

# LIGHTHOUSE

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## R.L. INSTITUTE OF NAUTICAL SCIENCES

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### NCL'S FIRST PRIMA-CLASS CRUISE SHIP 'NORWEGIAN PRIMA' FLOATS OUT AT FINCANTIERI SHIPYARD

AKASH MUKHERJEE - B.TECH - IV

Norwegian Cruise Line (NCL), the innovator in global cruise travel with a 54-year history of breaking boundaries, announced that its game-changing new ship, Norwegian Prima was floated out from her drydock at Fincantieri shipyard in Marghera (Venice), Italy, marking a major construction milestone and the first time the new vessel touches water.

To celebrate the occasion, a commemorative coin was welded to Norwegian Prima in a traditional maritime ceremony presided over by Eamonn Ferrin, vice president of international business of Norwegian Cruise Line and Antonio Quintano, shipyard director of Fincantieri.

The float out signifies the completion of external works and painting to Norwegian Prima, including the striking hull artwork designed by Italian graffiti artist Manuel Di Rita, known commonly as "Peeta." Work now continues on Norwegian Prima's interior fittings and guest accommodations, before she is officially delivered to the Cruise Line and commences sailing in summer 2022.

"A ship's float out is always a significant milestone, but this one is particularly special," said Harry Sommer, president and chief executive officer of Norwegian Cruise Line. "Our 18th ship, Norwegian



Prima represents an exciting new chapter for our Brand and the first vessel to be delivered in our groundbreaking new Prima Class. We've worked closely with our partners at Fincantieri to deliver a truly remarkable vessel. Their passion, skill and craftsmanship has brought to life one of the most stylish and innovative ships to ever set sail. I'm thrilled we're now one step closer to welcoming our guests onboard in just 12 months' time," Sommer concluded.

"The float out of Norwegian Prima signifies a renewed confidence in cruise and a new era for shipbuilding," said Luigi Matarazzo, general manager of the merchant ships division of Fincantieri. "We are glad to celebrate not only many months of hard work, but also the true spirit of collaboration between our brands – a partnership that will lead the way for a pioneering class of ships in

NCL's Prima Class." Norwegian Prima is the first of six ships in NCL's highly anticipated Prima Class, the Brand's first new class of vessels in nearly 10 years. At 965 feet long, 142,500 gross tons and with capacity for 3,215 guests at double occupancy, the vessel is designed to put guests first. Norwegian Prima boasts wide-open spaces, thoughtful and stunning design, and a variety of new experiences for the Brand.

Laying claim to the title of the most spacious new cruise ship in the premium and contemporary categories, Norwegian Prima offers the most outdoor deck space and the most expansive accommodations of any new build. She boasts multiple Company firsts, including Ocean Boulevard, wrapping around the entire deck over 44,000 square feet, allowing guests to connect to the ocean while enjoying

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alfresco dining and unique experiences such as Infinity Beach, where two stunning infinity pools are positioned to take in the vastness of the ocean with uninterrupted views, and Oceanwalk, where two glass bridges will make guests feel as though they are walking on air over the water.

Dining is elevated on Norwegian Prima with the addition of Indulge Food Hall, the Brand's first upscale open-air marketplace offering diverse menu items from a variety of eleven different culinary venues. In addition, Ocean Boulevard hosts three restaurants; Onda by Scarpetta, Los Lobos and The Local Bar & Grill.



Meanwhile The Haven by Norwegian® on Norwegian Prima offers the Brand's

most exclusive and centralized 'ship-within-a-ship' suite complex. Spanning eight decks of suites and public areas, it is accessible via private elevators and located at the aft of the ship for the very first time.

Commencing summer 2022, Norwegian Prima will offer bucket-list itineraries in Northern Europe with voyages from Amsterdam, Netherlands, and Copenhagen, Denmark giving guests the opportunity to explore the stunning Norwegian Fjords and Baltic Sea. She will then sail a 12-day transatlantic voyage from Southampton to New York via Scotland's Shetland Islands, Halifax in Nova Scotia and an extended overnight stay in Reykjavik, Iceland. Through the fall and winter, Norwegian Prima will offer a variety of port-rich Bermuda and Caribbean cruises from New York; Galveston, Texas; Miami and Orlando (Port Canaveral), Fla., including calls to Harvest Caye, the Company's private resort destination in Belize as well as the Company's private island, Great Stirrup Cay, in the Bahamas.

