almost every nuclear-powered submarine under construction at the Severodvinsk shipyards. One contract identified in the new budget is the completion and delivery of the Akula-class attack submarine, the *Gepard*, construction of which began in 1991. Other projects established in the budget include necessary repairs for nuclear submarines and for the nuclear cruiser *Admiral Nakhimov*. Sources in the Northern Fleet suggest that the budget might also provide for work on two new submarines under construction at Severodvinsk: a Borey-class SSBN (the *Yuriy Dolgorukiy*), and a Severodvinsk-class SSN. According to the Bellona Foundation, events in Kosovo might partially explain the

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unexpected budget generosity. Russian Defense Ministry officials are concerned about the future of Russia's nuclear forces in the face of "NATO's new strategic outlook" and the situation in the Balkans.

-Igor Kudrik, Alexey Klimov, and William Stoichevski, "Surprise welfare for Severodvinsk," *Bellona*, www.bellona.no, 29 April 1999.

November 1998

TWO DECOMMISSIONED SUBMARINES SENT TO SEVERODVINSK

Two Delta I-class nuclear-powered submarines, both commissioned in 1975, arrived at Severodvinsk to await dismantlement. The process of dismantling the submarines is scheduled to begin in March 1999, and will follow a retirement ceremony.

-Igor Kudrik and Alexey Klimov, "More subs pulled out of service," *Bellona: Nuclear Chronicle from Russia*, November/December 1998, p. 9.

7 October 1998

WORKERS STAGE ONE-DAY STRIKE AT SEVERODVINSK SHIPYARDS

Shipyard personnel belonging to the trade union staged a one-day strike on 7 October 1998 in Severodvinsk, the goal of which was to demand payment of wage arrears. The strike took place at all of the naval shipyard control posts in Severodvinsk, as well as in front of the town hall. According to Arkhangelsk Governor Anatoliy Yefremov, the shipyards received 54 million rubles (approximately \$3,400,000) which was appropriated for wage payments from the Ministry of the Economy on the eve of the strike. The government owes the Severodvinsk shipyards 1.8 billion rubles (approximately \$110,000,000) for defense orders. Police reports indicate that there were no law and order violations during the strike.

-Vladimir Anufriev, ITAR-TASS, 7 October 1998; in "Severodvinsk Shipyards Stage 1-Day Strike 7 Oct," FBIS-SOV-98-280, 7 October 1998.

September 1998

SEVERODVINSK FUEL TRANSFER POINT AWARDED PERMANENT STATUS

A request to accord permanent status to the fuel transfer point in Severodvinsk was granted in September 1998, thus terminating the need to attain a separate license for each fuel shipment (eight trains carrying spent fuel have departed from Severodvinsk since 1992). The Severodvinsk City Council initially made the request on 25 September 1997, petitioning the Arkhangelsk Oblast administration, the Arkhangelsk Oblast Deputies' Council, the Russian Ministry of Defense, and the Russian Ministry of the Economy. In addition, the City Council requested that funding for the fuel transfer point be entered as a separate line item in the federal budget. The money would be allocated to the repair of the PM-63 *Malina*-class service ship and fuel loading facilities.

-Igor Kudrik and Alexey Klimov, "More subs pulled out of service," *Bellona: Nuclear Chronicle from Russia*, November/December 1998, p. 9.

9 September 1998

WORK SUSPENDED AT SEVERODVINSK SHIPYARDS

As a result of growing tensions among workers, management at both Severodvinsk nuclear shipyards has

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suspended work for several days and asked workers to stay home until 14 September 1998. Although the shipyards have provided food as partial payment, cash is lacking throughout the city.

[*Russian Public Television First Channel Network*, 9 September 1998; in "Work Suspended at Russian Nuclear Submarine Shipyards," FBIS-UMA-98-252.

14 April 1998

RADON TO PROCESS WASTE FROM MIRONOV MOUNTAIN

Arkhangelsk Oblast Environmental Protection Committee Chairman Anatoliy Petrovich Minyayev identified the "soon-to-be catastrophic condition of the waste site on Mironov Mountain in Severodvinsk" as the most dangerous waste site in Arkhangelsk Oblast. According to Minyayev, Sevmash and Radon are working on the problem. Radon will process the contaminated water that has accumulated at the facility. It is still undecided where the solid waste will be stored.

-"Yadernyy mogilnik na Novoy Zemle?" *Volna*, 14 April 1998, p. 7.

17 January 1998

WORKERS HAVE NOT RECEIVED WAGES

Workers at the Russian State Center for Atomic Shipbuilding in Severodvinsk have not received wages for eight months.

-Yuriy Maslyukov, "Oboronnomu kompleksu nado pomoch," *Nezavisimaya gazeta*, <http://home.eastview.com>, 17 January 1998.

6-7 February 1997

STRIKING SHIPBUILDERS DEMAND YELTSIN'S RESIGNATION

Wage arrears, federal debt to the Sevmash and Zvezdochka shipyards, and inadequate social care prompted a two-day strike outside of Northern Fleet command headquarters in Severodvinsk on 6 February 1997. According to Severodvinsk Deputy Mayor Vasiliy Uvarov, the federal government owes the shipyards more than 1 trillion rubles (around \$177 million) for work already completed. Other city workers joined the shipyard employees in the strike. Protesters circulated a petition demanding the resignation of Russian President Yeltsin and his government.

-*Krasnaya zvezda*, 7 February 1997 in "Informatsiya," *Yaderniy kontrol*, No. 28, April 1997, p. 11; NTV, 6 February 1997 in "North Fleet Ship-Repair Workers Protest Over Pay Arrears," FBIS Document FTS19970206001933; NTV, 6 February 1997 in "NTV Highlights Problems in Severodvinsk Enterprises," FBIS Document FTS19970206001936; Vladislav Kuzmichev and Vladimir Sanko, "Crisis: The Strikers Advance Political Demands: Workers' Families in Severodvinsk Are Being Fed through the Use of Coupons at Plant Cafeterias," *Nezavisimaya gazeta*, 8 February 1997 in "Severodvinsk Defense Workers Demand Government's Resignation," FBIS Document FTS19970324001420.

18 October 1996

US DEFENSE SECRETARY PERRY VISITS SEVERODVINSK

US Secretary of Defense William Perry visited the Zvezdochka facility in Severodvinsk and watched as workers dismantled a decommissioned *Yankee*-class SSBN. The work was performed using equipment provided to Russia as

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part of the Cooperative Threat Reduction, or Nunn-Lugar, program. A special "guillotine" was used to cut the hull of the submarine. Nine submarines have already been dismantled in this way, with another five waiting. Perry was accompanied on his visit by Senators Sam Nunn, Richard Lugar, and Joseph Lieberman.

-Igor Yelkov, "V Arkhangel'ske Perri tepleye chem v Moskve," *Komsomolskaya pravda*, 19 October 1996, p. 3; Reuters, 18 October 1996.

23 September 1996

WORKERS GO ON AN INDEFINITE STRIKE

An estimated 29,000 out of a total of 38,000 Severodvinsk workers went on strike demanding their back wages. Union representatives stated that the strike might last indefinitely. Municipal authorities are mediating the crisis.

-Doug Clarke, OMRI Daily Digest, no. 186, 25 September 1996.

18 July 1996

SSGN TOMSK IS COMPLETED

A new SSGN, the *Tomsk*, was assembled at the Northern Machine-Building facility and launched in Severodvinsk. More than 800 Russian facilities participated in building *Tomsk*. Since 1992, four new attack submarines, seven multipurpose and two diesel-powered submarines were introduced to the Fleet.

- "So stapeley soshla novaya atomnaya submarina," *Krasnaya zvezda*, 19 July 1996, p. 1; Novosti newscast, Russian Public Television First Channel Network, 19 July 1996 in "Video Report on Launch of New Nuclear Submarine," FTS19960719000385.

21 December 1995

NEW SUBMARINE JOINS THE NORTHERN FLEET

The submarine cruiser *Vepr* (wild boar), built at Severodvinsk, has successfully undergone state testing and has been passed on to the Northern Fleet.

-Fedor Sizyy, "You Can Find Oil On The Seabed. Gazprom Has Again Demonstrated That Its Priorities Lie in Cooperation with The Russian Defense Industry," *Komsomolskaya pravda*, 21 December 1995 in FBIS-SOV-95-246, "Northern Yards Launch New Rig, Submarine," 21 December 1995.

9 November 1995

WASTE CONTAINERS SENT TO MAYAK BY RAIL

Containers with solid radioactive waste from the four nuclear reactors of the two recycled submarines of the Northern Fleet have been set on a special rail car to be transported to the Mayak facility. This is the third train-load of radioactive waste to be sent from Severodvinsk in the past year. There is a chance that by the end of 1996, Severodvinsk will remove all of its radioactive waste stockpiles.

-Vladimir Gundarov, "'Nuclear' Rail Car Will Travel without Schedule," *Krasnaya zvezda*, 14 November 1995, p. 2.

June 1995

POWER SHORTAGES AFFECT WORK AT SEVERODVINSK

Work at Severodvinsk was reportedly being conducted under "emergency power supply conditions" due to power

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shortages.

-Vladimir Anufriyev, ITAR-TASS, 5 June 1995; in "Severodvinsk Submarine Works Hit by Severe Power Shortage," FBIS-SOV-95-108, 5 June 1995.

