

Hurricane Impact on Heavy Lift Ships

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Abstract

1. Introduction

In 2020, Hurricane Laura imposed a challenge on complex deliveries for a refinery in Beaumont with worldwide cargo origins.

2. Objective

Describe intricate planning needed to continue deliveries for capital projects impacted by a Hurricane Laura at the Port of Beaumont.

3. Logistics Planning - Contemplating Hurricane Impact

A team of logistics experts began the planning process by chartering and inducing a heavy lift vessel that could accommodate the four over-weight/over-dimensional pieces of equipment (approx. 815mt, 760mt and two at 240mt each) along with a crane capable of offloading the cargo. They then determined loading, stowage, and unloading processes that would facilitate the discharge plan and selected the Jumbo Jubilee.



Choosing the right vessel for a shipment of this magnitude was critical and a number of heavy-lift carriers for the operation serving the Asia to US Gulf lane. Most shore cranes are not able to handle over 800 tonnes, whereas the cranes aboard heavy-lift carriers are designed to handle up to about 3000 tonnes. Once the heavy lift vessel was secured, the logistics team focused on stowage. Prior to loading, the stowage plan (lashing and securing, etc.) and method statement had to be approved by the shipper, receiver, port agent and the insurance underwriters.

The stowage plan must take into account weight distribution as well as discharge plans. In order to ensure no shifting of cargo during transit, the vessel port captain/stow planner must stabilize with lashing and securing.

Once the vessel was loaded in South Korea, the transport took roughly 30 days to reach the Port of Beaumont. Unfortunately, it approached the port just as Hurricane Laura hit, which provided unprecedented obstacles: a sunken dry-dock closed part of the Sabine Neches Canal to vessels more than 500GT. However, the logistics team is adept a risk assessment and management and this did not delay delivery.

When the Jumbo Jubilee arrived at the Port of Beaumont, offloading was straightforward due to the stowage plan that we had carefully designed and approved. We offloaded the heaviest piece to the barge first, which took approximately two days round trip to the final jobsite. To avoid down-time we offloaded several smaller components that were shipped as general cargo onto trucks until the barge returned for the next breakbulk piece.

Ships have evolved to meet global demands. As nations build refineries, cement plants, or power plants, they need large scale items from overseas. When they buy such equipment from a continent away, heavy lift vessels are the answer. They deliver fully assembled items and save weeks, months, and possibly years of additional work for the people that need them.

Medicine speaks of an intercurrent infections exacerbating a disease. In this appropriate metaphor for shipping, we face intercurrent disruption. Historically, logistics managers have become experts in hedging fuel in sophisticated attempts to deal with a lack of a reliable crystal ball. The novelty of simultaneous project investment planning for the energy transition,

uncertainty in shipping schedules and cost, uncertainty in new and exciting maritime fuel sources in global energy brings project logistics planning to new heights. Ultimately, the traditional cargo planning skill set of stowage planning and matching cargoes to the right type of vessel to the cargo configuration that minimizes assembly will remain in constant demand.

Lessons Learned

The following are lessons learned from the case history:

+Selecting the right type of vessel

+Contemplating the commercial impact of delays

+Coordinating with local Port Authorities on hurricane damage to finalize deliveries is critical.

4. References

+See Houston Maritime Museum Video on Risk Management on Hurricane Laura

<https://www.youtube.com/watch?v=nLJfjDpb4bQ&t=3s>

+Society of Naval Architects Magazine – April 2023

“Doing the Heavy Lifting”

+”Hurricane Laura Can’t Stop UTC from Delivering”

<https://breakbulk.com/Articles/hurricane-laura-cant-stop-utc>