Arctic ambition

Sovcomflot, Russia's largest shipping company and one of the world's leading energy transporters, has revised its course towards specialized energy shipping services and the offshore market. Technical director Alexander Sokolov talks about the future of Russia's shipping industry and the company's ambitions to carve a niche in arctic energy shipping.

Q: which Sovcomflot's achievements make you the most proud?

A: Our Arctic voyages. Having a strong fleet of ice class vessels, we have recently resumed transporting oil and oil products through the Northern Sea Route. It is twice as efficient as the traditional route via the Suez Canal.

Since 2001, when we first started our ice operations in Primorsk Oil Terminal in the Baltic Sea, our tankers have been transporting oil from the Murmansk region and the White Sea. After acquiring sufficient experience in ice operations, we started transporting oil from the Varadei Terminal in the Barents Sea.

Another achievement is our development of a relationship with the Russian gas giant, Gazprom. In June 2011, Gazprom Global LNG and Sovcomflot signed a long-term lease agreement for two ice class liquefied natural gas (LNG) carriers. This is a new and very promising market segment for us – after all, gas is the fuel of the future. We are also proud of the average tanker age of our fleet, which is only 7.2 years.

Alexander Sokolov, technical director at Sovcomflot

It is quite possible that Russian shipbuilding will compete with that of Korea and China.

Q: Sovcomflot's development strategy until 2017 envisages, amongst other things, an increased share in the company's specialized energy shipping services, in particular LNG transportation and shuttle tanker operations. How is it going to affect the newbuilding programme?

A: It appears that all new projects will require building fundamentally new kinds of ships with a higher ice class. To give an example, the Yamal LNG project for developing the South Tambey field in the Arctic area of the Yamal peninsula is currently underway. We are working on a concept for building new cargo ships to operate in arctic conditions and are analyzing various configuration options for propulsion units. As rudder propeller units are one of the main propulsion options for icebreakers, ABB's Azipods could play a big part in this.

Q: How does the new strategy reflect shifting market demands?

A: Crisis in the tanker segment and in the shipping market in general does not appear to be ending in the near future, making Sovcomflot seek new

Sovcomflot's new icebreaking supply vessels are designed for extreme arctic conditions

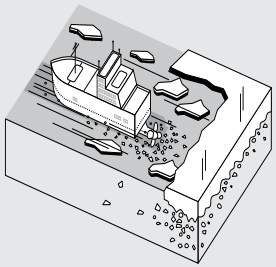
opportunities. This is why we are taking on offshore projects and looking into converting our existing tankers into shuttle tankers that could transport oil from international platforms. We have also entered the seismographic research vessel market for the first time. Difficult market conditions are making many companies review their strategies and enter new areas of development.

Q: The construction of two multifunctional icebreaking supply vessels by the Arctech Helsinki Shipyard seems to be an important step towards Sovcomflot's further expansion in upstream services. How did this project start and what is its current status?

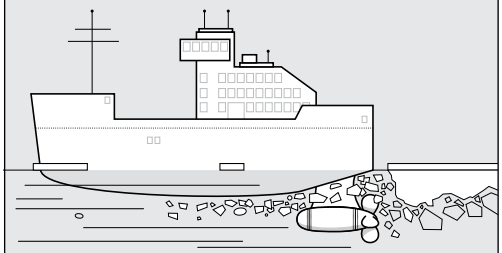
A: In 2009, Exxon Neftegaz Limited announced a tender for a long-term charter of two icebreaking supply vessels to transport supplies to the Sakhalin-1 platform developing the Arkutun-Dagi offshore oil field in the Russian Far East. Sovcomflot was successful with this tender, and in December 2010 signed an agreement with Exxon Neftegaz Limited to build these vessels at the Arctech Helsinki Shipyard in Finland.

These two vessels of 4,000 DWT each are designed for extreme arctic conditions and will operate in ice of up to 1.7 meters thick. Both vessels will have ABB propulsion and electrical systems. A Russian ship-building company, Vyborg Shipyard, is constructing the hull elements of the new vessels. A keel laying ceremony was held at the Arctech Shipyard in January 2012, marking the start of the construction. Both vessels are scheduled for delivery in the spring of 2013, but we are hoping to receive them a few months ahead of schedule.

