ANNEX
CASUALTY ANALYSES

The following analysis is aimed at identifying overall trends or issues of potential concern to the International Maritime Organization. It is based on casualty reports submitted to IMO. No corroborating data is available and the analysis should not be used for any other purpose.

The accuracy of the data received by analysts cannot be guaranteed. Where appropriate, reference is made to relevant existing rules and regulations and codes of practice, IMO resolutions and circulars, and other relevant documents.

	Type of casualty **Reporting Admin.** **Ship name** **Flag Administration** **Ship type** **Tonnage** **(Other ships, if any)**	**Date of casualty**	**Event**	**Causes**	**Issue raised** **Human factor**	**Action**
1	Very Serious Marine Casualty Occupational accident Malta AMUR STAR Malta Chemical Tanker 8,581	2023-11-21 09:00	While the ship, an oil/chemical tanker of approximately 9,000 gross tonnage, was underway, the second engineer was found unconscious in the steering gear compartment, trapped between a stack of spare steel plates and the store shelving. No crew members were aware that the second engineer had been working in the steering gear compartment, and no maintenance had been planned for that day in that location. There were no witnesses to the accident. Weather conditions at the time of the suspected accident were Beaufort Scale force 4 with the sea state recorded at around 0.5 meters. The ship was reportedly proceeding with slight pitch / roll that were not considered noticeable. Consequences - Upon discovering the unconscious second engineer, crew members initiated emergency response procedures, providing first aid and requesting shore-based medical advice. Despite efforts by the crew and medical teams who arrived via helicopter, the second engineer could not be resuscitated.	1. The stack of spare steel plates – The stack of steel plates (consisting of 15 plates and estimated to weigh approximately 1.2 tonnes) was stored vertically upright in the steering gear compartment. Crew members testified that the lashing arrangement, typically consisting of nylon slings and a chain block, had been released at the time of the accident. However, the securing arrangements (i.e., slings and chain block) were undamaged. The design of the arrangement required the complete release of lashings to remove even a single plate. The storage location did not permit the use of a hoist or lifting clamps, and the second engineer was found trapped between the tilted plates and store shelving. 2. Unplanned work & Work alone –The second engineer had not shared any intention to carry out work in the steering gear compartment with other crew members. No one was aware of what task he was attempting or why. 3. Rest hour & Drug/Alcohol –Records showed that the second engineer had complied with STCW work/rest hour requirements, and all the alcohol/drug tests carried out after the accident, returned negative results	1. Risk awareness - Although the steel plates had been stored in that area for more than 12 months, there was no evidence that any crew member or company staff had considered the arrangement hazardous. Effective risk & site assessment is essential to reducing such risks and the Safety Management System (SMS) should ensure risk assessments are properly implemented and crew awareness is enhanced. 2. Unplanned work & Work alone - There was no planned maintenance scheduled in the steering gear compartment on the day of the accident, and the second engineer was working alone when the accident occurred. It is necessary to establish a work system on board that allows crew members to request assistance or raise an alarm when needed. 3. Although fatal accidents involving heavy objects such as steel plates are not common, similar cases continue to be reported within the industry and can result in severe or fatal injuries. It is essential to inspect and ensure proper securing and stowage arrangements for heavy items stored on board ships. The crew member involved in the accident held the required qualifications and certificate of competency (STCW III/2) appropriate to his rank, and had sufficient experience. He had also been declared medically fit to serve at sea following a medical examination conducted prior to joining the ship. Records for the accident	Report noted

					date and the accident month confirmed that the second engineer had complied with STCW rest hour requirements, and there was Toxicological tests for alcohol and drugs returned negative results.	
2	Marine Casualty. Collision - with multiple ships Philippines BARGE ISSADA Philippines Barge 534 MV QI FU, Hong Kong, China; SSL BARGE 18, Philippines; General Cargo; Barge;	2024-07-31 08:55	A 180 m length Bulk Carrier was assisted by a pilot and 3 tugboats in a docking manoeuvre when it was dragged sideways by 3 knots current from her starboard and contacted with two barges (50 and 70 m length) moored to a pier under construction. The pilot ordered the port anchor to drop, but that anchor was not operative. Although the 3 tugboats pushed from the port side and the ship dropped her starboard anchor, the sideways movement of the ship could not be stopped. Structural damage resulted in the ongoing port structure, both barges and to the bulk carrier.	• Inadequate interchange of information between pilot-master. • The information in the ship pilot card did not comply with IMO standards • The Pilot did not provide the Master with all the information to ensure safe navigation, especially the pier under construction as a new obstacle and the direction and speed of the current. • The Master did not provide the Pilot with the information of the port inoperable anchor until the pilot order to drop it. • The lack of a flat side in the bow and stern of the ship limited the pushing capacity of the tugs places in those areas. • Although the tug assigned to the middle had a ship safe flat side to push, it was the one with least power of the three tugs.	• The need to having an adequate interchange of information between Pilot-Master before pilotage to ensure a safe planning and an effective risk assessment • The importance of having a Pilot Card according to IMO Standard • The importance of a good bridge teamwork. *Reporting States Comments*: Hand-over briefings are essential so that both the master, having responsibility for the safety of the ship, and the pilot, having responsibility for the conduct of the ship, will be aware of all relevant factors which might affect the safe navigation. Although the Pilot will have detailed knowledge of the particular port and will likely have extensive ship experience, it is probable that they will not have knowledge of the specific equipment fitted to the ship or its manoeuvring characteristics. • Inefficient bridge teamwork during pilotage *Reporting States Comments*: There are serious barriers in the relationship among pilots, masters and OOW, which compromises the effectiveness as a coherent bridge team.	Report noted
3	Very serious marine casualty Fire/explosion - fire Panama B-LPG SOPHIA Panama Liquefied Gas 5,473	2024-10-13 00:40	Very serious marine casualty involving broken mooring lines, drifting, broken cargo connections, and a fire on deck, occurred during a Ship-to-Ship operation between a gas carrier and a VLGC. During a Ship-to-Ship operation involving transfer of gas the mooring line broke when the tension increased due to the change in load condition of the two ships. When the mooring lines broke, the ships slowly parted until the cargo hose broke and gas was flowing freely. The gas lit and a fire started. Both ships where affected, no fatalities or serious injuries to personnel, no marine pollution.	The report states the following contributing factors: - Failure to follow procedures (JPO not reviewed properly) - Lack of communication and coordination - Mooring equipment failure due to poor settings - Inadequate crew training and situational awareness - Leadership and decision-making failures	- The Joint Plan of Operation (JPO) was changed at the last minute without proper risk assessment or Master’s review. - Lack of contingency planning and poor communication between ships. - Failure to follow ISM procedures and inadequate record-keeping. - Crew were not sufficiently trained to handle the revised mooring pattern or emergency scenarios. - Limited emergency preparedness during STS operations. - Mooring lines parted due to incorrect winch settings on the mother ship.	Report noted

					- Cargo hose rupture under excessive tension generated sparks that ignited LPG vapors. - The Emergency Shutdown (ESD) system functioned but was insufficient to contain the fire spread. - Delayed response to early warning signs (rope parting). - Failure to stop cargo operations immediately. - Poor communication between the ships and the Person in Overall Advisory Control (POAC). - Inexperienced Master, did not assert overriding authority.	
4	Very serious marine casualty Engine room flooding Barbados BLUE LAGOON Barbados Bulk Dry 43,498	2024-10-01 03:03	Very serious marine casualty flooding of engine room, loss of propulsion, grounding and abandonment of the ship. On 1 October 2024, the bulk carrier **Blue Lagoon**, on passage from Caofeidian, China to Singapore, experienced flooding in the engine room due to a fracture in the main seawater pipe connecting the high and low sea chests. At approximately 03:00 hrs local time, a high-level bilge alarm activated and engineers identified high-pressure seawater ingress from the fractured pipe. Despite attempts to operate bilge and fire pumps, use emergency bilge suction and manually close the sea chest isolation valves, the water level in the engine room continued to rise. A blackout occurred following the shutdown of auxiliary generators, resulting in loss of power to pumping systems. The main engine stopped and the ship lost propulsion. The ship began drifting toward Lanyu Island at approximately 3 knots. A distress alert was transmitted by VHF DSC and Keelung Radio coordinated search and rescue activity. Owing to severe weather conditions associated with Typhoon Krathon, immediate tug and air support were initially unavailable. Between 10:58 hrs and 14:15 hrs, all 19 crew members were evacuated by helicopter in three groups. Both anchors were deployed shortly before grounding but did not arrest the ship’s drift. The ships subsequently grounded near Lanyu Island and became a total loss. One serious injury was sustained by the master during evacuation. No significant pollution occurred and all fuel oil was later removed.	Technical factors: The flooding originated from a fracture of a welded flange on the main seawater pipe connecting the high and low sea chests. At the time of failure, the ship was experiencing heavy seas with wave heights up to 9 m and rolling up to 20°, generating significant torsional and racking stresses likely contributing to weld failure. Emergency pumping arrangements may not have been configured as intended. Post-casualty dive surveys indicated that at least one low sea chest valve was found open, suggesting incomplete isolation of the damaged pipe. Human factors: Engineers were operating under extreme environmental conditions and high stress. Only the chief engineer had previous operational experience with the sea chest isolation valves. Inconsistent and contradictory accounts were provided regarding valve closure. Crew fatigue was reported due to prolonged exposure to severe weather and motion. Organisational factors: The change of ownership, technical management, flag and crew occurred without a structured handover. No formal familiarisation procedures or records were in place, and drills were not conducted prior to departure due to port restrictions. These factors impeded crew familiarity with essential emergency systems.	The accident highlights the importance of ensuring the structural integrity of large seawater system components exposed to extreme dynamic loading. It demonstrates that limited crew familiarity with critical emergency isolation systems can significantly reduce the effectiveness of flooding response. The case further illustrates that insufficient technical handover and familiarisation during transitions of ownership, management and crew increases vulnerability during emergency situations. Effective communication and shared situational awareness between ship and shore authorities remain critical during complex emergency response operations under severe environmental conditions. Engine room personnel were required to operate in hazardous conditions with heavy ship motion, high stress and increasing time pressure. Limited prior experience with the seawater isolation system likely increased cognitive workload and uncertainty during emergency actions. Fatigue caused by prolonged heavy weather may have affected performance. Bridge-shore communication difficulties complicated early coordination of assistance. Despite these challenges, crew coordination during evacuation was effective and contributed to the safe recovery of all personnel.	Report noted
5	Very serious marine casualty. Engine room Fire	2024-08-27 04:00	Total loss of the ship due to fire on board in engine room. A high-pressure fuel pump sprayed fuel onto the starboard	• The delay in shutting down the engine. • The lack of hermetic sealing of the engine room reduced the effectiveness of the CO2	• The need to train the correct usage of all firefighting equipment, portable and fixed system.	Report noted

	Azerbaijan CASPIAN POWER Azerbaijan Offshore Supply 2,921		engine and the exhaust system of a 70 m lengthier supply-ship causing a fire that later spread to the living quarters and the bridge for three days. The engine was not being shut down immediately, so more fuel was sprayed onto the fire, intensifying it and creating dense smoke. The fire could not be extinguished with the use of portable firefighting equipment and neither with the ship's firefighting team equipped with breathing apparatus and fire-resistant suits. The fixed carbon dioxide firefighting system also was activated, but the engine room was not airtight due to the incomplete sealing of the fire dampers, and the fire was not extinguished. Four supply ships with firefighting capacity arrived at the scene and began efforts to extinguish the fire. The on-duty engineer must be rescued from the engine room. The ship was abandoned, the whole crew was evacuated to nearby ships. After two days of firefighting with water, the ship was at risk of sinking, so it was deliberately ground where firefighting continued to the next day when it was fully extinguished, the ship was completely burned and unfit for operation.	firefighting system. As a result of a defect in the ship's construction, the hermeticity of the engine compartment could not be ensured and the fire spread rapidly up to bridge.	• The importance of participating in all training sessions and drills. • The importance of immediately shutting down the engine during a fire due to a fuel leak. • The need to inspect the fire dampers in engine rooms to ensure the tightness needed for the effectiveness of the fixed CO2 system's Increasing control over the proper maintenance of the ship's machinery and mechanisms and the involvement of the crew in regular training. • Inefficient emergency management It was observed that the ship's crew did not intervene in a timely manner to fight the fire during the incident.	
6	Very serious Marine casualty Explosion, fire,. Singapore CD MANZANILLO Singapore Bulk Dry 35,956	2023-10-10 14:20	Explosion, fire, serious injury and subsequent fatality onboard. While a crewmember was burning plastic waste in an ad-hoc arrangement, an explosion occur and the crewmember sustained serious burn injuries, from which he later passed away.	Poor communication between senior officers, unclear work directive, deviation from company SMS.	Adherence to company policy; communication between senior officers and work planning; stop work authority. There were issues with the flow of information with regards to garbage disposal planning between the master and chief officer; this resulted in the chief officer giving the order to burn waste in an open barrel on the open deck.	Report noted
7	Very serious marine casualty Failure of the steam valve Malta CHEMICAL HUNTER Malta Chemical Tanker 9,155	2024-01-28 12:24	Fatal injuries to a crew member due to failure of the steam valve On 28 January 2024, an able-bodied seafarer (AB) on board **Chemical Hunter** (CH) was severely scalded by steam. The accident happened during cargo tank washing and steaming operations. CH had just left the port of Altamira, Mexico when the accident occurred. The ship returned to port where the injured crew member was transferred to a hospital. Despite the first aid given on board, and the more specialised treatment in hospital, the injured crew member succumbed to his injuries about two weeks after the accident.	The failure mechanism of the steam inlet valve to the cargo tank cleaning water heater was most likely to have been fatigue and that no sudden event precipitated the failure.	The failure of the steam valve was fatigue. Lessons learned are to examine all steam valves and mountings onboard a ship using Non-Destructive Testing (NDT) techniques, to verify their integrity, as visual inspection of the steam valves and mountings may not detect the fatigue. Reasonably discussed and analysed as and when for decision making, e.g. the Master's decision to return the ship back to the departing port for landing the injured crew member ashore for medical treatment.	Report noted

