UNITED STATES COAST GUARD
U.S. Department of Homeland Security

FINDINGS OF CONCERN

Office of Investigations and Casualty Analysis

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Washington, DC

Findings of Concern 013-23

SEACOR POWER CASUALTY: FINDINGS OF CONCERN REGARDING THE NATIONAL WEATHER SERVICE

Purpose. The U.S. Coast Guard issues Findings of Concern to disseminate information related to unsafe conditions that were identified as causal factors in a casualty and could contribute to future incidents. Findings of concern are intended to educate the public, state, or local agencies about the conditions discovered, so they may address the findings with appropriate voluntary action, or so they can highlight existing applicable company policies or state/local regulations.

The Incident. In April 2021, a commercial liftboat carrying 19 individuals departed Port Fourchon, Louisiana and headed offshore in the Gulf of Mexico. Approximately seven nautical miles offshore, the vessel encountered unpredicted weather conditions that exceeded the vessel's operating limits. The winds were over 80 knots with gusts up to 99 knots, which capsized the vessel and caused the tragic loss of 13 lives.

Contributing Factors and Analysis. The investigation revealed that the biggest factor leading to the capsizing was the unpredicted weather conditions. Additionally, there were also a number of additional factors that either contributed to the casualty or were identified as unsafe conditions. These issues should be addressed to prevent future incidents, and include the following:

- On the day of the incident, the National Weather Service (NWS) knew there was a system moving through Port Fourchon and offshore, but the forecasters could not see what was happening close to the surface. Since they did not have information to validate what was happening in real time, the forecasters predicted the most reasonable conditions they felt would occur, but the forecast did not reflect the actual conditions that afternoon. Due to radar locations, the NWS cannot directly see what is happening close to the surface in Port Fourchon and coastal Louisiana, and therefore forecasters rely on automated or voluntary surface reports to assist in predicting weather conditions. The NWS used to have access to automated information from several sites in and around Port Fourchon, but those are no longer active and are sorely missed. In addition, the New Orleans/Baton Rouge NWS office rarely receives ship observations, Coast Guard Cutter or Station observations, or public

observations in these areas. With more than 15,000 individuals flying offshore to work in the Gulf of Mexico each month, accurate weather forecasting for this region is extremely critical.

- There are a variety of ways for mariners to receive Special Marine Warnings (SMWs), but most of these systems are set up so that a mariner has to look for a weather product from one of these sources, and the warnings will not just automatically come to them. In the case of this particular vessel, the crew would have to shift one of their radios to hear NOAA weather forecasts, go down below to check the NWS website on one of the ship's computers, or leave the operating station and move to another part of the bridge to look at Navigational Telex (NAVTEX) or International Maritime Satellite Organization (INMARSAT). If the crew did not already know a weather system was coming, then there would be nothing to prompt them to check for a SMW. This highlights the need to explore new opportunities to push SMWs to mariners, including the possibility of using the Emergency Alert System (EAS) for SMWs, similar to the way Severe Thunderstorm Warnings or Tornado Warnings are automatically pushed to all cell phones in a predicted impact area. Cell phone use has become more and more popular for mariners operating close to shore, and this may provide a new way to distribute information about short duration weather events to those individuals that are located in the impact area.

- On the afternoon of the casualty, the first SMW that was applicable to the vessel's operating area predicted wind gusts of 34 knots or greater, which likely did not raise any alarms with the crew. In the Gulf of Mexico, mariners are used to seeing storms or fronts that move through with a strong burst of wind (around 30 to 35 knots) that quickly dies down. A forecast that says wind gusts of 34 knots or greater could mean one gust of 35 knots, or it could mean numerous gusts of 50 knots. These are very different situations, so there may be an opportunity to consider issuing SMWs that contain a range of expected winds, rather than just a lower limit.

- SMW messages describe a warning area through latitude and longitude coordinates, which makes it difficult for mariners to immediately identify the applicable impact area(s). If a vessel is operating in an area like coastal Louisiana, which is heavily trafficked and has numerous oil and gas platforms, the individual operating the vessel may not have time to look away to check the SMW coordinates, and they may miss important information.

Findings of Concern. Coast Guard investigators have identified a number of measures that may mitigate the risks posed by the issues discussed above. The National Weather Service should consider the following voluntary actions:

- Identify immediate options for increasing automated weather observation equipment in the highly trafficked areas of Port Fourchon and coastal Louisiana.

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- Establish industry working groups to collectively identify strategies and/or best practices to increase voluntary weather reporting in the Gulf of Mexico and to ensure this information is provided in a useful, efficient, and accurate format.

- Create a joint working group with the Coast Guard to explore whether there is value in creating a smart phone application that the public could use to provide voluntary weather observations.

- Consider the use of the Emergency Alert System (EAS) to send special marine warnings to cell phones located in maritime areas.

- Consider issuing special marine warnings that contain a forecasted range of wind conditions, not just a forecast predicting winds over a certain speed.

- Establish a working group to evaluate additional methods of describing special marine warning boundaries to the public and/or limiting special marine warning distribution to only the applicable areas.

Closing. These findings of concern are provided for informational purpose only and do not relieve any domestic or international safety, operational, or material requirements. For any questions or comments please contact the Office of Investigations and Casualty Analysis by email at HQS-SMB-CG-INV@uscg.mil.