*Courtesy: marine insight .com*

## CONTENTS

1. Watch: NCL's First Prima-Class Cruise Ship 'Norwegian Prima' Floats Out At Fincantieri Shipyard..... 1
2. What Is Dangerous Goods Declaration in Shipping?..... 3
3. Real Life Incident: Fire and Massive Blast Blackout in the Engine Room..... 5
4. Gulf Of Guinea Is World's Piracy Hotspot With 95% Seafarers Kidnapped ..... 6
5. Bureau Veritas Delivers World's First Approval In Principle For Offshore ..... 7

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# WHAT IS DANGEROUS GOODS DECLARATION IN SHIPPING?

DINESH.T - B.TECH - IV

The shipping disaster off the coast of Colombo, Sri Lanka in May 2021, still haunts the world. Thousands of tons of acids, chemicals, and plastics onboard the MV X-Press Pearl went up in flames releasing noxious, dense smoke into the atmosphere.

One of the worst marine ecological disasters to happen in recent times, environmental experts have termed it a 'catastrophe to the planet'. It has damaged the ecosystem of the surrounding areas considerably while other damages are yet to be ascertained. One critical question that this tragedy raises is whether this monumental disaster could have been averted? Were the goods onboard declared correctly? Quite obviously, the goods on board the MV X-Press Pearl came under the 'dangerous' category. Was the packaging done correctly?

The ongoing investigation into the matter is expected to reveal the bitter truths.

## Table of Contents

- Dangerous Goods Declaration (DGD)
- Dangerous Goods
- The International Maritime Dangerous Goods (IMDG) Code
- Types of Dangerous Goods
- Process of Dangerous Goods Declaration
- Contents of a Dangerous Goods Declaration
- Misdeclaration of DGD

## Dangerous Goods Declaration (DGD)

What is a Dangerous Goods Declaration?

It is a declaration given by the party that organizes the transportation of dangerous goods by sea to the carrier. It



shows the list of goods that come under the dangerous goods category and states the special packaging, identification marks, and labels on them.

The DGD is an undertaking that all applicable national and international laws concerning the transportation of dangerous goods have been followed.

The party issuing the Dangerous Goods Declaration could be the consignor or his appointed agent such as a freight forwarder or any other responsible party authorized to issue and sign this certificate on the consignor's behalf. For brevity, we will refer to this party as 'shipper' here.

## Dangerous Goods

Dangerous goods are those that are corrosive, combustible, radioactive, poisonous or polluting. In other words, anything that compromises the safety of the crew and the vessel transporting it comes under the list of dangerous goods.

Also known as hazardous goods, these are listed in the various *MARPOL annexes*. This list includes certain oils, chemicals, gases, nuclear fuels, radioactive wastes, etc.

## The International Maritime Dangerous Goods (IMDG) Code

The *IMDG Code* is a code adopted by the

International Maritime Organization (IMO) that covers all aspects of the packing, labelling, storage, and safety of dangerous goods while they are in the process of being transported.

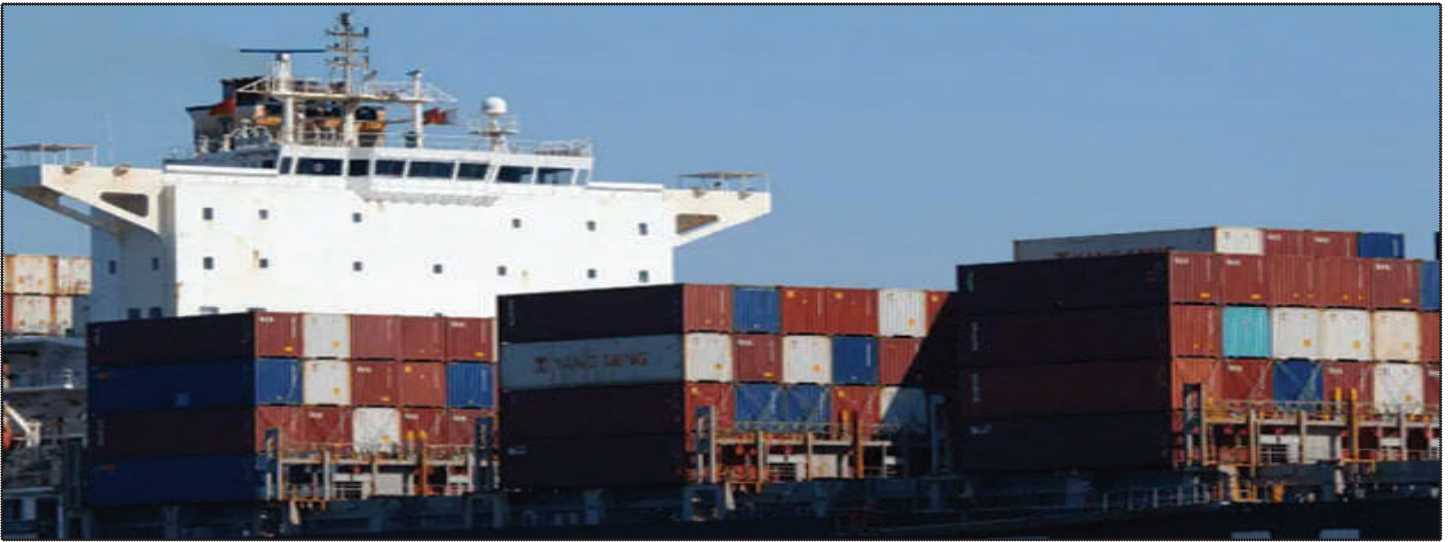
The IMDG Code is seen as an extension of Chapter VII of the Convention for *Safety of Life at Seas (SOLAS)*.