8	Very Serious Casualty, Panama FREMANTLE HIGHWAY Panama Ro-Ro Cargo 59,525	2023-07-25 23:11	Fire on board, Abandoned ship, One fatal victim. A car carrier was navigating with more than 3500 vehicles on board, including almost 500 electric vehicles (EV) when the fire alarm panel detected smoke in a specific area in one of its holds. After four minutes two crew members that went to that location confirmed that there was not a false alarm, the fire was real and the source of ignition was an EV within a block of 24 EVs, thus, the General Alarm for fire was raised. It took about 10 minutes from the original alarm to the fire teams to get there but due to the heavy smoke and heat it was not possible to get closer with portable extinguishers, thus the activation of the fixed fire extinguishing system (foam) was required. The fixed foam system started about 20 minutes from the original alarm but at that time the foam did not have any positive extinguishing effect, and it formed a water surface within the cargo decks. There was a lot of smoke along the ship vent, several explosions were heard, a cargo hold deck collapsed by the intense heat, the car fixing devices were destroyed and the vehicles were moving and colliding with each other and with the ship structures, creating a significant threat, also, the ship listed at an angle of 10 degrees. The smoke was generated dramatically quickly, and crew members couldn't see what was happening, after 40 minutes from the start, the fire spread furiously through the ship, producing large amounts of smoke, heat and flames. After 2 hours 30 minutes from the first alarm the captain ordered to abandon the ship, however, due to heat and heavy smoke, the crew could not get to the life rafts, and shore assistance for the evacuation of the 23 people on board was requested. After one hour from the order to abandon, seven crew members jumped into the sea from 15 to 30 meters high, all of the were recovered unconscious by rescue boats, even one of them died, therefore, it was decided that jump from that high was not safe for evacuation and the remaining 16 people were gathered in the bridge area waiting to be rescued by helicopters. The smoke tooks five days to decrease to make it possible to tow the ship to port.	• Exposure to health hazards and environmental extremes threat. - EV's batteries can produce a thermal runaway, that is an uncontrollable self-heating event where the rate of heat generation exceeds the rate of heat dissipation, leading to a rapid increase in temperature. This uncontrolled process increases heat production and creates a positive feedback loop that can cause battery fire or explosion. The temperature continues to rise uncontrollably, leading to gassing (release of flammable and toxic gases), venting (violent release of gases and potentially other materials) and fire or explosion (the high temperatures and released gases can ignite and lead to a fire or explosion). The minimum temperature at which thermal runaway may initiate in a battery is estimated to be between 60 and 70 °C according to some batteries´ manufacturers. - Flames from EV's batteries goes upward and outward and very quicky reach temperatures beyond 1600 °C that keeps that hot for a long time before start decreasing its temperature. It is a fast fire spreading hot and long enough to burn aluminum (which is commonly used in EV), to release the cars inside the hold and to melt and collapse ship structures. - The thermal runaway is the most frequent cause of catastrophic electric vehicle fires, it could originate due to Internal short circuits within a battery cell, overcharging, exposing to high or low temperature, physical damage or battery degradation (poor maintenance). • Inadequate/insufficient specific firefighting training. - There was a delay in realizing that the smoke detector activated in the bridge panel was located where the EV's were stowed in the hold, and to confirm that the smoke detector activated was not a false alarm. - EV-related fires are complicated to handle, firefighters are at great risk, they must be trained to immediately use specific safety equipment and tactics to fight EV fires properly, due to the large volume of heat, hazardous and flammable gases, and chemical fumes. - The rapid development of fire and the very quick development of thick toxic smoke made firefighting using portable fire-extinguishing equipment such as fire hoses or extinguishers impossibly to use for the crew. - The water remaining in the deck after the activation of the fixed foam system facilitated the movement of the loosen cars inside the hold and becomes a potentially cause of risk of electrocution. • Inadequate, specifications and/or ship and equipment design criteria. - Life Safety Appliance (LSA). The crew could	• The need to establish an IMO EV Car Carriers Code that includes, at least, the following considerations: - To have a specific designed area in the hold suitable for storage of EV with adequate FFE, charged area, signaling, and thermal monitoring system with CCTV, sensors and alarms for an early detection of overheating (thermal runaway) so the fire teams have a higher chance of controlling the fire at the initial stages. - To have a specific designed protected location for LSA that guarantees the crew can reach the life raft and lifeboat free from smoke/heat in case EV fire. - To have specific designed devices or means (nets, ladders, ropes, tubes, slides, etc.) that provide the crew with a safety way to jump to the sea from the uppers decks or to descend from there to the surface or to a safety high to jump into the water. - To have specific procedures designed for EV fire prevention and fighting, especially those people designated for safety patrols, cargo operation (loading and discharging of the cars, maybe establish a maximum of 30% of charge and a prior inspection of the status of the battery) and fire team, such as to undergo comprehensive training on the early detection of battery overcharging or damage, cooling liquid leakage or smoke, popping sounds or heat emanating from within vehicles. - To have a specific procedure for the action needed to take in case there are concerns about a specific vehicle, i.e. thermal imaging investigations, battery charge check, regular use of these cameras and the recording of results that can provide early warning of overheated automobiles. - To have an appropriate stowage plan that clearly indicates the exact position as well as the number and type of EV loaded on the ship. All crewmembers involved with the safety inspections/patrols, as well as deck/engine officers, should attend a "toolbox" meeting to effectively and efficiently familiarize themselves with the positioning and number of EV. - To have a dedicated crew members to supervise the loading and positioning of EV. This is to prevent any damage to the EV batteries, as EVs often have smaller ground clearance. It is quite possible for the bottom part of the EV, including the	Report noted

not get to the life rafts locations due to the presence of smoke, flames, and extremely high temperatures.
- Open decks. The open decks were very high, about 15 to 30 meters above water, these are not considered a safe height to jump into the water for abandoning a ship.
- Fire Fighting Equipment (FFE). The ship was outfitted with FFE suitable for internal combustion engines vehicles (ICE). However, the ships also transport EV without any upgrades to the cargo deck areas, or to the FFE, or to the patrol teams equipment, or to the bridge system to monitoring the hold, or to the load procedures, or to the EV batteries inspection before embarking, or to the regular inspections of the ship, etc. according to the modifications that should be made for the prevention, detection and fighting of thermal runaway, among others.
• Inadequate communication.
- Although the fire was communicated soon to the MRCC, the ship delays to request assistance for firefighting and to rescue the crew.
- The risk of jumping into the water from that height (15 to 30 m) was not detailed communicated to the crew members when they were allowed to do it.

batteries, to be damaged by the ship ramps during loading. The first indication of a damaged battery is fluid leakage. Therefore, the EVs' designated area should be inspected for any evidence of fluid leakage. Additional investigations should be initiated if any are detected.
- To have a consideration within the ship stability book about the extensive quantity of water required for EV firefighting can lead to rapid flooding and the potential capsize of the ship. Therefore, consideration should be made to develop/install appropriate means for improving the stability of this type of ship or minimizing the amount of accumulated water in the cargo areas or to have the possibility to drop the cars in the EV area to the sea, etc.
- To have consideration for the high temperature flames and flammable gases related to the design/develop of bulkheads, internal divisions (even portable or remote activated), to restrain the rapid spread of fire and flooding (in emergency cases) within the cargo areas but with no risk or accumulation of flammable gases.
- The ship operator's role is vital to guarantee the safe transportation of electric vehicles. Consequently, they should think about updating their SMS and adding extra tools/measures for EV-related fire.
- Automobile fire blankets or other specialized textile barriers can be effective in certain situations. such as when battery coolant is leaking, these fire blankets can be a preventive measure. They will contain the flames, but the thermal runaway event will still occur.
- Full-face respirators to protect the crew from the poisonous fumes released by EV fires while doing emergency tasks like getting lifeboats ready for launch and efficient training on how to jump into the sea from a significant height.
- To have a specific procedure and ship design when the foam system should be activated in case of EV fire. Usually, the cargo deck vents should be opened, but the open vents will let a lot of smoke escape, and this makes it harder to put out the fire and makes it more difficult to approach or operate the life rafts. Since the vent cannot be closed locally due to the heat and flames, the ship could be provided with the alternative of remote operation (emergency closure), but also

					the risk of accumulation of flammable gases must be considered avoiding explosions or severe fire propagations Despite the chaos unleashed and the lack of adequate defenses to prevent and combat the EV fire (technological, regulations/procedures and training), the fatality did not occur due to the risks of such fire (flames, smoke, poisonous gases, heat, risk of electrocution or being crushed by loose cargo or collapse of structures, etc.), but both, the fatal victim and the unconscious rescued crew members, were due to the way in which the evacuation of the ship was carried out. In some way, there was order during the chaos, but the chaos rises when supposed to be order	
9	Very serious marine casualties - Occupational accident Panama GOLD OAK Panama Other Bulk Dry 23,232	2023-01-09 05:50	Crew was removing cargo from cargo bulkheads by means of a Gondola Cage, suspended in the ship's crane. The crane operator was not trained and had an obstructed view over the gondola. There was no signal man keeping the overview. The OS inside the gondola was in communication with the crane operator. It was the first time the OS had to instruct a crane operator. The Oiler handling the messenger line normally did not take part in this kind of operations. When removing the Gondola Cage from Cargo Hold No.1, it got stuck under the hatch coaming. When it got free by lowering the gondola and easing the messenger line, the gondola swung with a rebound and one of the AB inside the gondola hit his head to the steel structure under the hatch coaming. He died from a head injury caused by the impact.	Astronomical twilight could have influenced the visibility End of the working shift could have impacted the vigilance of the crew	Inexperienced crew on key positions during lifting operations, lack of overview and supervision, lack of planning and assessment, lack of communication prior to the activity, improper procedures Lack of training, lack of supervision, lack of assessment	Report noted
10	Very Serious Marine Casualty Greece KALLISTO Greece Other Activities MAERSK LAUNCESTON, Portugal; Container;	2020-10-30 07:30	On 27 October 2020, αt 07:30 hrs, the Portugal flagged-ship, **Maersk Launceston** (ML) and the Hellenic Navy Mine Hunter HS **Kallisto** (Warship) collided in position latitude: 37° 52´.02 N longitude: 023° 36´.35 E, approximately 4 nm South of Piraeus Port, Greece. Both ship were navigating southbound towards the north entrance of Piraeus TSS following their passage from Psytalia Island. The Master of ML was alone on the bridge navigating the ship and was on autopilot. The navigational watch on the warship was consisted of two officers (the Commander and the Navigational Officer) and two Petty Officers (the Helmsman and the Lookout). Prior to the collision, ML was increasing her speed and altered her course to starboard for overtaking the warship which was maintaining an almost steady course and speed. The weather condition was reported to be good and calm sea in daylight condition. The collision resulted in breaking the warship into two parts. The aft part sank rapidly and the fore section remained	a) The manning on the bridge was not met the approved passage plan requiring category "B" bridge complement (OOW, a lookout and option for a helmsman). The Master was the sole man on the bridge without a lookout at the time of collision; b) The navigational hazards to the Precautionary area towards the north entrance of Piraeus TSS were not properly considered for determining the ship’s safe speed during the appraisal and planning phases of the passage plan; c) ML did not maintain a safe speed and adhere to the overtaking rules as per COLREGs prior to the collision; d) Guard zone functions on the RADAR were not utilised to automatically acquire targets, the safety management system has no guidance on the usage of guard zone on RADAR; e) The ECDIS the master used did not integrate	a) Proper bridge manning should be maintained for safety of navigation in coastal waters; b) Use all available means to detect targets such as guard zone on RADAR and take appropriate actions when overtaking another ship; c) Proper assessment on navigational hazards is important during the appraisal and planning of passage plan; d) If the risk of collision exists, even it is a stand-on ship, should also take appropriate actions to avoid a collision. Included good discussion on human element in the report.	Report noted

			floating. 4 warship crew members fell into sea and were recovered by a Coast Guard patrol boat. Two of the recovered crew members were injured. The rest of the 21 crew members were evacuated from the warship onto the Coast Guard Patrol Boat and transferred to another warship. Sea pollution was observed around the casualty area. ML sustained only scratches and paint coating damages on her bulbous bow and port bow areas.	with RADAR-ARPA, targets without AIS were not shown on the ECDIS; f) The warship did not take any actions to increase CPA with ML though she was being overtaken, instead, maintained steady course and speed; g) There were lack of specific guidelines and safety measures fro warships concerning the minimum CPA passing other ships during coastal navigation		
11	Very serious marine casualty Occupational accident - body movement without any physical stress (generally leading to an external Malta KAVKAZ I Malta Bulk Dry 25,695	2023-11-26 23:00	The death of a person (According to IMO Resolution MSC.255(84)) - A bulk carrier with a gross tonnage of 25,695 tons was anchored for cargo transhipment. Due to severe deterioration in weather conditions and concerns about potential collision due to dragging anchor, the master decided to heave up anchor and head out to open sea. Four crew proceeded to the forecastle deck to carry out anchoring operations. After the anchor was heaved up, two crew members, excluding the bosun and one AB, returned to the accommodation area. At the time of the heaving operation, the weather conditions were recorded as Beaufort Scale 10 with wave heights of 6 to 8 meters. About an hour after beginning the heaving operation, the bosun and the AB, who remained on the forecastle deck, secured the anchor and turned off the hydraulic pump for the windlass following the master’s instructions. After turning off the pump inside the forecastle store, as the AB exited the store and was about to return to the accommodation area, a large wave struck the forecastle deck, sweeping across the deck and all the way to the starboard main deck. Regaining his senses, the AB ran back to the forecastle deck and found the bosun lying face down at the entrance of the forecastle store. Although the door to the forecastle store was closed at the time, the securing dogs had not been secured. The AB moved bosun to the starboard-side shelter, where they were soon found by the duty officer on the bridge. Emergency calling was initiated, and the crew, finding the bosun still conscious, carried him on a stretcher to the ship's hospital. While the crew provided emergency first aid, the master requested medical assistance from the MRCC. However, due to the worsening weather, medical evacuation via helicopter was impossible. The crew continued providing medical treatment under advice from a shore doctor via mobile phone. Consequences - Despite the emergency response and medical action taken by the crew, the bosun eventually lost consciousness and moments later, they were not able to detect any signs of life. His body was	1. Task on forecastle deck in inclement weather – At the time of the accident, the ship was departing the anchorage and heading out to open sea under inclement weather conditions, continuously being struck by waves on the port bow. The two crew members involved in the accident were performing tasks on the forecastle deck. Although there were no direct witnesses to the bosun’s accident, it is strongly presumed that he was struck by the 7mm-thick steel weathertight door of the forecastle store as it slammed shut due to wave impact while he was exiting through the doorway. The AB’s injury was also caused by being swept by a wave that had come up onto the deck. 2. Forecastle entrance door – The entrance to the forecastle store was a hinged weathertight door located on the port side of the store, positioned centrally on the forecastle deck. It’s designed to open towards the ship’s port side. At the time of the accident, the ship was sailing while receiving waves from the port bow, and the crew working on the forecastle deck had not left the door open using the securing hook due to concerns of flooding the forecastle store in inclement weather. It is presumed that the strong wind, incoming seawater, and ship’s rolling motion were sufficient to slam shut the unsecured steel door. Neither of the two crew members perceived the risk, and as they were trying to quickly escape from wind and sea spray, the AB did not hold onto the door after exiting the store. 3. PPE (Personal Protective Equipment) – The two crew members involved in the accident neither worn lifejackets or safety harnesses. While the absence of a lifejacket may not have directly contributed to this accident, it could have been helpful in the event of being washed overboard by wave impact. If the AB had been wearing a safety harness, it might have prevented him from being washed away by the wave.	1. Task on forecastle deck in inclement weather – The crew members were involved in an accident while working on the forecastle deck under inclement weather conditions. The shipping company should incorporate appropriate risk assessment procedures or Permit-to-Work (PTW) system into its Safety Management System (SMS) to ensure crew safety during deck operations conducted in inclement weather conditions. 2. PPE – Personal Protective Equipment (PPE) can contribute significantly to crew safety during onboard operations; however, there are concerns that PPE may reduce work efficiency. The shipping company should review its PPE matrix to ensure that suitable PPE is provided to crew members according to the nature of each specific onboard task. The crew members involved in the accident held the required qualifications (STCW II/5) and had appropriate work experience for their respective ranks. Records confirmed that they had taken rest in accordance with STCW regulations during the month and on the day of the accident. No evidence was found to suggest that toxicological influences, including drugs or alcohol, were factors contributing to this accident.	Report noted

