



DIRECTORATE-GENERAL FOR EXTERNAL POLICIES
POLICY DEPARTMENT



**OPENING OF
NEW ARCTIC
SHIPPING ROUTES**

AFET

DIRECTORATE-GENERAL FOR EXTERNAL POLICIES OF THE UNION

DIRECTORATE B

POLICY DEPARTMENT

STANDARD BRIEFING

OPENING OF NEW ARCTIC SHIPPING ROUTES

Abstract

Neither the Northwest nor the Northeast Passage has so far become important in international shipping. Nevertheless, the prospects should be re-assessed in light of new circumstances in the Arctic, especially the changing ice situation which makes it possible to envisage a future with drastically increased shipping activity. This paper argues, however, that developments on the two sea routes in question today are not straight forward. In the case of the Northwest Passage, ice problems are expected to remain a major limiting factor for many years and the Canadian authorities are not actively promoting international usage of the route, something which is partly related to legal controversies over the status of the passage. In the case of the Northeast Passage, Russia actively advertises its Northern Sea Route, seeing rapidly improving ice conditions. However, the commercial conditions remain uncertain and necessary investments in ice-breakers and infrastructure are so far missing. The Northern Sea Route may, besides its regional usage, especially in the western part, have the potential for limited transits in the most favourable season. The Russian vision of year-round transit traffic seems quite unrealistic within the perspective of this decade.

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EXECUTIVE SUMMARY

Trans-Arctic shipping is not a new phenomenon. The two existing passages, the Northeast Passage (NEP) and the Northwest Passage (NWP) are both intriguing and tempting for international shipping, since their usage would reduce the sailing distance between ports in Europe and Asia and between the US East Coast and the Pacific considerably. The reduction in sailing distances that can be obtained from using the NEP is considerable. Clearly the saving potential is largest for sailings from Northern Europe to North-East Asia, when compared with the Suez route. Sailings around Cape of Good Hope or the Panama Canal are longer, except for Vancouver via Panama.

The distances saved by using the NWP instead of the Panama canal are less impressive than in the case of NEP/Suez, but nevertheless substantial. The stretch London to Tokyo is estimated at 16,000 km through NWP, against 23,000 km through the Panama Canal.

NEP – or the Northern Sea Route (NSR) which is the Russian name - is clearly the most developed route and has a long history. Traffic on the NSR peaked in 1987 with a total freight volume of about 7 million tons and fell rapidly afterwards due to the collapse of the Soviet economy. With the transformation of the economic system and continued economic recession, financing of NSR infrastructure became a big challenge and ports and navigational systems deteriorated. Thus, traffic continued to decline. The Russian authorities put hope in finding new financial resources from fees paid by foreign shipping companies, after the route was formally opened to foreign vessels in 1991, but so far the international shipping community has not shown a sufficient interest. Since the late 1990s the total transported volume has been about 1.5 million tons per year, about half of it metals and ore from Norilsk.

Research carried out in the 1990s under the auspices of the International Northern Sea Route Programme (INSROP) showed that there is a potential for increased or sustained *regional* traffic based on exports from the Russian North, although the potential is smaller than many Russian estimates indicate. The main cargoes considered were gas condensate and , liquid natural gas, crude oil, non-ferrous metals and ores, timber, and coal.

Whereas the dominant Russian approach is to find ways of sustaining – or rather invigorating – NSR as a continuous national transport infrastructure permanently serviced, shipping companies tend to look at individual transport projects that can be profitable. Some shipping companies see a potential for voyages with heavy, high value, not time-sensitive cargoes for industrial developments, utilizing the most favourable sailing season. The official Russian expectations is that hydrocarbon development projects in the Russian North – particularly in the Yamal peninsula – Ob Bay area – will require substantial shipping activity both in the construction phase and to transport products out.

The question remains if the sea route can become attractive transport alternative or if it will remain an alternative of last resort, used as little as possible only when no other solutions can be found. Heavy investment is needed to make NSR a viable transport route that would yield enough income to finance running costs. Absent serious Russian state investment the operational conditions may continue to decline despite improved ice conditions.

The Northwest Passage passage is far less developed than the NSR. Since the first sailing in 1903 no commercial ship has passed through, except tourist ships and the trial voyages with the tanker 'Manhattan' in 1969. Generally the ice conditions are more complicated than along NSR, even if the passage has been reported ice free for brief periods in recent years. The routes that have the least depth limitations have the largest ice-problems. The NWP also has far less infrastructure than NSR. In its outlook to 2020 the Arctic Marine Shipping Assessment sees a fairly limited potential for regional use of NWP and does not expect the NWP to become a viable trans-Arctic route.

