



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

**FINDINGS OF CONCERN**

**Sector Honolulu**

November 29, 2021  
Honolulu, HI

Findings of Concern 007-21

**BARGE CARGO SECURING**

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 an appropriate voluntary action or highlight existing applicable company policies or state/local regulations.

The Incident. On June 22, 2020, a Coast Guard inspected towing vessel was towing an inspected barge from Honolulu Harbor to Hilo Harbor, HI. As it approached port and neared Pepeekeo Point, the tug and its tow altered course and experienced beam seas resulting in heavy rolls. As a result, the barge lost 21 containers overboard.

The barge was loaded with 316 units of general cargo in a split stack arrangement, with the majority being containerized cargo. The last section of containers on the barge's aft deck was loaded with forty-nine 40-foot containers arranged in nine rows stacked five high with the remaining starboard outboard stack being four high. Stacking cones were placed in the bottom container castings used to secure the containers that were then loaded on top of each other. Manual twist locking cones were used on the 2nd tier port and starboard outboard stacked container castings. The containers on the aft deck were further secured with a lashing arrangement consisting of ½-inch steel chain, steel ratchet binders, steel slip hooks, and steel grab hooks. A separate chain was secured to the forward and after container corner castings via the bottom of the 1st, 3rd, and 5th tier containers on the port outboard 5-high stack of containers and to the forward and after corner castings of 1st, 2nd and 4th tier containers to the starboard outboard 4-high stack of containers. Each chain was secured to the barge deck steel lashing rail and manually tightened.

When the towing vessel made a course change around Pepeekeo Point and reduced its speed, the vessels experienced beam seas resulting in an amplified roll that caused the aft-most container row to sway and topple. The incident occurred due to the barge's righting force, the increased center of gravity due to the container stowage, as well as the minimal securing/lashings in place.

Contributing Factors and Analysis. The prevalent practice of loading heavier containers over lighter loads raised the barge's center of gravity and increased the probability of a tipping occurrence. Additionally, the use of stacking cones offered little protection against tipping and the use of minimal lashings could not prevent a toppling event. Although not required by federal law or regulation, a cargo-securing manual or a pre-determined load and securing plan based on industry best practices may have prevented this incident.



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Findings of Concern. Although not required under federal regulations, the vessel operator for this incident is encouraged to have an independent analysis conducted to address cargo loading/securing procedures of all unmanned freight barges to ascertain and develop a cargo loading and securing manual. The development and/or adaptation of a cargo/loading manual specific to their operations would provide a more standardized approach and ensure safer loading procedures and adequate lashing arrangements to prevent future incidents.

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 Sector Honolulu Investigations Division by phone at (808)-522-8251 or by email at [D14-DG-SH-SecHono-Prevention-Investigation@uscg.mil](mailto:D14-DG-SH-SecHono-Prevention-Investigation@uscg.mil).