24 May 95

REPORT SHOWS THAT ZVEZDOCHKA IS IN POOR FINANCIAL SHAPE

According to *Izvestiya*, the Zvezdochka enterprise was technically unprepared to recycle decommissioned submarines. Falling behind SALT I and SALT II deadlines, the enterprise has restricted itself to the following process: workers cut the missile bay out of the submarine, the remaining bow and stern sections are welded together creating a steel barrel which is then towed to a long-term storage area. Originally thought to be cost recoverable through the sale of salvaged scrap metal, the cost of salvaging one submarine jumped to 23 billion rubles, with the cost of storing one submarine in a long-term storage area reaching 2 billion rubles, driving the enterprise's losses into the billions of rubles. The Russian Ministry of Defense owes Severodvinsk enterprises some 672 billion rubles for building new submarines and repairing existing ones, leading 12,000 Severodvinsk inhabitants to apply for resettlement in other Russian regions. Anatoliy Minyayev, General Director of the Environmental Protection Department, stated that the plant's five solid radioactive waste storage facilities do not meet security requirements, they have no roofs or waterproofing, all are full and overflowing, and four are in need of reconstruction. Reports also indicate that reactors in four of the nine submarines in Severodvinsk have already experienced or are showing signs of impending seal failure.

-JPRS-TEN-95-008, "Treaty-Scrapped N-Subs Peril Environment," 24 May 1995.

14 March 1995

STORAGE FACILITIES DO NOT MEET SAFETY STANDARDS

Facilities of the State Center for Atomic Shipbuilding and Belomorsk navy base located in Severodvinsk annually produce up to 3,000 cubic meters of liquid radioactive waste, 500 cubic meters of solid radioactive waste and 10,000 cubic meters of gaseous radioactive waste. All five storage facilities for radioactive liquid waste, both stationary and mobile, do not meet safety standards and require reconstruction.

-Ilya Voynov, "Nuclear Bomb Is Cocked," *Pravda severa*, 14 March 1995, p. 1.

1995

SEVERODVINSK WILL BE ONLY SUB FACILITY

As of the end of 1995, Severodvinsk is Russia's only shipyard building and refitting nuclear submarines in the Russian Federation.

-Judith Perera, "Submarine Purgatory," *Nuclear Engineering International*, December 1995, p. 43.

1993

CONSTRUCTION ON SUBMARINES CONTINUE

The keel of a new type of attack submarine was laid, and work continues on *Akula*-class SSN and *Oscar*-class SSGN submarines.

-Oleg Bukharin and Joshua Handler, "Russian Nuclear-Powered Submarine Decommissioning," *Science and Global*

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Security, vol. 5, 1995, p. 251.

1993

GAN INSPECTION OF SEVERODVINSK REVEALS A STATE OF DISREPAIR

Gosatomnadzor (GAN) inspected the Severodvinsk facility. Their report expressed concern over the condition of decommissioned submarines which had become "floating spent fuel stores. Their condition is unsatisfactory and sinking is a real possibility." GAN also noted that some of the assemblies are damaged and cannot be off-loaded.

-Judith Perera, "Submarine Purgatory," *Nuclear Engineering International*, December 1995, p.43.

Severomorsk

5 March 2003

PSKOV NUCLEAR SUBMARINE DAMAGED IN FIRE

A fire broke out on the afternoon of 5 March 2003 at the Safonovo ship repair facility, damaging the outer hydroacoustic rubber layer of the Sierra I-class attack submarine K-336, or *Pskov*. It took 90 minutes and several fire crews to extinguish the blaze, which had spread over scaffolding to the docked submarine but did not penetrate inside the ship. No one was injured and radiation registered normal background levels. The cause of the fire was not established, although one account blamed "carelessness during welding work." A special commission has been established to investigate the incident.

- Vasilij Belousov, "V rezultate pozhara na Roslyakovskom zavode Severnogo flota postradala atomnaya podlodka 'Pskov'," ITAR-TASS, 5 March 2003 in Integrum Techno, www.integrum.ru; "Na atomnoy podvodnoy lodke 'Pskov', stoyashchey na planovom remonte v plavuchem doke sudoremontnogo zavoda, proizoshel pozhar," *Kommersant*, 10 March 2003 in Integrum Techno, www.integrum.ru; Igor Kudrik, "Nuclear submarine on fire," *Bellona*, 6 March 2003, www.bellona.no; "No damage to nuclear subs in fire at Roslyakovo dry dock," *Interfax*, 6 March 2003 in www.gazeta.ru.

21 October 2002

SEVEROMORSK MAY LOSE HEAT AND HOT WATER

MurmanNews.Ru reported that Severomorsk naval base might have its heat shut off. In order to save fuel, the city administration ordered the temperature in apartment buildings lowered. Severomorsk Mayor Vitaliy Voloshin was unable to answer a question regarding how much fuel was left in the city heat and power station. However, he said that the city expects a new shipment of fuel soon. According to city authorities, the heating crisis was caused by "monopolist" power producers who had raised prices for oil from 2,000 to 4,000 rubles (from about \$63 to \$126 as of 21 October 2002) per ton. As a result, the main Northern Fleet base might be left without heat and hot water. A similar situation occurred in the early 1990s when the entire Severomorsk region was almost "frozen out" due to fuel shortages at the city heat and power station.

-"Murmanskaya oblast. Glavnaya baza Severnogo flota Severomorsk mozhnet ostatsya bez tepla i goryachey vody," MurmanNews.Ru, 21 October 2002; in Integrum Techno, www.integrum.ru.

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21 May 2002

DEFENSE MINISTRY STARTS PAYING ITS DEBTS TO SHIPBUILDERS FOR WORK ON KURSK

On 21 May 2002, Murmansk Oblast Governor Yuriy Yevdokimov announced that the Russian Defense Ministry had started to pay its debts to the Safonovo Ship Repair Facility for work on the *Kursk* submarine. Current debts to Safonovo amount to 150 million rubles (almost \$4.8 million as of 21 May 2002). The ministry transferred to the Safonovo and Nerpa shipyards a total of 110 million rubles (over \$3.5 million as of 21 May 2002). On 1 January 2002, the military suspended financing of work on the *Kursk* in Safonovo, forcing the shipyard to take a 19% interest loan from St. Petersburg's Promstroybank in order to pay its workers. The shipyard's Floating Dock-50, where work on the *Kursk* was conducted, was offered to the bank as collateral. If the Defense Ministry pays off its debts in a timely and complete manner, the shipyard will be able to pay for the bank loan and preserve the dock. -Agenstvo voyennykh novostey, 21 May 2002; in "Russian Defense Ministry Starts Paying Off Debt to Shipbuilders for Work on Kursk," FBIS Document CEP20020521000320.

24 September 2002

SEVEROMORSK 2003 BUDGET: SUBSIDIES REDUCED, LOCAL FUNDS INCREASED

Severomorsk Mayor Vitaliy Voloshin announced at a press conference that the 2003 budget had been approved by the Ministry of Finance in June. According to Voloshin, the closed cities expect the State Duma to adopt a budget increasing funding by 33%, to 1.685 billion rubles (about \$53.2 million as of 27 September 2002). The 2002 budget was 1.268 billion rubles (about \$40 million). The 2003 budget will differ from the 2002 budget in the following ways: government grants will be reduced, and local revenues increased. Last year, federal subsidies amounted to 85% of the budget, local revenues - to 15%. This ratio will be different in 2003. These changes are the result of the reduction of central subsidies, cancellation of benefits to servicemen, and the increase of military salaries. Military salaries will now be subject to income tax, which will go to the local budget. Rent and public utilities fees will be increased as well. In the 2003 budget, subsidies for capital construction, resettlement, and purchase of equipment were doubled.

-Lesya Kladko, "Raskhody predstoyat bolshiye," *Severomorskiye vesti*, 27 September 2002 in Novosti-online in Integrum Techno, <http://afnet.integrum.ru>; Yekaterina Goncharova, "Byudzhnet popolnyat mestnyye dokhody," *Polyarnaya pravda*, 27 September 2002 in Integrum Techno, <http://afnet.integrum.ru>.

26 April 2002

DEFENSE MINISTRY NOT PAYING DEBTS FOR WORK ON KURSK

Interfax reported that according to the Murmansk Oblast legislative assembly, the Russian Ministry of Defense still owes the shipyard in Roslyakovo about 150 million rubles (about \$4.8 million as of 26 April 2002) for clean-up work done on the *Kursk*.

-Interfax, 26 April 2002; in "Defense Ministry Owes R150 Million to Roslyakovo Plant for Kursk Work," FBIS Document CEP20020426000309.

20 August 2001

RADIATION LEVELS TO BE SHOWN ON PUBLIC DISPLAY BOARD IN ROSLYAKOVO

On 20 August 2001, a radiation level display board will be installed on a public building in Roslyakovo. The board

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will present information about radiation levels at a floating dock of the Roslyakovo Ship Repair Facility (PD-50), where the *Kursk* nuclear submarine will be delivered after being raised from the bottom of the Barents Sea. Radiation levels throughout the Severomorsk ZATO will be monitored by three sensors: one mobile and two stationary. One of the stationary sensors is already installed in Severomorsk and another one will be installed at Nikitin Cape on the Kola Fjord. Information from these sensors will be available to the general public at the city administration building.

- "Montazh radiatsionnogo tablo v poselke Roslyakovo nachnetsya 20 avgusta," Interfax, 18 August 2001.