Even if it is possible to envisage a future with drastically increased shipping activity, due to strongly reduced ice limitations, this paper suggests that developments on the two sea routes in question today is not straight forward. In the case of the NWP ice problems is expected to continue to be a major limiting factor for many years and the Canadian authorities are not actively promoting international usage of the route, something which is partly related to legal controversies over the

status of the passage. In the case of the NEP, Russia actively advertises its Northern Sea Route, seeing rapidly improving ice conditions. However, the commercial conditions remain uncertain and necessary investments in ice-breakers and infrastructure are so far missing. The NSR may, besides its regional usage, especially in the western part, have the potential for limited transits in the most favourable season. The Russian vision of year-round transit traffic seems quite unrealistic within the perspective of this decade.

With the prevailing uncertainty surrounding NSR and no Russian intention to open up for broader international participation in the management of the sea route it is possible that shipping companies increasingly will focus on the possibilities of routes across the Arctic Ocean, avoiding the problems stemming from national jurisdictions. Such a development will of course require resolution of a series of issues, with regard to safety, environment and navigation. They will be of a truly international character where active participation of EU is required.

Introduction

Trans-Arctic shipping is not a new phenomenon. The two existing passages, the Northeast Passage (NEP) and the Northwest Passage (NWP) are both intriguing and tempting for international shipping, since their usage would reduce the sailing distance between ports in Europe and Asia and between the US East Coast and the Pacific considerably (see table 1). For several reasons neither passage has so far become important in international shipping. Nevertheless, the prospects should be re-assessed in light of new circumstances in the Arctic, especially the changing ice situation. The focus in this paper is on the near-term outlook: what are the potential and major constraints for increased usage of NSR and NWP today and in the years ahead, summarising economic benefits and legal issues? Most attention is given to NEP, which is clearly the most developed option.

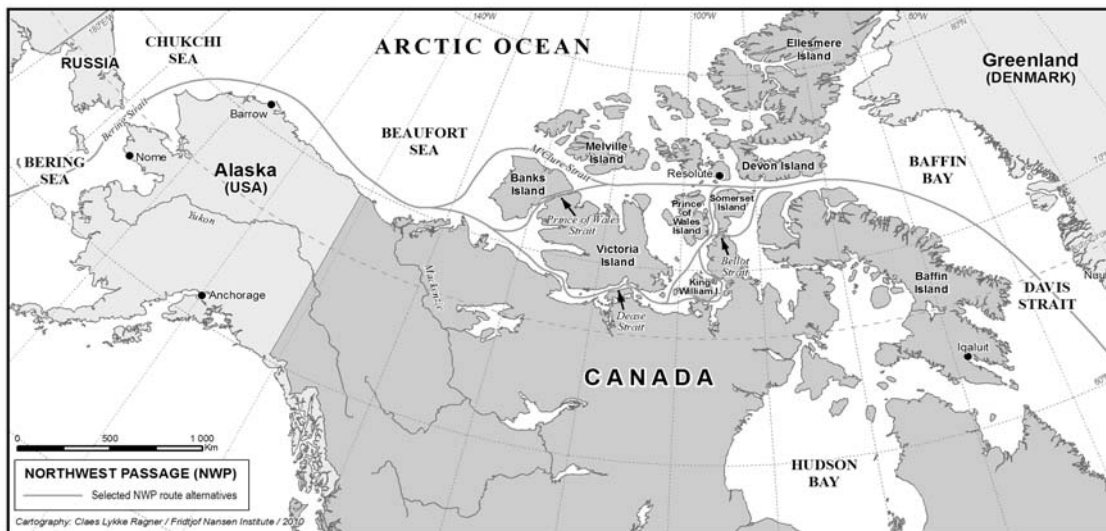
Three recent and major international research projects have produced a large volume of data and analysis on Arctic shipping. The Norwegian-Russian-Japanese International Northern Sea Route Programme (INSROP)(1993-99) covered a broad set of issues related to use of NSR; the EU-financed ARCOP project (2002-2006) focussed on the concrete conditions for shipments of hydrocarbons from the Russian Arctic to Europe via NSR; while the Arctic Marine Shipping Assessment (AMSA) (2005-2009) convened by the Arctic Council dealt with shipping in the whole Arctic, with a focus on marine safety and marine environmental protection, but also presenting scenarios of future development. The present brief overview draws on insights from all three projects, but also from other sources (see bibliography).

