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May 19, 2021

The Honorable Chair and Members of the
Hawaii Public Utilities Commission
465 South King Street
Kekuanaoa Building, Room 103
465 South King Street
Honolulu, Hawai'i 96813

Re: Ho`omaka Hou June 22, 2020 Incident – Final Report

Dear Commissioners and Commission Staff:

Consistent with Young Brothers, LLC's ("Young Brothers") letter filed on June 20, 2020 and as a follow up to its letter, filed on April 21, 2021, please find enclosed Young Brothers' Final Report

Should you have any questions, please do not hesitate to contact the undersigned.

Sincerely,

/s/ Kris N. Nakagawa
Kris N. Nakagawa
Vice President of External & Legal Affairs

c: Division of Consumer Advocacy

**YOUNG BROTHERS, LLC'S
FINAL REPORT
RELATING TO THE HOOMAKA HOU BARGE INCIDENT
MAY 19, 2021**

EXECUTIVE SUMMARY

On the morning of June 22, 2020, a stack of containers aboard the barge HOOMAKA HOU (“Barge”) toppled over en route from Honolulu to Hilo (“Incident”). The crew of the tug HOKU LOA (“Tug”), which was towing the Barge, did not realize the stack had toppled over until they reached Hilo Harbor. Twenty-one containers were lost overboard, eight of which were recovered. The other thirteen containers were never located.

Young Brothers, LLC (“YB”) conducted an investigation into the cause of the Incident. The investigation was inconclusive and a definitive cause could not be determined due to the fact that some of the containers and lashing gear were never recovered and could not be examined. A joint investigation was also conducted by the United States Coast Guard (“USCG”) and National Transportation Safety Board (“NTSB”). The NTSB issued a Marine Accident Brief (“NTSB Brief”) on April 21, 2021 which only identified “probable” causes. The NTSB Brief did not recommend any corrective action.

Although a definitive cause could not be determined by YB or the USCG/NTSB, YB identified measures and procedures to potentially address this Incident including the “probable cause” cited in the NTSB Brief to the extent possible. Those measures and procedures, however, cannot be completely implemented and/or addressed by YB due to, among other things, infrastructure and regulatory constraints (many of which are beyond the control of YB).

I. INVESTIGATIONS

YB immediately initiated an investigation into the Incident. External legal counsel Michael Nakano, Esq. of Cox Wootton Lerner Griffin & Hansen LLP directed and supervised the investigation, which was conducted by marine surveyor Mark Knutson (“Mr. Knutson”) of Offshore Marine Surveyors, with the assistance of YB cargo surveyor Leslie Barrows, YB Regional Operations Manager for East Hawaii Ian Jones, and YB Safety Manager Megan Rycraft (“Ms. Rycraft”).

A separate investigation was initiated by the USCG and NTSB. The USCG/NTSB investigation was conducted by Lt.Cdr. Alex Stachel, Lt. Elizabeth Stevens, USCG Assistant Senior Investigating Officer Bill Taylor, and NTSB Senior Marine Investigator Michael J. Kucharski.

The YB investigation consisted of examination of the Barge, containers and lashings; review of various documents relating to the vessels, cargo, procedures and lashing gear; and interviews of the Tug crew, the longshoremen involved in the cargo loading operations (including the “lead person” referenced below), barge

superintendents, port engineer, and storeroom superintendent. The interviews were led by USCG/NTSB investigators.

II. FACTS

A. Incident

Loading of the Barge began on the morning of June 19, 2020 and was completed at approximately 1830. The Barge was loaded by YB longshoremen who were supervised by a lead person and two barge superintendents. The normal loading and lashing procedures were followed. The containers in the subject stack were loaded in a “block stow” at the stern of the Barge. (The “block stow” technique is described below.) The containers were in five rows, stacked five high, with the exception of the outboard starboard stack which was stacked only four high.

The block stow was secured with locking cones, stacking cones, chains, shackles and ratchet binders. Locking cones were used between the bottom and second container on the outboard stacks, both port and starboard. Stacking cones were used between all other containers. Chains and ratchet binders were used to secure the block stow to the Barge at the first, third and fifth levels of the outboard stacks, fore and aft on both the port and starboard sides. All of the lashings were checked by the lead person and barge superintendent after loading was completed.