It is a part of the provision of the Convention for Prevention of Marine Pollution (MARPOL). The MARPOL bans carriage of packaged harmful substances that are on its list. These are substances that may cause marine pollution in the case of an accident.

The IMDG Code was initially set up as a group of recommendations in 1965 covering packaged dangerous goods for transport. Its main aim was to reduce accidents and to prevent environmental pollution.

Later, in 2002, it was adopted by the IMO as a Code under the SOLAS Convention. However, there are still several points in the IMDG Code that remain as recommendations. Changes or amendments are usually made to the Code every two years by the IMO upon receiving recommendations from its members or the United Nations.

At present, the IMDG Code covers all items that are transported. It describes in detail the packing to be followed for each item, their container transport, storage, segregation, and stowage.



## Types of Dangerous Goods

The IMDG has classified dangerous goods into 9 classes as follows:

The I Class 1 Explosives

Class 2 Gases that are compressed, liquefied or dissolved under pressure

Class 3 Flammable liquids

Class 4 Flammable solids that may be spontaneously combustible or those which emit flammable gas

Class 5 Oxidizing agents or organic peroxides

Class 6 Toxic or infectious materials

Class 7 Radioactive materials

Class 8 Corrosive materials

Class 9 Other dangerous and non-classified materials

## Process of Dangerous Goods Declaration

The acceptance, stowage, and transport of dangerous goods by a carrier is purely based on the information provided to it by the shipper. This fact is also recognized and emphasized by the IMDG Code. Therefore, it is imperative that the shipper furnishes the correct information to the carrier while booking cargo.

On their part, it is up to the carrier to understand the DGD correctly and plan the stowage and transport accordingly. Initially, a list of the dangerous goods to be shipped is given by the shipper to the carrier for acceptance. This list is called the Dangerous Goods Request (DGR) or the Dangerous Goods Application.

The DGR is normally submitted along with the *Material Safety Data Sheet* (MSDS). The MSDS contains detailed information on the goods listed in the DGR.

Besides the information on the goods, the Material Safety Data Sheet lists the safety measure to be taken during transport of the goods, steps and first-aid procedures to follow in the event of an accident, the *Personal Protective Equipment* (PPE) to be used, handling of reactions or spillage, etc.

Once accepted by the carrier, the shipper packs these goods and prepares the Dangerous Goods Declaration that is accompanied by the labels of the dangerous goods that are to be transported. The signed Dangerous Goods Declaration is given to the carrier who will then plan the stowage accordingly.

The shipper as well as the carrier have to ensure that the DGR and the DGD match. The shipper should ensure that the goods that are handed over to the carrier should be exactly as mentioned in the DGD.

As we can see here, the DGR, the MSDS, and the DGD are closely related and usually form a set called the Dangerous Goods documents.

## Contents of a Dangerous Goods Declaration

The main contents of a Dangerous

Goods Declaration are as follows:

- Shipper name and address
- Consignee name and address
- Vessel name
- Vessel Voyage number
- Container number
- Name and description of each dangerous good
- The technical name of each dangerous good
- Quantity
- UN number (United Nations number)
- Hazard Class
- Packaging group – type and make

## Misdeclaration of DGD

Misdeclaration or failure to declare certain dangerous goods is a serious offence. Incorrect or incomplete Dangerous Goods Declarations can lead to accidents that may cost human lives and loss to cargo or equipment. It may be an accidental omission but some shippers do this on purpose to avoid certain charges or to transport banned substances.

