YRKESHÖGSKOLAN
NOVIA

SPECIAL PROJECT CARGO

AND

CARGO OPERATIONS ON GENERAL CARGO SHIP

M/V BALTIC AMELIE

Portfolio

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Abstract

The main objective of this portfolio is to supply clear and reasonably practicable information about general cargo ships, cargo operations, as well as special project cargo and to look into the advantages of having a tween deck.

For Study purposes I am using pictures and documentations from the general cargo ship M/V Baltic Amelie and a few pictures from the Bulk cargo ship M/V Nathalie. Both ships operate under the Finish flag and trades between the Baltic Sea and the North Sea. All pictures were taken by me during my time onboard while working with RABN on both of those ships. Therefore, this whole portfolio is based on my personal experience as well as on conversations and interviews with more experienced colleagues within the company.

The idea of this research is to give specific understanding about General cargo ships. Not only the cargo operations itself, such as loading and discharging, but also to increase the knowledge of stowage plans and the process of preparing the cargo hold before loading. Furthermore, I will investigate special project cargo and how it differs from the normal cargo that the ship transports. One part of this research focuses on the tween deck and the advantage of having one on a general Cargo Ship.

Language: English

Key Words: General cargo, special project, Stowage.

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1 Introduction

Throughout history the oceans have been important to people around the world as a means of transportation. Unlike a few decades ago, however, ships are now carrying goods rather than people. The shipping industry is a critical component of the global economy, responsible for transporting goods and materials between countries and continents. The shipping industry includes a wide range of vessels, from small barges and tugboats to large cargo ships and tankers.

In recent years, the shipping industry has faced numerous challenges, including increased competition, changing regulations, and shifting market conditions. Despite these challenges, the shipping industry continues to grow and evolve, adopting new technologies and practices to improve efficiency, reduce costs, and ensure the safe and reliable transport of goods and materials.

The shipping industry is also an important source of employment, providing jobs to thousands of people in the maritime sector, including seafarers, shore-based staff, and support services. The industry also supports many other industries, including ports, shipbuilding, and logistics, creating a significant economic impact on a global scale.

2 General information

2.1 DEFINITIONS of cargo ships:

2.1.1 General cargo ship

A general cargo ship, also known as a multipurpose cargo ship, or a breakbulk cargo ship, is a type of cargo ship designed to carry a wide variety of different products and cargoes. Unlike container ships, which transport standardized cargo containers, general cargo ships transport a mix of items that are packaged in various ways, such as crates, drums, bags, or on pallets.

General cargo ships require careful planning and coordination on the part of ship's crew to ensure that the cargo is safely loaded, transported, and unloaded. Additionally, the size and weight of the cargo can have a significant impact on the stability and manoeuvrability of the ship, requiring the crew to have a deep understanding of the principles of stability and ballast control.

The size of general cargo ships can vary, with smaller ships designed for coastal trade and larger ships designed for international trade. The ships are typically operated by shipping companies or chartered by companies that need to transport goods by sea. The versatility and flexibility of general cargo ships make them an important part of the global transportation network, enabling goods to be transported efficiently and cost-effectively to a wide range of destinations.

Figure 1: M/V Baltic Amelie discharging in Port of Turku 07. Dec.2022

In recent years, the general cargo ship industry has been affected by various factors, including changes in trade patterns, increased competition from container ships, and the adoption of new technologies and regulations. These factors have resulted in several challenges for the industry, including declining profits, rising operating costs, and increasing pressure to adopt more sustainable and environmentally friendly practices.

2.1.2 Bulk cargo ship

A bulk cargo ship is a type of vessel designed to carry large quantities of unpackaged bulk cargo, such as coal, iron ore, grain, or other raw materials. These ships are characterized by their large cargo holds and their ability to carry cargo in a loose, unpackaged form.

Bulk cargo ships are often designed to be highly efficient, with a simple and straightforward design that allows for easy access to the cargo holds and minimal wasted space.

The primary advantage of using a bulk cargo ship for the transportation of bulk goods is the cost-effectiveness of this mode of transportation. Because bulk cargo is transported in its raw, unpackaged form, it is typically much cheaper to transport than packaged goods.

However, bulk cargo ships also have some limitations, including the need for specialized loading and unloading facilities and the potential for environmental hazards, such as the spillage of harmful substances during transit.

Overall, bulk cargo ships play a critical role in the transportation of raw materials and other bulk goods, providing a cost-effective and efficient means of transporting these items on a global scale.

Figure 2: M/V Nathalie loading bulk Fertilizer in Ussikaumpuki, Finland 26. Feb. 2023

In figure number two is a daily cargo operation on bulk ship M/V Nathalie, loading fertilizer in ussikaumpuki. While the stevedores are loading the cargo, the officers are monitoring the loading operations and the stability of the ship by pupping the ballast water out with the help of the ballast water treatment system (BWTS).

2.2 Differences between general cargo ship and bulk cargo

General cargo ships and bulk cargo ships are two different types of cargo ships that are designed to carry different types of cargo. Here are some key differences between the two:

Type of cargo carried: General cargo ships are designed to carry a variety of different types of cargo, such as raw materials, machinery, consumer goods, and perishable items. These cargoes are typically packaged in various ways, such as in crates, drums, bags, or on pallets. In contrast, bulk cargo ships are designed to carry large quantities of a single type of cargo, such as coal, iron ore, grain, or fertilizer, in an unpackaged form.

Loading and unloading equipment: General cargo ships are typically equipped with cranes or other loading equipment to handle the various cargoes they transport, while bulk cargo ships have specialized equipment, such as conveyor belts, to load and unload their cargo quickly and efficiently.