YB has loaded its barges utilizing the ‘block stow’ technique with single lashings – a method of loading whereby cargo designated for a specific destination is stowed together – since it started handling freight in support of the pineapple industry in the 1920s. The block stowage technique is recognized as the least labor-intensive barge stowage method and allows for high cargo handling efficiency with rapid loading and discharge of cargo at the port of destination. This method has been an integral reason why YB has been able to provide fast, efficient, frequent, affordable and reliable service to the Hawaiian Islands with *12-weekly* regulated sailings that depart out of Honolulu, Oahu to all major island ports, including the remote island locations of Kaunakakai, Molokai and Kaunapali, Lanai.

The Tug arrived at Pier 39 and made up the tow with the Barge at approximately 2015 and departed the pier at approximately 2025 on June 20, 2020. Prior to departure the tug crew walked the Barge and conducted a visual inspection of the cargo and lashings, took draft readings and visually checked the trim of the Barge. The Tug crew did not find anything amiss with the Barge or its cargo and logged the barges draft, which indicates that the Barge was well within the limits of its Stability Letter (i.e., the Barge was not overloaded being stacked four to five high).

The trip from Honolulu to Hilo took approximately thirty two hours and was uneventful. According to the Tug crew, sea conditions for the subject voyage were

average/ normal. On June 22, 2020 at approximately 0400, the Tug captain reported that while entering Hilo break wall, the assist tug informed him that the containers on the stern of the Barge had toppled over and one container was hanging over the starboard side of the Barge. The Barge was secured at 0430 alongside Pier 4 in Hilo Harbor.

Based on a review of the Tug's log, interviews of the Tug crew and the location of the containers which were recovered, YB believes the subject block stow toppled over as the Barge rounded Pepeekeo Point between 0000 and 0200. According to the Tug's log, winds at that time were 5-10 knots and seas were 1'-2'. Those conditions were mild compared to 20 knot winds and 4'-6' seas the vessels encountered earlier in the voyage from Honolulu.

B. Salvage

The lashing gear remaining aboard the Barge was inspected by Mr. Knutson on June 22, 2020. The chain that secured the forward end starboard side of the block stow had a broken dog. The chain that secured the aft end starboard side of the block stow had a broken shackle and broken ratchet. Only the chain that secured the bottom of the port side forward end of the block stow was found. The other lashing gear which secured the forward port side of the block stow was missing. The chains, shackles, and binders that secured the port side aft were all in satisfactory condition and still connected.

Cates Marine Services ("Cates") was hired to locate and tow back to Hilo Harbor the containers that were lost overboard. A small vessel was used to rig the floating containers and P&R Water Taxi tug TIGER 10 towed six reefer containers to Hilo Harbor on June 24, 2020. Cates' supply vessel KAHI arrived in Hilo on June 24, 2020 and towed in another container which was located during a morning aerial search.

American Marine Corp. ("AMC") was hired to remove the toppled containers from the Barge using a 250-ton crane. Removal of the toppled stack began on June 24, 2020 and was completed on June 27, 2020. The Barge was back loaded and departed for Honolulu on the morning of June 28, 2020.

Efforts to remove the containers which went overboard and were subsequently recovered began on June 26, 2020. A second, 120 ton crane was brought in to lift the containers out of the water next to the pier, where they were staged after recovery. All of the recovered containers were removed from the water by June 28, 2020. The area of the pier which was used to remove the recovered containers was cleaned up and restored to its previous condition.

Disposal of damaged containers and cargo continued through July 1, 2020. After all of the containers and cargo were disposed of, the pier was cleaned up and restored to its previous condition.

The total cost of salvage and clean up was \$824,512.38.

C. Barge Damage

YB Port Engineer, Greg Ball (“Mr. Ball”) inspected the Barge in Hilo on June 26, 2020. Mr. Ball prepared a damage report for the USCG with the following findings:

- Hull: No deficiencies noted.
- Tanks and Voids: All tank and void covers are intact and secured to their access fittings with no signs of any contact or scarring. No deficiencies noted.
- Deck: Concrete deck lining shows signs of contact and scarring. Deck surfaces show no signs of penetrations or deformation. No deficiencies noted.
- Deck appendages: Deck railing port side aft and deck railing aft starboard quarter show signs of contact, however, the railing to deck connections are sound and therefore there is no impact to the watertight integrity of the barge.
- Navigation: Port Aft Stern light inoperable. A Portable Stern Light will be installed prior to sailing. All other navigational aids intact.

Mr. Ball met with representatives from the USCG and the Barge’s classification society, the American Bureau of Shipping to inspect the Barge in Honolulu on June 30, 2020. The joint inspection did not find any damage beyond what was noted by Mr. Ball following his initial inspection in Hilo.