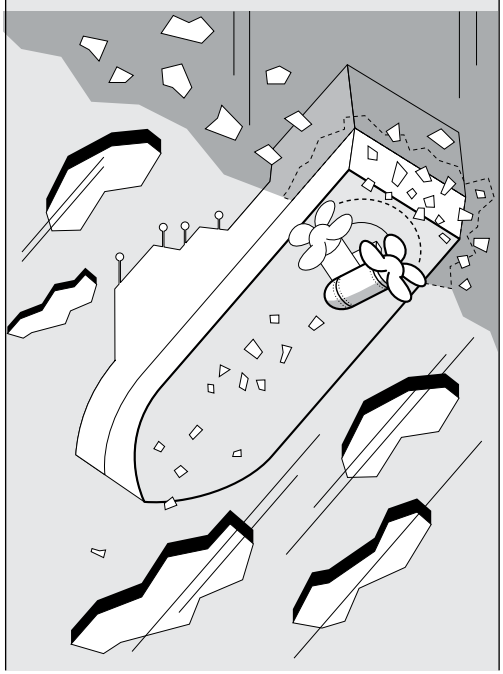
How Azipod® breaks the ice



When icegoing vessels equipped with Azipod propulsion systems run astern in ice, the propellers mill the underwater part of the ridge, cutting a passage through.



The water flow generated by the propeller flushes the hull, making it easier for the ship to move through the ridge field.



Q: What were Sovcomflot's main reasons for choosing ABB as a supplier of the propulsion and electrical systems for those vessels?

A: Sovcomflot has a policy of not interfering in commercial negotiations between shipyards and equipment suppliers. We agree on a list of suppliers during the pre-contract stage. The main condition for choosing a supplier is full compliance with the technical specifications that we develop together with the shipyard. The fact that ABB could provide not only the Azipod propulsion units, but also the power generation and distribution systems was definitely an advantage. Having all the equipment from one supplier significantly simplifies vessel maintenance. This has been our first experience with ordering a complete power and propulsion solution from ABB, as we are taking our partnership to a new level.

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Q: What are Sovcomflot's previous experiences with Azipod in ice conditions?

A: Oil transportation from the Varandey Terminal to Murmansk and over three years of successful operations in the Barents Sea. Arctic shuttle tankers of the Vasily Dinkov type have already proven their capability for operating in extremely low temperatures. Cargo operations took place in temperatures as low as -32°C. Our Arctic tankers were able to operate without the need for any ice-breaker escort in harsh ice conditions in the Novaya Zemlya region, where the drift ice thickness exceeds 1m and pack ice gets as thick as 2.5 meters. So far, the Sovcomflot tankers have transported over 10 million metric tons of crude oil from the Varandey Terminal in harsh ice conditions.

Q: Were there any challenges in terms of Azipod operations?

A: Yes, with our Timofey Guzhenko tanker, which transports oil from the Varandey Terminal. In 2009, Sovcomflot signed an agreement with ConocoPhillips, Samsung Heavy Industries and ABS to install additional equipment on the vessel to create a 'floating ice laboratory'. This equipment included a system of sensors and measuring instruments that allowed monitoring of ice pressures and loads. After assessing the over torque capability of the ABB propulsion system, we could see that the Azipod drives had to be adjusted to match the technical specifications. We tried doing that ourselves and failed, so we called in a group of experts from ABB, ConocoPhillips and the Central Marine Research and Design Institute to help us. They managed to adjust all the necessary parameters and we got positive results straight away. After the experts measured ice loads, we could see that the propulsion system could reach 50 percent over torque, as stated in the technical specifications. This has significantly increased the icebreaking capability of the vessel.

Q: Did Sovcomflot get any evaluations of Azipod performance from independent experts?

A: Experts from the Krylov Shipbuilding Research Institute in Saint Petersburg expressed doubts regarding Azipod's performance on ice thicker than 1.5 meters. One of the main concerns raised by the scientists during their theoretical discussions was the strength of the nacelles. However, ice model tests of Arctic shuttle tankers, previous operation of Azipod ice breakers and Sovcomflot's over three years of successful experience in tanker operations in the Barents Sea have confirmed that we were right with choosing this option.

Q: What have been the key recent Sovcomflot voyages?

A: That of *SCF Baltica* through the Northern Sea Route in August 2010 was quite remarkable. This was the first voyage attempted by an Aframax tanker of more than 100,000 DWT along this shipping lane. SCF Baltica transported 70,000 metric tons of gas condensate from Murmansk to Ningbo, covering a total distance of 7,000 nautical miles, about 2,500 of which were via the Northern Sea Route. The traditional shipping route to China via the Suez Canal would take about twice as long. The world's two most powerful nuclear-powered ice-breakers – *Rossiya* and *50 Let Pobedy* – escorted *SCF Baltica* during this voyage. The main goal of this voyage was to determine the

Sakhalin-1 platform developing the Arkutun-Dagi offshore oil field in the Russian Far East

feasibility for transportation of hydrocarbons from the Barents and Kara Seas to the markets of Southeast Asia along the Northern Sea Route on a regular, economically viable and safe basis.