Cargo storage: General cargo ships have multiple cargo holds that can be used to store different types of items, while bulk cargo ships have large, open holds that are designed to hold the large quantities of a single type of cargo.

Voyage time: General cargo ships typically make slower voyages than bulk cargo ships, as they must make frequent stops to load and unload their cargo. This also means that general cargo ships have a shorter range than bulk cargo ships, which are designed for long-haul trips.

Cost: General cargo ships tend to be more expensive to operate than bulk cargo ships, due to the need for specialized loading and unloading equipment and the higher costs associated with handling and storing a wide variety of cargoes.

Overall, general cargo ships and bulk cargo ships are designed to meet the specific needs of different types of cargo and cargoes, and the choice between the two depends on the type of goods being transported and the specific requirements of the voyage.

3 M/V BALTIC AMELIE

Baltic Amelie was built in 1994 wewelsflet shipyard Germany. The ship has a length over all of 82,30 (LOA) and a width of 12,50m. M/V Amelie is a Finnish flag vessel with Mariehamn as its home port. Amelie has 2163 gross tonnage (GT), DWT of 3086, and NT is 1064. She is designed to carry general cargo goods. The ship has LPP of 78,90m and Beam of 11,50m, Draft is 5,20m.

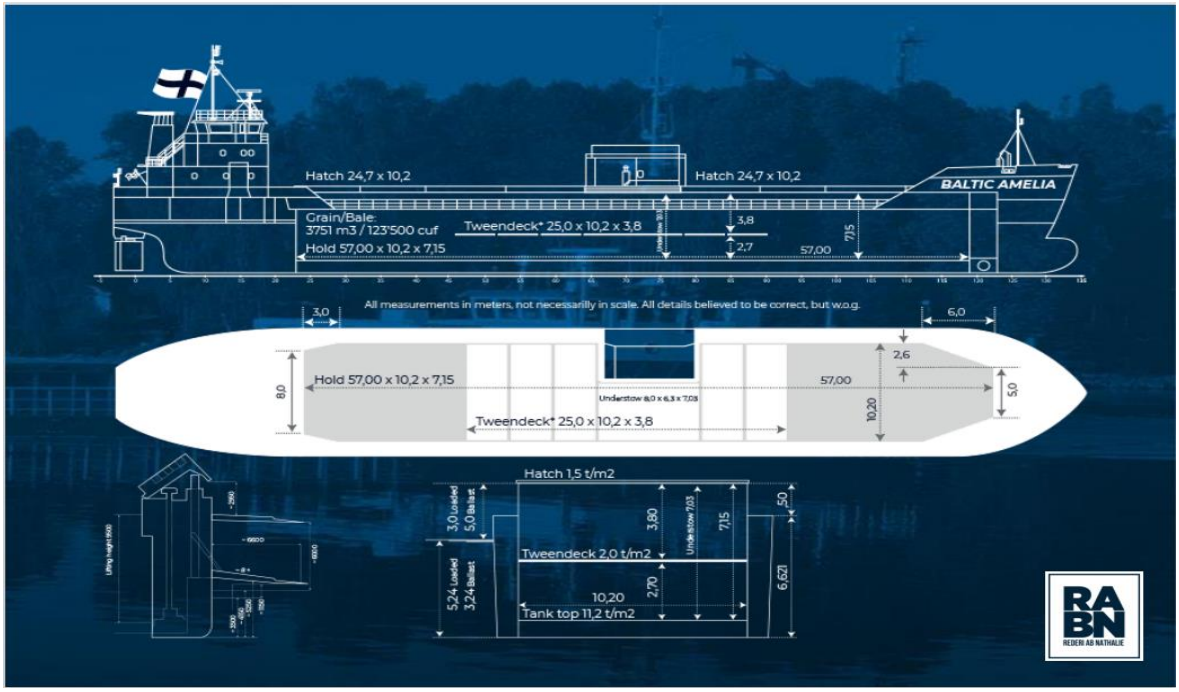

Figure 3: Baltic Amelie Pocket plan.

Baltic Amelie is trading between Baltic Sea and North Sea, to be precise, she is most likely transporting goods between Finland-Riga, Latvia- Danmark and Norway. The special feature of Amelie is the tween deck and the side loader located in the middle on portside. That enables the ship to discharge and load without opening the hydraulic hatch covers in case of light cargo, such as Plywood, Nickel matte in big bags, hard zincs and Zinc skimming that usually comes with barrels on pallets, Aluminium wire rod coils and finally the fish meal in big bags that are usually loaded in Danmark during summertime. Otherwise, the hydraulic hatch covers can be opened easily if the cargo is too large like containers, steel plates, steel coils, Aul logs or special project cargoes.

Abbreviations:

LOA: Length overall

LBP/LPP: Length between perpendicular

GT: Gross Tonnage

DWT: Deadweight

NT: Net tonnage

BWTS: Ballast water treatment system

IMO: International Maritime Organisation

IMDG: International Maritime Dangerous Goods

N.O.S: Not Otherwise Specified

4 STOWAGE PLAN

A stowage plan is a detailed and organized layout of the cargo on a ship. It is used to maximize the use of available cargo space, ensure the stability and safety of the ship, and ensure that the cargo is properly protected and secure during transit.

For a general cargo ship, the stowage plan typically involves the placement of each item of cargo in the ship's holds, on the main deck, and on the tween deck. The stowage plan considers the weight, size, and shape of each item of cargo, as well as the location and accessibility of the ship's hatches and cargo-handling equipment.

The stowage plan also considers the specific requirements of different types of cargo, such as perishable goods, dangerous goods, or fragile items. For example, perishable goods may need to be placed in a certain area of the ship to ensure that they are not exposed to the elements or to temperatures that could affect their quality.

