

Crew Training for NSR Shipping



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Standards for Training, Certification & Watchkeeping (STCW)

- **IMO's STCW** -- is the international set of rules regulating the overall education and training requirements for seafarers. These regulations first came into existence in 1978. Major revisions to the convention occurred in 1984, 1995, and 2010
- **The Goal** -- of the STCW training is to give seafarers from all nations a standard set of skills useful to crew members working aboard large vessels outside of the boundaries of their country. Although STCW training is not required for seafarers working in near shore areas or domestic inland waterways it is recommended
- **Manila Amendments** -- major components of the STCW conventions were modified during the revision in June of 2010. These are called the Manila Amendments and they went into effect January 1, 2012. These amendments brought the training requirements up to date for modern operational situations and technologies, and included new training guidance for personnel serving on board ships operating in polar waters

New Polar Code Amendments to STCW

The IMO's Sub-Committee on Human Element Training and Watch-keeping (HTW) in May 2015 agreed on mandatory training requirements for seafarers navigating Arctic and Antarctic waters and the text will now be forwarded to the Maritime Safety Committee for approval in June 2015 (MSC 95)

- **Navigation in Ice** -- masters and navigating officers must complete special training in order to navigate ships in ice
- **Polar Operational Limitations** -- seafarers must also acquire an improved understanding of the limitations to the crew, ship and the equipment when operating in cold and desolate areas with poor or no infrastructure in case of accidents and pollution
- **Tankers and Passenger Ships** -- masters and navigating officers of tankers and passenger ships engaged on voyages in ice are required to meet more comprehensive training requirements
- **Two Training Levels** -- a basic level and a more advanced level; requirements for each based on ship type and presence of ice

STCW's Polar Waters Certificate of Proficiency

Under the new regime, deck officers and masters may be required to undergo training at either a basic or advanced level depending on the vessel, the ice conditions and their position

- **Basic Polar Waters Certificate of Proficiency** -- will be issued to deck officers after successful completion of an approved basic course and proof of meeting the standard of competence specified in STCW. No sea service is required to obtain the Basic Certificate of Proficiency
- **Advanced Polar Waters Certificate of Proficiency** -- the officer must have previously met the requirements for certification in basic training in polar waters, then obtained at least two months approved seagoing service in the deck department at management level or while watch-keeping in an operational level within polar waters or approved equivalent seagoing service, AND have completed approved advanced training and met the standards of competence specified in STCW

Ice Navigation Training Courses

Courses in ice navigation can be a combination of classroom lectures, case studies and simulation exercises, operating various vessel models in a myriad of ice conditions

- **Sophisticated Simulator Software** - bridge simulator software which replicates actual conditions in differing part of the Arctic Ocean; e.g., students can make maneuvering in inlet areas partially covered in ice and drifting with the tide, and transiting to facilities near an off-shore oil/gas platform surrounded with ice



Ice Navigation Training Courses

- **Various Classes of Vessels** -- the individual exercises can use various classes of vessels from icebreakers to off-shore supply vessels, tugs, or large tankers, some vessels with conventional propulsion or others with Azipods
- **Operational Conditions** -- the instructor can input various weather and environmental conditions - high winds, strong currents and reduced visibility, areas with ice ridges and/or rafting, etc., and in day and night operations - and introduce new scenarios during the course of the exercise
- **Various Ship-handling Exercises** -- are conducted to gain experience in working in ice covered waters such as passing another vessel in a field of ice, maneuvering alongside another vessel or pier where ice is present or practicing ice avoidance in a relatively open ice pack

Some Concerns

- **Practical Experience Needed** -- it takes many years of practical experience to truly understand polar ice and a simple training course provides only academic knowledge and some simulator experience and is not enough to ensure that bridge officers will have sufficient knowledge and experience to safely operate in polar ice
- **Few Qualified Polar Mariners** -- in today's global maritime workforce. As owners start to invest in Arctic tonnage, the shipping industry needs to consider how a lack of qualified crew to man these vessels will impact the business model of increased Arctic transportation and offshore activities
- **Working in Cold Environments** -- while STCW amendments provide an added level of training, this does not mean the crew will be competent and efficient at working in cold environments. Having practical experience of how low temperature affects working physically and what practical measures can be employed, all require more sea time or at least in-depth knowledge transfer from experienced crews
- **The Human Element** -- including a crew's mentality towards cold weather plays an important role in efficient and safe Arctic operations

Concluding Remarks

- “There is no replacement for smelling the salt air, but realistic simulation training breeds knowledge and confidence”
- Time is running out for transfer of vital skills. One company, when recently asked about their experience of operating in the Arctic, replied: "Our experience retired six months ago." But it's difficult to train people when there has not been consistent work. That's been the nature of Arctic business. It's cyclical
- A lot of the inherent risk mitigation strategies for operating in the Arctic up to now have been associated with masters with experience in taking the right decisions. Unfortunately, few companies have taken active measures to transfer knowledge. Looking at the potential ramp-up of Arctic projects and the potential retirement of people with the right knowledge, there is a gap