			transferred ashore by local authorities who boarded the ship three days after the accident at anchorage. The AB who had been swept by the wave suffered minor bruises but no serious injuries.	4. Fatigue, drug & alcohol – Investigations confirmed that the crew members involved had taken adequate rest in accordance with international standards. No evidence was found to suggest that drugs or alcohol had influenced to this accident.		
12	Very Serious Marine Casualty - Grounding (Total loss of ship) Republic of Korea KEOYOUNG PIONEER Republic of Korea Chemical Tanker 2,577	2024-04-16 15:44	The oil/chemical tanker **Keoyoung Pioneer** departed Fuzhou Port, China on 14 April 2024 with a cargo of cyclohexane. The voyage plan, which had been approved by the Master, estimated their arrival at Nagoya Port, Japan on the morning of 18 April 2024. On the morning of 16 April, the Master ordered two alterations to the ship's route that were subsequently effected by the OOW; the first one at around 08:13 and the second at around 12:00. At around 15:32 on the same day, the Master ordered the OOW to adjust course 10 degrees to starboard to avoid a fishing vessel that was dead in the water approximately 1.5 to 2 nm ahead. The Master then went to the bridge deck area to discuss lifeboat maintenance with the C/E. The OOW, who had just arrived on bridge and was taking over the watch from another officer, altered the ship's course to starboard, and passed the fishing vessel, leaving it on its port side. The OOW then tried to return the ship to its original course, but it was already aground on a reef in a water depth of about 2 metres. The master immediately reported this to the company and the Japanese Coast Guard. The port lifeboat was launched, but the ocean swell prevented the crew from boarding it. At around 18:52 on 16 April, all 14 crew members were safely evacuated to fishing vessels that were in the area; no casualties were reported. The Japanese rescue and salvage agency monitored and maintained the ship's condition as it remained stuck on the reef. Fuel oil was transferred to a barge and, with the approval of the Japanese authorities, the cargo was diluted and discharged into the sea. The ship split into two parts, separating the aft accommodations area from the cargo tank area, and the ship was declared a total loss on 16 May 2024.	During the day leading up to the casualty, the Master ordered two changes to the ship's planned route; however the crew did not establish a corrected voyage plan, verified by the Master, before making these changes as was prescribed in the company's instructions. The Master ordered a course alteration to starboard, towards shallow waters and reefs, in order to avoid a fishing vessel ahead. The deviation to starboard from the planned route was done without fixing the ship's position frequently as required by company Instruction. The master left the bridge without clearly handing over the conning duties or completing the manoeuvre to give-way to the fishing vessel. The ship was not maintaining a two-people watchkeeping system, consisting of the OOW and another rating, when navigating in coastal waters or waters with high risks as per the company's Instructions. The OOW that carried out the alteration of course to starboard, to avoid the fishing vessel, did so passively despite being aware of the reefs and shallow waters in the area and without presenting his ideas to the master.	The report identifies issues such as not following company instructions for the safe navigation of the ship, and carrying out master's orders passively without expressing ideas, but does not contain a specific Section on the Human Element. [Reporting State's comments: The relevant matters were sufficiently recommended to the company to facilitate company-level measures addressing human factors, as set out in sections 6.1.3, 6.2.4, and 6.3.4 of this report.]	MSC
13	Very serious marine casualty Sinking (cover page) - listing, capsizing - total loss of the ship Republic of Korea KEUM YANG 6 Republic of Korea	2024-02-14 21:52	After pre-departure cargo operation the ship initiated her voyage. Event: deteriorating weather conditions Consequences: Ship exposed Event: Ship starboard bow hit by two consecutive rough waves Consequence: Loss of stability - list to port side Event: Master ordered abandon ship Consequence: Emergency response	Are identified in the analysis (ch. 4) and Conclusion (ch.5). 4.1.5 - empty spaces between the loaded steel plates. 4.2 Absence of specific loading and securing guidelines for steel plates. 4.3.7 - Cargo was loaded according to the work standard of the loading and lashing company and their worker's practices. 4.4 - Inappropriate sheltering under heavy weather	Issues raised: Securing cargo / stevedoring and lashing companies / cargo stowage / oversight of cargo operations / communication between company (DP) and ship. Lessons learned: Develop a cargo specific securing guidance for steel plates in CSM (5.2) Fill in voids spaces with timber (5.3) Safety management procedures for sheltering under heavy weather (5.5)	Report noted

	General Cargo 2,347		Event: Crew rescued Consequences: No fatalities Event: total loss of the ship	4.4.6 - weather information provided by the company to the ship.	Planning, supervision, communication and reliance on experience	
14	Occupational accident. France LE DUMONT D'URVILLE Wallis and Futuna (France) Passenger 9,988	2024-05-11 22:07	Mooring accident causing death. A seaman was fatally injured after getting caught in a mooring rope during a ship's departure from Setúbal, despite immediate response and medical care.	1. Mooring stations, hazardous areas by design 2. Arrangement of the aft mooring stations, narrowness, visibility 3. Human elements	1. 2025-E-22 : it is essential to maintain safety distances from the rotating winches on mooring stations. 2. 2025-E-23 : an elevated standing position by the mooring station gives the operator controlling the winch a better overview of all persons in vicinity of rotating drums . 3. 2025-E-24 : the operator who controls the winch must absolutely focus only on the working zone in relation to the gear he is operating, to the exclusion of any other task. 4. 2025-E-25 : it may be possible to avoid accidents if all crew members present on the mooring deck monitor each other, and warn anyone that would not be safely positioned . 5. 2025-E-26 : During the design of the ship, a good balance must be found so that the commercial spaces do not cause significant disruptions to the workspaces. -	MSC
15	Very Serious Marine Casualty-Occupational accident Israel LIBERTY I Israel Offshore Supply 1,733	2024-09-22 14:10	An OS was cleaning the cover of the access to a tank, using a powered steel brush. The tank contained the collected residues after flushing the liquid mud tanks and piping. The residues contained remnants of hydrocarbons as slops from a PFSO were loaded into some of the tanks. A spark ignited the explosive gas mixture in the tank. The OS was blown away by the blast wave and died from his injuries.	There was Lack information on board related to the chemical properties of the loaded bulk cargo, its flammability and associated risk assessment. The ship was not certified for carriage Noxious Liquid Substances in Bulk, contaminated backloads and any petroleum products having a flashpoint of less than 60^{o}C. The construction of the ship is designed that pumps and piping arrangements are situated below the bottom level of the tanks in order to allow positive suction pressure on the pumps. This design leads to the presence of remnants in the system piping (up to 2 m3) Cleaning Work of manhole covers' sealing area of Liquid Mud tanks on 22/09/2024 was not risk assessed and was not classified as "Hot Work", therefore no inspection of the work area for hydrocarbons vapors was involved The OS was not wearing a safety helmet	Inadequate implementation of pre-task planning, risk analysis and safe working practice on board by the crew. Lack of SMS procedures to facilitate the safety of cargo operations on board, associated risks assessment and corresponding permit-to-work system. Ineffective onboard training for crewmembers in relation to identification of safety hazards and accident prevention.	Report noted

16	A very serious marine casualty involving a small passenger ro-ro ship. Bahamas MASTER RU Zanzibar (United Republic of Tanzania) Passenger/Ro-Ro Cargo 879	2024-07-11 02:00	The cargo ship became unstable, capsized, and sank. Four out of eight persons are missing and presumed dead.	Non specific mentioned but the lack third party survey and no flagg state oversight, could very well be concidered as contributing factors, se lessons learned.	Crew that operates ships without the oversight of a flag state or classification society pose a significant risk to maritime safety. Crew was unaware of the requirement regarding proper handling of the specific cargo. Port State Control had no resources or system in place to target the ship for an inspection. None specific.	Report noted
17	Marine Casualty - serious injury Slovenia MINOAS Marshall Islands Bulk Dry 32,987	2024-10-27 08:31	A port worker was injured while discharging steel pipes from the ship **Minoas** at the Port of Koper, Slovenia. The ship was carrying hot-rolled seamless steel pipes, tubing, and steel coils in Holds 2, 4 and 5, which had been loaded in Tianjin, China. On 30 August 2024, the ship departed Tianjin to proceed to the Port of Koper, via the Suez canal, having made a stop at Zhangjiagang. The ship arrived at Koper on 20 October, anchored, and berthed on 22 October and began discharging shortly thereafter. On the morning of 27 October, five workers began unloading steel pipes from hold No. 4 using cargo lifting beams and a shore crane. At approximately 08:30, one of the bundles of steel pipes shifted and pressed down on a worker’s left ankle. The worker sustained an ankle fracture and was transported to the hospital for surgery.	The pipe bundles were unevenly stowed, which contributed to instability and increased the risk of shifting during the discharge process. The wooden linings, supporting the cargo, were either deformed or destroyed, compromising their structural integrity or further destabilizing the load. Discharging cargo primarily from the central area of the hold resulted in an uneven distribution of load height at both ends of the hold. This imbalance significantly increased the risk of uncontrolled shifting of the cargo.	The report includes a section titled human factors data which describes the injured worker's experience and his work schedule at the time of the accident. Furthermore, the report makes recommendations regarding the human element; specifically, compliance with safety and cargo handling procedures, training and awareness, and enhanced supervision during unloading operations.	Report noted
18	Very serious marine casualty. Marshall Islands NAN BEI HU Marshall Islands Bulk Dry 36,353	2024-03-16 17:00	While renewing the grab wires from a partially open and oil drained grab, the grab fully opened trapping a person underneath.	Company procedures. Risk Assessment. Time pressure. Unplanned. Familiarisation. Safe Work Procedures. Safety Management.	Develop procedures/instructions for replacing grab wires. -	MSC
19	Very serious marine casualty, collision Republic of Korea	2024-06-13 00:34	Collision between fishing vessel **Pungseong No. 307** and container ship **Sitc Yantai**. The weather was fair at the time of the collision. **Pungseong No. 307** was moving in a zigzag pattern, maintaining a speed of 7 to 8 knots, in an effort to prevent	- **Pungseong No. 307** made a diagonal change in course, without taking caution to verify that there were no other ships nearby that could encroach upon its course. - **Pungseong No. 307** did not maintain a proper	Fishing vessels engaged in gear operations must maintain a continuous and effective lookout. Ships must take positive and early actions to avoid imminent collision, as per	Report noted

	PUNGSEONG No. 307 Republic of Korea Other Fishing 33 SITC YANTAI, Hong Kong, China; Container;		fishing traps and lines from becoming entangled amid the varied marine topography. By 00:21 on June 13 2024, the **Pungseong No. 307** was on a course of about 208 degrees when **Sitc Yantai** was approaching **Pungseong No. 307** in a crossing position at a distance of about 2.5 miles. At around 00:25 the **Sitc Yantai** crew verified that **Pungseong No. 307** had passed the bow of their ship from the starboard side to the portside at a distance of approximately 1.8 miles. About three minutes later, **Pungseong No. 307** changed course to 94 degrees at a diagonal angle to port. This change in course brought the two ships into collision course, about 1,3 miles off. The ships kept getting closer to each other. The **Pungseong No. 307** captain, who was in the wheelhouse at the time, used astern propulsion to avoid collision. At around 00:28, **Sitc Yantai** verified that **Pungseong No. 307** had changed its course diagonally to 94 degrees. At around 00:33, as the fishing vessel kept approaching **Sitc Yantai**, the third officer ordered to turn the rudder to 10 degrees starboard, blowing the fore whistle three times. These actions were insufficient to prevent the resulting collision between **Sitc Yantai**, on its bulbous bow, and **Pungseong No. 307**, on its starboard side, which occurred at 00:34. After the collision, **Sitc Yantai** continued along its course to its destination without noticing what happened and without stop. Collision resulted in 1 fatality and 2 missing of **Pungseong No. 307**. **Pungseong No. 307** capsized and was later scrapped. **Sitc Yantai** sustained minor damages.	lookout during fishing operations. - **Pungseong No. 307** did not maintain its course and speed for a sufficient period of time after passing the bow of **Sitc Yantai**. - Failure of **Pungseong No. 307** to comply with COLREGs and ordinary good seamanship when altering course. - Inadequate and delayed evasive action by **Sitc Yantai** despite radar/visual identification of the **Pungseong No. 307**. - Lack of effective communication (no VHF contact made to coordinate passing). - Limited bridge visibility on **Sitc Yantai** due to container blind sector. - Crew fatigue and task distraction on **Pungseong No. 307** (fishing gear handling during navigation).	COLREGs Rules 16–17. Use of VHF radio for collision avoidance can enhance situational awareness in crossing situations. Familiarization and training on collision avoidance procedures should be strengthened. Awareness of visibility restrictions (e.g., container ship blind sectors). Lookout failure and poor seamanship practices. Lack of effective bridge team communication. Inadequate familiarization with collision avoidance on **Sitc Yantai**. Task distraction and possible fatigue among fishing vessel crew.	
20	Very serious casualty - fatality in enclosed space Panama SEATTLE HARMONY Panama Bulk Dry 24,331	2024-05-22 17:00	When transferring sewage from one tank to another, crew members opened a manhole and climbed down into the tank to place and secure a hose. After completing the transfer, a crew member climbed down into a platform in the tank to release and return the hose, but went unconscious on the platform. Two other crew found him and went down to rescue him, but felt dizzy and returned up. When the first crew member eventually was taken up, he was found dead.	• The ship's SMS did not include ship specific identification of enclosed spaces, and did not contain ship specific procedures and routines for how to deal with enclosed spaces. • Available procedures were not clear and caused confusion. • Enclosed space procedures were not audited, hence the supervision was not efficient enough. • Lack of crew training made the crew not exercise the right to stop work in potential hazardous situations. • Ineffective toolbox meeting prior to the work made risk assessment inadequate.	A properly implemented SMS, including risk assessment for potential dangerous work, would have prevented this accident. People need training in how to act correctly in different emergencies to avoid to act spontaneously and possibly wrong.	Report noted
21	Very serious marine casualty (Fatality) Hong Kong, China SEREN Hong Kong, China General Cargo 20,965	2024-08-19 02:38	Fatality of shore worker team foreman and minor injuries to another shore worker	1. The ship crew, safety engineer, and foreman did not follow the safety requirements for enclosed space entry properly. 2. They did not carry out a detailed risk assessment for the cleaning operations in accordance with the shipboard safety management system (SMS). 3. Communication between the ship crew and the shore cleaning team, or among the team members themselves during the cleaning operations was ineffective.	No safety issues raised. The indicative lesson is related to the importance of following the practical safety requirements for enclosed space entry including detailed and effective risk assessments, ensuring effective means of communication including mitigating language barriers and having a proper appreciation of the risks and potential hazards associated with enclosed space entry.	Report noted