Dangerous goods may need to be stowed in specific areas of the ship to minimize the risk of damage or harm in the event of an incident. Below are exemplary stowage plans of M/V Baltic Amelie that portray day to day Cargo planning.

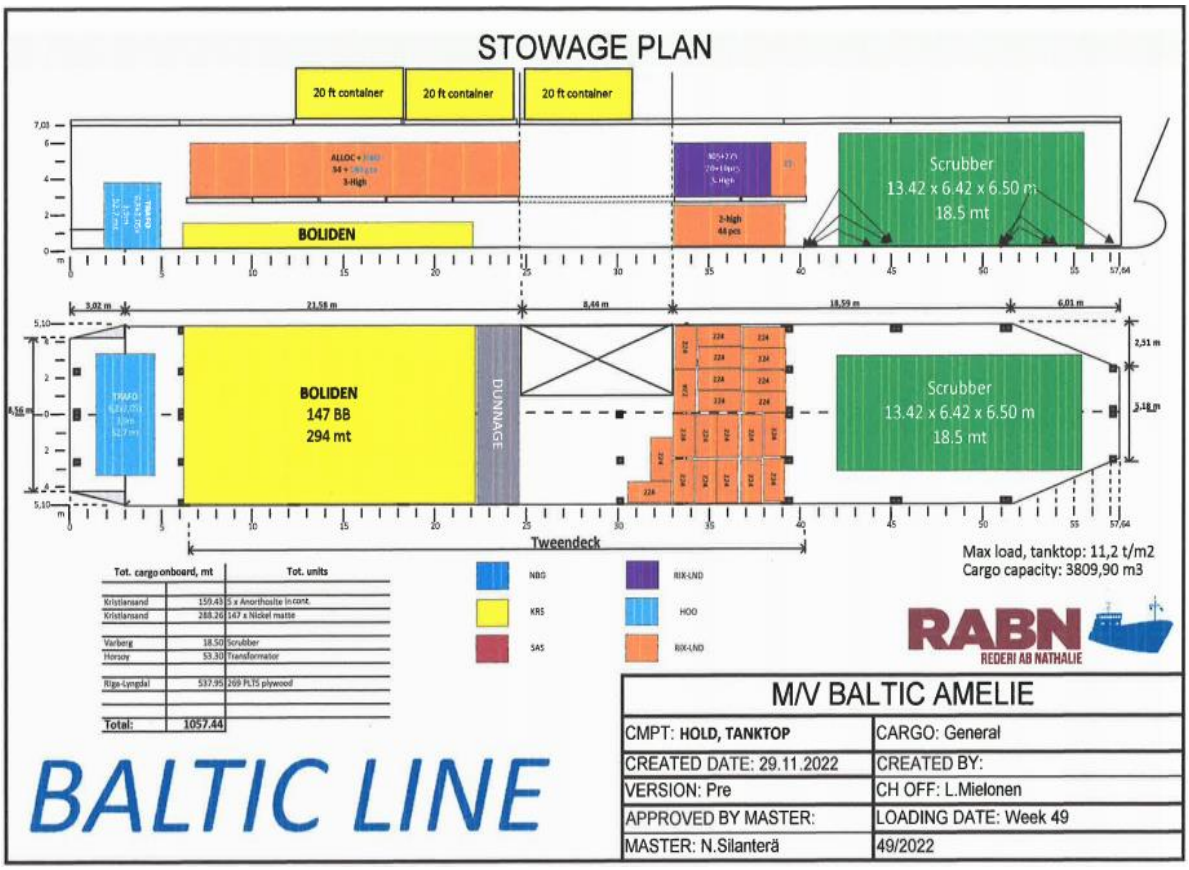

Figure 4: Stowage plan 1

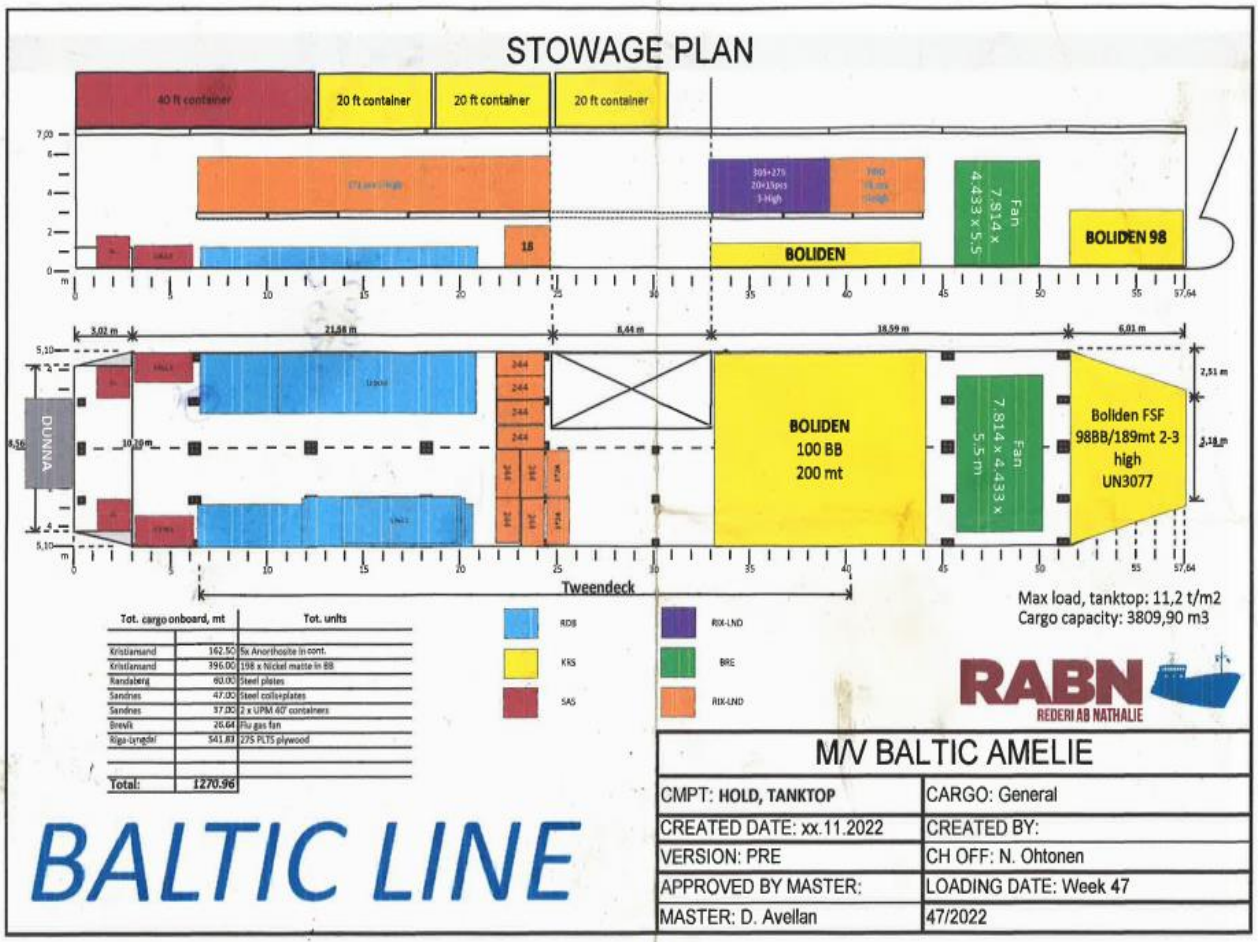

Figure 5: Stowage plan 2

Allow me to explain the specific content of a stowage plan on the basis of the one given in figure 5.

The layout is generally the same. The table in the righthand bottom corner depicts the name of the ship, as well as the company. Furthermore, it marks the time of its creation but also the time frame it applies for. In this case the plan was created in November 2022 for week 47. The table also shows the names of the Chief, the Master and the kind of cargo. Above the company name the plan shows the Cargo capacity of 3809.90 cubic meters and the maximum load per square meter. The lefthand bottom corner depicts the name of the charterer, which in that case is Baltic Line. Above that is another table located. That table contains the ports of discharge as well as the specific weights of cargo, that is summarised in the total amount. In that example the plan shows a total of 1270.96 tons of Cargo, with the first port of discharge being Kristiansand. That table is the base of the colour coordinated depiction of the whole plan. Each colour represents the port of loading and discharging, while the table gives you the type of Cargo. For example, the yellow colour represents KRS(Kristiansand) according to the coding under the outline of the cargo hold. That means that everything printed in yellow needs to be discharged in Kristiansand. The table of Cargo in the lefthand bottom corner specifies that this includes the Nickel mattes in big bags with a total weight of 396 tons. Following that example, the colour coordination continues with different cargo for different ports.

5 CARGO OPERATIONS

Baltic Amelie's cargo operations involve loading, securing, transporting, and unloading the cargo. All these activities typically include the following steps: **Planning and preparing, followed by loading and securing the cargo for sea.**

5.1 Planning and preparation

5.1.1 Planning

Before the ship arrives at the port, a stowage plan is prepared. It outlines the location and arrangements for the different types of cargo that will be loaded on the ship. The stowage plan is important for ensuring the stability and safety of the ship during transit. Usually, the chief officer is the one responsible for making the stowage plan while the Master is the one who approves it before sharing it to the deck crew. As seen in the following examples, each stowage plan contains the names of the ship, the company, the creation date as well as the date of loading. Printed at the bottom of the stowage plan are the names of the creator (chief) as well as the approving Master. The following picture shows a specific stowage plan with detailed cargo of M/V Baltic Amelie, similar to the various examples given in the previous chapter.

