

Aleksandr Sannikov enters service in the Gulf of Ob



Aleksandr Sannikov, constructed at Vyborg Shipyard, was delivered in Saint Petersburg at the end of June.

The first of two powerful icebreakers designed for the Arctic Gate oil terminal and constructed at Vyborg Shipyard, *Aleksandr Sannikov*, was delivered at the end of June in Saint Petersburg and has now begun work in the Gulf of Ob.

The icebreaker will be stationed at the Arctic Gate oil terminal and used to support year-round transportation of oil from the Novoportovskoye field onboard icebreaking shuttle tankers. The loading tower is located 3.5 kilometres offshore in the central Gulf of Ob, an area characterized by shallow water and harsh winters during which the ice can grow up to two metres thick and remain in place for nine months. With intense tanker traffic the partially refrozen ice rubble around the terminal can become several metres thick, reaching almost to the bottom of the sea.

State-of-the-art solutions

Aleksandr Sannikov is based on the Aker ARC 130 A design developed by Aker Arctic. Compared to the Finnish icebreaker *Polaris* that was used as the

parent design, the new icebreaker has been given additional ice strengthening and higher propulsion power to match the more challenging operational conditions of the Arctic. The vessel is also thoroughly winterized to operate in ambient temperatures as low as -50°C during the winter months.

"*Aleksandr Sannikov* is designed to operate efficiently in all environmental conditions encountered in the Gulf of Ob," says Project Engineer Tuomas Romu.

The diesel-electric propulsion system consists of three azimuthing propulsion units, two in the stern and one in the bow, giving the vessel excellent manoeuvrability during icebreaking operations. In open water the transverse bow thruster provides DP2 level dynamic positioning capability.

“Both features are important when operating year-round in close proximity to other vessels and the loading terminal,” Romu adds.

Important secondary duties

In addition to icebreaking and ice management, *Aleksandr Sannikov* is equipped for a wide range of important secondary duties while on standby at the offshore terminal. Her powerful external fire-fighting system meets the most demanding class notation from the Russian Maritime Register of Shipping (RS). She also carries multiple workboats and oil spill response equipment and has dedicated storage tanks for recovered oil. The open aft deck served by a 26-ton crane can be used to transport containers and other cargo. The forward helideck is dimensioned for large Russian helicopters such as the Mi-8.

Aleksandr Sannikov's sister ship, *Andrey Vilkitsky*, is currently under construction at Vyborg Shipyard and will be delivered later this year.

“These two vessels are the most powerful diesel-electric icebreakers ever constructed in Russia,” Romu says. “In terms of icebreaking efficiency and overall operational capability, there are no similar icebreaking vessels in service anywhere in the world.”

Full-scale tests are planned for next winter.



In terms of icebreaking capability, the Aker ARC 130 A design is comparable to the well-known nuclear-powered icebreakers Taymyr and Vaygach, but requires about 40% less propulsion power.

The 42,000 DWT shallow-draught Shturman Albanov-class tankers built by Samsung Heavy Industries loading oil at the Arctic Gate terminal utilise the Double Acting concept and hull form developed by Aker Arctic.



Photograph: PJSC Gazprom Neft

Technical specifications:

| | | |
|-----------------|-------|------------------------------|
| Length: | 121 m | Propulsion: Diesel-electric; |
| Beam: | 26 m | two 7.5 MW ABB Azipod units |
| Design draught: | 8 m | in the stern and one 6.5 MW |
| | | Azipod unit in the bow |
| | | Ice class: RS Icebreaker8 |

Port icebreaker Ob has been launched

The highly advanced port icebreaker *Ob*, designed for keeping the arctic harbour in Sabetta open and to assist LNG tankers in berthing and loading at the terminal, was launched at Vyborg Shipyard on the 21st of June.

During the cold winter months a thick layer of consolidated ice rubble forms in harbours when the ice is constantly broken by the visiting ships. As the broken ice pieces mix with cold water and freeze again, the brash ice can grow to be several metres thick. *Ob* is based on the Aker ARC 124 design developed to operate efficiently in thick brash ice which is the most challenging condition in Sabetta harbour.

“Manoeuvrability has been taken to a new level with four azimuthing propulsion units, two in the bow and two in the stern,” says Project Manager Mika Hovilainen.

“The icebreaker will be very capable in the harbour basin in Sabetta where it will assist the large LNG tankers in berthing. Additionally, the propulsion units will be efficient in flushing the ice away when cleaning the quayside from ice.” The ship will also be equipped with

ABB's new Onboard DC Grid, an electrical system which offers the advantage that the main diesel generators can run at variable speed rather than fixed speed. An additional feature is Wärtsilä's 31 series main engine with online engine monitoring, improved fuel economy and a modular design. The installed propulsion power will be 12 MW.



Photograph: Alexander Polunin/Sudostroenie.info