Repairs to the Barge consisted of replacing two 10' sections of 6" pipe railings on the starboard side aft, straightening/re-welding the 4" pipe railing on the port side aft, and replacing a stern light. The repairs were completed on July 7, 2020, USCG inspectors signed off on the repairs on July 8, 2020, and the Barge was put back in service on July 10, 2020. The total cost of the Barge repairs was \$16,800.

D. Cargo and Container Damage

A total of forty-nine (49) containers were in the subject block stow. Forty-three (43) of those containers sustained damage.

- The first two (2) levels of the block stow consisted of twenty (20) reefer containers. There were four (4) flatrack containers. The remaining twenty-five (25) containers were dry cargo.
- Two (2) containers were shipped under an unregulated connecting carrier agreement (“CCA”) with Matson. Seven (7) containers were shipped under an

unregulated CCA with Pasha. The remaining forty (40) containers were shipped under the regulated Tariff 5-A ("Tariff").

- Twenty-one (21) containers went overboard and eight (8) of those were recovered.
- Eighteen (18) of the containers which went overboard were shipped under the regulated Tariff and three (3) were shipped under the unregulated CCA with Pasha.
- Of the eighteen (18) regulated Tariff containers that went overboard eleven (11) were dry straight loads, five (5) were straight load reefers, and two (2) were mixed reefers.
- Of the twenty-eight (28) containers in the block stow which remained aboard the Barge, six (6) were under the unregulated CCA with Pasha, two (2) were under the unregulated CCA with Matson, and sixteen (16) were under the regulated Tariff.

1. Regulated Tariff Cargo

All of the containers which went overboard were considered a total loss. The cargo in the sixteen (16) regulated Tariff containers which remained aboard the Barge had varying degrees of damage: eight (8) of the dry straight loads were delivered; one (1) dry straight load was minimally damaged; five (5) mixed reefers had minimal salvage value; one (1) straight load reefer was a total loss; and one (1) straight load reefer had significant spoilage. A total of \$787,417.28 was made for Tariff cargo claim.

Per the regulated Tariff, there is a \$5,000 package limit unless the shipper purchases additional insurance. Additional insurance was purchased on some but not all of the Tariff cargo. The total amount of claims paid by YB's insurer on the regulated Tariff cargo was \$265,285.49.

2. Unregulated CCA Cargo

Pasha had seven (7) containers aboard the Barge which were shipped under an unregulated CCA and sustained damage. Three (3) of the unregulated CCA containers were lost overboard and were not recovered. The other four (4) unregulated CCA containers sustained varied damage to both the cargo and containers. Matson had two (2) containers aboard the Barge shipped under an unregulated CCA, both of which sustained damage. Both containers were reefers and Matson claimed the cargo was a total loss.

3. YB Containers

YB owned or leased 32 of the containers in the block stow which were damaged. The estimated cost of the damage to the YB owned/leased containers was \$104,210.52.

III. CAUSAL FACTORS

As previously stated, YB's investigation into causation or "root cause" was inconclusive. YB's surveyor, Mr. Knutson, was unable to review all of the evidence because not all of the applicable containers and lashings were recovered.

The USCG/NTSB investigation was also inconclusive. The NTSB Brief only identified "probable cause" for the Incident. According to the NTSB, the probable cause was: YB not providing the barge team with an initial barge load plan, as well as inadequate procedures for monitoring stack weights, which led to undetected reverse stratification of container stacks that subjected the stacks' securing arrangements to increased forces while in transit at sea.

YB does not have any basis to dispute the findings in the NTSB Brief, including portions of the probable cause. YB does, however, note and emphasize that both its investigation as well as the USCG/NTSB investigation were inconclusive (i.e., there was no direct evidence to substantiate the root cause of the incident).

Notwithstanding the above, YB provides the following observations with regard to the NTSB Brief:

- A thorough inspection of the Barge was conducted by the Port Engineer prior to loading and no deficiencies were discovered.
- YB Maintenance personnel are trained to visually inspect containers for damage after they enter the container yard. If questionable damage is found, the container is removed, or "locked" from use, until it can be fully inspected and repairs could be made, if needed. NTSB Brief at p. 5-6.
- The Barge was not overloaded.
- While loading heavy loads on the bottom and lighter loads on top is considered "best practice," the manner in which containers were stacked on the Barge "can be done." NTSB Brief at p. 8. In fact, it should be added that the Hyster 40-ton top pick container handlers utilized by YB to load its barges – which are used by barge operators throughout the worlds – are designed and capable of loading 90,000lbs to the 5th tier position.
- The container stacks where the containers collapsed did not surpass the container casing strength.