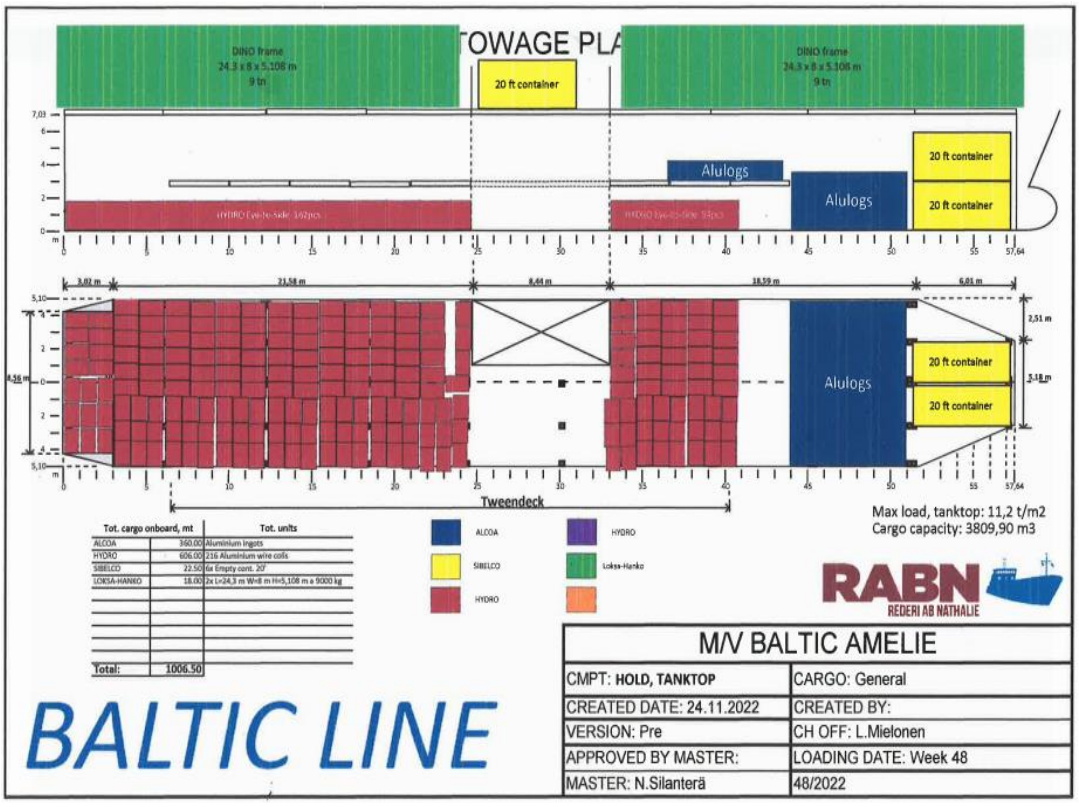

Figure 6: Stowage plan 3.

5.1.2 Preparation

Once the stowage plan is approved by Master, an early meeting takes place between deck crew and chief officer to discuss about the cargoes and the preparation of the cargo hold. During that meeting, chief officer will explain the stowage plan that includes not only the loading operations, but also the safety instructions related to the operation. The preparation of the cargo holds before loading and after discharging is conducted by the Deck crew. The preparation of the cargo hold varies, depending on the type of cargo. If the cargo is Alu logs, then ratchet straps and all the necessary securing equipment can be found in the red box shown in figure 3 below. If the cargo is plywood, then preparation of the tarpaulin is necessary, see figure 4 where the tarpaulin is on top of the railings. Since Baltic Amelie is on a long-term chartering with Baltic line, there is not much difference between the types of cargo and the port for loading and/or discharging on each route, which leads to a routined preparation that makes it easier for the deck crew.

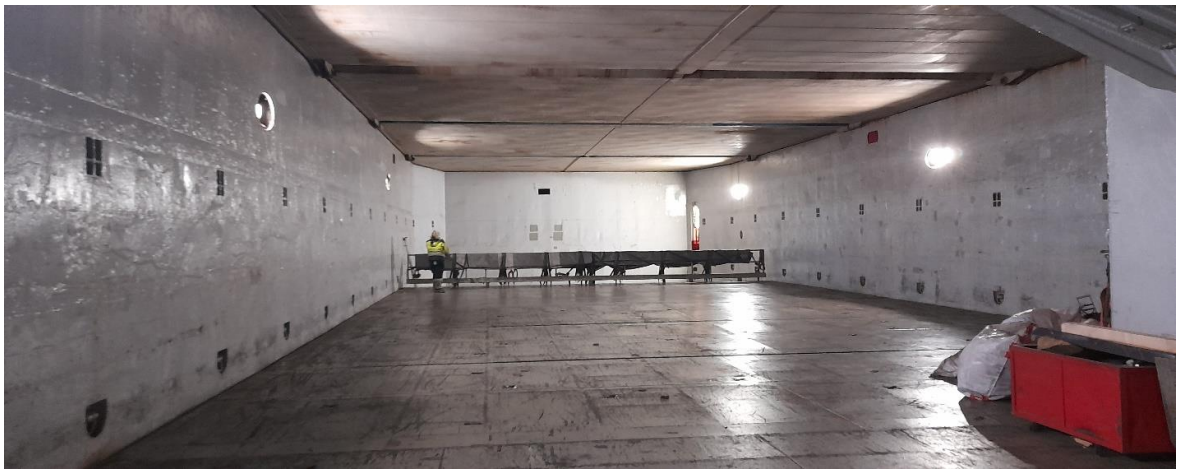

Figure 7: Preparation of the tween deck for plywood.

Figure 8: Tarpaulin is well prepared and tween deck is ready for cargo.

5.2 Loading and securing cargo:

The cargo is loaded onto the ship through cranes or forklifts, depending on the size and weights of the cargoes. Secured in place, by using lashing and dunnage materials, the cargo's movement is prevented during the transit. Each cargo has different ways of securing or lashing which is very critical for the safety of the ship and the crew members. Baltic Amelie carries different varieties of cargoes. The following section shows a few examples of Baltic Amelie's cargo and its locations of loading and discharging, as well as how to secure them to meet the requirements of securing for the North Sea and Baltic Sea.

Steel plates:

Steel plates are mainly loaded in Turku, Finland and discharged in Sandness, Norway. They are loaded by shore crane and usually as about one-meter stacks high on portside and starboard side of the tank top. The plates have a dimension of 1,5m x 3m and more.

They are secured with lashing chains and speed lashes. Rachet straps can be an additional lashing. Like other cargoes onboard, the steel plates must be properly secured and double-checked during sailing time so that the lashings will not get lose. During the check rounds an additional tightening can be done, if one of the chains got some slack or lose.