These days, customs and port authorities, as well as shipping lines, impose heavy fines on shippers for misdeclaration of dangerous goods or attempting to transport them without declaring.

Courtesy : marine insight .By *Hari Menon* | In: *Maritime Law* |



# Real Life Incident: Fire and Massive Blast Blackout in the Engine Room

NAVRAJ - B.TECH - III



**A**ro-ro cargo vessel was underway. At about 20.00, the engineer of the watch (EOW) left the engine control room (ECR) and started his hourly rounds of the engine room and machinery spaces. Shortly after entering the purifier room, he heard loud metallic knocking sounds coming from the engine room.

Meanwhile, vibrations were being felt on the bridge by the OOW. He immediately reduced the controllable pitch propeller (CPP) from 60% to 25%. He then saw that the fuel consumption meter was also fluctuating and giving abnormal readings, while various engine warning lights were illuminated. The Master put the vessel's CPP to zero pitch. He then instructed the OOW to sound the general alarm and make an intercom broadcast stating that it was a genuine emergency and instructing the crew to their muster stations. At about the same time, the chief officer arrived on the bridge and reported that he had seen copious amounts of smoke being emitted from the funnel.

The engine room fuel systems' quick-closing valves and fuel pump emergency stops were activated from the control box adjacent to the ECR. In the purifier room, the EOW realised that his nearest escape route would take

him past the main engine at cylinder head level. He decided instead to use the secondary escape route at the aft end of the engine room, even though this escape route was not fitted with an He took a deep breath and then exited the purifier room. On entering the dense black smoke, he ducked underneath the main engine exhaust gas trunking and ran aft past the two auxiliary generators. The escape route led him to the first of three vertical ladders. When he climbed the first ladder, he struggled to get past the ladder platform guard rail safety chains. He fell back down the ladder three times, losing his torch in the process, before succeeding in mounting the ladder. About 10 minutes after the initial fire outbreak, the EOW escaped from the engine room through the funnel casing weathertight door on to the upper vehicle deck. He then collapsed, gasping for breath.

Meanwhile, the engine room fire party had arrived on the upper vehicle deck and was running out fire hoses. They reported the EOW missing. A second muster took place on the upper vehicle deck, where the engine room fire flaps were located and were being shut. The EOW was located and was attended to by crew.

A helicopter was requested from the local coast guard to evacuate him as

soon as possible. Now that all crew and passengers were accounted for, the fire flaps closed and the engine room fuel supply isolated, the engine room's CO2 system was activated. Boundary cooling was initiated. The fire was declared extinguished about 3 hours and 40 minutes after it had begun.

The official investigation found, among other things, that:

- The fire was the consequence of a sudden major engine component failure, which led to the ejection of heavy engine parts from the crankcase and release of hot oil vapours into the engine room.

- Although the crew were confident the CO2 had been released, there was no information in the bottle room to identify easily which spaces were protected by which CO2 bottles. There were no visible means of identifying whether the gas bottle operating valves were open or closed.

- The accident demonstrates that more consideration could have been given to the number and location of EEBDs in this vessel's engine room even though the required number had been fitted. For example, an additional EEBD at the secondary escape ladder on the tween deck level would be a sensible addition.

emergency escape breathing device (EEBD).

- Every fixed gas fire-extinguishing system control station should have clear instructions for the operation of the system and means to identify which bottles have been spent.

- EEBDs are not an onerous expense. Proper consideration should be given to fitting all escape routes on vessels with EEBDs, even at the cost of going over the number of EEBDs required by class.

Courtesy: [marineinsight.com](http://marineinsight.com)

# Gulf Of Guinea Is World's Piracy Hotspot With 95% Seafarers Kidnapped

GOWTHAMAN, K - B.TECH - IV



The Gulf of Guinea ranks as the piracy hotspot of the world, with more than 95% of vessel crewmembers kidnapped globally in 2020 in the area.

Insurance magnate-Allianz Global Corporate & Specialty SE's (AGCS) – offered this data. The insurer revealed the information in the Safety & Shipping Review 2021.

As per the report, 49 huge vessels went missing in 2020 with total marine losses down 50% in 10 years. The total number of shipping incidents was 2,703, a decline year-on-year.