- Lashing gear is regularly checked for proper operation and lubrication before and after use and defective lashing gear was removed from service.
- Based on the NTSB Brief, the lashing gear used during this voyage did not fail and the gear being utilized was up to industry standards.
- YB machine operators have had power industrial truck operator training and are trained that loading heavy containers at the bottom is an industry best practice.
- There are no specific regulatory or other requirements for loading and securing cargo on unmanned barges like the HOOMAKA HOU.
- The NTSB did not offer or recommend any corrective action.

IV. CORECTIVE ACTION AND RECOMMENDATIONS

Although both YB’s investigation and the USCG/NTSB investigation were inconclusive and no corrective action was recommended in the NTSB Brief, YB conducted a review of its procedures and implemented a number of precautionary measures. YB also identified measures and procedures to potentially address this Incident, including the “probable cause” cited in the NTSB Brief to the extent possible.

A. Precautionary Measures Implemented by YB

1. Increased Lashings on Hilo Voyages

While YB stands by single lashing block stowage as a safe and effective barge loading technique, immediately following the Incident, YB’s terminal operations team increased the lashings on the twice-weekly Hilo sailings to address the possibility of failed fixed or loose lashing gear. The increased lashings, previously employed only in anticipation of inclement weather, resulted in additional lashings on the bottom tier positions which prevents the shifting of containers port to starboard and bow to stern. The increased lashings have only been deployed for the Hilo sailings due to risks associated with the sailing route (which requires voyage through the Alenuihaha Channel – often referred to as the most dangerous channel crossing in the world) and length of voyage (24 to 36 hours between Honolulu, Oahu and Hilo, Hawaii, depending on weather and manning).

YB’s team of terminal operators have continued to monitor the Hilo (and other) sailings closely since the Incident and have identified no additional stowage concerns or issues. To date, no incidents or concerns have been identified.

2. Continued Container Equipment Inspections – Increased Focus on 40’ Reefers

YB Maintenance personnel continue to inspect container equipment daily with an increased focus on 40' reefer equipment. While the NTSB Brief states, “[b]ecause the total weight of each collapsed container stack did not surpass the container corner casing strength, it is unlikely that the structural failure of the containers’ corner casings was the cause of the toppling,” YB Maintenance personnel will continue its daily container inspections as a matter of practice and in the abundance of caution.

3. Other Precautionary Measures

In addition to increasing lashings and container inspection efforts, YB terminal operators have been reminded, when possible, to load heavier containers at the bottom of the stacks and to separate loads in the terminal by port and by size. Finally, the terminal operations team worked in collaboration with YB’s Senior Manager of Health, Safety, Quality, and Environment to develop and publish a lashing manual (which was completed in July 2020).

B. Future Action/Recommendations

While the above-described precautionary measures were implemented immediately, YB also identified the following two primary aspects of its current cargo handling operation which could be modified to address the probable cause identified in the NTSB Brief: 1) cargo acceptance and barge stow; 2) cargo identification. Changes to these areas of YB’s cargo handling operation cannot be made unilaterally due to infrastructure and regulatory constraints and/or challenges.

1. Cargo Acceptance and Barge Stow

As indicated within the NTSB Brief, YB receives cargo throughout the loading process. In order to plan a barge and create a stow plan, YB would need to substantially modify its existing required sailings, cargo acceptance procedures, and timing. While this may seem like a simple ask, doing so has a cascading impact on several integral components of YB’s existing operations throughout the island ports.

First, YB would need the necessary approvals and support to modify the current regulated sailing schedule. The demands of 12-weekly required sailings (which equates to 24 weekly required barge loads and discharges in Honolulu) prohibits full-scale pre-load planning. To the extent necessary, a modified sailing schedule would need to be implemented (and approved by the Hawaii Public Utilities Commission) in order to provide ample time for stow plan development, container staging, and load execution.