11 November 2000

NORTHERN FLEET IN DEBT FOR HEAT

According to the Severomorsk city administration, the Northern Fleet owes the city 60 million rubles (over \$2.1 million as of 11 November 2000) for heat.

- "Zadolzhennost Severnogo flota RF za teplo pered mestnym byudzhedom sostavlyayet 60 mln. rubley," Interfax, 11 November 2000.

12 October 2000

STATE OWES NORTHERN FLEET \$13 MILLION

According to the Murmansk Oblast administration press office, as of 12 October 2000 federal authorities owed the Northern Fleet 359 million rubles (almost \$13 million as of 12 October 2000). Almost half of that debt, 180 million rubles (almost \$6.5 million as of 12 October 2000), has been owed since 1999. The rest of the debt consists of unpaid salaries to the fleet's military staff and civilian enterprises. At the same time, the Northern Fleet owes the city of Severomorsk 60 million rubles (over \$2.1 million as of 15 November 2000) for heat alone.

- "Zadolzhennost po finansirovaniyu Severnogo flota RF iz federalnogo byudzheta sostavlyayet 359 mln. rubley," Interfax, 15 November 2001.

June 2000

FUEL THEFT IN SEVEROMORSK INVOLVES OFFICERS

In late June 2000 the Severomorsk military court convicted seven men of stealing fuel from Northern Fleet ships, including the commander of an anti-submarine ship; a senior lieutenant from the fleet's fuel base; the captain and first mate of the tanker *Cheremshan*; and Aleksandr Rumyantsev, a civilian electrician who was reportedly involved in a Murmansk criminal organization that deals in fuel. All seven men were amnestied; four of them are supposed to pay restitution totaling 1.2 million rubles (about \$42,000 as of 27 June 2000). Five others were convicted in an earlier hearing; only one, Lieutenant Captain Kravchenko of the destroyer *Gremyashchiy*, received a sentence including jail time (three years). The theft of 74MT of diesel fuel from the *Marshal Vasilyevskiy* was discovered in 1997, leading investigators to uncover the theft ring. In total, 15 men were involved in a string of fuel thefts, including several Severomorsk officers. Three officers were amnestied during the investigative process because of their prior military decorations. The thefts were organized by the 36-year-old Rumyantsev. Through intermediaries, Rumyantsev persuaded mechanics on military ships to sell him residual fuel that was not accounted for. The *Cheremshan*, which unloads liquid waste from military ships, would instead take the fuel onboard. The *Cheremshan* then transported the fuel to Murmansk, where it was sold at cut-rate prices. The

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investigation turned up six such episodes in 1997, during which approximately 1,000MT of fuel was sold for \$150,000. In other cases, 16 people, including nine officers, were convicted for fuel theft in 1999 and 2000; in June 2000 the military prosecutor was concluding its investigation of the theft of 1,000MT of fuel from the fleet's fuel base itself.

-Vyacheslav Gudkov, "Toplivnaya amnistiya na Severnom flote," *Kommersant*, www.online.ru, 27 June 2000.

February 2000

ADMIRAL USHAKOV TO BE REPAIRED AND MODERNIZED, NOT DISMANTLED

In February 2000 the Russian Navy tasked the Severnoye Design and Construction Bureau (SPKB) with developing a program to repair and upgrade the *Admiral Ushakov* nuclear-powered battle cruiser based at Severomorsk. SPKB General Designer Vladimir Yukhnin would not divulge the details about the project. SPKB is capable of outfitting the battle cruiser with Russia's most modern weapons. On 8 June 1999 the Russian State Duma had set up a fund to collect donations to fund the repairs, after the Duma put forward a resolution halting decommissioning of the ship. As of October 1999 only \$400,000 of the required \$160 million had been raised, and Bellona reported that Zvezdochka was unofficially developing plans to dismantle the ship.

-"Severnoye proyektno-konstruktorskoye byuro zaymetsya proyektom remonta i modernizatsii tyazhelogo raketnogo kreysera 'Admiral Ushakov,'" ITAR-TASS, 9 February 2000 in Integrum Techno, www.integrumworld.com; Igor Kudrik, "Russia to patch up nuclear cruisers," Bellona Foundation, www.bellona.no, 4 October 1999.

June 1999

NORTHERN FLEET DECLARES Y2K READINESS DESPITE LINGERING OBSTACLES

16 December 1999

STRIKING WORKERS BLOCK ROADWAY CONNECTING MURMANSK AND SEVEROMORSK, DEMAND PAYMENT OF WAGES

Safonovo workers, demanding wages that have not been paid in four months, went on strike and blocked the road connecting Murmansk and Severomorsk. Bellona reported that the debt owed to the shipyard by the Ministry of Defense (MOD) is approximately \$600,000. However, the Russian television station NTV reported that the MOD and the Federal Border Guard Service together owed the plant 12 million rubles (approximately \$448,000 as of 16 December 1999). Striking workers have blocked the road before in protest of working and living conditions at Safonovo.

-Igor Kudrik, "Naval shipyard workers go on strike," 10 December 1999, Bellona Foundation, www.bellona.no; NTV, 16 December 1999 in "Workers Block Strategic Road Over Wage Arrears," FBIS Document FTS19991216001484.

Sevmorput

23 October 2002

NUCLEAR SUBMARINE UNDERGOING DISMANTLEMENT CATCHES FIRE

On 23 October 2002, a nuclear-powered submarine undergoing dismantlement at Sevmorput caught fire.

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According to Bellona, a Norwegian environmental group, the vessel was probably the K-22, an Echo II-class submarine that was defueled by the *Imandra* service ship in 2001.[1] The fire began in the scaffolding surrounding the submarine, and then spread to the rubber coating on the nose of the submarine.[2] The area burned was about 200 square meters.[3] A welding torch is thought to have set off the blaze. However, since the reactor compartment had already been cut out, there was no danger of radioactive contamination from the incident. Six fire engines responded to a call to the city civil defense station. The fire was extinguished in about two hours.[2] -Igor Kudrik, "Submarine on fire in Murmansk suburb," Bellona, www.bellona.no; Olga Feofanova, "Gorela staraya podlodka," *Murmanskaya vestnik*, 24 October 2002 in Integrum Techno, www.integrum.ru; "V Murmanskome doke zagorelas atomnaya podvodnaya lodka," www.lenta.ru.

5 August 2002

FIRST-GENERATION SUBMARINE DEFUELED AT SEVMORPORT

On 5 August 2002, Bellona reported that the service ship *Imandra* had started unloading spent nuclear fuel from an Echo II first-generation nuclear-powered submarine at Sevmorput Shipyard in Murmansk. The submarine, K-128/62, was commissioned in 1966 and taken out from operation in 1994. In 1989, the submarine's starboard reactor had its usage limited to 70% power. The last refueling of the submarine's reactors was performed at Sevmorput in 1982.

- "First generation submarine is being defuelled in Murmansk," Bellona, www.bellona.no, 5 August 2002.

29 June 2001

SEVMORPUT ELECTRICITY MAY BE CUT OFF

On 29 June 2001, the Rosbalt information agency reported that Kolenergo, the Kola Peninsula regional electricity provider, intends to limit or even cut off the supply of electricity to its debtors, including Sevmorput. Sevmorput owes Kolenergo 32 million rubles (almost \$1.1 million as of 29 June 2001).

- "Murmanskaya oblast. OAO 'Kolenergo' vvodit ogranicheniya po podache elektroenergii na 13 krupnykh promyshlennykh i voyennykh predpriyatiyakh oblasti," Rosbalt, 29 June 2001; in Regions.ru, 29 June 2001; in Integrum Techno, www.integrum.ru.

25 November 1998

NAVAL YARD EMPLOYEES STRIKE

Over 9,000 workers at the Sevmorput naval yard in Murmansk staged a one-day strike in late November. The workers were protesting because their wages are overdue by approximately six months. Trade union leaders at the shipyard said that if back wages continued to be unpaid by the end of the year, employees would go on indefinite strike with the goal of shutting down the naval repair yard, at which two decommissioned nuclear submarines are located. The shortage in wages has led submarine commanders to reinstate a system of patronage in order to meet the basic nutritional needs of the sailors. In this system of patronage, a Russian city adopts a submarine and supplies the crew with basic provisions.

-Thomas Nilsen, "Naval yard workers on strike," Bellona Foundation, www.bellona.no, 27 November 1998.

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Vidyayevo

24 April 2002

OLD DECOMMISSIONED NUCLEAR SUBMARINES TO BE TRANSFERRED FROM GREMIKHA TO ARA GUBA

Trud reported that the Northern Fleet would transfer in the near future 17 old decommissioned nuclear submarines [four Kit-class [NATO name 'November'] SSNs, 10 Kefal I-class [NATO name 'Victor I'] SSNs, and three Kefal II-class [NATO name 'Victor II'] SSNs] from Gremikha Naval Base to Ara Bay Naval Base in Vidyayevo for further dismantlement. The submarines will have to be transported inside floating docks. The operation will have to take place in calm weather to ensure the safety of the endeavor.

-Sergey Ishchenko, "Radioaktivnaya eskadra. 190 spisannykh atomokhodov tayat smertelnuyu opasnost," *Trud*, 24 April 2002, p.1; in WPS Yadernyye Materialy, No. 15, 8 May 2002.

19 April 2001

MOSCOW SENDS VIDYAYEVO BUILDING MATERIALS

On 19 April 2001, *Moskovskaya pravda* reported that Moscow Mayor Yuriy Luzhkov had issued a directive to send Vidyayevo building materials worth 8.44 million rubles (over \$291,000 as of 19 April 2001) to improve the living conditions of Vidyayevo garrison sailors.