DEFINING THE SEA ROUTES

The Northeast Passage (NEP) is a historic term for the transit route north of Russia linking the Northern Atlantic and Northern Pacific Oceans. It is a somewhat abstract term without strictly defined borders or end-points. On the other hand, the Northern Sea Route (NSR) – which is the term used by Russia – is a clearly defined entity: According to official Russian definition, it stretches from the Novaya Zemlya islands in the west to the Bering Strait in the east. The NSR can not be thought of as one clearly defined linear route, but should instead be thought of as the whole sea area between Novaya Zemlya and the Bering Strait. Due to the highly variable and difficult ice-conditions present 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 have to choose routes close to the mainland, other times routes through the many archipelagos, and sometimes routes north of them (Ragner 2000).



The Northwest Passage (NWP) is the term used for the sea passage from the Bering Strait through the Canadian archipelago north of the American continent to Greenland and out into the Atlantic. There are several alternative routes that can be used, depending on ice conditions.



1 DEVELOPMENT OF SHIPPING IN THE NORTH-EAST PASSAGE

Russian expeditions started mapping the country's Arctic coast in the 16th century, and over the centuries also several non-Russian expeditions were organised. Commercial activities also took place in sections of the passage. It was, however, only in 1879 that a ship managed to transit the whole Northeast Passage from Europe to the Pacific – the steamer *Vega* with the Finnish-Swedish explorer Adolf Erik Nordenskiöld (Ragner 2008). In the following decades irregular shipping in the western part of the passage took place, as well as scientific expeditions in the western and also eastern part, but no transit. After the Russian revolution and especially since the early 1930s the Soviet authorities used the waterway which was now termed the Northern Sea Route (NSR) for industrial developments in Northwest Siberia. Special rules for shipping in the sector were introduced (see below) and a special administration established.

The first Soviet transit took place in 1934 and occasional transits continued over the next years. During World War II American lend-lease goods were transported from the Pacific to ports in the western part of NSR (Barr 1999: 29). A convoy of warships also sailed from west to east in 1942.

After the war the Northern Sea Route played an important part in industrial development of Russia's north and for shipping out products. In 1978 the first all-year route was initiated between Dudinka on the Yenisey River and Murmansk, transporting metals and ore from Norilsk. But transit sailings were very rare (Ragner 2000).

Traffic on the NSR peaked in 1987 with a total freight volume of about 7 million tons and fell rapidly afterwards due to the collapse of the Soviet economy (see table 2). With the transformation of the economic system and continued economic recession, financing of NSR infrastructure became a big challenge and ports and navigational systems deteriorated. Thus, traffic continued to decline. The Russian authorities put hope in finding new financial resources from fees paid by foreign shipping companies, after the route was formally opened to foreign vessels in 1991, but so far the international shipping community has not shown a sufficient interest. Since the late 1990s the total transported volume has been about 1.5 million tons per year, about half of it metals and ore from Norilsk.

2 THE POTENTIAL AND CONSTRAINTS OF THE NSR

2.1 SHORTER SAILING DISTANCES

The reduction in sailing distances that can be obtained from using the NSR is considerable. Clearly the saving potential is largest for sailings from Northern Europe to North-East Asia, when compared with the Suez route. Sailings around Cape of Good Hope or the Panama Canal are longer, except for Vancouver via Panama.

Table 1: Shipping distance from Hamburg to

	Vancouver	Yokohama	Hong Kong	Singapore
NSR	6635	6920	8370	9730
Suez Canal	15377	11073	9360	8377

Source: Ragner 2000

2.2 REGIONAL TRAFFIC

Research carried out in the 1990s under the auspices of the International Northern Sea Route Programme (INSROP) showed that there is a potential for increased or sustained *regional* traffic based on exports from the Russian North, although the potential is smaller than many Russian estimates indicate. The main cargoes considered were

- gas condensate (a trial shipment from the Ob bay was undertaken as part of the EU sponsored ARCDEV project in 1998),
- crude oil (but a major possible project, Vankor, has since been linked to the trunk pipeline network and has thus declined the shipping option),
- liquid natural gas (The EU-financed ARCOP project concluded that oil and gas transportation by the Northern Sea Route is technologically possible and economically feasible, but the work only included the western part of the Sea route – from Yenisey and westwards).¹
- non-ferrous metals and ores (mainly from Norilsk/Dudinka),
- timber (but the railway has become more competitive and taken over much of this traffic)
- coal (huge resources, but too costly to produce for export. Coal is an important cargo in intra-Arctic cabotage, though, i.e. for fuel in arctic settlements)