				4. The foreman and the shore workers lacked safety awareness and underestimated the risks and potential hazards associated with enclosed space entry.	No detailed assessment of the human factors behind the individual human elements identified as contributing factors.	
22	The death of a person(According to IMO Resolution MSC.255(84)) Bahamas SILVER NOVA Bahamas Passenger 55,051	2024-02-22 10:35	Event(Summary) - While on passage, the 55,051 GT passenger ship was conducting waste management operations. The Incinerator Supervisor (IS) and Incinerator Operator (IO) were engaged in preparing incinerator ash for disposal ashore. This required transferring the cooled ash from the incinerator on Deck 0 into a one-ton ash bag, then using a manual pallet truck to move it into a cage lift. The ash bag would then be lifted to Deck 2, the designated holding area. On the day of the accident, the IS and IO requested assistance to wiper passing by to help handle an ash bag weighing approximately 300 to 350 kilograms. The three crew members loaded the bag into the cage lift. During hoisting, the ash bag shifted and became wedged between Deck 0 and Deck 1, halting the lift's upward movement. After multiple unsuccessful attempts to dislodge the bag, the wiper, in consultation with the IS, went to Deck 1 and proposed to manually open the rear access gate by hand and reposition the bag. The IS used an over-ride key to unlock the gate. The wiper, standing with one foot on the deck and the other inside the lift cage, attempted to free the ash bag by hand. At that moment, the ash bag dislodged, and the cage lift suddenly plummeted, causing the wiper's body to be crushed and trapped between the deckhead of Deck 0 and the upper section of the cage lift. The ship’s emergency response team immediately secured the cage lift and extracted the injured wiper, administering emergency medical care. Later the same day, he was transferred to a shore-based hospital. The weather at the time of the accident was reported as Beaufort Scale 3 with wave height under one meter, indicating calm conditions. Consequences Despite prompt emergency medical treatment onboard and subsequent intensive care at a shore hospital, the wiper died five weeks after the accident.	1. Work Method - During ash transfer operations, crew members were required to load approximately 300–350 kilograms of cooled ash into a one-ton ash bag, then transport it using a manual pallet truck to the cage lift. Although the operation was formally assigned to the Incinerator Supervisor (IS) and Incinerator Operator (IO), the confined workspace (1.8m x 1.6m) and the weight and size of the ash bag meant that a third person was typically called upon to assist. On the day of the accident, the IS and IO encountered a wiper passing by and asked him to help. The wiper was neither designated for this task nor had he received any relevant training on this ship regarding ash transfer procedures. - Opening the rear access gate of a suspended cage lift and manually handling a heavy ash bag was not previously discussed during any toolbox meeting, nor was it evaluated through the ship’s formal risk assessment process. 2. Cage Lift - The ship’s cage lift was fitted with horizontal bars, both inside and outside, designed to prevent the ash bag or other items from shifting or falling during hoisting operations. However, during the accident, the inner horizontal bar had not been secured. This was considered a contributing factor to the ash bag becoming wedged between Deck 0 and Deck 1. It is presumed that the horizontal bar was left unsecured due to distraction during the manual handling process. No instructions were posted near the cage lift to highlight the necessity of lowering or securing the horizontal bars. - The cage lift was a custom-built unit connected by chain to a gantry and winch motor installed in the uppermost part of the lift space. Before the wiper entered the lift to dislodge the bag, the IS had isolated the power and activated the emergency stop from the main control box located on Deck 0. However, neither the IS nor the IO checked whether there was slack in the chain. The system lacked any indication or warning mechanism to alert operators to the presence of slack chain. The wiper entered the lift unaware of the associated hazards. 3. Safety Management	1. The accident occurred when a crew member who had not received suitable training nor was familiar with the work was asked to assist in the operation. There is a need to establish an onboard safety procedure to ensure that untrained personnel are not involved in tasks for which they are not qualified, especially when such involvement may expose them to significant risk. 2. It is assumed that the ash bag became wedged because the horizontal bar inside the cage lift had not been secured. Personnel working with lifting appliances must be familiar with the safety features of the equipment and must never bypass them for the sake of convenience. Clear markings and instructions on the operation and importance of safety devices such as horizontal bars should be displayed near the equipment. 3. Although the operation of handling heavy ash bags in a confined space was a routine task, no safety measures(such as reducing the ash bag weight or installing a hoist for easier transfer to the cage lift) had been considered prior to the accident. The ship’s Safety Management System (SMS) must ensure that such unsafe practices are identified in advance and that practical risk mitigation measures are implemented accordingly. - The Incinerator Supervisor (IS) and Incinerator Operator (IO) had both completed shipboard training on the incinerator and associated lifting equipments, and were officially assigned to onboard waste management duties by the Chief Engineer. On the day of the accident, the wiper, who was requested by the IS and IO to assist in ash transfer, was unfamiliar with the routine and procedures for the task on this specific ship. - The failure to secure the horizontal bar inside the cage lift likely contributed to the ash bag shifting and becoming wedged. It is also likely that distraction during the manual handling process in a confined	Report noted

				- No measures had been taken prior to the accident to reduce the ash bag weight or to install a hoist that could facilitate easier loading of ash bags into the cage lift. - Opening the rear access gate required an over-ride key, which was in the possession of the IS. However, there were no procedures or authorization controls in place governing the management or use of the over-ride key onboard.	space contributed to this oversight by the crew.	
23	Fire and sinking Panama TSS PEARL Panama Container 23,633	2022-10-05 16:19	Fuel leak, casing a fire burning out of control with subsequent loss of ship.	Fuel leak. Late response in fire fighting.	Adequate, realistic training in fire fighting. Quick response to firefighting is vital. Lack of training/drills in firefighting.	MSC
24	Very serious marine casualty Occupational accident Malta YUKA D Malta Bulk Dry 22,137	2024-05-22 08:30	Fall from height - OS 1 fell 12m down through the bottom window of cargo crane no. 1's cabin, after the protective steel grating above the bottom window was removed, most probably for cleaning purposes.	1.Design - the bottom glass was not designed to walk on 2. Design - the steel grating had to be removed completely for thorough cleaning 3. Design – No additional safety barrier applied in case steel grating was removed 4. Operation - The removal of the steel grating was not considered as a risk and occurred as a standard during cleaning	1. Structures that are not suitable to walk or stand on should be marked as such 2. Barriers need to be installed and intact to prevent falling. In case barriers can be removed or need to be removed, alternative barriers should be in place 3. Potential unsafe conditions related to the design of spaces need to be reported on board to take appropriate action or to install alternative means. Normalization of risk - the stel grating was frequently removed of the past and the design had never been adapted	Report noted
25	Very serious marine casualty (occupational fatalities) cover page and pages 8, 9, 21 Marshall Islands VALARIS DS-17 Marshall Islands Other Activities 52,242	2023-04-21 13:18	1. Crew opened BWT hatch to ventilate tank before cleaning. 2. No gas detector in use; PTW issued incorrectly. 3. 2/E No.1 collapsed on ladder; Motorman attempted to help; both fell into BWT. 4. Rescue team entered confined space, detected "rotten egg" smell, recovery unsuccessful. 5. Autopsy confirmed H_2S poisoning. Two fatalities due to gas poisoning and acute respiratory failure from likely sulphur compounds (H_2S). No damage to ship or pollution reported.	identified in pages 19 - 21 Failure to implement PTW procedure properly (Permit Owner not involved, Verifying Authority performing work, JSA absent). • Lack of gas testing and detection equipment at site. • Restricted access increased risk of exposure. • Crew unawareness of potential high H_2S concentrations. • Pressure to complete work before ship reactivation. • No sample points for atmospheric testing.	All clear in page 9 The below lessons learned were identified. • Administrative controls, such as PTWs and Work Instructions, must be implemented consistently and in accordance with established procedures to be an effective means of reducing exposure to hazards. • The importance of identifying connected spaces and their hazards. • The importance of identifying and addressing hazards associated with the location where the	Report noted

					work will be conducted when planning a job. • The importance of being aware that, when opening access hatches, tanks may contain higher concentrations of hydrogen sulfide, or other toxic gases, than might be expected. clear on page 21 and across the analysis The Company's enclosed space rescue procedures did not address actions that should be taken or barriers that should be implemented when conducting an enclosed space rescue from inside a connected space.	
26	Casualty: Collision Marshall Islands PORTHOS Marshall Islands Bulk Dry 33,044 ZHE FENG YU 13028, China; Fish Catching;	2022-12-16 04:16	At approximately 04161 on 16 December 2022, the Republic of the Marshall Islands-registered bulk carrier **Porthos** and the People's Republic of China (hereinafter "China") registered fishing vessel **Zhe Feng Yu 13028** collided while in a crossing situation. **Porthos** was the give-way ship and **Zhe Feng Yu 13028**, which was not engaged in fishing, was the stand-on ship. The weather was good with visibility more than 5 NM. Approximately three hours after the collision, the **Zhe Feng Yu 13028** sank. All six of the crewmembers who had been on board were rescued by another fishing vessel before **Zhe Feng Yu 13028** sank	1 Factors that contributed to this very serious marine casualty include: (a) ineffective navigational watchstanding on board **Porthos** in that: (i) neither the 2/0 nor the C/O made effective use of all available means, including visual bearings and the ship's ARPA, to properly assess the risk of collision with **Zhe Feng Yu 13028** or other fishing vessels that were encountered while on watch; (ii) when manoeuvring to avoid potential collisions with fishing vessels, the C/O did not make large enough changes of course to provide a CPA of at least l NM as required by the Company's SMS and the Master's Standing Orders; (iii) the C/O used the autopilot rather than hand steering when manoeuvring to avoid collision with **Zhe Lin Yu 21921** and **Zhe Feng Yu 13028**; and (iv) the C/O did not use sound or light signals until collision with **Zhe Feng Yu 13028** was imminent and then only sounded one short blast of the ship's whistle rather than at least five short rapid blasts as required by COLREGs Rule 34(d). (b) ineffective navigation watchstanding on board **Zhe Feng Yu 13028** in that the Captain: (i) did not make effective use of all available means, including visual bearings, to assess the risk of collision with **Porthos**; (ii) did not use sound signals or other approved means in an attempt to ascertain the intentions or actions of **Porthos**; (iii) did not manoeuvre in sufficient time to avoid collision as permitted by COLREGs Rule 15(b); and (iv) manoeuvred contrary to COLREGs Rule l 7(c). 2 Additional factors that may have contributed to this very serious marine casualty include the:	The following lessons learned were identified: • The risk of collision is significantly increased when COLREGs is not adequately applied as two ships are approaching each other. • Maintaining a proper lookout must be prioritized over shipboard maintenance tasks. • Navigation watchstanders need to make effective use of all available means to assess the risk of collision and to take early and substantial action when it is determined that there is a risk of collision. • Autopilot should not be used when large alterations of course are required to resolve a developing situation with another ship. An additional watchstander should be called to the Bridge in ample time so that the changeover from autopilot to manual steering can be made before a close quarters situation exists and so that the continuity of the lookout is not broken. • Navigational watchstanders need to use extra caution when navigating in the vicinity of fishing vessels. Laser pointers should not be used to attract another ship's attention Observations on the Human Element: The report states that "The Administrator did not observe any indication that **Porthos**' Master or C/O had failed to receive the amount of rest mandated by the STCW Code, Section A-VIII/1, paragraphs 2 and 3, and MLC, 2006, Regulation 2.3.".	Report noted

				(a) decision of **Porthos**' Master to not require that a designed Lookout be posted; (b) inadequate handover of the navigational watch on board **Porthos** from the 2/0 to the C/O; and (c) white deck lights on board **Zhe Feng Yu 13028** that may have interfered with the ability of the navigation watchstander on board **Porthos** to see the navigation lights exhibited by the fishing vessel and the ability of the fishing vessel's Captain to visually identify **Porthos**. 3. Additional issues that were identified but that did not contribute to this very serious marine casualty include: (a) the working arrangements on board **Porthos** did not identify crewmembers to be on standby in case an additional navigational watchstander was required during night watches; (b) the decision of **Porthos**' C/O to not determine if **Zhe Feng Yu 13028** was in distress and to continue on the ship's planned voyage; (c) **Porthos**' C/O's apparent lack of familiarity with the operation of the ship's autopilot; (d) **Zhe Feng Yu 13028** not being manned as per national requirements ; and (e) the use of a laser pointer by the Captain of **Zhe Feng Yu 13028**, in an attempt to attract the attention of **Porthos**, had the potential to temporarily blind the ship's OOW.		
27	Very serious marine casualty involving a large bulk carrier. Liberia MANASOTA Liberia Other Bulk Dry 88,426	2025-01-14 17:40	A very serious marine casualty involving a fire in the engine room of a Liberian flagged bulk carrier, resulting in one fatality and extensive damage to machinery spaces. One casualty and fire in the engine room, subsequently the ship was towed to a recycling yard. [Reporting Administration's comments: The casualty involved a sudden and uncontrolled release of fuel oil inside the engine room, which subsequently ignited and led to a major fire, loss of propulsion, and a total blackout. Despite an extensive emergency response, the Second Engineer was later found unresponsive and declared deceased. The fire was eventually extinguished using the fixed CO_2 system, and the ship was later towed for cargo discharge and recycling. No pollution to the marine environment was reported.]	Failure to correctly identify the manhole to the fuel tank. Additionally, there was no cross-check of the manhole's identity before opening the hatch. [Reporting Administration's comments: The investigation indicates that the upper manhole of the LSFO storage tank was opened without proper verification of tank identity, contrary to established procedures. This resulted in a significant fuel release into the engine room. A lack of cross checking, absence of a permit to work for the task, and inadequate supervisory oversight contributed to the error. Additionally, unclear verbal instructions and insufficient hazard briefing during the watch change may have led to task misinterpretation.]	Critical tasks involving fuel systems require strict procedural compliance, formal risk assessment, and supervisory oversight. Double-check systems and clear labelling must be enforced. Toolbox meetings should precede every hazardous operation. Safety culture must prioritize written instructions over verbal communication. [Reporting Administration's comments: Critical tasks involving fuel systems require strict adherence to written procedures, including mandatory permit to work processes, risk assessment, and verification of tank identity by at least two competent persons. Soundings must be performed and recorded before any manhole is opened. Supervision during hazardous tasks must be strengthened, and clear labelling of tank access points should be ensured. Toolbox meetings or equivalent briefings should precede any work involving fuel or enclosed spaces.]	Report noted