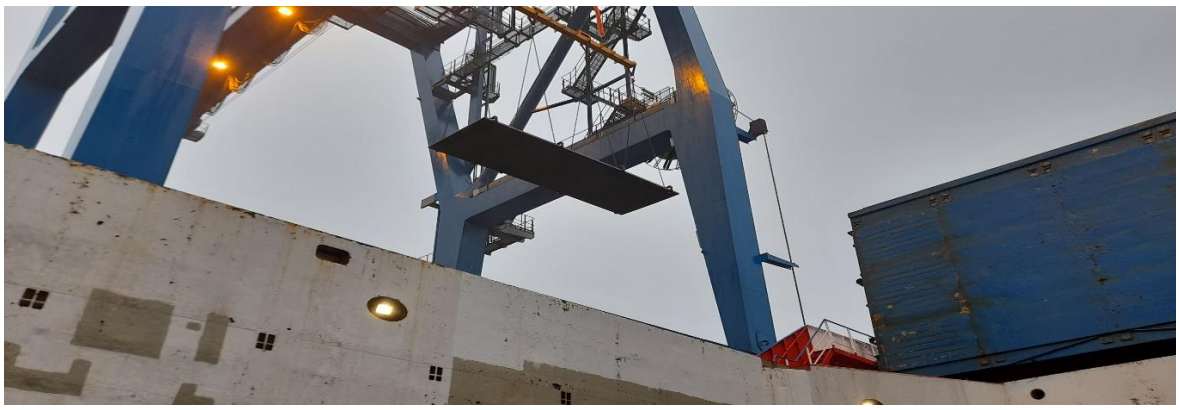

Figure 9: Steel plates loaded by crane in Turku port.

Figure 10: Steel plates are loaded in cargo hold on both sides and secured for sea.

Steel coils:

Port of loading of the steel coils is Turku, Finland. They are transported to Sandnes in Norway for discharging. Like steel plates, steel coils are also loaded with the shore crane and stowed on tank top. The steel coils are secured with lashing chains and speed lashes as well.

Figure 11: Steel coils secured with chains and speed lashes.

Figure 12: Steel coils loaded and secured on tank top, in cargo hold (on tank top).

Figure 13: Cargoes loaded and secured for sea. Dec 2023

Plywood:

Plywood is usually loaded in Riga, Latvia and discharged in Lyngdal, Norway. Plywood is mostly loaded on tween deck and tank top using the side lift or side loader and then picked up by forklifts from inside the cargo hold. The package of Plywood is 245x125 cm/ 275x125cm and 305x 125 cm. On the tween deck the plywood is stowed with 3 packages high, as well as 2 packages high for the tank top (below tween deck). Weight of the plywood can be 1850 kg or more.

Figure 14: Plywood loaded on tween deck and secured with tarpaulin for sea.

Figure 15: View from the top of the plywood on the tween deck where we can see the airbags.

Once loading is complete, securing of the cargo begins. The airbags will be filled with air to fill the empty gaps between the plywood. In addition, the tarpaulin will be pulled all the way up and then the rachet straps (marked with the blue arrows) will go all over the top of the plywood and secured on deck.

Aluminium wire rod coils

Håvik, Norway is the port of loading for the aluminium wire rod coils that will be discharged in Turku, Finland. Eye to sky and eye to side are the two types of aluminium wire coils. Eye to sky coil have 1,03 m height and 1,5 m of diameter of coil. Eye to side is 1,70 m x 0,87 m x 1,5 m and the weight of the coils are around 2900 kg, the coils are usually loaded from the side lift and picked up by the forklift. The loading process needs to be handled with care and the coils should be scratch free (No scratches or damages).

The aluminium wire rod coils will be secured with ratchet straps and separated by plywood in between, so that the coils will not be damaged or have some scratches while lashing it. This is the safest way of securing the coils from not getting any damages during the transit or sailing time.

NB: Eye to sky means that the position of the coils on the pallet is laying and the eye in the middle is facing the sky, while the eye to side means, that the coils are standing.

Figure 16: Eye to Sky of the Aluminium wire rod coils.

Figure 17: Eye to side, Aluminium wire rod coils.

Figure 18: Discharging of eye to side aluminium wire rod coils in Turku, Finland 04.01.2023.

Discharging of the aluminium coils in Turku is operated by the Turku stevedores' team. Two forklift operators from inside the cargo hold are putting the aluminium coils into the lift or the side loader. The side loader operator will lift the coils up in order for the forklift from outside to transfer it into the trailer. It is important to mention that the lift (side loader) can carry 4 of these aluminium wire rod coils at the time. Usually, the cargo operations in Turku takes one and half day depending on the forklift operators. It can be longer we are loading project cargo.