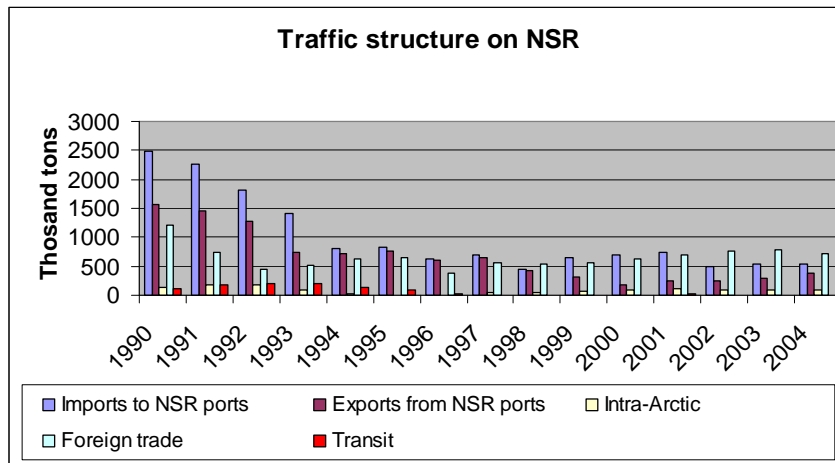
The most promising cargoes share a common trait: shipping remains the only transport option. In other words NSR does not have competition from other modes of transportation. Wherever there is an alternative it seems that NSR loses out. Timber used to be the biggest cargo on NSR up to the 1990s, but railway transportation has proven to be more economical. But even though other raw materials do not have alternative transportation, the level of production is dependent on overall costs, where transport costs are a major component, as well as the market price for the product. This was most dramatically illustrated by coal, where exports ceased completely after 1992.

Besides providing a transportation mode for export-oriented projects, NSR is also important in bringing in goods and supplies to industrial sites and settlements in the Russian north. Generally such traffic is not commercially interesting to foreign shipping companies (preference is given to Russian

¹ GROWTH Project GRD2-2000-30112 "ARCOP" Arctic Operational Platform.

companies), but the 'internal' significance of NSR affects the priority given to investments in infrastructure, which in turn is relevant also for international shipping.

Table 2:



Sources: Ragner 2000, Plaksiy 2005.

This form of traffic also has fallen considerably, reflecting a downturn in activity in the Russian north. Since the 1980s 200 communities, especially in the eastern part of the NSR area have been closed and 25 of 50 ports are no longer operational (Perepelitsa 2008). Prospects for new industrial development, in particular in the western part, remain however (see below).

2.3 TRANSIT - POTENTIAL

INSROP research also showed that there is a considerable cargo base for transit operations (Ragner 2000: 21-26). But the real issue here is not identifying cargoes; the question is whether transportation along the sea route can be commercially attractive. And unlike intra-arctic shipping, transit cargoes always have an alternative. There are several factors that translate into higher costs that must be considered.

2.4 MAJOR CONSTRAINTS

2.4.1 Ice

All indications are that there will be less ice along the NSR in the years to come. This will make it possible to sail with regular ships in some areas in the summer season and to go with ice-strengthened ships without icebreaker assistance in larger areas and for longer periods. Vessels may also be able to choose routes further north, avoiding some of the shallower straits. It is this realization that has spurred the renewed interest in trans-arctic shipping in the last few years. But even if the ice situation improves on average, much variation from year to year is expected and also within the same season. In other words, shipping companies face a high level of unpredictability and must plan for *possible* ice problems, which may or may not occur in practice. They will have to use ice-strengthened vessels all the time and will have to have icebreaker backup available most of the year. All this amounts to serious cost factors.

Moreover, they will have to reckon with ice problems that may delay the transit. Punctuality has become more and more important in international shipping – cargoes are delivered 'just in time'. NSR shipping will not be able to run on exact schedules. If shippers have to include a time buffer to make up for possible delays, much of the saving initially promised by the shorter route will be eaten up.

2.4.2 Ship design

Costs of building and operating ice-strengthened vessels suitable for the NSR, are considerable higher than for ordinary vessels. If such vessels only operate part of the year capital costs will also be higher. Fuel consumption is higher in ice-infested waters than elsewhere. Also, NSR vessels have severe size restrictions, and economies-of-scale cannot be realized. Maximum draft is 12.5 m due to the shallow and often unavoidable straits between the New Siberian Islands, and maximum beam is 30 m, as vessels cannot be wider than the ice-breaker in whose wake they must sometimes follow. This restricts NSR vessel size to around 50,000 dwt – much smaller than vessels that can use the Suez Canal route. There are interesting developments in ship design, though, in particular the Finnish DAS-technology, which are cargo ships able to act almost like an ice-breaker by backing through the ice.