Last year, the 160,000 DWT Suezmax tanker *Vladimir Tikhonov* completed the same voyage, carrying a cargo of over 120,000 metric tons of gas condensate. This voyage set a new record by accomplishing the Northern Sea Route transit in just seven days and with the average speed of 14 knots.

Q: Has Sovcomflot moved closer to year-round shipping in Russia's Arctic waters?

A: Even though it might be a bit early to talk about year-round shipping, our experience with the Northern Sea Route voyages shows the potential for navigation in the Arctic region. All the new offshore projects are linked to oil and gas exploration in the Arctic. This means that in the future we will need not only to supply vessels, but also large tankers that can transport oil and gas from the Arctic region all year round. Even despite global warming, the average Arctic ice thickness is over 3 meters. This would require icebreaker cargo ships that do not exist at the moment. A substantial icebreaker escort could be an alternative solution, but there are not that many icebreakers navigating the Northern Sea Route.

Q: The development of offshore oil fields in Russia's Arctic seas lacks investments mainly due to high taxes. How does this impact Sovcomflot?

A: To give you an example, our fleet includes two Arctic shuttle tankers built by the Admiralty Shipyard for transporting oil from the Prirazlomnoye field, the first commercial offshore oil development in the Arctic. But due to lack of finance, the field development has been continuously delayed. As a result, these vessels have been operating as storage tankers for over a year now. As soon as they leave ice, their economic performance falls, and the best way of using them – especially in difficult market conditions – is as storage tankers. One of these vessels has been operating in African waters for quite a while, and the other is still operating in the Black Sea. Not exactly the Arctic!

Q: Apart from tax reform, what can improve this situation?

A: Shipyards need to change their management system. Many of them are still living in the old reality of the Soviet Union and are expecting orders from the government, as well as public funding. They do not even consider self-financing. When we first started working with the Admiralty Shipyard, one of the largest shipyards in Russia, we could see that it was not yet ready to comply with international

industry standards. But since 2001, the shipyard has made significant progress – it has started loaning from banks and distributing the funding provided by Sovcomflot. Unfortunately, this is more of an exception: most of the shipyards are still lagging behind. I would say that the only other shipyard in Russia with a modern management system is Krasnoe Sormovo.

Q: What other challenges does Russia's shipbuilding industry face today?

A: Historically, Russian shipyards specialized in building warships. Civilian shipbuilding was not a priority. In most cases, a shipyard would commission a project to an external construction bureau, while governmental bodies would manage the construction processes. Today, shipyards in Russia rarely work on building modern vessels. There are no construction bureaus within shipyards, and it is increasingly difficult to break the trends of the past. Another problem is that Russian shipbuilding capacity is currently limited to constructing vessels of up to 90,000 DWT. All existing docks and slipways are designed for building long and narrow vessels, for servicing the needs of the military. There are also technical challenges that hamper the development of the shipbuilding industry in Russia. Most modern international shipyards use sectional construction as a building method, while Russian shipyards do not have large enough docks and still have to use inclined slipways. Building a new, modern shipyard would be a significant step forward.

Q: What are Sovcomflot's strategies regarding the newbuilding programme, considering that the Russian shipbuilding industry is facing many difficulties?

A: Sovcomflot is actively cooperating with the United Shipbuilding Corporation, which was established by the Russian government in 2007 to unite all shipbuilding subsidiaries in Russia. This cooperation has already resulted in a number of contracts, including an order for construction of six Aframax tankers at Zvezda-DSME shipyard, a joint venture between the United Shipbuilding Corporation and Daewoo Shipbuilding & Marine Engineering.

The establishment of the United Shipbuilding Corporation is a major step forward for the Russian shipbuilding industry. The Corporation is currently working on a project for building a new shipyard in Kronshtadt on the Kotlin Island west of Saint Petersburg. If this is a success, it is quite possible that Russian shipbuilding will be able to compete with that of Korea and China.

Sovcomflot in numbers

– 156 vessels of 11.78 million DWT

– 15 newbuildings of 1.58 million DWT

– 7.2 is the average age of the tanker fleet

– 5754 seafarers

– 2213 shore-based personnel

Text: Ryan Skinner, Margarita Sjursen

Photos: Sovcomflot