Polar Waters Navigation Training:

IMPLEMENTATION OF NEW REQUIREMENTS OF STCW AND THE POLAR CODE
SYMBOLIC EVENT OF THE END OF 2012 – THE BEGINNING OF 2013:

ADМИRAL МакAROV STATE UNIVERSITY OF MARITIME AND INLAND SHIPPING (SUMIS) WAS ORGANIZED AT THE END OF 2012 BY MERGING OF TWO FAMOUS HIGHER EDUCATIONAL INSTITUTIONS – THE ADMIRAL МакAROV STATE MARITIME ACADEMY AND THE SAINT-PETERSBURG STATE UNIVERSITY FOR WATERWAY COMMUNICATIONS.

FROM 16 JANUARY 2013, THE OFFICIAL NAME OF THE NEW FEDERAL BUDGET EDUCATIONAL INSTITUTION OF HIGHER PROFESSIONAL EDUCATION IS “ADМИRAL МакAROV STATE UNIVERSITY OF MARITIME AND INLAND SHIPPING”.
Admiral Makarov State University of Maritime and Inland Shipping

University campuses:

Campus-1
house 15A, Kosaya Line, Vasilievsky Island

Campus-2
house 5, Zanevskiy Prospect

Campus-3
house 9, 22nd Line, Vasilievsky Island

Campus-4
Strelna, house 43, Saint-Petersburg highway

Campus-5
house 36, Bolshoy Smolenskiy Prospect

Campus-6
House 5/7, Dvinskaya Street
Reconstruction of the present educational building and the hostel

Construction of 2 new cadets’ dormitories, educational and sports complex, kitchen etc.

This is how the Campus at Okhta will look like after the reconstruction:

Admiral Makarov State University of Maritime and Inland Shipping
Makarov Training Centre:

- 44 Modern training simulators,
- More than 150 highly professional Engineers, Instructors, Managers, Experts,
- More than 100 training programs,
- 20 years of operation,
- Approval from Russian Ministry of Transport, Federal Marine and River Transport Agency, other Flag state Administrations, Certification Association “Russian Register”, Russian Maritime Register of Shipping, The Nautical Institute, and others.
ICE NAVIGATION TRAINING

- Start: May, 2003
- Main Sailing Areas – the Baltics:
  - St. Petersburg
  - Primorsk
  - Vysotsk
  - Ust'-Luga
- Number of trainees: 854

Unicom (Cyprus) – the first client
MAKAROV TRAINING CENTRE
MAKAROV ICE NAVIGATION TRAINING: AMOUNT OF TRAINEES

Плавание в ледовых условиях 2003-2015 (янв.-авг.)
ICE SIMULATION – EDGE OF TECHNOLOGY

2003

2015
NEW ICE MODEL
NEW SHIPS – NEW TECHNOLOGIES
COOPERATION WITH KRYLOV STATE RESEARCH CENTRE
Instructors’ stuff

During the course we invite:

- Experienced Ice Masters who worked at the NSR for many years
- Experienced Ice Breaker Master
- Experienced Ice Pilot
- AMSUMIS Arctic Faculty professors
- Makarov TC IceNavSim Instructors
Table A-V/3

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**Ensign 2**

Knowledge, understanding and proficiency

| 

**Column 3**

Methods for demonstrating competence

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**Criteria for evaluating competence**

| 

**Column 4**

| a cubic vessel under 500 gross tons | 

Basic knowledge of ice characteristics and areas where different types of ice can be expected in Arctic, Antarctic and Sub-Antarctic/Sub-Antarctic areas:

1. Ice coverage.
2. Ice type, including thin-ice, multi-year ice, growlers, and tabular ice.
3. Ice pressure.
4. Ruffed ice.
5. Friction from non-ice-covered ice.
6. Implications of spring-tinged ice.
7. Ice regimes in different regions.
8. Recognition of consequences of rapid change in ice and weather conditions.

Basic knowledge of vessel performance in ice and cold climate.

Assessment of evidence obtained from approved in-service experience from ice-covered waters and one or more of the following:

1. Approved training-ship experience on ice.
2. Approved ice-sensor training.
3. Approved training.

**Ice characteristics**

Information obtained from ice-sensor training and publications is interpreted correctly and properly applied.

Identification of ice-geography and their characteristics of relevance for safe vessel operation:

Measurements and observations of weather and ice conditions are accurate and appropriate for safe passage planning.

**Vessel performance**

Identification of vessel characteristics and limitations under different ice conditions and cold environment impact.

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**RESOLUTION MSC.395(94)**

(adopted on 21 November 2014)

**INTERNATIONAL CODE FOR SHIPS OPERATING IN POLAR WATERS (POLAR CODE)**

**THE MARITIME SAFETY COMMITTEE.**

RECOMMEND article 20(3) of the Convention on the International Maritime Organization concerning the function of the Committee.

RECONCILE the need to provide a mandatory framework for ships operating in polar waters due to the additional demands on ships, their systems and operation, which go beyond the existing requirements of the International Convention for the Safety of Life at Sea (SOLAS), 1974, as amended ("the Convention"), and other relevant binding IMO instruments.

