



SHIPPING ON THE NORTHERN SEA ROUTE

A NEW DAWN?

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The Northern Sea Route (NSR) is the term used by Russia to describe the sea area between Novaya Zemlya island in the west to the Bering Strait in the east and out to 200 nautical miles from shore. It also describes an area where Russia maintains a special regime for navigation, with reference to the “ice paragraph”, article 234 in the United Nations Convention on the Law of the Sea that allows coastal states to regulate traffic on a non-discriminatory basis in ice-covered areas within the exclusive economic zone to prevent pollution.

Shipping companies using the sea route must apply to Russia’s Northern Sea Route Administration to enter or pass through the sea route area. The administration determines whether icebreaker escort is required or if the ship can navigate autonomously, based on ice class, season and ice situation. If escort is required, the shipping company or the cargo owner must negotiate conditions for escort with

a Russian icebreaking company, in most cases state-owned Atomflot, currently operating four nuclear icebreakers.

In terms of navigation, the NSR is not one clearly defined linear route, but several possible routes within this sea area. Due to the shifting ice conditions along most of the NSR, the optimal route choice for vessels navigating the NSR will vary. Depending on seasonal, regional and annual variations in ice cover, vessels will sometimes choose routes close to the mainland, and other times routes through the many archipelagos or routes north of them. Navigation may also include stretches outside the 200 nautical mile boundary.

TRANSITS AND CARGO

The Soviet Union developed the sea route for two main purposes: supplying settlements along the Siberian coast and bringing out raw materials and metals from the Russian North, especially from the vast mineral and metallurgical complex

in Norilsk. International traffic between the Pacific and the Atlantic was very rare, and in fact the Northern Sea Route was opened for foreign vessels only in 1991. It took almost twenty years before the international shipping industry began to pay serious attention to the possibility of using the Northern Sea Route for transits. Interest was spurred by reports of a rapidly shrinking ice cover as well as improvements in Russian administrative routines. Lower icebreaker escort fees also helped.

Whereas there were zero full transits in 2009, the following four years saw a rapid increase in voyages between the Pacific and the Atlantic, but only in relative terms. The absolute number of ships was very limited. In 2013, the year with the highest reported transit activity, there was only about 15 full international transits, i.e. from a non-Russian port to a non-Russian port via the NSR. In 2016 there were 7 such voyages. An additional 13 and 7 journeys in the same years



took place between ports in North West Russia (Murmansk, Arkhangelsk, Vito, St. Petersburg) and the Pacific.

The basic attraction of NSR transit is the shorter travel distance between ports in North East Asia and Europe, compared to the southern route to those places through the Suez Canal. The distance saved depends on the port of departure and the destination as well as the exact route, but sailings from Yokohama to Hamburg, for example, could be shaved of more than 4,000 nautical miles, translating into sailing time reduced by a week or considerably more, depending on speed assumptions.

The full international transits which have taken place have been dominated by bulk vessels, some tankers, reefer ships, and general cargo vessels. Quite a few have been ballast and repositioning. Undoubtedly, some of the transits taking place had an experimental character. The voyages from ports in Northwest Russia were dominated by oil products and chemicals up to 2013, but this traffic decreased as the cargo owners changed their logistics schemes.

Even if transit on the NSR remains attractive for shipping operators moving some cargoes to some destinations, it is also clear that the route has limitations: a short sailing season due to heavy ice for at least half the year; draft and thus ship size limitations, if vessels have to pass through certain straits; higher construction costs of ice class ships; unpredictable ice situation, even if there sometimes is no ice along the NSR in the summer season, ice may occur and delay transits; uncertainty of future escort fees. Many of these limitations are particularly challenging for container traffic, less so for bulk.

In 2016 various types of cargo was handled at altogether 19 ports in the NSR area. But there are only two fully fledged, advanced ports, Sabetta and Dudinka.

