IS YOUR SHIP READY FOR WINTER?

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WE ARE NOW IN THE LAST QUARTER OF THE YEAR, WHICH MEANS THAT WINTER IS APPROACHING IN THE NORTHERN HEMISPHERE, BRINGING WITH IT THE RISK OF SEVERE COLD IN CERTAIN WATERS. OPERATING A SHIP IN CONDITIONS OF ICE OR EXTREME COLD POSES SEVERAL CHALLENGES FOR THE SHIP ITSELF AND FOR THE CREW – AND IF NOT EVERYONE IS PROPERLY PREPARED, SERIOUS PROBLEMS CAN DEVELOP.

SHIPS OPERATING IN POLAR WATERS MUST FOLLOW THE IMO'S POLAR CODE, WHICH MEANS THEY MUST FULFIL ADDITIONAL REQUIREMENTS SUCH AS CARRYING AN ONBOARD POLAR WATER OPERATIONAL MANUAL (PWOM) AND OBTAINING A POLAR SHIP CERTIFICATE. HOWEVER, COLD WEATHER IS NOT LIMITED TO THE POLAR AREAS AND SO THERE ARE A NUMBER OF PRECAUTIONS THAT ALL SHIPS OPERATING IN EXTREMELY COLD CLIMATES SHOULD TAKE.

CARGO CARE

VENTILATION: proper ventilation is essential for many cargoes to maintain cargo quality. The ventilation system must be able to operate correctly in the cold weather and care must be taken to avoid snow or ice entering the cargo holds during the ventilation process.

HATCH COVERS: these must be able to operate freely during low temperatures. All hatch cover securing components must be maintained, so that they do not become jammed due to the cold weather. Material for hatch cover gaskets must be suitable for the extreme temperatures and must be kept free of ice which may prevent the hatch covers sealing properly.

CRANES: if the ship is fitted with cargo cranes, then care must be taken to ensure that the cranes can operate in the expected weather conditions.

EQUIPMENT

All equipment and machinery essential for the safe operation of the ship, including fire and lifesaving appliances, must be accessible and functional. The crew must also bear in mind that the actual weather conditions may be more severe than predicted. The equipment manufacturers should be consulted to determine the suitability of the equipment for cold weather and to highlight any special maintenance requirements. It may also be necessary to consult the ship's Classification Society to see if any modifications are required. The onboard management system must set out how to prepare the equipment for adverse cold weather conditions, without compromising safety. One example is the drainage of water from the deck. The ballast water system must also remain fully operative in the low temperatures.

Survival equipment must be checked to make sure that lifesaving appliances operate in low temperatures and items such as water, food rations and other essentials are protected and not affected by the cold climate.

PERSONAL SAFETY

Working in cold climates requires an understanding of the interaction between ambient temperature, wind speed, relative humidity, personnel protective equipment and the task being performed. All work activities on deck should be carefully planned and time spent outside should be limited to avoid any frost-related injuries. The crew must have a thorough understanding of wind chill and how it affects exposure, as well as the recommended time limits for working outside at any given temperature.

Precautions to be taken to increase personnel safety include:

- Having a sufficient supply of protective clothing appropriate for extreme cold
- Keeping clothes dry and changing clothes if they become wet
- Covering all exposed skin
- Avoiding contact between bare skin and metal objects
- Being aware of the dangers of frostbite and hypothermia
- Working in pairs and keeping an eye out for each other

Safe passageways should be provided to prevent slip injuries from ice. As some salts used for this can have a corrosive effect on the deck's paint coating, it is important that any salt used is compatible with that coating.

SHIP STABILITY

The applicable IMO stability criteria must be complied with. In extreme cold, there is a risk of the ship's superstructure being coated in ice and this could affect the stability of the ship. The crew should be aware that superstructure icing depends on various factors such as meteorological conditions, condition of loading, and behaviour of the vessel in stormy weather.

CONCLUSION

Navigating in extremely cold environments is a complex matter with various aspects that need to be taken into consideration. We have highlighted some of the risks involved and the precautions that should be taken but we recommend that a comprehensive risk assessment is completed in cases of extreme weather. This should be accompanied by a gap analysis and an action plan to make sure that the necessary safety barriers are implemented to mitigate all identified risks efficiently – this will help to ensure the safety of the crew, the ship and the cargo.