-*Moskovskaya pravda*; in *Vsya Rossiya*, No. 70 (451), 19 April 2001; in Integrum Techno, www.integrum.ru.

6 March 2001

VIDYAYEVO GETS CLOSED CITY STATUS

Vidyayevo was given closed city status by presidential edict on 6 March 2001. This status will enable the town to receive priority financing from the federal budget.

-Presidential edict No. 269, *O preobrazovanii poselka Vidyayevo Murmanskoy oblasti v zakrytoye administrativno-territorialnoye obrazovaniye i utverzhdeniye ego granits*, 6 March 2001 in *Sobraniye zakonodatelstva Rossiyskoy Federatsii*, No. 11, 12 March 2001 in Integrum Techno, www.integrum.ru; "Vidyayevu prisvoyen status zakrytogo territorialnogo obrazovaniya," *Gazeta.ru*, 13 March 2001 in Integrum Techno, www.integrum.ru.

February 2001

SERVICEMEN SENTENCED FOR STEALING WEAPONS

The Vidyayevo garrison court finished hearing the case of eight servicemen and one civilian charged with stealing weapons from a storehouse; illegal possession, transfer and sale of weapons and firearms; violation of military patrol service rules; and other crimes. The court ruled that two sailors who stored the stolen arms but did not participate in the act of theft had to pay fines; two more sailors, found guilty of participation in two of the thefts, received prison sentences but were released under an amnesty; three other sailors who participated in the thefts received prison sentences of up to three years and nine months; Master Chief Petty Officer Aleksandr Kolesnikov, who headed the group, received five years of imprisonment; and one civilian, a high-school student who introduced Kolesnikov to the sailors who carried out the thefts, was given four years but released on parole.

-Vyacheslav Gudkov, "Karaul ustal zhyt po sredstvam," *Kommersant*, 26 February 2001 in Integrum Techno,

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www.integrum.ru.

10 June 2000

STOLEN ARMS CONFISCATED; SUSPECTS ON TRIAL

From August to November 1999 Russian servicemen stole large numbers of weapons from the Vidyayev nuclear submarine base. The suspects were organized and led by Master Chief Petty Officer Aleksandr Kolesnikov, a professional serviceman, and included nine servicemen and civilians. The suspects reportedly stole five assault rifles, one machine gun, 33 grenades, 37 Makarov pistols, daggers, binoculars, "sword-belts" and between 3500 and 5000 cartridges of various calibers. The arms were sold in Murmansk, Petrozavodsk, Sverdlovsk, and elsewhere; as of March 2000, 43 weapons and most of the ammunition had been recovered.

- "V garnizone Vidyayev zakoncheno predvaritelnoye sledstviye po ugovnomu delu o khishchenii so skladov Severnogo flota oruzheniya i boyepripasov," Agenstvo voyennykh novostey, 14 March 2000 in National News Service, <http://nel.nns.ru>; NTV, 10 June 2000 in "Russia: Major Arms Theft in Northern Fleet," FBIS Document CEP20000610000046.

26 January 1999

SAILOR SELLS NUCLEAR SUBMARINE'S REACTOR PARTS

At the Vidyayev Naval Base in Murmansk Oblast, on 26 January 1999, a sailor serving on a nuclear attack submarine stole 24 rings of palladium-vanadium wire that form an integral part of the control system for the submarine's auxiliary reactor. The theft was discovered by commanding officers of the submarine, which was not on combat alert at the time, and resulted in an estimated 300,000 rubles (approximately \$13,000) of damage. It is thought that while the sailor was on watch, he took advantage of lax oversight and used a key to enter the control station of the auxiliary nuclear reactor, where he stole the valuable parts. The sailor sold the wire to a petty officer from another submarine for 1050 rubles (approximately \$50). The petty officer intended to resell the wire for a much higher price, but both he and the sailor were arrested on 31 January 1999. According to officials at the military procurator's office, the damage to the submarine can only be repaired in a shipyard. Aleksandr Nikitin, a former Russian naval officer and nuclear submarine expert at the Norwegian non-governmental organization Bellona, said that the incident was worrisome, but was unlikely to have caused any radioactive contamination. The base's military prosecutors are leading the investigation, but there has been no examination of the possible motivation behind the theft. The sailor will be charged with both grand theft involving illegal trespassing and with intentional damage to military property. According to the garrison's senior prosecutor Vladimir Dudkin, the incident is a unique one, and most of the submariners are very loyal to their boats.

- "Matros Vzlomal APL," *Anti-Atom Press*, <http://cci.glasnet.ru>, 1 March 1999; Vyacheslav Gudkov, "Matros prodal detali reaktora atomnoy podlodki," *Kommersant*, www.kommersant.com, 18 February 1999.

February 19, 1998

VIDYAYEVO WORKERS GO ON HUNGER STRIKE

Vidyayev Naval Base workers, who have not been paid in 18 months, went on a hunger strike in February 1998. The workers continue to perform their duties and allegedly do not blame the Northern Fleet, which reportedly tries to pay its employees in a timely fashion. Many bases and shipyards have experienced similar problems. The

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Northern Fleet command decided to issue promissory notes to settle the debt, but they will not be available until summer 1998. Workers assume they will not be paid in full and that much of the money will be returned to the state in the form of taxes.

-Igor Sorokin, Yuriy Molotko, NTV, 19 February 1998 in "Vidyayevo N-Sub Repair Plant Works on Despite Hunger Strike," FBIS-UMA-98-062.

Zvezdochka

26 September 2003

TESTS COMPLETED ON NEW SNF CONTAINERS

On 26 September 2003, Interfax reported that tests on a new type of container to be used for the unloading of spent nuclear fuel from submarine reactors had been successfully completed at the Zvezdochka State Machine Building Enterprise in Severodvinsk. According to Zvezdochka spokeswoman Nadezhda Shcherbinina, the tests took place without incident over a period of two weeks at the onshore facility.

-"V Severodvinske zaversheny ispytaniya novogo tipa konteynerov dla vygruzki OYaT," Interfax, 26 September 2003.

25 June 2003

SPENT FUEL SENT TO MAYAK

On 25 June 2003, Zvezdochka press service announced that 19 containers of spent nuclear fuel had been sent for reprocessing to Mayak. Such train transports take place twice a year and are protected by troops. The current fuel comes from a Typhoon-class submarine that is being dismantled at Sevmash under the Cooperative Threat Reduction Program.

-"Zvezdochka' otpravila eshelon s otrabotavshim yadernym toplivom," *Arkhangelskiye novosti*, 25 June 2003; in Integrum Techno, www.integrum.ru.

13 May 2003

DELTA I SSBN DISMANTLED AT ZVEZDOCHKA

According to a 13 May 2003 report by ITAR-TASS, the dismantling of the Murena-class [NATO name 'Delta I'] strategic nuclear submarine K-385 has been completed. The reactor compartment and two adjacent compartments were cut out of the submarine and are scheduled to be towed to Zapolyarye for temporary storage. The submarine dismantlement was financed by the United States through the CTR program. The K-385 was built at Sevmash in 1974.

-Vladimir Anufriyev, "Na verfi 'Zvezdochka' v Severodvinske utilizirovana strategicheskaya atomnaya podvodnaya lodka K-385 'Murena'," ITAR-TASS, 13 May 2003; in *Yadernyy Kontrol*, 12 May 2003.

28 April 2003

ZVEZDOCHKA RECEIVES EXPORT LICENSE

On 28 April 2003, the Head of the Committee for Cooperation on Defense Technology with Foreign Countries,

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Mikhail Dmitriyev, announced that Zvezdochka Shipyard and three other Russian defense sector enterprises had been granted permission independently to service and export spare parts for previously delivered military equipment. Previously, any defense technology export had to go through Rosoboronekspost, the state export agency. Earlier, the Rubin Design Bureau was given the same privileges. On 16 September 2002, President Vladimir Putin issued the directive granting the Commission the right to administer such export licenses.

-'"Zvezdochka' poluchila pravo na eksport zapchastey," *Arkhangelskiye novosti*, 30 April 2003; in Integrum Techno, www.integrum.ru.

19 April 2003

NEW CONSULTATIVE COUNCIL TO INCLUDE SHIPYARD DIRECTORS

The mayor of Severodvinsk has introduced a new council of chairmen, which is composed of the directors of the Sevmash, Zvezdochka, Arktika, and Polyarnaya Zvezda Shipyards as well as the commander of the Belomorsk Naval Base along with a number of other enterprise directors. The council is purely consultative.

-Yelena Boyko, "Sovet direktorov - v pomoshch meru," *Pravda Severa*, 19 April 2003 in Integrum Techno, www.integrum.ru; "Arkhangelskaya oblast: Glava administratsii Severodvinska sozdayet sovet direktorov predpriyatiy goroda," IA Regnum, 14 April 2003 in Integrum Techno, www.integrum.ru.

12 April 2003

ROBBERY OF SUBMARINERS' WAGES AVERTED

On 12 April 2003, *Pravda Severa* reported that the robbery of 800,000 rubles (about \$25,500 as of 12 April 2003) was averted when submariners came to the aid of an officer who was carrying the collective wages of the SSBN *Bryansk's* crew. The officer was being attacked by a 35-year-old man from Severodvinsk. According to *Pravda Severa*, this was just the latest of numerous criminal incidents in this city.