PORTS

Sabetta has been under construction on the Yamal Peninsula since 2012. An important LNG development project has simultaneously been taking place near Sabetta on the eastern side of the Yamal peninsula. This is easily the biggest new industrial and port project anywhere in the Arctic and the development phase has been intense. Sabetta had some 550 port calls of ships with materials and equipment only in 2016. The port, which has become one of the biggest in the Arctic, has six berths with a total length of 1,300 meters and maximum draft of 11.5 meters. It has been a complicated operation because of harsh weather conditions and the need to remove some 70 million cubic meters of dredged material from the harbour as well as in the 5.6 km access channel. That work has been carried out by Usk Most.

The Yamal LNG company is owned by Novatek of Russia (50.1%), Total (20%), CNPC of China (20%) and the Chinese Silk Road Fund (9.9%). To transport the gas 15 icebreaking LNG carriers have been specially designed and are being built by DSME in Korea. The ships will be operated by three joint ventures: A Sino-Greek, a Sino-Japanese and A Sino-Canadian, whereas one ship is fully owned by Russia's Sovcomflot. The carriers, one every 40 hours, will bring the LNG, which mainly will be sold in Asian markets, to Europe (Zeebrugge) for reloading in the winter season and directly to Asia in the 'summer' when ice conditions permit sailing

eastwards. The exact balance between the western and eastern sailing direction is not known, however. The carriers are designed to operate independently in the open sea areas, but there will be a need for nuclear icebreakers to keep a channel open along the Yamal peninsula large parts of the year, and port icebreakers for Sabetta are also included in the project. Production and shipments will commence in the autumn of 2017, increasing to an annual volume of 16.5 million tons of LNG by 2020.

Initially the port will only serve the LNG project, but there are plans to build a railway line across the peninsula connecting the port to a railway line on the western side and further on to the southern parts of Siberia and the industrial centres there. If these plans are realised, Sabetta could become a significant container port.

Further to the East along Russia's northern frontier, Dudinka is the port at the mouth of the Yenisey River handling cargo to and from the inland mining and metallurgical production centre in Norilsk. The berths total 1,700 meters. The traditionally dominant cargo producer in the Russian Arctic, Norilsk Nickel, operates its own fleet of ice class vessels, transporting metals and ore from Dudinka to Murmansk or directly to European markets, expected to increase to 1.5 million tons this year.

Another new port under development is Cape Kamenny, some 170 miles south of Sabetta. But this is basically a sea terminal for loading of oil from the oil project Novy Port.

Other ports in the sea route area are small and in poor condition, certainly not equipped to handle larger volumes of containers. The settlements along the Siberian coast



At Dudinka Port a river barge is loaded with containers for transportation up the Yenisei River

Source: Northern Sea Route Administration

Cape Kamenny	2,263
Sabbetta	1,574
Dudinka	1,059
Pevek	310
Cape Zeleniy	109
DIKSON	95
KHATANGA	64
INDIGIRKA MOUTH	56
TIKSI	46
NIZHNEYANSK	31

Table: Volume of cargo (both incoming and outgoing) handled by largest NSR ports 2016 in thousand tons

are small, but the ports are located at the mouths of big river systems connecting them to the interior. The combination of river and sea transport is well known in Russia. The resource base for new extraction projects exists, but development is slow. The volume of subsidized supplies transported by sea to remote ports and settlements is going down and being replaced by air and rail/river transport.

FUTURE

It seems evident that the main activity on the Northern Sea Route in the coming years will be in its western part, connected to development and operation of large scale onshore resource extraction projects. In addition to the projects mentioned

here, there is a potential for more oil, LNG and also coal projects. They will require substantial supplies of materials and equipment by sea, both from the east and the west, as has been seen with Yamal LNG. The outlook for international transits between the Pacific and the Atlantic is more uncertain.

Schemes to overcome the sea route's limitations are being discussed, notably the creation of a container shuttle through the Arctic with purpose-built ice class vessels and reloading at both ends. The commercial potential for such a route remains to be seen. Depending on the progress of investment projects connecting the coast with the interior, new opportunities for container traffic may emerge.

ABOUT THE AUTHOR

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