					It is obvious that opening the wrong hatch was a mistake; however, the report does not explain why the engineer did this or why almost all of the nuts were loose. [Reporting Administration's comments: The incident demonstrates how task ambiguity, reliance on verbal instructions, and insufficient confirmation steps can result in human error during routine operations. While the act of opening the incorrect manhole was unintended, systemic factors, including workload distribution, communication practices, and the absence of a second person verification, likely influenced the engineer's decision making. The investigation underscores the need for enhanced human element awareness, structured communication, and reinforcement of safety culture to prevent similar occurrences.]	
28	Very serious marine casualty Liberia STAR JANNI Liberia Bulk Dry 93,186	2024-05-06 07:15	Ordinary seaman (OS) was fatally injured after being caught by a closing hatch cover during cargo operations, despite immediate emergency response and CPR efforts.	1. No toolbox meeting or hazard briefing occurred before the HC operation. 2. Lack of supervision: No responsible officer was overseeing the HC closing. 3. Inadequate communication: No formal readiness confirmation or verbal headcount before HC activation. 4. Physical safety gaps: No barriers or warning signs around hazardous zones.	No safety issues raised. The identified probable cause was that the OS remained in a hazardous position during the mechanical closing of the hatch cover of cargo hold number 3 resulting in a fatal head injury due to procedural non-compliance, lack of supervision, and ineffective e communication. Exploration and observation of the human element limited to assessment and documentation of individual actions underpinning the identified contributing factors to the accident.	Report noted
29	Very serious marine casualty. The death of a person. Bahamas SOPHIA Z Bahamas Bulk Dry 33,280	2024-08-30 15:30	The report did not mention what was Bosun doing with the portable lamp. It mentioned what the Bosun was doing, "finishing a painting job in the bosun's store (in the forecastle)" and "The bosun's method of checking the packing was to close the door and visually check if any light was visible, then that area would be marked and the rubber packing would be replaced." It would be notable to explain what the Bosun was doing with the portable lamp. Also to indicate how many of these similar portable lamps are onboard and when were this particular portable lamp and the residual current device was last used by the crew before the incident. There was also no mention when the last earth fault test	There are no specific points mentioned about contributing factors to the report. However, it can be seen in some paragraphs, i.e., "The extension cable's residual current device did not operate, nor did the ship's system protect the bosun from the current leakage." [Reporting State comments on "Contributing factors": Neither the extension cable's residual current device, nor the ship's circuit breakers protected the victim. Portable equipment is likely to be subjected to, and more vulnerable to, physical	Summarized at the beginning of the report. It was also mentioned in some paragraphs, i.e., "The source of current leakage was not confirmed by laboratory tests but the lamp's electric cable was constructed of two different diameter cables that had been jointed in a way that adversely affected protection. There was no formal assessment of risks associated with portable electrical equipment and the ship's safety management system did not include a system for control or testing of portable electrical equipment."	Report noted

			was carried out on the power supply in the bosun's store, ship's PMS. The consequence of the incident was explained. [Reporting State comments on "Event and consequences": The bosun could not explain what he was doing with the lamp, due to his demise. Other crew could not explain and it was not apparent to the attending investigator. Report confirmed that "the crew were not aware of the provenance of the portable light (the type and design of which differed from the remainder of the ship's cargo lights)"]	damage and wear. The most vulnerable item of any portable equipment is often the cable. There is no regulatory mandate, to test portable electrical equipment. This leads ties in with Recommendations to the Administration: The investigation found that there is no regulatory mandate to test portable electrical equipment and available guidance is limited in scope. Therefore, it is recommended that The Authority: • Incorporate verification of the safe management of portable electrical equipment into the fleet inspection program. • Propose to the International Maritime Organization, together with other interested States, the introduction of standards to ensure the safety of portable electrical equipment used onboard ships.]	[Reporting State comments on "Issues raised/Lessons learned": Issues raised and lessons to be learned: Poorly maintained equipment is a major cause of electrical accidents involving portable equipment. At least three seafarers have been electrocuted by portable cargo lamps in a two year period. Effective maintenance of portable electric equipment may be achieved by a combination of checks by the user, formal visual inspections by a competent person and, where necessary, a combined inspection and test, also known as a portable appliance test, by an electrically competent person. The human drive to help those who may be hurt is incredibly strong but can prove fatal: the first responder received an electrical shock when he touched the victim. Before approaching a casualty, you must first check for danger to yourself.] There are no observations on the human element mentioned in the report.	
30	Very serious marine casualty Collision Democratic People's Republic of Korea KANG DONG Democratic People's Republic of Korea General Cargo 498	2023-09-27 21:37	Event and Consequences: At 21:37, September 27, 2023, **MV Kangdong**, a general cargo ship carrying 600 tons of concentrated ore, was hit in her port side by the passing Chinese fishing vessel while anchoring in the waters of the Lianyun Port of China (34°38.89' N, 119°57.05' E), resulting in break of her side hull allowing water ingress and sank. The Chinese fishing vessel escaped and the crew of **Kangdong** were rescued by another ship. There was no oil spill from the sunken ship. Causes of Accident: 1 Failed to fulfil sound signal obligations in limited visibility. 2 Chinese fishing vessels did not perform watchkeeping duties. Recommendations concerning accident prevention: **MV Kangdong** has to fulfil the duty of sound signal.	1 Factors that contributed to this very serious marine casualty include: .1 The ship failed to fulfil sound signal obligations in limited visibility. .2 Chinese fishing vessels did not perform watchkeeping duties.	The following lessons learned were identified: • **Kang Dong** is recommended to fulfil the duty of sound signals. The investigation report addresses human element issues only to a limited extent. It describes the watchkeeping arrangements on board **MV Kangdong** and confirms that, at the time of the accident, navigational and engine watches were formally in place. The analysis further identifies a failure of effective lookout on the part of the Chinese fishing vessel, citing non-compliance with COLREG rule 5. However, the report does not examine broader human element aspects such as hours of rest, fatigue, workload, or ISM-related safety management practices, nor does it assess whether these factors may have contributed to the accident.	Report noted

31	Very serious marine casualty. The death of a person Hong Kong, China COSCO PRINCE RUPERT Hong Kong, China Container 91,051	2024-09-30 16:30	The events and consequences were covered in the report. At paragraph 3.8 – “At 1750 hours, the C/O requested the master via portable radiotelephone to adjust the ship’s heading to avoid waves striking the bow for the team to cover the bosun store’s gooseneck vents and booby hatches with tarpaulin. About five minutes later the master notified the C/O that the course alteration was completed and the team quickly proceeded up to the forward mooring deck (Figure 3).” It would be worthwhile to mention why the master chooses to alter to port instead of starboard as there could be lessons to be learned from the master’s rational and decision making.	The contributing factors were mentioned in the Conclusions paragraph. Similarly bullet “(a) the master failed to adjust the ship’s course and/or speed properly to avoid encountering large waves;”. It would be seen that the sentence is incorrect as the master did alter the course although the result was not effective against the weather.	Issues raised/lessons learned were mentioned in the Recommendations paragraph. There are no observations on the human element mentioned in the report.	Report noted
32	Very Serious Marine Casualty Japan CONTSHIP UNO Liberia Container 9,940 IZUMI MARU, Japan; General Cargo;	2023-08-24 23:30	Collision at a near-perpendicular angle between two cargo ships on crossing courses during hours of darkness leading to the capsize and sinking of the smaller ship (B). Ship B was struck on her starboard midship section by the bulbous bow of the larger ship (A) which penetrated ship B’s cargo hold causing a list, loss of stability and eventually capsizing. On ship B, three crew members were seriously injured and two crew members died. Additionally, a fire broke out in the engine room shortly before the ship capsized. Ship A suffered damage to her bow and a hull breach above the waterline but no crew was injured. The report does not give any information on pollution as a consequence of the accident.	- Reduced situational awareness by both OOWs (ship A’s OOW not systematically monitoring ship B; ship B’s OOW occupied with non-watchkeeping tasks (completion of a checklist, passage planning at chart table)); - Common practice on ship B to not use and complete the designated company checklist during the actual watch handover but later on during the watch weakening the OOW’s situational awareness and decreasing their attention to lookout duties; - Ship B’s OOW never having read safety management-related files and never having participated in onboard safety education or drills; - Insufficient safety management and safety culture on ship B; - improper handover of the bridge watch on ship B; - No additional look-out on the bridge of ship B, insufficient lookout by OOW; - acoustic navigational alarms and radar/AIS auto-plotting function disabled on the bridge of ship B; - Ship B’s OOW did not notice ship A until it was too close in range resulting in delayed and therefore ineffective action; - ineffective implementation of BRM/BTW on ship A (insufficient communication, lack of shared information and awareness between AB (lookout) and OOW); - The radar in use on board ship A did not display the ship name, call sign or other information for ship B’s Class B AIS data due to a missing firmware update discouraging a VHF contact from ship A to ship B; - The ships did not confirm their intentions via VHF and did not give warning signals (COLREGs R. 34); - Neither ship acting in compliance with COLREGs (insufficient lookout and determination of risk of collision by both ships	- OOWs shall at all times maintain a proper lookout by sight and hearing as well as by all available means appropriate in the prevailing circumstances and conditions so as to make a full appraisal of the situation and of the risk of collision. Especially in traffic-congested areas, they should focus on navigation and avoid engaging in non-priority tasks. Additionally, OOWs, as well as other person on bridge watch, should use navigational equipment such as radar, ECDIS, and AIS effectively, alongside visual lookout, and promptly call the Master to come to the bridge if there is any doubt. - Masters and officers should ensure proper handover using tools like checklists to communicate essential information such as course, speed, intended route, and surrounding conditions. Outgoing watch officers must remain on the bridge until all necessary information has been passed on, and lookout must also be maintained during handover. - OOWs should consider the possibility that other ships may not be aware of their ship's presence in close quarter situations. They should use VHF, whistles, or other early means to inform other ships of their presence and navigation intentions. - OOWs must take action that will best aid to avoid collision, even if their ship is a stand-on ship, when close to a give-way ship and it becomes apparent that the give-way ship’s actions alone will not prevent a collision. Such actions may include significant course alterations to starboard or speed reductions with ample time and large enough space. If a collision becomes unavoidable despite all efforts, they should promptly use the main engine	Report noted

				(R. 5 + 7); give-way ship kept course and speed (R. 15 + 16); stand-on ship altered course slightly to starboard, then port, then starboard, then port and then starboard again within the two minutes before the collision (R. 8 + 17); stand-on ship's manoeuvres acc. R. 17(a) (ii) were not bold (max. rudder angle 9°, R. 8), were not all to starboard and did not avoid the collision; actions by both ships acc. R. 17(b) were not bold and/or not in time (R. 8) and therefore not effective in avoiding the collision); - Non-compliance with master's standing order by ship A's OOW (adherence to COLREGs, calling the master when in doubt, etc.); - Both ships accepting small and unsafe passing distances; - Short time between collision and capsize (approx. 5-6 min) did not leave crew of ship B enough time to prepare for evacuation.	to reduce speed and adjust manoeuvres to avoid near-rightangled collision, and minimize impact and damage. - Shipowners, ship management companies, and operators should ensure the own fleet complies with relevant laws, regulations, company safety manuals, and other directives, and strive to maintain and enhance the safety awareness of crew members. - Shipowners, ship management companies, and masters should educate officers on watch regarding their responsibilities and strengthen BRM/BTM to ensure that appropriate resources are effectively utilized under the circumstances. - Ships using AIS transmitters or radar systems that do not display the names of ships transmitted by Class B AIS should update their firmware to the latest version, as this may enable such information to be displayed. Personal factors and unfavourable conditions having an impact on performance as identified by the investigation: - Personal factors: lack of seamanship, lack of responsibility for own job; - Organizational and leadership factors: - Onboard ship management: insufficient task and resource management, non-compliance with company procedures, unsafe/inadequate routines/work methods/safety culture, - Shoreside ship management: insufficient supply of system updates, crew training and familiarisation; - Task features: different tasks competing for attention; - Onboard working conditions: systems/equipment not working properly.	
33	Very serious marine casualty - Occupational fatality- Man Overboard Lithuania BULK GUATEMALA Panama Bulk Dry	2022-12-02 08:24	After the Pilot had boarded by means of a combination ladder, the accommodation ladder was hoisted again, with the Bosun standing on it. When the wire rope to lift the accommodation ladder broke, the Bosun fell into the water. No safety harness or life jacket was worn. Water temperature was 3.9°C. A SAR operation coordinated by the VTS was initiated, but the Bosun could not be located and remained missing.	Cold water, deteriorated rope wire (not replaced according manufacturer's instructions), no Risk Assessment or work permit in place, risk normalization by standing on a lifted ladder and nobody preventing it, lack of safety culture as no PPE were worn as it was not comfortable with warm clothes, overconfidence in experience	Pilot transfer arrangements shall be systematically and properly maintained. Risks associated with the use of the pilot transfer arrangements shall be properly assessed and reviewed when necessary. Use of personal protective equipment (safety harness, safety belt, buoyancy garment) is vitally important when working in over side zones. In order to promote compliance with safety requirements and the use of personal protective equipment, company should not	Report noted