2.4.3 Navigation infrastructure

With reduced income from transport fees and very limited budget allocations, infrastructure supporting shipping along the NSR has deteriorated. According to Russian sources, with the exception of Dudinka, there has been no modernization of NSR ports since 1990. There is an acute need for upgrading and excavation of deeper ports. Facilities for waste disposal and collection of oil spills are low-quality or lacking completely. Navigational systems and hydrographical support are in a critical condition (Perepelitsa 2008). The infrastructure problems translate directly into higher operational costs, but they also influence insurance rates which are an important factor in commercial calculations.

2.4.4 Ice-breakers

Russia has the largest ice-breaker fleet in the world, including six nuclear ice-breakers, considered the pillar for transit operations along the NSR. The fleet is aging, however, and only one new nuclear icebreaker has been finished since soviet times. The other five will reach the end of their extended design life time in the next seven years (Kontseptsiya 2002). According to such estimates only the newest one – *50 let Pobedy*, will remain in operation after 2017 (Perepelitsa 2008). Plans for construction of new nuclear ice-breakers have been announced, and a design worked out for a giant icebreaker to secure year round traffic on NSR (Arteriya 2010), but no concrete building project launched. With an expected construction period of 7-8 years, it seems unavoidable that Russia's ice breaking capacity will be reduced in the current decade.

2.4.5 Fee structure and running costs

The fees collected by Russian authorities for shipping along the NSR are supposed to cover infrastructure costs, including maintenance of the icebreaker fleet. Data on operational costs are uncertain and scattered, but according to data collected in the EU-financed ARCOP project, operation and maintenance of the icebreaker fleet was estimated to cost 120 mill. USD annually in the mid 2000s. No data for infrastructure cost were available, but based on experience from Finland they were supposed to be of the same magnitude (Juurmaa 2005). With reduced shipping activity the fees were increased to compensate the fall in income, making shipping even more unattractive. This vicious circle characterised the discussion for many years. The tariffs are calculated as a fixed sum per ton of cargo in various categories – e.g. 1048 roubles per ton transported in standard containers - plus a sum per ton of full displacement for the ship in question – 1000 roubles for the whole sea route (Federal Rates Service 2005). The official fees have not been adjusted since 2005, suggesting that there are ways to negotiate fees.

In general, shipping companies maintain that the fees are too high and that they should not pay for icebreaker assistance when they don't need it. The counter argument is of course that there is a permanent need for ice-breaker backup capacity. The head of Atomflot, which operates the ice-breakers, says that an optimal fee would be 4-5 dollars per ton (equal to 150 roubles) which would permit an increase in traffic securing a higher total income (Ledokoly 2010). The problem for Atomflot

is that much of their costs are fixed, independent of whether the ice-breakers are used or not. Thus there is an interest conflict between users who would like to use the sea route without ice-breaker assistance, and Atomflot who needs all the traffic it can get to secure income. Norilsk Nickel, which has established its own fleet of ice resistant ships, and also Lukoil, is seen as a threat to the nuclear icebreaker fleet (Ledokoly 2010).

2.4.6 Outlook for investments in infrastructure

In the Russian Arctic doctrine from 2008 it was declared that in the period 2011-15 Russia will "build and develop infrastructure for the Northern Sea Route making transit between Europe and Asia possible" (Osnovy 2008). At the same time the 2002 "Concept for development of NSR" presupposes minimum use of state budgets for investment. But even if it should be possible to establish a fee structure that would make shipping along the sea route attractive and at the same time covering operational costs, the investments required to put the infrastructure in good order would have to be covered otherwise. The general thinking seems to have been that traffic will increase before the infrastructure is improved, which is a very difficult proposition (Kontseptsiya 2002). There is now, however, a growing realisation that infrastructure must be improved first, but the financial issue is far from solved. Financing of infrastructure along NSR from state *companies*, private and international investors is in principle possible, but the time horizon for such investments would be very long and the profitability highly uncertain, especially in Russia's generally uncertain investment climate. Thus an overall concept for development is still lacking, despite increasing declarations of the importance of the sea route.