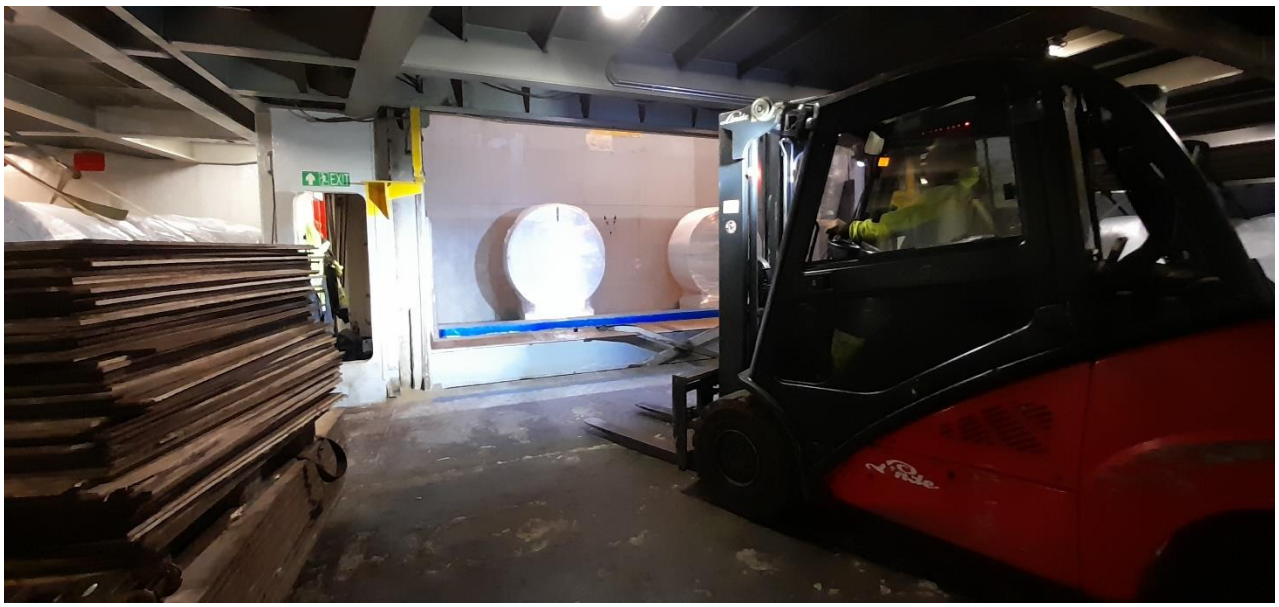

Figure 19: View from inside cargo hold while discharging the Aluminium wire coils with the forklifts.

Figure 20: Aluminium wire rod coils secured with rachet straps from tween deck to tank top.

Ratchet straps are commonly used to secure and stabilize the aluminium wire rod coils cargo during sailing time. They are used to provide stability of the cargo and prevent any damages or scratches as well. Each pallet of aluminium wire rod coils must have a piece of plywood in between (see the blue arrow in figure 18).

6 International Maritime Dangerous Goods

The International Maritime Dangerous Goods (IMDG) refer to goods or substances that, when transported by sea, can pose a significant risk to health, safety, and property. The IMDG Code is a set of guidelines that regulates the transportation of dangerous goods by sea. It is produced by the International Maritime Organization (IMO) and is recognized globally as the standard for the safe transport of dangerous goods by sea.

The IMDG Code includes guidelines on the classification of dangerous goods, packing, marking, labelling, and documentation requirements for the shipment of dangerous goods. It also provides guidance on the stowage and segregation of dangerous goods on board ships to prevent accidental reactions or dangerous situations.

According to chapter 2.9 of the IMDG code. Class 9 is defined as substances and articles which, during transport, present a danger not covered by other classes. Followings an example of class 9.

Nickel matte in big bags:

The Nickel matte in big bags is an IMO class 9 with UN3077. It is defined as an environmentally hazardous substance, Solid, N.O.S(not otherwise specified). It belongs to Category A and handles with the code SW23. Stowage Category A defines as cargo ships or passenger ships carrying a number of passengers limited to not more than 25 or to 1 passenger per 3 m of overall length, whichever is the greater number. Stowage code SW23 means when transported in BK3 bulk container, rules should be followed according to 7.6.2.12 and 7.7.3.9.

The nickel matte is loaded in Turku. It goes through the side loader and is picked up by the forklifts. One big bag has weight of 2 MT. One lift of the side loader can take six bags at the time. The nickel matte is usually loaded on the tank top and can be stacked 3 high. The cargo will be discharged in Kristiansand, Norway.

Figure 21: side loader or Side lift Loading of Nickel matte in big bags (IMO class 9), Turku 22-11-2022

Figure 22: Nickel matte in big bag IMO class 9 with UN 3077.

Figure 23: 3 high stacks of nickel matte in big bag on tank top. 08-12-2022

During the cargo operation, the Chief Officer is responsible for supervising the work of the crew and ensuring, that all cargo operations are carried out safely and efficiently. This includes monitoring the weight and distribution of the cargo to maintain the stability of the ship, as well as ensuring that the cargo is loaded, secured, and unloaded accordingly.

7 Advantages of having tween deck

Having a tween deck provides several advantages. The following are a few benefits of having tween deck onboard: Capacity, Protection, Flexibility, Safety and Costs

Capacity: It increases the cargo capacity. The primary benefit of a tween deck is, that it allows more cargo to be carried in the same amount of space. It basically provides an additional cargo storage area within the ship.

Protection: The tween deck provides a higher level of protection for the cargo, as it is located above the main deck. Therefore, it is less exposed to the elements and rough sea conditions.

Flexibility: With a tween deck, cargo can be loaded and unloaded from both the top and the bottom of the hold, which makes it easier to handle different types of cargo and to adapt to changing cargo needs. This flexibility can be particularly useful when dealing with irregularly shaped cargo items or when transporting different types of cargo on the same voyage.

Safety: Having a tween deck can improve safety. The addition of a tween deck improves the stability of the ship through lowering the centre of gravity, which gives an advantage in rough seas.

Costs: By increasing cargo capacity and providing more flexibility, a tween deck can help reduce transportation costs. Meaning that more cargo can be transported on a single voyage, which then helps to reduce the overall cost per unit of cargo.

When the ship has some special projects cargo, or an oversized cargo that needed to be loaded on tank top of the hold. A removal of the tween deck is necessary so that the cargo operations can be done easily and safely. Depending on the cargo that the ship will carry, the tween decks on Baltic Amelie are removable and adjustable.

To load the steel plates on tank top in the figure 24 below, 4 section parts of tween deck were removed and then put back in place once the plates were loaded.

Figure 24: 4 plates from the tween deck were removed in order to load the steel plates.

Figure 25: Bolts that securing the tween deck.

These bolts are used to secure the tween deck, each side of the hold have a red marking paint where all the securing points are located.

In case of a removal of tween deck, the bolts must be removed at least two hours before the operation start, the reason for this is to speed up the process of the operation and it is more efficient when everything is ready beforehand.

When putting back the tween deck to its position, it is important to lined up the holes where the bolts are going in so that the securing of the tween deck can be done easily.

Figure 26: Alu logs loaded and secured on tween deck.

The tween deck allows the ship to carry a wider range of cargo, including both heavy and lighter items. In figure 25, Aluminium ingots were loaded on tween deck.