	34,794				only provide safety rules, but also strengthen seafarers' awareness through training, practical exercises, setting a positive example and motivating seafarers for safe behaviour. In order to promote compliance with safety requirements and the use of personal protective equipment, company should not only provide safety rules, but also strengthen seafarers' awareness through training, practical exercises, setting a positive example and motivating seafarers for safe behaviour.	
34	Very serious marine casualty Malta CHEMICAL MASTER Malta Chemical Tanker 8,259	2021-11-22 23:30	Engine room fire resulting in the loss of two lives and damage to several systems in the engine room (including lighting, level gauges, and insultation).	Either accidental spillage or spray of diesel oil / waste oil onto the hot incinerator from the deck above.	1.Procedures to support safe incinerator operation - restriction on material to be disposed, prior approval, maintenance procedures, during daylight hours. 2. Emergency procedures and fire-fighting training (on board and ashore) to include hyper mist system, use and maintenance of EEBD, use or emergency escapes, handling simultaneous emergencies (such as a fire and rescue of persons). No evidence of fatigue or alcohol use.	Report noted
35	Very serious marine casualty Fatal injury of a crewmember due to a boiler explosion onboard an oil/chemical tanker Malta TORC Malta Chemical Tanker 8,391	2024-01-08 14:05	On 03 January 2024, While the oil/chemical tanker, **Torc** was enroute from Greece to Genoa, Italy, the engineers changed over the boiler fuel consumption to very low sulphur fuel oil (VLSFO) for both port and starboard boilers. The starboard boiler failed repeatedly to start. Eventually, both boilers were restarted on low sulphur marine gas oil (LSMGO). On the morning of 08 January 2024, the engineers decided to change over the fuel consumption of both boilers from LSMGO to VLSFO. The starboard boiler failed to fire again while the port boiler started working normally. Subsequently, the engineers made another attempt to restart the starboard boiler. . While it was on the purge cycle, the second engineer went up to the burner platform for inspection. Shortly, a loud explosion occurred, and a fire started at the top of the starboard boiler and the fire alarm sounded within a few seconds. The Second Engineer was found lying unconscious on top of the starboard boiler, he was carried outside the casualty site and administered medical treatment consultation with the Company doctor. However, the second engineer passed away.	a) The LSMGO had an elevated temperature due to the bunker fuel system pre-heating, in preparation for the changeover to VSLFO; b) An unforeseeable and unexpected failure in solenoid valve as it was not designed to be monitored, which caused the valve to remain closed, resulting in an increase in pressure within the fuel circuit; c) Possible unburned LSMGO was present inside the boiler furnace; d) The engineers' decision to start the boiler without a technical evaluation and investigation of the underlying cause for the flame failure when the VLSFO was in use, and this can be an absent error identification of the boiler control system i.e., the ways in which the boiler and the burner could fail to fire as designed; e) The initial misfiring of the boiler was not perceived by the crew members to affect the boiler’s barrier systems; and f) The risk that the boiler burner would not fire was not seen by the crew members as a potential compromise to the ship’s safety, given	a) a technical evaluation and investigation of underlying cause for an equipment failed to work as designed, should be carried out first, before repeatedly attempting to restart the equipment which could potentially cause an accident and result in fatal injury; b) the design limitation of a system or a component to a system such as three-way solenoid valve should be taken into consideration when conducting risk assessments before an operation commencement involving the system or component. Human elements which may have contributed to the marine casualty have been well discussed in the investigation report.	Report noted

				that the boiler’s barrier systems had always operated as designed.			
36	Very Serious Marine Casualty. Fatal fall from height. Marshall Islands PRISMA Marshall Islands Bulk Dry 33,338	2025-01-29 22:00	The ship's crew used scaffolding in the ship's cargo hold to paint the framing. Two of the four stabilizer arms had been removed. While the bosun stood on the scaffolding, he instructed two crew members to move the scaffolding. While moving, the scaffolding fell. The bosun was fatally injured.	-Hours of Work and Rest. -Company Safety Management Procedures. -Safety Culture. -Work Supervision. -Stop the job. -Work Planning/Permits. -Proper use of PPE. -	-Onboard implementation of hours of work and rest. - lookout during hours of darkness. -Fatigue (Hours of Work and Rest). Safety Culture and ineffective stop the job authority.	MSC
37	Very serious marine casualty occupational, operational Marshall Islands SEAFOX DEEMA Marshall Islands Non-ship structures 6,072	2020-03-16 13:30	Occupational, operational casualty involving lifting gear failure. mentioned in summary, analysis and conclusion. The **Seafox Deema** is non-self-propelled, operates as an accommodation unit but is flagged, as a IMO number and is certificated under 1979 MODU Code - so within the scope of the CIC, also because it's in direct connection to a ship. The summary, pages 8/9 describes the lifting operation, crane collapse, fatality, emergency services and damages to mv ASTRO SIRIUS.	Described in page 8 - summary and conclusion, pages 25/26	Not titled explicitly but mentioned as preventive actions, pages 26/27 and lessons learned circular, page 27 (.9) Mentioned several times - planning and decision making, communication failures, unrecognized hazards (container lifted not on the manifest)	Report noted
38	Very serious marine casualty Occupational accident New Zealand EMERALD PRINCESS Bermuda (United Kingdom) Passenger 113,561	2017-02-09 15:00	A system based on compressed nitrogen gas as an energy source was installed on a passenger ship as a fallback for launching and recovering the lifeboats (davits and winches). The pressure inside the cylinders was 200 bar. As a pressure drop had been detected in one of the nitrogen cylinders, the cylinder fitting was replaced by the ship's crew. While the cylinder was being refilled to 200 bar, the pressure ship burst. A crew member who was standing nearby suffered fatal injuries.	- The gas cylinder was so badly corroded in some places that the wall thickness was reduced by approx. 70%. - The cause of this corrosion could not be fully determined. There was no contact with other metal parts, such as the cylinder holder, at these points. - The ship's maintenance system specified that a hydrostatic pressure test must be carried out every 10 years. Maintenance records began when the cylinder was installed on the ship. In fact, the cylinder should have been tested for the first time 17 months prior to the accident. This test was not carried out as the maintenance plan held the wrong date (installation date instead of manufacturing date). The maintenance interval was exceeded, and the cylinder should not have been in service. - The gas cylinders on board the ship were subject to two different inspections. On the one hand, they were checked for rust spots by the	- There are currently no global minimum standards for the inspection, testing and rejection of pressure cylinders that make up part of stored energy systems on lifeboat launching installations, which has resulted in wide variations in, and in some case inadequate, standards applied by flag state administrations, classification societies and authorised service providers. - Technicians who are authorised to conduct mandatory annual and five-yearly inspections of lifeboat-launching installations are not required to have specific training and certification for inspecting any stored energy-release systems and their associated pressure cylinders. - Any sign of corrosion on high-pressure cylinders should be fully investigated by a person competent in examining high-	Report noted

				deck crew. The rust was removed if necessary and the cylinders were repainted. On the other hand, the engineering team carried out an inspection focusing on technical condition and availability. The maintenance carried out by the deck crew may have resulted in rust spots being inadequately covered with paint. - At the time of the accident the most recent inspection had been a five-yearly inspection that was carried 19 days prior to the accident. The inspection report prepared by an authorised service provider stated that the nitrogen cylinders on board the ship were aged and the company should consider swapping them with new nitrogen cylinders.	pressure cylinders before any remedial work is undertaken and the cylinders are allowed back into service. The crew were following the approved and appropriate procedure for re-pressurising the stored energy system.	
39	Very serious marine casualty - occupational fatality Panama BENITAMOU Panama Bulk Dry 104,729	2021-08-24 21:30	An AB who had been tasked with removing a double bottom WBT manhole cover on the tank top in CH No. 6 was struck in the face when pressure inside the WBT caused the man hole cover to blow off and up into the AB's face. The AB was fatally injured.	1. Pressure inside the WBT - the reason there was pressure inside the WBT was not established, although it was suggested that it may been because the ballast valve for the tank was open while other tanks were being filled with ballast water. The report did not address whether ballast water was observed inside the WBT. 2. No/inadequate risk assessment prior to opening the man hole cover. 3. The nuts for securing the man hole cover were being removed sequentially rather than in a star pattern.	1. The importance of pre-task hazards assessments 2. Crewmember awareness that void spaces may be under pressure. 3. Need for crewmembers to understand how to properly remove man hold covers. Not addressed	Report noted
40	Very serious marine casualty Fire in cargo hold. Panama ULTRA VIRTUE Panama Bulk Dry 36,177	2024-05-12 18:00	While loading scrap, fire started within cargo. Ship sustained damage from fire (buckling of hull and deck steel) and firefighting efforts (Holes drilled into hatch coaming to allow water spray).	Parcel of scrap metal contained engine blocks, gearboxes, and likely other flammable contaminants.	Importance of ensuring there are no flammable contaminants in scrap metal cargo; importance of risk assessment and fire-fighting readiness. N/A	Report noted
41	Very Serious Marine Casualty Collision Philippines HONG HAI 189 Sierra Leone Dredging 11,515	2023-04-28 09:45	Collision between the Marshall Islands registered tanker ship **Petite Soeur** and the Sierra Leone registered sand carrier/dredger **Hong Hai 189** within a TSS resulting in the capsize and total loss of **Hong Hai 189** with 3 fatalities and 2 missing persons. The bulbous bow of **Petite Soeur** collided with the port quarter of **Hong Hai 189**	- Bridge team conduct on **Hong Hai 189** including mandatory reporting when transiting TSS, radio communications, acquisition of radar targets and use of inappropriate signalling device. - Bridge team conduct on **Petite Soeur** including appropriate route selection, radio communications, acquisition of radar targets, use of lookouts and situational awareness	- The importance of determining the risk of collision including the establishment of radio communications and acquisition and monitoring of targets on radar. - The importance of VTMS communications - The need for lookouts to be posted in higher risk navigational areas and as determined by a ship's SMS.	Report noted

	PETITE SOEUR, Marshall Islands; Oil Tanker;			during pilotage. - Actions of stand on and give way ship to avoid a collision - Actions of give way ship in regard to COLREGS - Appraisal of developing risk of collision - Role of VTMS	- The need to signal using appropriate and recognised signalling devices. - The importance of route consideration when navigating in higher risk areas including TSS. - The need for clearly understood relationship between the ship's crew and pilot during pilotage. The report gives human error as a primary cause of the accident and discounts fatigue as contributory. However, it is difficult to make any observations about the human element or considerations of local rationality as there is scant detail on crew information and the wider context of the actions taken on the bridges of both ships and within the VTMS. In general, the limited referral to human factors appears focussed around human error.	
42	Very Serious Marine Casualty Philippines SADONG 33 Philippines Towing / Pushing 60 SEA ASIA 201, Philippines; UNIVERSE KAISA, Panama; General Cargo; Bulk Dry;	2025-03-25 04:12	Girting and capsize of tug **Sadong 33** while towing ship **Sea Asia 201** after Panama registered bulk carrier UNIVERSE KASIA snagged the towline while attempting to cross ahead of the towed ship (**Sea Asia 201**) resulting in the fatality of the tug's master and oiler.	- Bridge team conduct on Universe Kasia including use of autopilot, familiarity with SMS bridge procedures and use of ECDIS - Tug **Sadong 33** displaying incorrect navigation lights - Watertight doors on **Sadong 33** open - Propulsion power of **Sea Asia 201** necessitating a tow	- The importance of displaying correct lighting when towing - The hazards associated with the use of autopilot in high risk and congested navigation areas - The importance of closing watertight doors when engaged in towing - The use of audible alerts in ECDIS - The need for OOW to be familiar with COLREGS and SMS bridge procedures - The use of radar in crossing situations - The importance of saving the VDR to capture data from the time of incidents The report does not give any detail on human element in the accident and does not detail crew information such as experience in role. It is therefore difficult to make any observations on the human element without indulging in speculation.	Report noted
43	Very serious marine casualty – capsize/listing and sinking of an oil tanker. Singapore SILVER SINCERE Malaysia Oil Tanker 739	2025-01-12 15:42	Progressive seawater ingress into a port ballast tank and engine room caused increasing port list. Failure of both generators led to loss of propulsion and steering. The ship became not under command, was abandoned and subsequently capsized and sank. All eight crew were rescued without injury. No pollution was reported. The ship was declared a total loss.	Broken ballast tank air vent head and corroded scupper drain allowed seawater ingress. Ballast pump was inoperative. Low freeboard led to frequent deck immersion. One generator was under-performing and both later failed, causing total blackout. Known technical deficiencies were not rectified prior to the coastal voyage. Safety management controls did not prevent operation in an unsafe condition.	Ships must be verified as fit for their intended voyage before deployment, particularly when shifting from port service to coastal operations. Critical hull, ballast, bilge and power systems should be fully operational before departure. Known defects should be rectified before sailing. Masters should actively exercise overriding authority when ship safety is compromised. The crew managed the abandonment	Report noted

					effectively, resulting in the safe survival of all persons on board. Human-element issues mainly concern pre-casualty decision-making, acceptance of technical risk and limited practical use of the master's overriding authority, rather than emergency response performance.	
44	Very serious marine casualty Occupational accident Türkiye ALHENA Bahamas Chemical Tanker 30,240 YALOVA PILOT 2, Türkiye; Other Activities;	2022-07-18 12:40	Very serious casualty: pilot fell overboard during transfer to tanker **Alhena**. On the day accident, wind was North-easterly of force 6 and wave height of half to one meter; at about noon time, the tanker **Alhena** was heaving in anchor in preparation for berthing to a shipyard; meanwhile, a pilot boat was arriving to transfer the pilot to the tanker. The pilot anticipated that due to the weather conditions, the anchor heaving in would take longer than he expected, and decided not to wait; so the boat approached the pilot station prepared on the starboard side of the tanker and transfer operations of the pilot started. As the anchor weighing manoeuvre was in progress on board, the pilot boat was falling into the rolls due to the effect of the seas. The skipper considered that he would need quite considerably engine power to keep the boat alongside the current position in such weather conditions, thus he pushed the boat vertically to the tanker's hull in full engine speed. While the pilot boat continued to push on perpendicular the tanker's hull in order to break the effect of the sea, the pilot and the accompanying A/B were proceeding towards the pilot ladder. The pilot was not successful in his first attempt to hold the ladder, when he attempted to the ladder second time, he lost his balance with the boat's heavy rolling and fell overboard from the port bow of the boat. Rescue operations were carried out by both the ship and the pilot boat, without success. The later deceased pilot was finally retrieved from the sea with the help SAR elements arriving at the scene.	The pilot boat crew including the pilot did not use personal floating equipment during the pilotage operation and the lee was not considered as an option although the wind force and sea state created a challenging condition for the pilot boat. The pilot's reflexes against the hard rolls were probably slow. There was lack of a risk assessment for this pilotage operation; the pilotage company does not have a routine and written risk assessment against such situations, it might be dynamic assessment which is solely at the discretion of the pilot. It is considered that the lack of a holistic risk assessment of the weather and sea conditions and conceding the operation completely to the pilot's initiative was one of the factors that contributed to the accident. An effective rescue operation cannot be considered to be carried out by the ship. That the lack of training such as rescuing a person from the water is a handicap for seafarers, apart from the known trainings such as using a lifeboat and staying alive at sea against such situations.	In such weather conditions the risk associated with boarding operations are heightened; neither the pilot nor the deck hand should proceed from the cabin until the pilot boat is in the lee of the ship and decision to proceed with transfer has been made by the coxswain. It is considered that the adequacy of rescue equipment of the boat and the competence of the crew in rescue is essential in a MOB situation. It is important for pilotage company to have formal written standard operating procedures and a self-regulatory list prepared according to formal written standard operating procedures and internal training procedures for its crew. It is important for cargo ship crews to have a professional rescue assistance mentality in general and adequate practice of the initial response in this kind of rescue operations. Legislation should be made and enforced that boats used in pilotage services must have a MOB retrieval equipment, personnel working on the boats shall receive training on pilotage services and periodic man overboard drills shall be carried out. Legislation should be made and enforced that pilots and pilot boat personnel shall wear winter or summer life jackets according to the season in each transfer. Measures such as video recording of the pilots and boat crew using life jackets during operation and checking the records should be considered by pilotage company.	Report noted
45	A very serious marine casualty resulting in the death of the deck fitter (Fatality). Bahamas DOLE CHILE	2022-03-19 03:30	All times are in UTC –5. 13 March 2022: A Task specific Risk Assessment "HOT WORK – Crop / renewal of stopper bar base plate / bracket in lashing bridge" was completed by Chief Officer for carrying out repairs to damaged container stoppers in holds. 18 March 2022: A toolbox talk was held on the Bridge	1. Inadequate supervision: The deck fitter was working alone without supervision and without any assistance. There was no Responsible person in attendance. 2. Visibility from the Crane cabin: The operator's cabin on the ship's gantry crane was offset to port.	1. All hazards should be identified when conducting a Risk Assessment and control measures should be implemented accordingly. 2. Effective communication procedures should be established between ship and	Report noted

Bahamas
Container
31,779

during the evening in Chief Officer's watch to discuss the planned work in cargo holds (repairs to damaged container stoppers).