2.5 COMMERCIAL OUTLOOK

Whereas the dominant Russian approach is to find ways of sustaining – or rather invigorating – NSR as a continuous national transport infrastructure permanently serviced, shipping companies tend to look at individual transport projects that can be profitable. Over the last two years a German company – Beluga Shipping – has attracted attention for its use of NSR. In late August 2009 the company sent two cargo ships from South Korea via the Bering Strait westwards on the NSR to the Ob Bay where they delivered 44 heavy lift modules destined for a power plant. On part of the voyage they were escorted by two nuclear ice-breakers, but they did not encounter serious ice problems. The voyage had a trial character, but the company, and probably others, see a potential for many more such voyages with heavy, high value, not time-sensitive cargoes for industrial developments, utilizing the most favourable sailing season. According to Beluga the savings, compared to the alternative route via Suez and bringing in the cargo from the west could be USD 600.000 per ship (provided six ships could be sent in a convoy) (Arctic 2009). The fees paid have not been disclosed, but applying the official tariffs they would have been in the order of 1.2-1.5 mill USD.

The official Russian expectations is that hydrocarbon development projects in the Russian North, particularly in the Yamal peninsula – Ob Bay area, will require substantial shipping activity both in the construction phase and to transport products out. The outlook and timing for such development is discussed elsewhere, but it would seem that only a smaller part would involve transits like the voyage described above.

Meanwhile the leading Russian shipping company Sovcomflot announced that it would undertake a trial voyage with oil from the Barents Sea to the Far East in September 2010 (Watkins 2010). The commercial calculation is not known, but it would seem likely that the Sea route authorities could offer special conditions to make trial voyages possible, as a way to advertise the sea route.

Thus, it is too early to say that commercial transit operations on the NSR have started. But there is a potential, and fairly concrete ideas about extended use of NSR for transit exist. According to some reports China is also studying the Northern Sea Route as an alternative corridor for cargoes to Europe (Jakobson 2010), but there are no firm projects yet.

The question remains if the sea route can become attractive transport alternative or if it will remain an alternative of last resort, used as little as possible only when no other solutions can be found.

Heavy investment is needed to make NSR a viable transport route that would yield enough income to finance running costs. Absent serious Russian state investment the operational conditions may continue to decline despite improved ice conditions.

3 THE NORTHWEST PASSAGE

This passage is far less developed than the NSR. Since the first sailing in 1903 no commercial ship has passed through, except tourist ships and the trial voyages with the tanker 'Manhattan' in 1969 (Pharand 2007: 38). Generally the ice conditions are more complicated than along NSR, even if the passage has been reported ice free for brief periods in recent years. The routes that have the least depth limitations have the largest ice-problems. The NWP also has far less infrastructure than NSR. In its outlook to 2020 AMSA sees a fairly limited potential for regional use of NWP and does not expect the NWP to become a viable trans-Arctic route. (AMSA 2009: 112-114). The distances saved by using the route instead of the Panama canal are less impressive than in the case of NSR/Suez, but nevertheless substantial. The stretch London to Tokyo is estimated at 16,000 km. through NWP, against 23,000 km. through the Panama Canal.

4 INTERNATIONAL LAW AND NAVIGATIONAL RIGHTS

There are international legal disputes regarding jurisdiction in both the NWP and NEP. The issues are politically sensitive, and the legal uncertainty also has an impact on commercial use of the sea routes.

4.1 THE NORTHWEST PASSAGE

Regarding foreign vessels' right to navigate, the initial legal question is whether and on what basis Canada might be said to enjoy *sovereignty* over the waterways connecting the Atlantic and Pacific Oceans through her northern archipelago; the Northwest Passage. Is the Northwest Passage Canadian internal waters? If so, are foreign vessels automatically precluded from using the Passage?

4.1.1 Historic internal waters?

Canada has continuously reinforced claims of sovereignty over the Northwest Passage by characterizing it as internal waters and denied that it is subject to an international straits regime. Chief among them was initially the demarcation of Canada's "historic" internal waters by a system of baselines drawn around the outer parameters of the Arctic archipelago. The basis of such *historic title* is that the possession of the maritime areas as internal waters has emerged through a process of historical consolidation and not based on the general rules of international law. Canada's legislative and enforcement powers in the Northwest Passage would then under international law imply the right to deny foreign vessels access to the Northwest Passage altogether or, for instance, prescribe such rules found appropriate for the construction or design of ships.