Overall, a tween deck is a valuable addition to cargo ships, providing increased cargo capacity, protection of cargo, flexibility, improved safety and cost savings.

8 SPECIAL PROJECT CARGO

Special project cargo refers to the transportation of unique, oversized, or highly sensitive cargo that requires specialized handling, equipment, and expertise to move it safely and efficiently from one location to another. This type of cargo can include heavy machinery, large construction equipment, wind turbines, oil and gas equipment, aerospace components, and other industrial or scientific equipment.

Transporting special project cargo requires careful planning and coordination, as the items may require specific equipment and procedures to be loaded, secured and unloaded safely. In addition to these operational considerations, the transportation of special project cargo on a ship is subject to specific regulations and requirements, such as obtaining the necessary permits and certifications for the movement of oversized cargo. The shipping company or the charterer, which is Baltic line in this case, may need to engage experts, such as marine surveyors or cargo specialists, to advise on the safe and efficient transportation of the cargo.

Overall, transporting special project cargo on a general cargo ship requires expertise and experience in managing complex cargo shipments. It can be a cost effective and efficient solution, especially for long distances or when road or rail transport is not feasible.

Figure 27: special project cargo secured on top of hatch cover.

Loading a special project cargo

Loading a special project cargo needs proper planning and execution to ensure the cargo is loaded safely and efficiently. There are some steps that are involved in loading of a special project cargo: **Preparation, site survey, lifting equipment, lashing and securing.**

Preparation: The cargo and the ship must be prepared for loading. This includes ensuring that the cargo is properly packed and secured, as well as the ship's deck is cleared and prepared for the cargo's size and weight.

Figure 28: Special project cargo DINO frame secured on top of the hatch covers.

Special project cargo DINO frame. Port of loading Loksa, Estonia and discharged in Hanko, Finland. DINO frame is 24,3 m long, 8m large with 5,108 m height and 9000 kg of weight.

The preparation that is needed from the ship's side during this operation is to de-ice the hatch covers before the cargo arrives. All the securing points needs to be ice free and the lashing materials, which is the ratchet straps, needs to be prepared and ready for securing, as soon as the cargo is safely loaded.

Site Survey: A site survey is usually conducted to assess the cargo's size, weight and dimensions, as well as the loading and unloading conditions at the port of origin and destination.

Figure 29: Surveyor monitoring the loading of special project Scrubber cargo.

Figure 30: Scrubber special project cargo loaded and secured for sea.

This Scrubber cargo weighted 18,5 MT and the size was 13.42 x 6.42 x 6.50 m. The cargo was loaded on tank top forward in cargo hold and secured with speed lashes.

Lifting Equipment: The right lifting equipment is needed to move the cargo from the loading area to the ship's deck. Depending on the cargo's size and weight, cranes, Terex, or other specialized lifting equipment might be needed. Most of our project cargoes are usually lifted by shore cranes and Terrex.

Figure 31: Special project cargo Transformator secured on tank top cargo hold aft.

Figure 32: Transformator secured with chains and speed lashes.

Lashing and Securing: Once the cargo is on the ship, it must be lashed and secured to prevent it from moving during transit. This may require special lashing equipment or

stowage methods, such as using chocks, chains, or even welding to secure the cargo. Welding had to take place to secure this special project cargo Fan. It had to be welded onto the deck to prevent that the cargo from moving during sailing.

Figure 33: The process of welding the special project cargo Fan onto deck.

Figure 34: The Stoppers that will be welded to deck.

Welding processes should be done by a certified welder, who is experienced in welding and aware of the safety precautions that need to be taken. The welding should be done in accordance with the relevant regulations and standards.

Figure 35: Fan is welded on deck, secured with chains and speed lashes.

The welding should be inspected and tested to ensure that it meets the required quality standards and that the welds are strong enough to withstand the stresses of sea transportation. The welding and inspections of the cargo is important to ensure that the fan is securely fastened to the deck to prevent it from coming loose during sailing.

9 CONCLUSION

General cargo ships are designed and built to meet strict safety standards, ensuring that the cargoes are transported safely and securely. They have the necessary equipment for handling and securing the cargoes to reduce the risk of damage or injury.

To come to a conclusion, I realised that there are clearly two key roles that guarantee a successful cargo operation on Baltic Amelie. As in many other shipping companies, skilled crew members can be one of the first key roles. Trained crew members that know their way around the ship, have good communication skills, is able to work hand in hand and rely on each other, are the essence for smooth cargo operations. A part of the skillful crew members with good communication and teamwork, the second key role is to have a good stowage plan. It gives effective and clear instructions and prevents any cargo mixed up in port, which consequently, could not only delay discharging, but delay the whole itinerary. This again could lead to profit loss for the company and set off a chain reaction of discontent between the employer and the employees. Overall, those two key roles are inseparably connected. The best stowage plan is of no use if the crew doesn't know how to work with it and the best crew can't possibly work most effective without knowing where and how to store the cargoes.

Despite the crew being a ship’s most valuable asset, I realised during my time on M/V Baltic Amelie, that a tweendeck is an absolute gamechanger. Although it requires crew that has forklift experience, it definitely makes the most of the available space. From the point of view of a ship owner, it just seems right to have a tweendeck when it comes to profits. It uses all available space and is therefore more cost effective. More used space equals more profit on a journey that is done anyway. From the employees’ point of view, I can say that it was a new challenge, but also a joy to work with a tweendeck.

Overall, Baltic Amelie is just one of the general cargo ships that is crucial component of the Finnish shipping industry and play an essential role in the transportation of cargo between Norway and Finland.

10- SOURCES:

IMDG CODE International Maritime Dangerous Goods code 2020 Edition Volume 1

IMDG CODE 2020 Edition Volume 2

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