

Prepare to combat the perils of icing

When I heard the weather forecast for the week of Jan. 22, I was very concerned for the fishing fleet. Frigid arctic air due in from Canada would bring serious icing, wind, and wave conditions to the North Atlantic.

Remembering the five New Bedford fishermen who died on the scalloper Northern Edge in December 2004, I hoped that this weather would not bring another tragedy. I wasn't the only one worried. Friends and families of the crew of Lady of Grace heard by radio late Friday night that the vessel was experiencing icing conditions and was headed back to port. Tragedy came hours later when the fleet realized the 75' dragger was gone and her four-man crew lost.

Ice in itself is dangerous. Its weight decreases the freeboard of the vessel and, being above the waterline and high in the

rigging, the weight of the ice raises the center of gravity of the vessel. So the vessel is unstable on two counts – reduced freeboard and raised center of gravity.

Icing, in combination with poor weather conditions, is exceptionally dangerous.

“Sea-saw”

In addition to weather-related conditions, operational conditions can add to an already dangerous situation. The metaphor of a seesaw – or “sea-saw” – may be useful for discussing how various conditions contribute to destabilizing a vessel.

The vessel can rapidly become more unstable with the addition of factors that either decrease the freeboard or raise the center of gravity. The sea-saw is “tipped” by the icing, creating an unstable condition.

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As with most conditions on the sea, ice accumulation is a dynamic condition that will continue to worsen. So ice build-up must be minimized.

When chopping ice from rigging and instruments, blunt instruments are better than sharp ones to avoid damaging equipment, and any crew members who are chipping and chopping ice should be tied-off or in a harness to avoid being tossed overboard.

Life raft, EPIRB

The onboard safety equipment should be well cared for especially in an ice storm. The life raft and EPIRB must be kept free of ice so that they are functional and will release under hydrostatic pressure.

In the case of the Lady of Grace, the life raft was still in its cradle when the boat was found. Considering its reputation of being a well-maintained boat, it's possible that icing may have played a role in the life raft's failure to release.

Similarly, radar, radio equipment, horns, and running lights must be de-iced. Just doing this can be a full-time job during an ice storm and dangerous because of the exposed and high location of these items.

Cargo storage

How and where cargo – including the catch – is stored is critical to stability of

effect, the bilge must be pumped as dry as possible at all times.

Operations

Under icing conditions, it is extremely important to undertake operations safely. Towing can suddenly become a hazard if a net or scallop dredge is hung down, and this is especially true under icing conditions.

Experts strongly suggest that there be a quick-release mechanism that will free the vessel from the gear in order to prevent capsizing.

The Society of Naval Architects and Marine Engineers Ad Hoc Panel #12 fishing vessel safety training program discusses this point and adds these additional suggestions:

- Tow gear directly off the stern;
- Secure the load while lifting to prevent shifting;
- Minimize time lifting over the side or do this type of lifting in a sheltered area; and
- In high seas, steer directly into the waves and avoid quartering or following seas.

Other operating suggestions specific for icing conditions include: slow down, head down wind; and seek the lee of islands to ride out the weather.

Better yet, head to port in advance of the storm. ■



John Pappalardo/CTN file photo



The fishing fleet in the Northeast seasonally has to operate in icing conditions. The buildup of ice on the topside rigging and structures can cause a boat to become extremely unstable in a short period of time. Fishermen are urged to be aware of when ice is making and to take immediate preventative action to avoid disaster.

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Cargo storage

How and where cargo – including the catch – is stored is critical to stability at all times, but especially in rough weather and icing conditions.

Every captain should know the stability specifications of his vessel and should have the stability specifications recalculated whenever rigging and/or fishing gear is added above the waterline. That is to say that if a vessel's design has been altered, the original stability specifications may no longer hold.

The stability specifications are the guide for loading. Below deck, cargo should be secured. One method is to have multiple small compartments where fish, salt, and ice are stored. Secured cargo will not contribute to the free surface effect. Also, to avoid the free surface

● Secure the load while lifting to prevent shifting;

● Minimize time lifting over the side or do this type of lifting in a sheltered area; and

● In high seas, steer directly into the waves and avoid quartering or following seas.

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FISH SAFE:

- Check weather reports frequently, especially in the winter.
- Plan for rough, cold weather before leaving port by arranging cargo and storage.
- Keep blunt chopping and chipping tools handy to minimize ice build-up.
- Use rope or harnesses to secure crewmen clearing ice to the vessel.
- Keep life raft, EPIRB, radar, horn, and lights free of ice.

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