It is questionable however, if historic title is a conceivable base for the purpose of claiming the northern waterways as Canadian internal waters and thus subject to Canada's sovereignty. One crucial element in historic title is acquiescence by foreign countries. And the country most directly affected by Canada's claim, the USA, has continued to oppose that the Northwest Passage constitutes historic internal waters. Secondly, another legal criterion is hardly fulfilled; sufficient activities evidencing an actual, continued exercise of state authority.²

² The question has also been raised whether Canada could claim as internal waters the Northwest Passage on the basis of the so-called sector theory. Then the internal waters of Canada would encompass all maritime spaces within the limits of a Canadian sector between western and eastern meridians and towards the North Pole. Although invoked by a number of politicians and Canadian officials, the sector theory has never officially been invoked by the government itself. While being a convenient method to demarcate territorial and

4.1.2 Straight baselines?

Canadian internal waters and thus sovereignty over the Northwest Passage might nevertheless be the consequence of an internationally permissible application of the concept of *straight baselines* surrounding the entire archipelago. Baselines, i.e. the physical coastal reference to measure the maximum permitted breadth of the territorial sea (and other maritime zones such as the exclusive economic zone and continental shelf) are usually drawn along the low-water line along the coast. However, in localities where the coastline is deeply indented and cut into, or if there is a fringe of islands along the coast in its immediate vicinity, the method of straight baselines joining appropriate spots along the outer coast may be employed. Potentially, this would enclose all of the Northwest Passage as internal Canadian waters. The decisive test is if the physical configuration of Canada's archipelagic coastline qualifies for the application of the favourable straight baselines system. We believe the use of straight baselines in the Canadian Arctic might appear controversial from a legal viewpoint.

Furthermore, little support for Canada's stance in the Arctic can be derived from an analogy between straight baselines and so-called "archipelagic" baselines under article 47 of the Law of the Sea Convention (LOS). Canada does not qualify as an "archipelagic State" in the context of article 46 of the Convention, for which straight baselines up to 125 nautical miles are explicitly permitted.

4.1.3 Innocent passage? International strait?

Assuming, for the sake of the argument, that Canada's legal position as regards the Northwest Passage is in conformity with international law, and the enclosed maritime space thus Canadian internal waters, foreign vessels are still not automatically precluded from using the Passage. Two positions could possibly be invoked. First, the customary principle, today reflected in the Law of the Sea Convention, preserves a right of innocent passage through newly enclosed internal waters previously not considered as such (LOS art. 8). Secondly, foreign vessels could navigate the Northwest Passage if it were to be found to constitute an international strait.

As regards characterisation of the Northwest Passage as international straits, the Passage clearly meets the 'geographic' criterion provided for in the Law of the Sea Convention, linking two larger bodies of water (LOS art. 37). However, whether the Northwest Passage can be said to have been "used for international navigation" – the 'functional' element of international straits status – is more doubtful - only 69 transits of foreign vessels through the Northwest Passage were identified between 1903 and 2005 (Pharand 2007), although the remoteness of the Passage might perhaps allow a lower standard with regard to the prerequisite "used". Then again, under conventional international law, the term seems to define a legal strait solely on the basis of past use for navigation, not that potential and future use could be a factor in determining the status of a strait (LOS art.37).

Conclusions as to the status of the Northwest Passage as a strait are thus not easy to draw. Given the current receding of the Arctic ice-pack, Canada should perhaps expect an eventual use of the Passage for foreign commercial navigation, not least in the absence of alternative routes. Should it then become an international strait, new legal questions emerge as to the rights of passage that would apply after any possible internationalization.

4.2 THE NORTHERN SEA ROUTE/NORTHEAST PASSAGE

Quite clearly the largest potential for foreign navigation is in Russian Arctic waters. Russia has – step by step – expanded its Arctic jurisdiction over the years, constantly pushing domestic legislation toward greater coastal state jurisdiction (Franckx 1993: 190). In terms of international law and state practice, controversy with regard to navigational rights through the Northern Sea Route and

functional national boundaries, the principle has never had any firm basis in international law and would most likely in any event prove unacceptable from an international legal viewpoint.

Northeast Passage is essentially also about that, i.e. the right of Russia to prescribe and enforce regulations for foreign vessel traffic: Where does Russia have what powers with respect to ships traversing the different maritime zones along her Arctic coastline?

Depending on which of the several potential routes that is chosen, a ship navigating the Northeast Passage or Russian Arctic straits will continually find itself in different maritime zones, where Russian jurisdiction under international law vary accordingly. The right of free navigation exists through parts of the waters which constitute high seas, including in the exclusive economic zone. Innocent passage exists through the territorial sea. And the regime of transit passage applies to any international strait. The basic problem for a foreign ship in Russian Arctic waters would thus be that its presence, for instance, in the exclusive economic zone, is “impossible” without prior or posterior navigation through territorial waters subject to Russian sovereignty.