Though the marine industry stood resilient through the COVID-19 pandemic, the crew change crisis suffered long-term outcomes.

The report also states that huge vessels pose a severe risk with costly groundings and vessel salvage

operations. The Gulf of Guinea, the piracy hotspot of the world, accounted for more than 95% of vessel crew numbers kidnapped in the year 2020.

The international shipping sector proactively followed the long-term safety trends in 2020. However, it had to overcome challenges posed by COVID-19 pandemic, utilize what it learnt from the Ever-Given Suez Canal incident and also prepare itself for the cyber and climate change difficulties ahead.

The global shipping sector recorded historic low levels of losses for the third year. However, it hasn't been smooth at all. The present crew shortage, with rising issues posed by huge vessels, the supply chain delay woes brings tremendous challenges for ship owners and marine crews. Add to that, the guidelines they have to follow to comply with environmental targets ahead.

The South China, Indochina, Indonesia and Philippines marine regions witness the highest marine losses in the world, with one in total three losses of 2020. There were also significant marine incidents in the area.

The cargo ships cover more than a third of the total vessels that went missing in 2020 and 40% of total losses in the last decade. Foundered situation was the primary cause of the total losses in 2020, with one in every two vessels. The machinery damage stood as the primary cause of marine incidents globally, covering a total of 40%.

The Ever-Given container vessel blocking the Suez Canal incident of March 2021 was the latest in the rising number of marine incidents that involved mega-vessels.

*courtesy: the nation onlineng.net*



# BUREAU VERITAS DELIVERS WORLD'S FIRST APPROVAL IN PRINCIPLE FOR OFFSHORE FLOATING SOLAR TECHNOLOGY TO SOLARDUCK

KARTHICK KUMAR - B.TECH - IV



SolarDuck's offshore floating solar solution, King Eider / Press Release

**B**ureau Veritas (BV), a world leader in testing, inspection, and certification (TIC), has delivered an Approval in Principle (AiP) to Dutch renewable energy company SolarDuck for its offshore floating solar solution 'King Eider'. This is the first time such approval has been granted to offshore floating solar technology, marking the beginning of a new era for this form of renewable energy.

Launched in April, SolarDuck's first pilot 'King Eider' consists of four triangular-shaped

units, which are mounted by 156 solar panels and deliver a combined electrical output of 64 kWp to the grid. The project was deployed in IJzendoorn, in the Netherlands. The structure holds the solar panels more than three meters above water level. The platform is designed to handle coastal sea conditions and hurricane-force winds. It is also optimized for offshore sites in estuaries, natural harbours, as well as near-shore sites.

The project was born from the ambitions of a group of maritime and energy engineers, who founded SolarDuck in order to play an active role in

getting the world to net zero. Upon realizing that solar energy is the cheapest and most efficient form of renewable energy for many cities, islands, and regions around the globe, but inaccessible to many of these regions due to land scarcity constraints, the team initiated the project to make solar panels float offshore.

Bureau Veritas was involved in the project from the design stage. The AiP covers the design methodology of the unit's structure and validates the relevant parts against guidance note NI631 on the Certification Scheme for Marine Renewable Energy Technologies, and

NI572 on the Classification and certification of floating offshore wind turbines. These guidance notes provide the requirements to certify novel marine renewable energy technologies.

Don Hoogendoorn, CTO of SolarDuck, commented: "In my decade in the maritime industry, I have learned how to optimize design for reliability, ease of maintenance and safety while keeping them cost-efficient. At SolarDuck, we aim to design systems that will last over 30 years, as I was used to doing when I built


ships. Getting external official validation that our system performs as it should makes me proud of my team."

Koen Burgers, CEO of SolarDuck, added: "Bureau Veritas is a key name in the maritime industry, and well known for their certification of maritime structures. We are immensely grateful for their support and cooperation on certifying our technology and setting standards for the Offshore Floating Solar industry."

Paul Shrieve, Vice President Offshore & Services at Bureau Veritas Marine & Offshore


commented: "Building on our experience in the marine and offshore market, we supported SolarDuck throughout this innovative journey by assessing risk, analysing regulations, and improving the overall structural performance and mooring safety. We are proud to be part of the venture and to contribute to make this cutting-edge solution reliable. I am proud to say Bureau Veritas is well-positioned to help develop innovative solutions that support society's new demands and aspirations."

*Courtesy: marine insight .com*



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