19 March 2022:

01:24: LT ship berthed port side to, at Santa Marta, Columbia, for cargo operations.

At around 02:30 LT, the Chief Officer informed the officer of the watch (Second Officer) of the stopper repair plan. Shortly afterwards, the Second Officer relayed the information about the nature and location of the work to the stevedore foreman.

At approximately 03:30 LT the ship's aft gantry crane started discharging containers from bay 34 and the deck fitter was woken by the Chief Officer to start work. Once containers stowed in tiers 20 & 22 were discharged, the deck fitter started the repairs.

At approximately 04:30 LT: the deck fitter was seen, lying face down and motionless, on top of the container in position 340918.
Scene examination and recreation suggested that the victim was hit by the outboard edge of the container spreader's girder as it was lowered when the victim was kneeling on top of container 340918 and facing aft.

Cargo operations were immediately stopped, alarm was raised and paramedics called. First responders found him unresponsive with a significant visible head wound.

at 04:45 LT: deck fitter was declared dead by a medical doctor.
An autopsy confirmed the cause of death as head trauma, consistent with being struck by the gantry crane's container spreader.

The design of the ship's gantry crane resulted in the operator's view of the deck fitter's location being obstructed. There was no hatchman present to give directions to the crane operator.

3. Inadequate Situational Awareness:
The deck fitter may not have noticed the change of lighting as the gantry crane moved into position as he was wearing a welding mask which was raised and was facing the brighter lights aft from the Bridge and Accommodation.

4. Inadequate Risk Assessment:
The task specific risk assessment did not identify hazards related to working of cargo during repairs. Hence there were no control measures in place.
Hazards identified were those associated with hot work – fire hazards in particular- and the need to control risk for falling was also included.

5. Inadequate experience of Chief Officer:
The Chief Officer considered that the repair could be completed from the relative safety of the lashing bridge. However, the deck fitter had climbed on top of the container either to inspect his work or to remove slag from weld. This was not factored in the Risk Assessment.
The Chief Officer believed that informing the stevedore foreman regarding the location of hot work was enough to control any risk associated with the ongoing cargo work.
No-one else, onboard or ashore, flagged that more needed to be done to complete the work safely.

6. SMS was not adequately implemented & SMS was not updated:
The risk assessment identified the following control measures:
• completion of hot work permit
• posting a fire watch
• ensuring adequate lighting and erecting safety barriers
• use of fall protection equipment
None of these control measures were in place at the time of the incident, the fall protection equipment was not mobilized as the work was imagined to be completed from the lashing bridge.

Lessons from an earlier casualty, where a crewmember was seriously injured as a result of being struck with a container spreader, had not been effectively applied to the Safety Management System.

terminal to facilitate repairs or maintenance on ships alongside at berths, in a safe manner.

3. Persons should not be allowed to work alone, without supervision.

4. Safety Management System (SMS) procedures shall be implemented diligently. Lessons learnt from earlier incidents shall be effectively applied to the Safety Management System.

4. As far as is practicable, avoid any work in cargo holds during cargo operations. Any work in cargo holds should preferably be done during breaks and during daytime or Time-off should be taken in consultation with company & stevedores.

1. Complacency:
Due to the design, exposure and nature of the trade, the container stoppers were regularly damaged.
Repairs of this type during cargo operations had previously been carried out by all the fitters on board and it was not unusual for them to work alone with no direct supervision.
This seems to have brought in some complacency among the ship's staff and a hazardous operation was treated as routine. Risk Assessment appears to have become a paper exercise and control measures were not implemented effectively.

2. Experience and "Time on Board":
- Chief Officer's "Time in Rank" was 2 months & "Time on Board" was 2 months, suggesting that this was his first ship as a Chief Officer and he had only 2 months experience in Rank. He should have been supervised.

- Master had 15 years of Rank Experience, however his "Time on Board" was only 3 weeks. Considering the two week rotation schedule of the ship, he may not have had enough time to settle down.

- Second Officer who was the Duty Officer also had a "Time on Board" of only 3 weeks. He had probably joined with the

					Master and was fairly new to the ship and her operations. 3. Likelihood of Fatigue: The ship was engaged in round-trip voyages, of about two weeks in duration, beginning at Wilmington (Delaware), USA, then to Santa Marta, Colombia, Moin, Costa Rica, and Puerto Castilla, Honduras, before returning to Wilmington. The 14 days voyage with 5 port calls may have caused fatigue. The ship berthed at 01:24 LT in the morning and the fitter was called for work at 03:30 LT. He may have had insufficient rest.	
46	Very Serious Marine Casualty Hong Kong, China CHINAGAS LEGEND Hong Kong, China Liquefied Gas 48,894 FAHD, Egypt; Towing / Pushing;	2023-08-05 14:35	**Chinagas Legend** entered the Suez Canal, northbound, under pilotage, good visibility. During the transit, the ship' s speed was higher than the speed of tug **Fahd** and an overtaking situation developed. The overtaking was not reported to the Pilot and no action was taken by **Chinagas Legend** to avoid the collision. The bridge team consisted out of 4 crewmembers and a Pilot. Tug **Fahd** was clearly visible on radar, but the condition of the tug before collision was not known. The tug sank and one crewmember of the tug drowned.	Inadequate look-out, improper familiarization with Suez Canal Riles and not adhering to them, no interaction with the pilot.	Adequate look-out to be maintained. pilot to be considered as part of the Bridge team. The report did not identify any human elements to clarify why the tug had not been observed prior to collision. No reason for improper look-out was given.	Report noted
47	Fatal fall from height on board **DSM Capella** Kalamata, Greece 20 January 2024 Barbados DSM CAPELLA Barbados General Cargo 22,654	2024-01-20 16:20	A AB in an accident from working in a cargo hold. On 20 January 2024, a deck rating fell from a suspended portable gangway while working aloft in hold No.5 of the Barbados registered general cargo ship, **DSM Capella**. The ship was at anchor, off Kalamata, Greece. The deck rating was transferred ashore by a local passenger launch and then on to a nearby hospital by ambulance. He was declared to be deceased shortly after arrival. No safety recommendations	Lack of risk assessment	Shipowner changed procedures N/A	Report noted
48	Collision Türkiye DURSUN ALI COSKUN	2020-01-10 06:15	A tanker and a fishing vessel collided. As a result, the fishing vessel sank and although 3 out of 6 crew members on board survived, 2 crew lost their lives and 1 crew is missing.	Improper lookout at both ships involved.	The casualty report does not dive deep enough to analyze root causes. Reporting State's comment: Since a general evaluation was made regarding the analysis of root causes, no	Report noted

	Türkiye Fish Catching 138 GLARD-2, Russian Federation; Chemical/Products Tanker ;				comments could be made. The casualty report does not dive deep enough to analyze human elements. Reporting State's comment: Human elements with **Glard-2** were investigated in details. Fishing vessel sunk and Skipper was died so, Skipper was not evaluated.	
49	Very serious marine casualty Occupational accident - fall from height Singapore GLORY CHALLENGER Singapore General Cargo 8,696	2022-05-02 10:15	Whilst the general cargo ship **Glory Challenger** was on passage in the South China Sea, five crew were tasked with cleaning of the cargo hold. To facilitate additional light and ventilation in the lower hold, a section of the tween deck was removed. When the crew returned to the tween deck to replace the missing section, one crew member fell through the gap to his death.	The safety management system did not recognise the need for any form of control and the established risk mitigation (rigging of the safety railings when the tween deck was left open) was not carried out on the day of the casualty. There were no markings (contrasting colour or similar) to visually highlight the open edge.	None identified in the investigation report. No observation on the human element were identified in the investigation report.	Report noted
50	Very serious marine casualty Malta GIULIA I Malta Bulk Dry 25,303	2021-01-30 11:20	The ship encountered harsh weather, resulting in green seas washing over the bow. This caused water to leak into the chain lockers through the spurling pipes, as the spurling pipe covers had been damaged. From the chain lockers, water subsequently leaked into the forecastle store. Crew members began pumping out the water. The following day, while attempting to seal the spurlingpipes , a large wave swept over the forecastle deck, injuring several crew members. One of the injured crew members died from his injuries. The safety investigation found that urgent action was needed to address the flooding, but adverse weather limited the ability to change course of the ship.	The ship encountered harsh weather. Sea over the bow damaged the spurling pipe covers and flooded the chain locker. The seals on the anchor chain bitter end release pins were worn, causing leaks into the forecastle store. A damaged component in the hydraulic system caused the eductor system to malfunction, making it unable to drain the forecastle store. The crew working on the forecastle were not wearing work life vests or safety harnesses, but this was not identified as a contributing factor.	The chief officer and the master were concerned about the ship's stability, but no stability calculation was carried out to confirm whether this was actually the case. The ships position close proximity to the storm, water ingress affected the evaluation of the situation.	Report noted
51	Collision China JIN WANG LING Hong Kong, China Bulk Dry 19,993 LURISHANYU 61027, China; Fish Catching;	2022-12-22 01:50	At about 0150 LT(1750 UTC) on 22nd December 2022, the Hong Kong(China) registered bulk carrier **Jin Wang Ling** and the China registered fishing vessel **Lurishanyu 61027** collided in the Yellow Sea of China, about 23nm south-east from Shidao Port (approximate position 36°46′.5N / 122°53′.4E), and then **Lurishanyu 61027** sank. Five persons on board **Lurishanyu 61027** died and six were missing. It was a very serious marine casualty, as defined in the Casualty Investigation Code.	In summary, the immediate cause of the accident is that the two ships, in good visibility and weather conditions, did not make a full appraisal of the situation and the risk of collision to take effective collision-preventing measures as early as possible.	Strengthen training on pre-job training, bridge resource management and collision avoidance rules for the crew of the ships, especially strengthening the training of operation mode of Chinese coastal fishing vessels and collision avoidance knowledge of commercial ships and fishing vessels, and strengthen the supervision and administration of fishing ports; clarify the safety supervision responsibilities of the port of registration	Report noted

					and port of call of fishing vessels. Not specifically mentioned but watchkeeping etc. are mentioned.	
52	Very serious marine casualty Fire Singapore MAERSK HONAM Singapore Container 153,744	2018-03-06 15:20	Fire, very serious casualty: A severe fire started from no.3 cargo hold and went out of control, as a result 4 crews lost their lives and the ship together with cargo sustained substantial fire damages. On a fair-weather day, the container-ship **Maersk Honam** was sailing to Suez Canal in the Arabian Sea with 7860 containers onboard. A severe fire started from no.3 cargo hold, the crews responded by commencing boundary cooling and subsequent release of CO2 into the cargo hold but with no success. Distress signal was sent out later and the crews abandoned the ship eventually. 23 crews were rescued by a nearby ship, the other 4 lost their lives. The fire was brought under control by salvage boats, the ship was towed to a port of refuge after the smouldering of the cargo hold had subsided.	As most of the evidence were destroyed by fire, it is not possible to conclusively determine the cause of the fire. The Self-sustaining decomposition of Sodium Dichloroisocyanurate Dihydrate (SDID) , a Class 9 cargo in one or more containers in no.3 cargo hold, resulted in smoke and fire to spread in the cargo hold. The cargo was carried in block stowage exacerbating and accelerating the decomposition process. The block stowage of the SDID further exacerbated the rate of reaction and heat production which resulted in an uncontrollable spread of the fire. The actual temperature at which exothermic decomposition is initiated is much lower than the values typically declared by the shipper, and the presence of free water and/ or stowage of the SDID in large packages or consignments leads to further substantial depression of the onset temperature. There was a delay in decision making to allocate resources better for the abandoning of ship while attempting to fight the fire.	Given the susceptibility of SDID to exothermic decomposition in the presence of free water or impurities, serious consideration must be given to the prospect that the decomposition could be initiated as a direct result of the inherent properties of the cargo itself. Special Provisions (SP135) within the IMDG Code allows for the classification and carriage of SDID under Class 9 (UN no.3077), thus not recognising the potential thermal instability of this material, possibly as a result of legacy carriage requirements recognised nearly 40 years prior. As a result, despite these secondary hazards, SDID was stowed under-deck where the main fixed firefighting means in this area was CO2, which is ineffective to tackle fires associated with such materials. Noting the secondary hazards presented by SDID, which are not captured in the current provisions of the IMDG Code, the provisions in the IMDG Code would need to be reviewed. Firefighting response for SDID, an oxidiser, required the use of abundant water, which could not have been achieved promptly, given the existing statutory requirements for firefighting measures for container fires under-deck. Adoption of standards/ guidance like those prepared by ABS and DNV-GL, as a risk-mitigating measure, should be considered. Regardless of amendments to the statutory requirements, dangerous goods with oxidising properties such as SDID should be considered for stowage on-deck, away from direct sunlight, where water could be used more effectively. The design of the flow charts under the ship emergency response plan did not require the ventilator flaps/ dampers for the accommodation to be closed during cargo hold fire which resulted in large amount of smoke entering the accommodation area. Some of the crew had not been assigned duties in the muster list. These crew could have been assigned with specific tasks, such as closing the relevant openings in	CCC