-Yelena Boyko, "Podvodniki chut ne ostalis bez zarplaty," *Pravda Severa*, 12 April 2003 in Integrum Techno, www.integrum.ru.

21 March 2003

TAX PENALTIES WAIVED FOR SEVERODVINSK SHIPYARDS

Penalties for overdue tax payments have been waived for the companies associated with the Russian State Center for Atomic Shipbuilding (GRTsAS), which include the Sevmash and Zvezdochka Shipyards. These companies have been unable to pay taxes as the Russian government had not made payments or paid late for shipyard orders. The accumulated tax penalties totalled approximately 300-370 million rubles (about \$9.6-11.8 million as of 21 March 2003).

-Mikhail Boyev, "Peni i shtrafy," *Korabel*, 4 March 2003; in Nord Media Kompani, 21 March 2003 in Integrum Techno, www.integrum.ru; "GRTsAS," *Severnnyy rabochiy*, 13 February; in Nord Media Kompani, 21 March 2003 in Integrum Techno, www.integrum.ru; "Deputaty prostili dolgi Severodvinsku," *VolgaInform*, 12 February 2003; in Nord Media Kompani, 14 February 2003 in Integrum Techno, www.integrum.ru.

7 March 2003

SPONSORSHIP ASSISTANCE RECEIVED IN SEVERODVINSK

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On 7 March 2003, *Moskovskaya pravda* reported that the Moscow city government has provided assistance to Sevmash on several occasions. When the shipyard stood still due to lack of federal funding, Moscow issued a loan to start the construction of the fifth-generation nuclear submarine, *Yuriy Dolgorukiy*. Moscow also helps to address the social problems of shipbuilders and naval officers by building homes for retired officers, by sending medical doctors, and by organizing Black Sea resort holidays for shipbuilders' children. *Moskovskaya pravda* says that the families of Moscow's servicemen, who make up a fair proportion of the crew, can therefore rest assured that their sons are serving in the best-equipped crews. Various city boroughs of Moscow and other cities engage in another form of assistance: they sponsor nuclear cruisers or submarines. This is the case with the city of Bryansk, for example, which is providing assistance to the crew of the SSBN *Bryansk* while the submarine is undergoing repairs far from its home base. The naval base at the shipyard is unable to supply the crew, as it is supposed to.

- "Podlodku '641-B' zhdut v Den goroda," *Moskovskaya pravda*, 6 March 2003 in Nord Media Kompani, 7 March 2003 in Integrum Techno, www.integrum.ru; Yelena Boyko, "Kogda zhe flot Rossii perestanut byt 'sukhoputnym'?", *Pravda Severa*, 21 March 2003 in Nord Media Kompani, 21 March 2003 in Integrum Techno, www.integrum.ru; "Deputat Gosdumy organizovuyet sheftstvo nad ekipazhem podvodnoy lodki 'Bryansk'," *Rosbalt*, 18 March 2003 in Nord Media Kompani, 21 March 2003 in Integrum Techno, www.integrum.ru.

1 March 2003

NAVY FACES FURTHER CUTS AS TULA IS MOTHBALLED

Jane's Navy International reported on 1 March 2003 that Russia intends to reduce its fleet of surface ships and submarines by an additional 20%. According to the Commander-in-Chief of the Navy, Admiral Vladimir Kuroyedov, the Navy plans to focus its limited resources upon preserving a core operational force in a higher state of readiness. This will require decommissioning a number of ships and submarines currently in reserve as maintenance of these vessels is extremely costly. The severe shortage in funding for the upkeep of the fleet -- less than 10% of the amount required -- faced by the Navy since 1996 means that a significant portion of the ships and submarines placed in reserve are in poor condition, are maintained by skeleton crews, and could not feasibly be put to sea without extensive repairs or refits. Admiral Kuroyedov, having concluded that funds for maintenance and construction of new ships are "not simply insufficient, but few and far between," has begun considering on a case-by-case basis the status of existing vessels in reserve.[1] His assessment to date has resulted in a decision to mothball the Delfin-class [NATO name 'Delta-IV'] ballistic missile nuclear submarine (SSBN) *Tula*, which currently rests in a slip at Zvezdochka as it undergoes repairs and modernization. Work on the *Tula* will continue until the funds foreseen for its modernization in the 2002 budget -- 120 million rubles (\$3.8 million as of 17 February 2003) -- are exhausted. At that point the *Tula* will be mothballed at Zvezdochka for at least the next five years. Kuroyedov linked the decision to suspend work on the *Tula* with efforts to complete repairs on the Delfin-class SSBN *Yekaterinburg*, which began overhauls in 1996.[2] The *Yekaterinburg* underwent post-refit sea trials in the White Sea after it was relaunched in April 2002, and is scheduled to rejoin the Northern Fleet by the summer of 2003.[3] Another two Delta-IV SSBNs, *Bryansk* and *Novomoskovsk*, currently are docked at Zvezdochka, and are scheduled to undergo repairs that will allow these ships to serve the Navy until 2010-2015.[4,5] The importance of the modernization of the Delta IV fleet, which forms the mainstay of Russia's strategic submarine deterrent force, is magnified further by delays in introducing the fourth-generation Borey-class SSBNs.[3] A failure of these efforts significantly would impair plans within the Russian military to strengthen the emphasis placed on the naval leg of

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the nuclear triad.[6]

Sources:

- [1] Richard Scott, "Russia to make more Navy cuts," *Jane's Navy International* online edition, <http://jni.janes.com>, 1 March 2003.
- [2] "Arkhangel'skaya oblast. Na 'Zvezdochke' zakonservirovan remont raketnogo podvodnogo kreysera 'Tula'," Regions.Ru, 17 February 2003 in Integrum Techno, www.integrum.com.
- [3] Richard Scott, "Russian 'Delta IV' submarine back at sea after refit," *Jane's Navy International* online edition, <http://jni.janes.com>, 1 March 2003.
- [4] David C Isby, "Russia- Northern Fleet submarines overhauled," *Jane's Defence Upgrades*, <http://jdu.janes.com>, 16 February 2003.
- [5] "Remontnyy konveyer," *Nezavisimoye voyennoye obozreniye*, No. 2 (317), 24 January 2003 in Integrum Techno, www.integrum.com.
- [6] "Genshtab: prioritetom Rossii stanet razvitiye atomnogo flota," *Gazeta.Ru*, www.gazeta.ru, 14 January 2003.

11 February 2003

TESTING OF ONSHORE FACILITY FOR UNLOADING SPENT SUBMARINE FUEL SUCCESSFULLY COMPLETED IN SEVERODVINSK

According to an 11 February 2003 Interfax report, the testing of an onshore facility at Zvezdochka Shipyard to unload spent nuclear fuel from submarines has been successfully completed. The testing involved the defueling of an Akula [NATO name 'Typhoon'] class SSBN. The construction of the \$15 million facility was financed by the United States under the Cooperative Threat Reduction Program.

- "V Severodvinske zaversheny ispytaniya beregovogo kompleksa po vygruzke topliva iz APL," Interfax, 11 February 2003; ITAR-TASS, 6 February 2003 in "V Severodvinske sdan v ekspluatatsiyu kompleks vygruzki otrabotavshogo yadernogo topliva s utiliziruyemykh podlodok," Nord Media Kompani, "Voenno-promyshlennyiy kompleks," 7 February 2003 in Integrum Techno, www.integrum.ru.

16 January 2003

REPAIRS ON YEKATERINBURG COMPLETED

Interfax reported on 16 January 2003 that repairs to the Delfin-class [NATO name 'Delta-IV'] ballistic missile nuclear submarine (SSBN) *Yekaterinburg*, undertaken at the Zvezdochka shipyard over the past four years, have been completed. The work included efforts to modernize the submarine through the installation of new chemical instrumentation and improvements to its radio-electronic and weapons systems. The Commander of the *Yekaterinburg*, Captain First Class Andrey Pavlovskiy, praised the efforts of the personnel at Zvezdochka, who employed "creative" solutions--such as repairing a number of items slated for replacement--to overcome shortages in funding and complete the repairs according to schedule and below cost. Due to adverse weather conditions, it is anticipated that the *Yekaterinburg* will remain in Severodvinsk until at least June 2003 at which point it will return to the Northern Fleet base at Gadzhievo (Murmansk Oblast).

- "V Severodvinske posle remonta podpisan akt priyema-sdachi APL 'Yekaterinburg'," Interfax, 16 January 2003; Yu. Onuchina and V. Frolov, *Vesti Pomorya*, 15 January 2003 in Informatsionnoye agentstvo Nord Media Kompani, 17 January 2003 in Integrum Techno, www.integrum.com; "Yekaterinburg' blagopoluchno otremonirovali,"

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Pravda.Ru, 15 January 2003 in Informatsionnoye agentstvo Nord Media Kompani, 17 January 2003 in Integrum Techno, www.integrum.com.

25 December 2002

DISMANTLEMENT OF K-385 STARTED

On 25 December 2002, Pravda.Ru reported that the dismantlement of K-385, a Murena [NATO name 'Delta-I']-class SSBN, has started. Funding is provided by the Cooperative Threat Reduction Program.

-Vitaliy Bratkov, "'Tigr' plyus, 'Murena' minus," www.pravda.ru, 25 December 2002 in Integrum Techno, www.integrum.com.