NOTING resolution MSC.386(94), by which it adopted, inter alia, the new chapter XII of the Convention,

NOTING ALSO that the Marine Environment Protection Committee, at its sixty-seventh session, agreed with a view to adoption, at its sixty-eighth session, the Introduction, as it relates to environmental protection, and parts II-4 and II-5 of the International Code for Ships Operating in Polar Waters (Polarc Code), and also considered for adoption relevant amendments to the International Convention for the Prevention of Pollution from Ships, 1973, as modified by the 1978 Protocol,

HAVING CONSIDERED, at its twenty-fourth session, the draft International Code for Ships Operating in Polar Waters,

1. ADOPTS the safety-related provisions of the Introduction, and the whole of parts I-4 and I-5 of the Polar Code, the text of which is set out in the annex to the present resolution;
2. AGREES that amendments to the Introduction of the Polar Code that address both safety and environmental protection shall be adopted in consultation with the Marine Environment Protection Committee;
3. INVITES Contracting Governments to the Convention to note that the Polar Code will take effect on 1 January 2017 upon entry into force of the new Chapter XII of the Convention;
4. INVITES ALSO Contracting Governments to consider the voluntary application of the Polar Code, as far as practicable, also to ships not covered by the Polar Code and operating in polar waters.
5. REQUESTS the Secretary-General of the Organization, for the purposes of article VI(1)(b) of the Convention, to transmit certified copies of the present resolution and the text of the Polar Code, contained in the annex, to all Contracting Governments to the Convention;
6. REQUESTS ALSO the Secretary-General of the Organization to transmit copies of the present resolution and the text of the Code contained in the annexes to all Members of the Organization which are not Contracting Governments to the SOLAS Convention;
7. REQUESTS FURTHER the Secretary-General to prepare a consolidated text of the Polar Code upon adoption of the environmental protection related provisions by the Marine Environment Protection Committee.
<table>
<thead>
<tr>
<th>Ice conditions</th>
<th>Tankers</th>
<th>Passenger ships</th>
<th>Other</th>
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<tbody>
<tr>
<td>Ice Free</td>
<td>Not applicable</td>
<td>Not applicable</td>
<td>Not applicable</td>
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<tr>
<td>Open Waters</td>
<td>Basic training for master, chief mate and officers in charge of a navigational watch</td>
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<td>Not applicable</td>
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<tr>
<td>Other waters</td>
<td>Advanced training for master and chief mate. Basic training for officers in charge of a navigational watch</td>
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MANDATORY MINIMUM REQUIREMENTS FOR THE TRAINING AND QUALIFICATIONS

Basic Training:
- Masters, chief mates and officers in charge of navigational watch on board the ships operating in polar waters;
- Completed the approved basic training for ships operating in polar waters.

Advanced Training:
- Masters and chief mates on board the ships operating in polar waters with basic training certificate;
- Performing watch keeping duties, at least two (2) months of approved seagoing service while serving on operational or management level deck position within Polar waters;
- Completed approved advanced training for ships operating in ice covered waters.
BASIC Polar Waters Navigation Training

- Basic knowledge of ice characteristics and areas where different types of ice can be expected in the area of operation;
- Basic knowledge of vessel performance in ice and cold climate;
- Basic knowledge and ability to operate and manoeuvre a ship in ice;
- Basic knowledge of regulatory considerations;
- Basic knowledge of crew preparation, working conditions and safety of operations in ice to be able to apply safe working practices and respond to emergencies;
- Basic knowledge of environmental factors and regulations to ensure compliance with pollution prevention requirements and to prevent environmental hazards.
BASIC Polar Waters Navigation Training
Oil Spill Preparedness and Response

- Search and rescue
- Ecological issues
- Radar Ice detection systems
- Oil spill response
Knowledge of voyage planning and reporting, to be able to plan and conduct a voyage in polar waters;

Knowledge of equipment limitations;

Knowledge and ability to operate and manoeuvre a ship in ice, to be able to manage the safe operation of vessels operating in ice-covered waters;

Knowledge of safety, to be able to maintain safety of the ship's crew and passengers and the operational condition of life-saving, firefighting and other safety systems in polar waters.
ADVANCED ICE NAVIGATION

MAKAROV TRAINING CENTRE DEVELOPED SIMULATOR EXERCISES LIBRARY

START OF THE ADVANCED COURSE IS PLANNED ON FEBRUARY 2016.
Joint Russian – Finnish course
Joint Russian–Finnish course

- **Krylov Scientific Research Centre:**
  - Navigation with ice breaker assistance. Convoy formation, convoy passage, ice specific condition passage.

- **River Ice Breaker Nevskaya Zastava:**
  - Ship preparation for ice navigation. Scheduling of ice watch keeping, deck works, proper ballasting and trimming of the ship. Necessary supply requirements. Control of equipment and ship auxiliary systems readiness for low temperature operations. Safe working practice during ice navigation – on board of the Ice Breaker Nevskaya Zastava;
  - Maneuvering on board of the river Ice Breaker Nevskaya Zastava in various ice conditions.

PRACTICAL ICE NAVIGATION COURSE
Joint Russian – Finnish course

- MV Katarina
  - Safe working mooring practice in cold weather on board;
  - Navigation in fast ice field fairway – demonstrated on board.

- Aker Arctic
  - Ice classes, different class societies;
  - Introduction to ice going ship construction and technical development:
    - Icebreakers
    - Commercial vessels
    - Special vessels
    - Double Acting Icebreaking ships (DAS).
  - Watching Model test (if available).
Basic knowledge of ice characteristics and areas where different type of ice can be expected in the area of operation

Basic knowledge of vessel performance in ice and cold climate

Basic knowledge and ability to operate and manoeuvre a ship in ice

Basic knowledge of regulatory considerations

Basic knowledge of crew preparation, working conditions and safety of operations in ice to be able to apply safe working practices and respond to emergencies

Basic knowledge of environmental factors and regulations to ensure compliance with pollution-prevention requirements and to prevent environmental hazards
Polar Waters Navigation Partners of Makarov Training Centre

Baltic International Marine Services
Latvian marine recruitment specialists for shipping companies worldwide

North Western Shipping Company

Seatrade
WELCOME YOU FOR COOPERATION IN POLAR WATERS TRAINING!