					the engine room, accommodation block, and fire dampers. Regardless of amendments to the statutory requirements, dangerous goods with oxidising properties such as SDID should be considered for stowage on-deck, away from direct sunlight, where water could be used more effectively. Considering the design, weight, and location of natural ventilator flaps on the hatch cover, even if the ship's crew had managed to find and reach them, wearing a fireman's outfit and BA set, while dealing with intense heat and smoke would have taken the crew considerable time and energy to close them. A remote quick closing mechanism on these ventilator flaps, if fitted, may have been able to mitigate this risk.		
53	Very serious marine casualty – fire and explosion Republic of Korea NEW BRIGHT Republic of Korea Chemical Tanker 8,504	2023-12-21 15:06	After completing cargo discharge operations at Changzhou, China, **New Bright** was underway on the Yangtze River approximately 50 km up river from Shanghai heading out bound to sea enroute Incheon, Republic of Korea on 21 December 2023. The voyage from the pilot station offshore Shanghai to Incheon was approximately 36 hours, during which time it was planned to clean the cargo tanks. It was estimated that it would take 24 hours to clean the ship's 12 cargo tanks. In preparation for cleaning the ship's cargo tanks, crew members were using compressed air to clear (e.g., remove) the common cargo line by blowing cargo residue into the No. 3 S cargo tank. The ship's recent cargo had been benzene. The compressed air was supplied by an air hose that was connected to the common cargo line at the starboard side cargo manifold. A portable hose connected to the common cargo line drain that was then passed through the tank dome for the No. 3 S cargo tank was being used to collect the cargo residue in the No. 3 S cargo tank. An explosion occurred on deck near the cargo dome for No. 3 S cargo tank at 1506 on 21 December 2023, when the ship was 2.3 km upriver from the Sutong Bridge. The first explosion was followed by two more explosions. The ship quickly developed a list to starboard and the Master gave the order to abandon ship. By 1540, a China Maritime Safety Administration ship had rescued all 19 crewmembers and 3 pilots who were on board **New Bright**. By 2230, the ship was towed to shallow water and intentionally grounded outside of the navigable channel. The ship was later towed to a floating dock. The ship, which suffered significant damage along the length of the cargo block, including the main deck and cargo tank bulkheads and partial damage to the accommodation. Three crewmembers were injured. There were no fatalities.	- Fatigue: The ship's C/O had worked for over 39 consecutive hours prior to the ship's departure from Changzhou and had not recalled the Master's instructions issued on the morning of 21 December 2023 to not conduct any operations on deck until the ship was at sea. Prior to going to his cabin to rest after departure, he issued written instructions to the Bosun to purge the common cargo line of cargo residue and make other preparations related to gas freeing the cargo tanks, including opening PV vents and tank domes. Opening the PV vents and tank domes for gas freeing should not have started until after the tanks had been washed. The C/O was unable to recall why he had issued these instructions to the Bosun. The C/O's recorded work/rest hours indicated he had worked 11 hours and rested for about 13 hours during the cargo discharge at Changzhou. - Non-compliance with established shipboard procedures: The ship's established procedures required that the C/O plan and supervise tank cleaning and gas freeing operations. The ship's established procedures also required that a risk assessment and a toolbox meeting with crewmembers assigned to perform these operations be conducted before starting work. Information required to be addressed included hazards associated with the cargo. These procedures had not been complied with before the C/O issued instructions to the Bosun. - Use of compressed air to purge cargo line: Benzene is an accumulator of static electricity, which can be generated by compressed air flowing through a hose. The use of compressed air to purge benzene accumulating cargoes is	- Non-compliance with the ship's enclosed space entry and tank cleaning procedures - Crewmembers' lack of awareness of potential cargo related risks (e.g., benzene being a static accumulator) and how to properly clean cargo tanks - Non-compliance with work/rest requirements (record showed complied) - Operation being conducted while the ship was navigating within a restricted channel in the vicinity of critical transportation infrastructure. - Ineffective communications between the C/O and Bosun in the ship's working language (i.e., English). - Crewmembers lack understanding re tank cleaning operations and awareness of cargo related hazards. - Crewmember fatigue.	Report noted

				not consistent with industry guidance.		
54	Very serious marine casualty Foundering with loss of life Panama GULF LIVESTOCK 1 Panama Other Activities 11,947	2020-09-02 01:45	1. Stoppage of main engine one day after departure load port; cause of stoppage not included in the investigation report. Ship resumed voyage following repairs. 2. Ship's route converged with the track of Typhoon Maysak; the ship's speed reduced as the typhoon approached. Loss of speed attributed to the effects of the storm. 3. Ship developed approximately 30° list to starboard. 4. Stoppage of main engine. Reported to have been due to water leaking onto the engine control panel; source of water not known. 5. Ship foundered with multiple crewmembers and stockmen missing or confirmed dead. 6. Two crewmembers rescued during SAR operation	1. Decision to continue along planned route rather than heaving to or diverting to shelter. It was noted that heaving to and diverting may also have placed the ship at risk. 2. Lack of oversight by ship's managers regarding Master's intentions. 3. Weather conditions when the ship encountered the typhoon.	1. Need for more communications between Masters and managers of ships when heavy (extreme) weather is forecast along the ship's planned route. 2. Need for Masters to recognize when weather conditions may pose a threat to safe navigation and the need for taking decisive action to ensure the safety of the ship, crew, and cargo. 1. The potential for crewmembers to have been fatigued because of the ship's movement while encountering heavy weather.	Report noted
55	Very serious marine causality One crew member lost his life. Singapore LUCIE SCHULTE Singapore Container 26,671	2023-04-03 13:40	Bosun and OS inspected the mushroom ventilator on the bow. When performing checks on the defective mushroom ventilator at the forecastle deck during heavy weather, the Bosun suffered head injury and the Ordinary Seaman suffered injuries which proved fatal.	Misunderstanding between master and CO about master's standing order. Information not communicated to Bosun or OS that work on deck is prohibited.	Two adequate safety recommendations. NA	Report noted
56	Very serious marine casualty Fire in the engine room with death of the Chief Engineer Liberia THEODOROS P Liberia Bulk Dry 92,865	2023-01-20 02:35	The bulk carrier was loaded and travelling from Australia to China. During the night, the engine room was unmanned as usual. The Chief Engineer (CE) was on standby that night. In the early morning, a fire was detected by the engine room fire alarm system. Shortly afterwards, the water mist fire fighting system started automatically. The crew was alerted with an public announcement and ordered to muster. The ship then sent out a distress message on various emergency channels. The distress call was picked up and forwarded by another ship. During the muster, it was realised that the CE was not present. Part of the crew began searching for the CE. The other part prepared to fight the fire in the engine room. As the CE was not found in the superstructure or on deck and could not be reached by telephone in the engine control room, an attempt was made	The contributing factors that may have led to the fire are only named on one page of the report as part of a barrier failure analysis. The report contains no information on how these findings were obtained. The following points are mentioned without further elaboration: - The annual insulation resistance test (Megger test) to be performed did not include the common control panel of the three generators. - The common control panel was not properly inspected. The following point is cited as the contributing factor leading to the CE's death: - The CE went to the engine room in response	The section of the report entitled 'Company's immediate actions' indicates that various problems were identified during the investigation on board. There are no further references to this in the report itself. The measures subsequently implemented by the shipping company relate to the following points, among others: a. In-house training to improve various points within the shore organisation. b. Revision of the safety management system of the shipping company with regard to the tasks of the shore organisation.	Report noted

			to enter the engine room to search for him. This was based on the assumption that the CE had rushed into the engine room shortly after the fire alarm had been triggered. None of these attempts were successful due to the temperatures prevailing there. Ultimately, the decision was made to release CO2 into the engine room, as any further delay would have jeopardised the safety of the ship. By releasing CO2, the fire was extinguished after a short time. Smaller pockets of fire on deck were also quickly extinguished. Once the fire had been extinguished, the emergency diesel engine was started. However, it was taken out of service again shortly afterwards, as it was feared that a new fire could break out due to the cables damaged by the fire. After non-essential circuits had been taken off the grid, the emergency diesel engine was restarted around midday. This also allowed the emergency fire pump to be operated so that the area around the engine room could be cooled. The engine room could only be entered after the temperature had dropped in the late afternoon. The body of the CE was found. The body was later handed over to another ship belonging to the shipping company so that it could be handed over to the authorities on land more quickly. The ship affected by the fire then drifted without propulsion and the crew undertook repairs. On the 13th day after the fire broke out, the main engine could be put back into operation without further external assistance and the ship continued its voyage. The investigation revealed that the fire probably broke out in the area of the common control panel for the three generators, as the smoke detector installed here was the first to go off. This control panel is located 1 to 2 metres away from generators 2 and 3. Based on the findings, it is also assumed that a fault in the control panel, i.e. the electrical system, was the cause. The control panel contains the controls for the pre-lubricating pumps and the jacket electrical preheater.) The autopsy of the CE revealed that he died as a result of the fire (lack of oxygen) and not as a result of releasing CO2.	to the fire alarm without informing the bridge or another crew member. It is mentioned in the report that the water mist fire fighting system started automatically. Why it had no influence on the course of the fire is not further investigated or explained.	c. Audit on board the ship to improve the implementation of the SMS on board. d. Carrying out monthly drills with regard to fighting fires in the engine room with verifiable documentation. e. Introduction of a pre-commissioning assessment for all ranks to determine their capabilities. For the management level, particular reference should be made to crisis management. f. Revision of the Planned Maintenance System for the electrical systems, in particular to eliminate fire hazards. The following lessons learnt were taken from the report. It should be noted that the report does not contain any causal chains or explanations for points a, b, d and e. a. The inspection and maintenance of the common control panel (pre-lubricating pumps and jacket electrical pre-heaters starting panels) for generators 1, 2, and 3 was not adequate and needed to be improved. b. The company's training program regarding safety awareness when responding to engine room alarms needs improvement. c. The company needs to review its procedures pertaining to informing the Flag administration when there is a casualty as per Liberia Maritime Law. The company did not inform the Flag Administration of the incident until February 8, 2023. d. The Company's PMS (Planned Maintenance System), related to the electrical panels, needs to be updated in order to improve the effectiveness of the preventive maintenance plan and reduce or eliminate possible electrical fire hazards. e. Competency Assessment (CES) prior to embarkation of new Officers and crew needs improvement. The report does not contain a separate section on this point.	
57	Very serious Marine Casualty Crew member overboard. Nigeria ZOGREO	2024-01-22 03:30	Fall overboard. Search and rescue started. Missing. Presumed dead. [Reporting State comments on "Event and consequences": The sequence of events involved a fall overboard during routine ship operations in darkness, followed by an immediate search and rescue response. Despite the efforts made, the crew member remained missing and is presumed	Crew member out on deck during dark hours, without PPE and no physical barrier on aft deck to prevent falling overboard. [Reporting State comments on "Contributing factors": The contributing factors identified: the crew member’s presence on deck during hours of	Crew supervision. Reduce fall overboard hazards. Man overboard training and drills. PPE. Risk assessment for all jobs. Familiarizations. Preparing for emergencies. [Reporting State comments on "Issues raised/Lessons learned":	MSC

			dead. The description provided aligns with the factual circumstances of the incident.]	darkness without appropriate personal protective equipment, combined with the absence of an effective physical barrier on the aft deck, significantly increased the risk of falling overboard. These factors are consistent with the findings of our investigation.]	The lessons highlighted: Strengthening crew supervision during high-risk periods, enhancing measures to prevent falls overboard, improving the frequency and quality of man-overboard drills, enforcing strict PPE compliance, conducting comprehensive risk assessments for all tasks, and ensuring proper crew familiarization and emergency preparedness are all critical actions that have been identified and will be integrated into corrective and preventive measures.]	
	Nigeria Offshore Supply 559					
					[Reporting State comments on "Observations on the Human Element": Human element considerations played a significant role in this occurrence. Contributing human-related factors included reduced situational awareness during night operations, possible complacency in adhering to PPE requirements, and inadequate supervision to ensure safe working practices. The incident further underscores the need to reinforce safety culture, improve communication of hazards, and ensure that crew members fully understand and comply with established safety procedures, particularly during operations conducted under low-visibility or high-risk conditions.]	
58	Very Serious Casualty, Occupational Accident, Fatal accident Hong Kong, China SUNNY FREESIA Hong Kong, China Container 9,527	2024-05-26 08:45	The chief engineer (C/E) of a 130 m length container ship that was sailing at sea led a team of four engine department crew members and four non-engine department crew members to make a hydraulic oil replacement work in a hydraulic pump unit located in the pump room below the forecastle. The C/E intention was to open a bolted hatch that was fitted on the forward transverse bulkhead of the hold #1, to allow oil drums to be shifted into the pump room from the hold #1 platform. First, a team of 6 crew members transferred the oil drums from the aft storeroom to the platform of hold #1 while 2 other crew members were inside the pump room loosening the bolts of the hatch. After that, the crew members inside the pump room attempting to open the bolted hatch after all bolts had been loosened while two crew members were on the other side of the bolted hatch, on the platform near the oil drums, while one of them, the Chief Cook (C/C) was attempting to pry the cover of the bolted hatch by using a steel bar when he suddenly lost his balance on the platform and fell throw an opening next to the platform to the bottom of the hold. The work performed by the team members on the platform	• the C/C positioned himself near the edge of the hold #1 platform adjacent to the opening and was attempting to pry the cover of the bolted hatch. • two ropes at different heights were used as a fence to isolate the opening, but they were unable to effectively prevent personnel from falling into the opening from the platform. • no safety net was rigged over the opening, the C/C did not wear a safety harness with lifeline and no permit for working aloft was issued as was required in the shipboard SMS before commencing to open the bolted hatch • the C/C had not received proper familiarization and essential safety instructions for obtaining sufficient skills and knowledge (regarding working aloft) before undertaking a new assignment as was required in the shipboard SMS. • the team did not adhere to the job assignments outlined in the shipboard SMS procedures for conducting work aloft	• The importance of when assigning jobs to crew members to engage new tasks, particularly those related to the safety of working aloft, ensure an effective risk assessment, including but not limiting to: □ proper use of PPE, □ rigging safety nets where necessary and appropriate, □ obtain a permit-to-work prior to commencing, □ wear safety harness with lifeline or another arresting device, □ use of warning signs □ personal protective equipment • The importance of ensure effective shipboard training to enhance ship crew's safety awareness to the risks of working aloft and necessary preventive measures for personal safety; • The needs to the management company should conduct an internal audit on board the ship to ensure crew members to follow the requirements of shipboard SMS for	Report noted

			of hold #1 was a work aloft as the opening near to them was about 8 meters in depth and about 3,4 meters in breadth. The crew rescued the C/C who was later airlifted by a rescue helicopter to a shore hospital for medical treatment, but the C/C was declared dead upon arrival at the hospital.		safe working aloft and strictly follow the requirements for new assignments to shipboard personnel related to safety issue. • insufficient promotion of safety on behalf of the management of the ship - The risk assessment conducted at the toolbox meeting for the oil replacement work was ineffective against the risk of falling down and hitting. - the rigging of two ropes as part of control measures was unable to effectively prevent the C/C from falling into the opening from the platform and the associated risks were underestimated - Although shipboard training on PPE & safety precautions before work was provided to all ship crew just 16 hours before the accident, and that training emphasized the importance of wearing safety harness with lifelines for working aloft, this safety training on board for ship crew was ineffective.	
59	Very serious marine casualty Portugal WORLD VOYAGER Portugal Passenger 9,934	2025-05-31 11:20	Fatality, very serious marine casualty: passenger ship's **World Voyager** engine cadet lost his life while performing engine maintenance works. During the inspection and cleaning the injector of the engine, to avoid oil spillage around the engine room, engine cadet covered the indicator cock by metal bucket. When the engine was blown, the released pressure ejected the metal bucket into the cadet's head at a high speed. The cadet fell from the top of the engine where he was seated. Onboard medic and medical shore team was called. The shore medical team pronounced the cadet deceased on arrival on board.	- The casualty stemmed from both procedural gaps and a systemic tolerance for informal methods (metal bucket instead of proper containment). - Normalisation of deviation – the use of the bucket had likely worked many times before without consequence. - Assumptions about engine cadet competency based on time onboard rather than verified knowledge. - The organisational culture did not adequately distinguish between familiarity and certified competence and expertise, concluding that within the ship's safety culture, there was no clear distinction between being familiar with tasks and being formally competent to perform them. As a result, informal practices gradually became accepted as standard.	- No object should be left unsecured near open injector holes when turning engine with air. - Compressed air operations require strict controls and clear zone establishment. - Informal practices must be challenged and replaced with standardised methods. - Every maintenance step must be risk-assessed, particularly involving stored energy (compressed air). - Safety briefings should be carried out before performing works/tasks. - Cadets must be treated according to their formal training stage, not their apparent familiarity.	Report noted

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