14 August 2002

SPENT FUEL UNLOADING FACILITY COMPLETED

ITAR-TASS reported on 14 August 2002 that the construction of an unloading facility for spent nuclear fuel from submarines has been completed at Zvezdochka. According to experts at the shipyard, defueling has been a difficult problem in the complex process of dismantling submarines. Russian Shipbuilding Agency Deputy Director Vasiliy Usachev announced that the facility significantly lessens the risks associated with defueling and meets the nuclear and environmental safety requirements issued by the IAEA. With the completion of the facility, Zvezdochka is able to defuel four Delta-class or two Typhoon-class SSBNs per year. The facility was financed through the Cooperative Threat Reduction Program. Usachev further announced that a similar defueling system would be installed at the Zvezda plant in Bolshoy Kamen.

-Vladimir Anufriyev, "V Severodvinske postroyen kompleks vygruski otrabotannogo yadernogo topliva iz reaktorov utiliziruyemykh atomnykh podlodok," ITAR-TASS, 14 August 2002 in Nord Media Kompani, 16 August 2002 in Integrum Techno, www.integrum.com; Vladimir Golovchanskiy, "V Severodvinske otkryvayetsya odin iz samykh bezopasnykh v mure dlya razgruzki reaktorov utiliziruyemykh atomnykh podvodnykh lodok," ITAR-TASS, 22 August 2002 in Nord Media Kompani, 23 August 2002 in Integrum Techno, www.integrum.ru.

27 July 2002

BRYANSK DOCKS FOR REPAIRS WHILE LACK OF FUNDS DELAYS TULA MODERNIZATION

The Northern Fleet Project 667 Delfin-class [NATO name 'Delta-4'] ballistic missile nuclear submarine (SSBN) *Bryansk* docked at Zvezdochka shipyard on 27 July 2002 in order to undergo extensive repairs and modernization. The repairs will take several years and according to preliminary estimates cost approximately two billion rubles (\$63.4 million as of 27 July 2002). The *Bryansk*, in service since August 1988, is the third Delfin-class SSBN to undergo repairs at the shipyard, which previously repaired the *Verkhoturys* and the *Yekaterinburg*. In addition to the *Bryansk*, the Delfin-class nuclear submarine *Tula*, with the Northern Fleet since January 1987, currently rests in a slip at the shipyard as it undergoes repairs and modernization. The work on the *Tula*, which began two years ago, has been troubled by insufficient financing. According to Zvezdochka Director Nikolay Kalistratov, the shipyard received only 120 million rubles (\$3.80 million as of 19 August 2002) for the repairs on the *Tula* in 2002. At this level of funding, it will take 10 years to modernize and repair the submarine.

-Vladimir Anufriyev, "Atomnaya podvodnaya lodka 'Bryansk' postavlena na kapitalnyy remont na verfi 'Zvezdochka' v Severodvinske," ITAR-TASS, 15 August 2002 in Integrum Techno, www.integrum.com; Anatoliy Popov, "'Bryansk'

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oshvartovalsya u prichala 'Zvezdochki'," *Pravda severa*, No. 144, 3 August 2002 in Integrum Techno, www.integrum.com; "Sudoremontniki zhivut nadezhday," Interfax-Agentstvo voennykh novostei in *Krasnaya zvezda*, No. 161, 4 September 2002 in Integrum Techno, www.integrum.com; "Remont strategicheskoy submariny 'Tula' mozhnet zatyanutsya na desyatiletie" in Polit.Ru: Monitor, 19 August 2002 in Integrum Techno, www.integrum.com.

25 June 2002

INDIAN DIESEL SUBMARINE SINDHURATNA PUTS TO SEA FOR TRIALS

The Indian Varshavyanka-class [NATO name 'Kilo'] diesel submarine *Sindhuratna* departed from Zvezdochka to begin sea trials before August, when it is due to be turned over to the Indian Navy. The *Sindhuratna* is the second Indian submarine to undergo maintenance at Zvezdochka. The *Sindhuvir* underwent repairs there in 1999. After the *Sindhuratna* is turned over to the Indian Navy, the *Sindhugosh* will undergo repairs at Zvezdochka.

- "Following Maintenance, the Indian Submarine "Sinduratna" Departed from the Severodvinsk Wharfs for Sea Trials," Rosbalt, 25 June 2002; in "Maintenance of Indian Submarine "Sinduratna" Completed at Severodvinsk," FBIS Document CEP20020625000173.

21 April 2002

YEKATERINBURG SSBN PUT TO SEA AFTER REPAIRS

On 21 April 2002, the Delfin-class [NATO name 'Delta IV'] SSBN *Yekaterinburg* left Zvezdochka's dry dock, where it had been undergoing routine repairs for six years. Usually these kinds of repairs take two years, but financing difficulties led to an extended repair period. The submarine is to start mooring trials in September 2002 and sea trials in December 2002. According to Zvezdochka General Director Nikolay Kalistratov, the refitted *Yekaterinburg* will be able to serve in the Russian Navy for 10-15 more years. The submarine is expected to return to the Gadzhiyev Naval Base in early 2003.

- "V Severodvinske vyveden iz ellinga atomnyy raketnyy kreyser 'Yekaterinburg'," Rosbalt, www.rosbalt.ru, 22 April 2002; Interfax, 21 April 2002 in "Missile-Carrying Submarine Put Back in Water at Severodvinsk Shipyards," FBIS Document CEP20020421000003.

12 April 2002

REPAIRS ON INDIAN DIESEL SUBMARINE COMPLETED

On 12 April 2002, the Indian Varshavyanka-class [NATO name 'Kilo'] diesel submarine *Sindhuratna* put to sea after being overhauled at Zvezdochka. The submarine will be transferred to the Indian Navy after it completes comprehensive trials and its crew is trained to operate the new equipment and weapon systems installed on the *Sindhuratna*. Specifically, the submarine's upgrades included installation of Club-S cruise missiles [NATO name SS-NX-27 'Alfa'], a new combat control system, and modern hydroacoustic and navigation equipment. This is the second Indian diesel submarine to be upgraded at Zvezdochka.

- "O bort indiyской podlodki razbili kokos," RTR-Vesti, www.rtr-vesti.ru, 12 April 2002; Agenstvo voyennykh novostey, 12 April 2002 in "Indian Sub Repaired in Russia Will Go Back in August After Trials," FBIS Document CEP20020412000225; ITAR-TASS, 5 April 2002 in "Indian Submarine Prepares to Leave Russian Shipyard after Refit," FBIS Document CEP20020405000054.

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3 December 2001

ZVEZDOCHKA TO BUILD A MOBILE FACILITY TO PROCESS SOLID RADIOACTIVE WASTE

On 3 December 2000, Zvezdochka General Director Nikolay Kalistratov said at a press conference that Zvezdochka, in cooperation with Storvik & Zvezdochka Norway AS, would build a mobile facility for the initial processing of solid radioactive waste from Northern Fleet nuclear submarines. This initial processing, which will reduce waste volume, will involve the sorting, packing into casks, and interim storage of the solid radioactive wastes. The facility's design is being developed by the Onega Research and Design Bureau. The facility, whose modular structure makes it transportable, will be moved from one location to another to process radioactive waste right next to a submarine. It will initially be used at the Polyarninskiy Shipyard. The mobile facility is expected to be built in 12 months. It will cost approximately \$1 million, and is being funded through the Arctic Military Environmental Cooperation Program.

-Interfax, 3 December 2001 in BBC Monitoring Service, 4 December 2001 in "Russian-Norwegian Company to Construct Nuclear Waste," *Financial Times*, Global Archive, <http://globalarchive.ft.com>; Alexei Breus, "Russian Firm Tapped to Build Mobile Radwaste Processor," *Nucleonics Week*, Vol. 42, No. 48, 29 November 2001; "Radioactive Pollutant Processing Facility to Be Built in Russia's North," Interfax, 20 November 2001; Vladimir Anufriyev, "Verf 'Zvezdochka' v Severodvinske izgotovit seriyu peredvizhnykh moduley dlya obrabotki radioaktivnykh otkhodov," ITAR-TASS, 3 December 2001 in Integrum Techno, www.integrum.ru.

23 October 2001

NUCLEAR SUBMARINE REACTOR DEFUELING FACILITY BUILT AT ZVEZDOCHKA

Zvezdochka spokesperson Nadezhda Shcherbinina told ITAR-TASS that a facility for unloading nuclear fuel from submarine reactors had been built at Zvezdochka. The facility will allow the shipyard to dismantle up to 10 nuclear submarines a year. The facility was built within the framework of the Cooperative Threat Reduction program. According to Zvezdochka Director Nikolay Kalistratov, its construction cost about \$10 million. The facility is expected to become operational by November 2001.

-Vladimir Anufriyev, ITAR-TASS, 23 October 2001 in "Russia Builds Facility for Unloading Used Nuclear Fuel from Atomic Submarines," FBIS Document CEP20011023000299.

22 October 2001

ZVEZDOCHKA REPAIRS DESTROYER BESSTRASHNYY

Zvezdochka spokesperson Nadezhda Shcherbinina told ITAR-TASS that the shipyard had completed repairs on the *Besstrashnyy*, a Project 956-A Sovremenny-class destroyer, and was preparing to hand the ship over to the Russian Navy. It is the first large surface ship to be repaired by Zvezdochka and, according to Shcherbinina, the shipyard may become a permanent repair facility for this class of destroyers.

-ITAR-TASS, 22 October 2001 in "Russia: Severodvinsk Submarine Base Ready to Repair Surface Ships," FBIS Document CEP20011022000294.