Second, YB would need to modify its current cargo acceptance procedures and timing by, among other things, implementing cargo acceptance cutoffs so that all cargo is received well before any barge loading operations are initiated. While this is an obvious preference, practical application is complicated for the following reasons:

- YB's current mode of live-loading 'at will' enables significant benefits: (i) customer convenience, i.e., customers ability to drop off cargo for same day loading, and (ii) cargo handling efficiency. Pre-load staging and creation of a stow plan when compared to live-loading would add to existing labor costs, may require significant modifications to YB's current and applicable collective-bargaining agreements, manning tables, and work rules, hiring of additional stevedore shifts, and stow planning resources.
- Assuming YB can overcome regulatory and other logistical obstacles and challenges faced by changing cargo acceptance and/or the required regulated sailing schedule, infrastructure limitations (e.g., pier space, etc.) in Honolulu and the neighbor islands (which, in part, are beyond the control of YB) remain an impediment as pre-loading, acceptance and stowage execution would require a significant increase in pier space needed to stage and sort cargo (by type and weight). At this time, approximately 30% of YB's pier space in Honolulu is unusable due to pier strength concerns. The Department of Transportation, Harbors Division ("DOTH") has tentative plans to repair the applicable pier space to address these pier strength concerns, but YB understands that such repairs will not be fully addressed until after the anticipated completion of the Kapalama Container Terminal (aka, KCT) in 2024.
- Although both regulated and unregulated cargo are accepted on the day of departure, most of the containers received during YB barge operations are unregulated interstate (e.g., Pasha) containers that are discharged concurrently off inbound Honolulu interstate (e.g., Pasha) container vessels. These containers are typically the heavy loads that would be loaded first as a result of any comprehensive pre-load plan.

2. Cargo Identification

While improvements to cargo acceptance will facilitate YB's ability to plan a stow, it is of equal importance that cargo weights are clearly and accurately identified. Even prior to the subject incident, YB had been working with the DOTH to install weigh in motion cargo scaling systems at all ports, but YB understands that lack of funding and other priorities have continued to delay a formal plan by the DOTH. In the interim, YB has purchased scales to be installed on several 40-ton and 35-ton forklifts statewide. This capital acquisition will allow YB to scale some of the incoming cargo and improve its ability to stage heavy cargo accordingly.

In addition to exploring scale acquisitions, YB will continue to evaluate scale ticket requirements. While this is a common industry practice in the international and interstate trade, both Honolulu and the neighbor islands have limited access to scales large enough to weigh full container loads; accordingly, requiring scale tickets for customers prior to in gating would be problematic for both the customer/public, DOT

highways and DOTD and ultimately may, among other things, impede the flow of cargo throughout the state, increase traffic congestion, and adversely impact the customer experience of dropping and picking up of their cargo at each of the ports.

V. CONCLUSION

YB stands by its existing barge loading practices that have had a near flawless incident record over the course of its rich 120-year history. In particular, the current block stowage technique currently implemented by YB is recognized as the least labor-intensive barge stowage method and allows for high cargo handling efficiency with rapid loading and discharge of cargo at the port of destination. This method has been an integral reason why YB has been able to provide fast, efficient, frequent, affordable and reliable service to the Hawaiian Islands with *12-weekly* regulated sailings that depart out of Honolulu, Oahu to all major island ports, including the remote island port locations of Kaunakakai, Molokai and Kaunapali, Lanai. Any changes or modifications to this technique will likely require, among other things, (1) further studies and/or discussions with key stakeholders including those currently participating in the Senate Resolution No. 125 Water Carrier Working Group (“SR 125 Water Carrier Working Group”), as such changes or modifications will need the necessary approvals and support from many of these stakeholders;¹ and (2) additional coordination, training and labor between the various departments including terminal operations, health, safety, quality and environment, and human resources. In the meantime, YB will seek opportunities to continuously improve and operate the safe, efficient, and fast, frequent, affordable, and reliable interisland water carrier cargo service upon which our customers and community depend on a weekly basis.

¹ On July 21, 2020, the Hawaii State Senate adopted Senate Resolution No. 125 (“SR 125”). In relevant part, SR 125 requested the Hawaii Public Utilities Commission (“Commission”), in collaboration with the Division of Consumer Advocacy of the Department of Commerce and Consumer Affairs (“Consumer Advocate”), to convene a working group to recommend mid-term and long-term solutions to balance the need for continuous interisland water carrier service throughout the State with the need for water carriers to maintain financial viability. Since late July 2020, the SR 125 Working Group (presently comprised of representatives from the President of the Senate, Speaker of the House, Mayor of each County, Commission, Consumer Advocate, Department of Business Economic Development and Tourism, Department of Transportation, Department of Agriculture, Chairpersons of the Legislative Committees on Transportation, Intrastate and Interstate Water Carriers including YB, Matson and Pasha, and International Longshore and Warehouse Union, Local 142) have been meeting and discussing various issues including, without limitation, pier space, cargo services, sustainability and profitability, subsidized shipping, and rates.

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