The legality of the Russian straits regime and the imposition of administrative and environmental legal standards is key concern for foreign maritime traffic. As regards the former, the problem is generally the same as for the Northwest Passage. The five seas that provide passage through the Northern Sea Route – Chukchi, East Siberian, Laptev, Kara and Barents – are linked by straits. Do foreign ships automatically enjoy the freedom of navigation for the purpose of continuous and expeditious transit of these straits? If so, what would be Russia’s authority over foreign ships in transit?

Furthermore, Russia provides detailed regulations for any ship seeking to sail the Northern Sea Route or Northwest Passage. The aim of Russia’s domestic laws is to allow navigation on a non-discriminatory basis for vessels of all states, while giving careful consideration to environmental concerns (Franckx 2009: 334). The present-day legal regime is regulated by several basic regulations. They provide the framework within which navigation on the seaways of the Northern Sea Route have to take place.

For instance, vessels must be permitted to navigate. First, a request has to be made – in advance – to the Administration of the Northern Sea Route, located in Moscow. Information relating to the vessel (port registry, name, tonnage, main dimensions, output of engines, IMO number, etc.) and the intended journey (time of navigation and aim of the journey) must be contained. The vessel must fulfil certain technical requirements. The master must have qualifications and experience to navigate in ice-covered waters. State pilots might be assigned. A fee has to be paid. Civil liability must be secured in case of environmental damage. The vessel must follow the route appointed and be guided by appropriate means, for instance aircraft or icebreakers. Navigation could be temporarily suspended and the vessel may be ordered to leave the Northern Sea Route if any requirements are violated. Also, permission to transit the Northern Sea Route does not include the right to fish, engage in tourism or carry out marine scientific research (Regulations 1990).

Under international law, Russia in essence relies on article 234 of the Law of the Sea Convention – entitled “Ice-covered areas” – for the right to regulate navigation in her adjacent Arctic waterways. According to that provision, coastal States have the right to adopt and enforce non-discriminatory laws and regulations for the prevention, reduction and control of marine pollution from vessels in ice-covered areas within the limits of the exclusive economic zone, where particularly severe climatic conditions and the presence of ice covering such areas for most of the year create obstructions or exceptional hazards to navigation, and pollution of the marine environment could cause major harm to or irreversible disturbance of the ecological balance. It further stipulates that such laws and regulations shall have due regard to navigation and the protection and preservation of the marine environment based on the best available scientific evidence.

Article 234 is not free from controversy, however, neither under international law nor with respect to Russian state practice in the Arctic. The provision “upgrades” coastal state powers and gives a rather broad prescriptive and enforcement jurisdiction in ice-infested waters, yet for a limited purpose and subject to a number of restrictions (Molenaar 2009: 307-308).

Nevertheless, on the basis of article 234, Russia (and Canada) prescribes standards which are more stringent than those generally permitted under international law applied in “normal” adjacent

maritime zones. Relevant legislation by Russia indicates that navigation in the parts of the Northern Sea Route that are within national jurisdiction is much more constrained than elsewhere (Molenaar 2009: 308). As the usage of the Northern Sea Route by foreign vessels is scarce, however, it is difficult to determine any precise scope and extent of the legislation.

Worth noting is also that the Law of the Sea Convention is silent on whether the regime of transit passage prevail over the regime of article 234. The United States or other states (including the EU) might argue so, while Russia (and Canada) can be expected to be of the opposite view (Molenaar 2009: 307-308).

5 OVERALL CONCLUSIONS

This brief paper has presented some of the issues that must be take into account when possible developments in Arctic shipping are assessed. Even if it is possible to envisage a future with drastically increased shipping activity, due to strongly reduced ice limitations, this paper suggests that developments on the two sea routes in question today are not straight forward. In the case of the NWP ice problems are expected to continue to be a major limiting factor for many years and the Canadian authorities are not actively promoting international usage of the route, something which is partly related to legal controversies over the status of the passage. In the case of the NEP, Russia actively advertises its Northern Sea Route, seeing rapidly improving ice conditions. However, the commercial conditions remain uncertain and necessary investments in ice-breakers and infrastructure are so far missing. The NSR may, besides its regional usage, especially in the western part, have the potential for limited transits in the most favourable season. The Russian vision of year-round transit traffic seems quite unrealistic within the perspective of this decade. With the prevailing uncertainty surrounding NSR and no Russian intention to open up for broader international participation in the management of the sea route, it is possible that shipping companies increasingly will focus on the possibilities of routes across the Arctic Ocean, avoiding the problems stemming from national jurisdictions. Such a development will of course require resolution of a series of issues, with regard to safety, environment and navigation. They will be of a truly international character where active participation of EU is required, and where the proposals from the communication on the European Union and the Arctic Region are highly relevant (COM (2008) 763).

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