Related content is available on the website for the Nuclear Threat Initiative, www.nti.org.



19 October 2001

LOW LEVEL NUCLEAR WASTE PROCESSING FACILITY LICENSED FOR OPERATIONS

On 19 October 2001, Zvezdochka spokesperson Nadezhda Shcherbinina told ITAR-TASS that the low-level radioactive waste processing facility built a year ago had finally been licensed to start operations. The facility will process both liquid and solid radioactive wastes. Processed waste will be put into 200-liter barrels, which will be enclosed in special containers. These containers can be used for storage, transportation, or burial of the wastes. -ITAR-TASS, 19 October 2001; in "Russia: Nuclear Waste Disposal Plant Commissioned in Far Northern Region," FBIS Document CEP20011019000213.

3 July 2001

ZVEZDOCHKA'S DISMANTLEMENT BOTTLENECKS

Participants at the conference on "Environmental Problems of Nuclear Submarine Dismantlement" that opened in Severodvinsk on 3 July 2001 discussed problems Zvezdochka faces in its submarine dismantlement work. Among other things, the enterprise needs a new storage area for reactor compartments from dismantled submarines and an area for burning combustible radioactive waste needs reconstruction. There are also about 400t of radioactive metal on the enterprise's territory that have to be removed. A new facility for processing low-level radioactive waste is waiting for a license from GAN to begin operations.

-"Arkhangel'skaya oblast. V Severodvinske otkrylsya seminar 'Ekologicheskiye problemy utilizatsii podvodnykh lodok'," *Pravda Severa*, 3 July 2001 in Regions.ru, 3 July 2001 in Integrum Techno, www.integrum.ru; Aleksey Verteshin, Aleksandr Yemelyanenko, "Argumenty v polzu otkrytosti," *Pravda Severa*, 9 July 2001 in Region-Inform, No. 128, (445), 9 July 2001 in Integrum Techno, www.integrum.ru.

22 May 2001

OIL DRILLING PLATFORM UNDER CONSTRUCTION AT ZVEZDOCHKA SINKS

ITAR-TASS reported that the *Arkticheskaya* oil drilling platform, which is being built at Zvezdochka, sank at the Severodvinsk port. Zvezdochka Chief Engineer Vladimir Petrushenko said that the accident would not slow down platform construction because there was no financing for it during 2001 anyway.

-Vladimir Anufriyev, "Morskaya burovaya platforma, stroyashchayasya v Severodvinske, zatonula v portu," ITAR-TASS, 22 May 2001 in Integrum Techno, www.integrum.ru.

17 April 2001

ZVEZDOCHKA TO BUILD RADIOACTIVE WASTE STORAGE CONTAINERS

On 17 April 2001, the Severodvinsk broadcasting company TVS reported that Zvezdochka had won an international tender for the construction of 300 radioactive waste transportation and storage containers. Production of the containers has been licensed by GAN. Each container holds seven 200-liter barrels that will be filled with radioactive waste. The first 100-container batch has been already produced. The contract is expected to be fulfilled by August 2001. The project is being financed by Norway, Russia, and the United States through the Arctic Military Environmental Cooperation Program.

-TVS, 17 April 2001; in *Vsya Rossiya*, No. 68 (449), 18 April 2001 in Integrum Techno, www.integrum.ru.

Related content is available on the website for the Nuclear Threat Initiative, www.nti.org.



21 March 2001

ZVEZDOCHKA COMPETES FOR INDIAN SUBMARINE REPAIR CONTRACT

On 21 March 2001, Strana.ru reported that Zvezdochka management is trying to make Rosoboronekспорт change its decision to give Admiralteyskiye Verfi in St. Petersburg a contract to repair the *Sindhugosh*, an Indian Varshavyanka [NATO name 'Kilo'] class diesel submarine. According to Zvezdochka spokesperson Nadezhda Shcherbinina, the state should support shipyard specialization and that is why the repair contract should be awarded to Zvezdochka, which has already repaired one Indian submarine and has one more under repair. Zvezdochka's management hopes to enlist the support of the Ministry of Defense, the oblast governor, and State Duma deputies in order to reverse Rosoboronekспорт's decision.

- "Oboronnyye verfi Severodvinska i Sankt-Peterburga boryutsya za polucheniye kontrakta na remont indiyaskoy podlodki," Strana.ru, 21 March 2001 in MA Foris, 24 March 2001 in Integrum Techno, www.integrum.ru;
"Severodvinskiye korably nachali borbu za zakaz voyenno-morskogo flota Indii," Rosbalt, 22 March 2001 in MA Foris, 24 March 2001 in Integrum Techno, www.integrum.ru.

2000

ZVEZDOCHKA TO MANUFACTURE CRUISE SHIP PROPELLERS

On 21 March 2001, *Rossiyskaya gazeta* reported that in 2000 Zvezdochka received a large contract to manufacture cruise ship propellers for Scandinavian companies. The article also said that Zvezdochka was awarded the exclusive right to produce oil drilling and processing equipment for Tatneft, a Russian oil company.

-Andrey Murashev, "A chem Plesetsk khuzhe Kanaverala?" *Rossiyskaya gazeta*, No. 56 (2668), 21 March 2001 in Integrum Techno, www.integrum.ru.

19 October 2000

NEW RADIOACTIVE WASTE REPROCESSING FACILITY PUT INTO OPERATION

Interfax reported on 19 October 2000 that a new facility at Zvezdochka for reprocessing radioactive waste and spent nuclear fuel will begin operating by the end of October. The facility will be used to receive, sort, deactivate, compress, package, and burn radioactive solids in special furnaces. It can also analyze and solidify liquid waste, including laundry wastewater and sea water from submarine reactors' environmental protection systems. The facility's annual reprocessing capacity is 4,000 cubic meters of liquid and 200 cubic meters of solid waste. Construction costs of the project, implemented within the framework of the US-Russian Comprehensive Threat Reduction program funded by the US government, total \$17 million. The facility will enable Zvezdochka to dismantle up to six SSBNs annually. The primary contractors of the project are Lockheed Martin Energy Systems of the United States and France's Cogema Technologies. Project equipment was supplied by SGN of France (Société Générale pour les Techniques Nouvelles, formerly Saint Gobain Nucléaire), Booz-Allen & Hamilton of the United States, and the Anglo-Norwegian Kvaerner Group.

-"Kompleks po pererabotke OYaT v Severodvinske nachnyet rabotu cherez nedelyu," Interfax, 19 October 2000; "V Arkhangel'skoy oblasti otkryt kompleks po pererabotke radioaktivnykh otkhodov," Interfax, 19 October 2000; Viktoriya Gefele "Severodvinskoye ukroshcheniye," *Arkhangel'sk*, No.196, 20 October 2000 in Integrum Techno, <http://integrum.ru>.

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23 August 2000

POWER SUPPLY TO ZVEZDOCHKA CUT DUE TO DEBTS

The Arkhangelsk power company has reduced the power supply to Zvezdochka to 6MW per day due to its debts, which exceed 43 million rubles (about \$1.5 million as of 23 August 2000).

-Vladimir Anufriyev, ITAR-TASS, 23 August 2000 in "Russia: Power Supply to Nuclear Submarine Repair Shipyard Cut Due Mounting Debts," FBIS Document CEP20000823000224.

8 June 2000

ZVEZDOCHKA REPAIRS SUBS FOR, SELLS TUNNEL TO INDIA

Murmanskiy vestnik reported on 8 June 2000 that the Indian Varshavyanka [NATO name 'Kilo'] class diesel submarine *Sindhuratna* had been sent to Zvezdochka for repairs. The *Sindhuratna* is the second Indian submarine to undergo repairs in Severodvinsk. *Sindhuvir*, the first Indian submarine overhauled at Zvezdochka, returned to service in December 1999. Zvezdochka repaired *Sindhuvir's* power plant and installed a new underwater-launched missile system for \$80 million. The repair of the *Sindhuratna* will provide jobs for hundreds of Severodvinsk workers. In 1999, Zvezdochka also received an order from India for a large cavitation tunnel, which is used to test naval equipment. In January 2000, Zvezdochka successfully ran hydraulic tests on the cavitation tunnel; parts of the tunnel have already been sent to India. Zvezdochka's specialists will travel to India in 2000 to complete the tunnel.

"Indiyskaya podlodka prishla v Severodvinsk na remont," *Murmanskiy vestnik*, 8 June 2000, p.2, in WPS *Oborona i Bezopasnost*, No.70, 19 June 2000; Pavel Kachur, "Sindhuvir Operational Again," *Military Parade*, September-October 1999, p. 32; Roman Khrapachevskiy, "Sverkhzvuk nad morem," *Izvestiya*, 9 August 2000, p. 6, in WPS *Oborona i Bezopasnost*, No. 93, 11 August 2000; Anatoliy Popov, "U 'Zvezdochki' delo--truba," *Pravda severa*, 7 March 2000 in National News Service, <http://nel.nns.ru>.

7 June 2000

NORWAY TO AID RUSSIA IN BUILDING SPENT NUCLEAR FUEL TRANSPORTATION SHIP AT ZVEZDOCHKA

At a meeting of the Russian-Norwegian commission on radioactive waste and security on 7 June 2000, Russia and Norway reached an agreement to build a ship for transporting containers with spent nuclear fuel and liquid radioactive waste. The ship will be designed, constructed, and commissioned by 2003. Russia and Norway plan to ask other industrialized countries to aid in building this ship, a project that is estimated to cost \$20 million. Zvezdochka will construct the vessel.

