

The Arctic 2030 Project:  
“Feasibility and Reliability of Shipping on the  
Northern Sea Route and Modeling of an Arctic  
Marine Transportation & Logistics System”

1-st Industry Seminar:  
“NSR’s Legislation, Tariff System & Insurance”



## Role of ice pilots/navigators on the NSR

Mr. Sergey Balmasov, Head of CHNL’s NSR Information Office ([sergey@chnl.no](mailto:sergey@chnl.no))  
Thursday 25 June, 2015, Oslo.

## IV. Rules of the pilot ice assistance of ships in the water area of the Northern Sea Route

- Pilot ice assistance of ships is carried out with the purpose of **ensuring safety of the navigation** of ships and prevention of accidents as well as **protection of the marine environment** in the water area of the NSR.
- Fee rate for the pilot ice assistance in the NSR water area is determined in accordance with legislation of the Russian Federation about **natural monopolies** taking into account the GRT, ice class, distance of the escorting and period of navigation.
- Official fees for ice pilotage has not been established yet.

# Important issues

- Danger when sailing in ice conditions is much more than just sailing on clear water.
- Using the gained experience it is possible to provide safe sailing in ice conditions.
- Recently in mass media it is widely spoken about warming in the Arctic. But so-called "good sea practice" recommends to consider itself closer to danger, and not to think that all ice in the Arctic will melt down.
- Examples of accidents with vessels known to mankind are the following: "Titanic", "Chelyuskin", later "Bryanskles", "Nina Sagaydak" which sank as a result of collision with an iceberg, a heavy ice floe, crushed during ice compression
- Only captains and the chief mates with experience of ice sailing possessed the right to operate the vessel as ice pilot.

## Who can be an ice pilot.

- NSR Administration entitled to issue the certificates of the ice conventional pilotage on the NSR
- Service record not less than for 3 years as ship master or chief mate on sea ships with a capacity of 3000 t and more.
- At least 6 months of the navigation of ship under ice conditions
- Being worker of the organization rendering services of the ice pilot assistance of ships in the water area of the Northern Sea Route (hereinafter referred to as ice pilot)

Organisations authorized to provide ice pilot services.

- FSUE “Atomflot”
- OOO “Ice Pilots”
- Autonomous Nonprofit Organization "Guild of polar pilots"

# Role of Ice Pilot

Ice pilot gives to the ship master recommendations regarding:

- Assessment of ice conditions and possibility of the safe navigation of ship under these conditions;
- Selection of optimum route of the movement of ship and of the relevant scenario of the navigation of ship in ice independently;
- Selection of speed and ways of performing maneuvers of ship avoiding dangerous interaction of hull and rudder propeller system with ice;
- Ways of the maintenance of safe speed and distance to icebreaker or ship ahead when moving in convoy;
- Ways of the execution of instructions of masters of the icebreakers rendering assistance to ships.

# Role of Ice Pilot

For carrying out pilot ice assistance ice pilot should have following logistic support and equipment:

- Navigational nautical charts, guides and manuals;
- Navigational, hydrometeorological and hydraulic information;
- Special warm clothing matching climatic conditions of the NSR.

While carrying out the pilot ice assistance in the NSR ice pilot is entitled:

- To use shipboard radio station and other means of communication;
- To use all shipboard means of navigational equipment and auxiliary facilities;
- To receive from ship master information on structural, operational features and current state of navigational instruments, engine installations, steering, thruster, anchor and other arrangements ensuring the ship's movement and maneuvering control.

# Crew experience of ice sailing

- As per experts opinion navigators should start gaining Arctic voyages experience during their work from junior mates.
- Ice navigation training centers only give an idea of sailing in ice conditions, however for real physical experience, it is necessary to have real sailing as the trainee of the ice pilot, operating the vessel under his management.
- Often the crew doesn't have any experience of ice sailing. The only positive fact is knowledge of Russian for fluent communication with the icebreaker's crew.
- Difficulty concerning moving in a caravan can be caused by the fact that the piloted vessels are often wider than the icebreaker.

## Analyzing collisions, main reasons:

- The captain didn't understand maneuver of the ice breaker and, having dropped speed in the conditions of compression, suddenly started losing speed.
- The vessel going behind it held a distance less than minimum (without making allowance on distance from a locator antenna installation site to a stem post - almost 0.7kbt).
- Speed in a caravan is 12 - 13 knots, distance is 5 - 6 cables. Such speed and a distance between vessels in a caravan can be held only by skillful navigators.

## Analyzing collisions, main reasons:

- Sizes of the ships became bigger in comparison with the vessels which were earlier working in the Arctic. Bulb doesn't allow it to perform towage closely.
- Solution to this situation can be sailing in a caravan behind the icebreaker with ice pilots onboard. And there must be at least **two icebreakers** because when sailing in the conditions of compression more powerful ice breaker lays the ice channel, and the second, working for "splitting off" (actually lays the parallel channel), expands it.
- Long-term practice of work in the Arctic developed positioning of navigators as a part of sea watch: the Senior watchman (the captain, the alternate captain, chief mate) who operates the vessel, junior officer (2,3,4 mate) who is in charge of navigation tasks and the helmsman on each watch.
- When sailing in a caravan distance to the vessel going ahead is constantly observed as well as communication of vessels on VHF (operating and duplicating channel) for safety.