-Denis Pinchuk, ITAR-TASS, 7 June 2000 in "Russia, Norway to Build Ship to Transport Spent Nuclear Fuel," FBIS Document CEP20000607000286.

May 2000

SEVERODVINSK RESIDENTS OPPOSE STORAGE OF SSBN REACTOR COMPARTMENTS IN THE CITY

The newspaper *Zelenyy mir* reported that the Severodvinsk Municipal Council and the City Environmental Committee oppose plans to create temporary nuclear submarine reactor compartment storage facilities at enterprises in the city. However, an interdepartmental government commission recommended that Minatom and the Russian Shipbuilding Agency conduct a project feasibility study nevertheless.

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-"V epitsentre utilizatsii," *Zelenyy mir*, No.13, May 2000, p. 3.

10 May 2000

ZVEZDOCHKA CONTAINERS TO CARRY AND STORE LOW-LEVEL RADIOACTIVE WASTE

Vladimir Shtefan, deputy director of Zvezdochka, told ITAR-TASS that the shipyard had completed the design and construction of 100 containers for the transport of low-level radioactive waste by road, rail, and ship, as well as for short-term storage. The project is being managed and financed by the US-Russian-Norwegian Arctic Military Environmental Cooperation (AMEC) program. According to ITAR-TASS, up to 1,500 containers per year will be needed. AMEC projects the construction of 1,300 containers per year.

-"Defense Shipyard Designs Container for Radioactive Waste," ITAR-TASS, 10 May 2000 in *Russian Environmental Digest*, Vol 2, No. 19, 8-14 May 2000; Andrey Korolev, "Containers for Nuclear Submarine Wastes," Bellona Foundation, www.bellona.no, 22 May 2000; "Factory Makes Radioactive Waste Containers," BBC Summary of World Broadcasts, 19 May 2000 in *Russian Environmental Digest*, Vol 2, No. 20, 15-21 May 2000.

17 January 2000

ADMIRAL USHAKOV TO BE REPAIRED AT ZVEZDOCHKA

Russian Admiral Vladimir Kuroyedov announced on 17 January 2000 that the Orlov [NATO name 'Kirov'] class nuclear-powered battle cruiser *Admiral Ushakov*, based in Severomorsk, will remain in service and is being repaired at Zvezdochka.

-"Russian Navy To Keep Nuclear Cruiser Admiral Ushakov," ITAR-TASS, 17 January 2000 in FBIS Document FTS20000117001656.

25 December 1999

VERKHOTURYE SSBN REPAIRS COMPLETED

19 April 1999

NORWAY INVITED TO PARTICIPATE IN NUCLEAR INSPECTION

The Russian Federal Inspectorate for Nuclear and Radiation Safety (Gosatomnadzor) invited the Norwegian Radiation Protection Authority to participate in an inspection of liquid radioactive waste collection tanks at the Zvezdochka shipyard. Erling Stranden, a department head at the Norwegian Authority, said that Norway sees the inspection as a "vote of confidence." (Access to facilities has been a problem in the past.) Stranden also said that there is an urgent need to improve the storage tanks, since some of them have started to leak. In the short term, an outer collection tank keeps nuclear materials from leaking out into the environment.

-"Invited to a Joint Inspection," *Aftenposten*, 19 April 1999 in "Joint Russian, Norwegian Nuclear Inspection," FBIS Document FTS19990423000543, 19 April 1999.

April 1999

SHIPMENT OF SPENT NUCLEAR FUEL SETS OFF FOR MAYAK

In early April 1999, loaded with spent naval fuel from the PM-63 service ship, the first trainload of spent naval fuel of 1999 left Severodvinsk, bound for the Mayak Chemical Combine's reprocessing facility. Although ten trainloads

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of spent fuel per year must reach Mayak in order to catch up with the increasing amount of fuel being removed from decommissioned nuclear submarines, financial problems and a lack of equipment have greatly limited the number of trainloads sent. In 1998, only three trainloads of fuel traveled to Mayak, at a cost of \$1-\$1.5 million each. The Russian government is supposed to provide the funds, but the payments are consistently late. An additional trainload of spent fuel will leave for Mayak from Severodvinsk in May 1999, with three more trainloads slated for 1999. One train can carry approximately 580 spent fuel assemblies, the equivalent of two or two and a half reactor cores.

-Igor Kudrik and Alexey Klimov, "Nuclear train leaves Severodvinsk," Bellona, www.bellona.no, 30 April 1999.

January 1999

SSBN DISMANTLEMENT CONTINUES AT ZVEZDOCHKA

As of January 1999, the Zvezdochka State Machine Building Enterprise had completely dismantled one SSBN and was in the process of dismantling two more with the help of US technical and financial assistance. The US Department of Defense awarded Zvezdochka the \$4.25 million contract for the first submarine, which had been defueled, in March 1997. The US intends to help fund the dismantlement a total of 15 Northern Fleet SSBNs at the Nerpa Shipyard and at Zvezdochka under the Strategic Offensive Arms Elimination project of the Cooperative Threat Reduction Program. Spent fuel storage and long-term reactor compartment storage, however, remain problems in the efforts to dismantle Russian nuclear submarines.

-James Clay Moltz, interview with US Defense Department official, Defense Threat Reduction Agency, Dulles Airport, Virginia, 14 January 1999; Denis Pinchuk, "Plant Begins Scrapping Decommissioned Nuclear Submarine," ITAR-TASS, 2 July 1998 in FBIS-UMA-98-183, 2 July 1998.

9 September 1998

WORK SUSPENDED AT SEVERODVINSK SHIPYARDS

As a result of growing tensions among workers, management at both Severodvinsk nuclear shipyards has suspended work for several days and asked workers to stay home until 14 September 1998. Although the shipyards have provided food as partial payment, cash is lacking throughout the city.

-*Russian Public Television First Channel Network*, 9 September 1998 in "Work Suspended at Russian Nuclear Submarine Shipyards," FBIS-UMA-98-252.

23 February 1998

DISMANTLEMENT INFRASTRUCTURE IMPROVEMENTS PLANNED

The Defense Special Weapons Agency has named Zvezdochka as the only facility that has the information, resources, and expertise necessary to fulfil a contract that will be awarded to improve infrastructure for submarine dismantlement. This contract comes under the CTR Program.

-*"Infrastructure Improvement for Submarine Dismantlement at Zvezdochka State Marine Steamship Company," Post-Soviet Nuclear & Defense Monitor*, 23 February 1998, p. 12.

6-7 February 1997

STRIKING SHIPBUILDERS DEMAND YELTSIN'S RESIGNATION

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Wage arrears, federal debt to the Sevmash and Zvezdochka shipyards, and inadequate social care prompted a two-day strike outside of Northern Fleet command headquarters in Severodvinsk on 6 February 1997. According to Severodvinsk Deputy Mayor Vasiliy Uvarov, the federal government owes the shipyards more than 1 trillion rubles (around \$177 million) for work already completed. Other city workers joined the shipyard employees in the strike. Protesters circulated a petition demanding the resignation of Russian President Yeltsin and his government.

-*Krasnaya zvezda*, 7 February 1997 in "Informatsiya," *Yaderniy kontrol*, No. 28, April 1997, p. 11; NTV, 6 February 1997 in "North Fleet Ship-Repair Workers Protest Over Pay Arrears," FBIS Document FTS19970206001933; NTV, 6 February 1997 in "NTV Highlights Problems in Severodvinsk Enterprises," FBIS Document FTS19970206001936; Vladislav Kuzmichev and Vladimir Sanko, "Crisis": "The Strikers Advance Political Demands: Workers' Families in Severodvinsk Are Being Fed through the Use of Coupons at Plant Cafeterias," *Nezavisimaya gazeta*, 8 February 1997 in "Severodvinsk Defense Workers Demand Government's Resignation," FBIS Document FTS19970324001420.

February 1996

ZVEZDOCHKA TO BUILD OIL DRILLING PLATFORMS AS PART OF CONVERSION PROJECT

The Zvezdochka facility has started constructing a \$120 million floating oil drilling platform. The facility also plans to build the largest stationary ice-resistant platform in the world, costing ten times more than the floating platform. The Rosshelf Joint Stock Company, in which Gazprom has a large share, has ordered the equipment from Zvezdochka, creating jobs for defense industry workers. The construction of drilling platforms is part of a major conversion program at the facility.

-"Defence Shipyards to Build Drill Platforms for Arctic Seas," *Military Industrial Complex Newsletter*, Issue 2, February 1996, p. 2.

27 December 1995

LACK OF FUNDS DELAYS REPAIR OF SUBMARINES

The first nuclear submarine of the *Delta IV*-class is under renovation at the Severodvinsk machine building facility Zvezdochka. If no additional funds are allocated to expedite the repair works the submarine will be ready by 2015 and another six *Delta IVs* could be repaired by 2100[sic].

-"Clenching Teeth and Cursing the Authorities," *Pravda*, 27 December 1995, p. 1.

12 November 1994

UNITED STATES DONATES EQUIPMENT

It was reported that the United States had provided Zvezdochka with free equipment designed for the dismantling and salvaging of nuclear submarines.

-Vladimir Gundarov, "Russian Submarines Will Perish in the Jaws of American 'Sharks'," *Krasnaya zvezda*, 12 November 1994, p. 5 in "US Donates Submarine Dismantling Equipment," FBIS-SOV-94-220, 12 November 1994.

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