



**Bundesstelle für Seeunfalluntersuchung**  
**Federal Bureau of Maritime Casualty Investigation**  
Federal Higher Authority subordinated to the Ministry of Transport  
and Digital Infrastructure

Investigation Report 34/15

**Very Serious Marine Casualty**

**Fatal accident**  
**on board the MV HANJIN DALLAS**  
**on 1 February 2015 off the east coast of**  
**the United States**

29 January 2016

The investigation was conducted in conformity with the Law to improve safety of shipping by investigating marine casualties and other incidents (Maritime Safety Investigation Act – SUG) of 16 June 2002, amended most recently by Article 1 of 22 November 2011, BGBl. (Federal Law Gazette) I p. 2279.

According to said Law, the sole objective of this investigation is to prevent future accidents and malfunctions. This investigation does not serve to ascertain fault, liability or claims (Article 9(2) SUG).

This report should not be used in court proceedings or proceedings of the Maritime Board. Reference is made to Article 34(4) SUG.

The German text shall prevail in the interpretation of this investigation report.

Issued by:  
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## **1 Summary**

At about 1000<sup>1</sup> on 1 February 2015, the bosun was found virtually unconscious on the forecastle of the MV HANJIN DALLAS, which was on the open sea in the North Atlantic en route to New York. Despite the immediate initiation of medical care, the casualty passed away later in the medical room.

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<sup>1</sup> All times shown in this report are local (UTC -5)

## 2 FACTUAL INFORMATION

### 2.1 Photo

© Hasenpusch Photo-Productions



Figure 1: Photo of the ship

### 2.2 Ship particulars

Name of ship:	HANJIN DALLAS
Type of ship:	Container ship
Nationality/Flag:	Germany
Port of registry:	Hamburg
IMO number:	9295220
Call sign:	DDZA2
Owner:	NSB Niederelbe Schiffahrtsgesellschaft
Year built:	2005
Shipyard/Yard number:	Hyundai Heavy Industries Co. Ltd, Ulsan/ H1584
Classification society:	Germanischer Lloyd
Length overall:	300.07 m
Breadth overall:	42.80 m
Gross tonnage:	82,794
Deadweight:	93,558 t
Draught (max.):	14.50 m
Engine rating:	68,520 kW
Main engine:	Hyundai B&W, type 12 K98MC-C
(Service) Speed:	25.2 kts
Hull material:	Steel
Number of TEUs:	7,455
Minimum safe manning:	22

### 2.3 Voyage particulars

Port of departure:	Singapore
Port of call:	New York, United States
Type of voyage:	Merchant shipping/ international
Cargo information:	Containers
Manning:	22
Pilot on board:	No
Number of passengers:	None

## 2.4 Marine casualty or incident information

Type of marine casualty or incident:	Very serious marine casualty; one seaman deceased
Date, time:	01/02/2015 at approx. 0900
Location:	East coast of the United States
Latitude/Longitude:	$\phi$ 40° 15.7'N $\lambda$ 063° 47.0'W
Ship operation and voyage segment:	At sea
Place on board:	On the forecastle deck
Human factors:	Yes, violation
Consequences (for people, ship, cargo, environment, other):	One seaman deceased

Excerpt from Nautical Chart BA 4011 North Atlantic Ocean, Northern Part

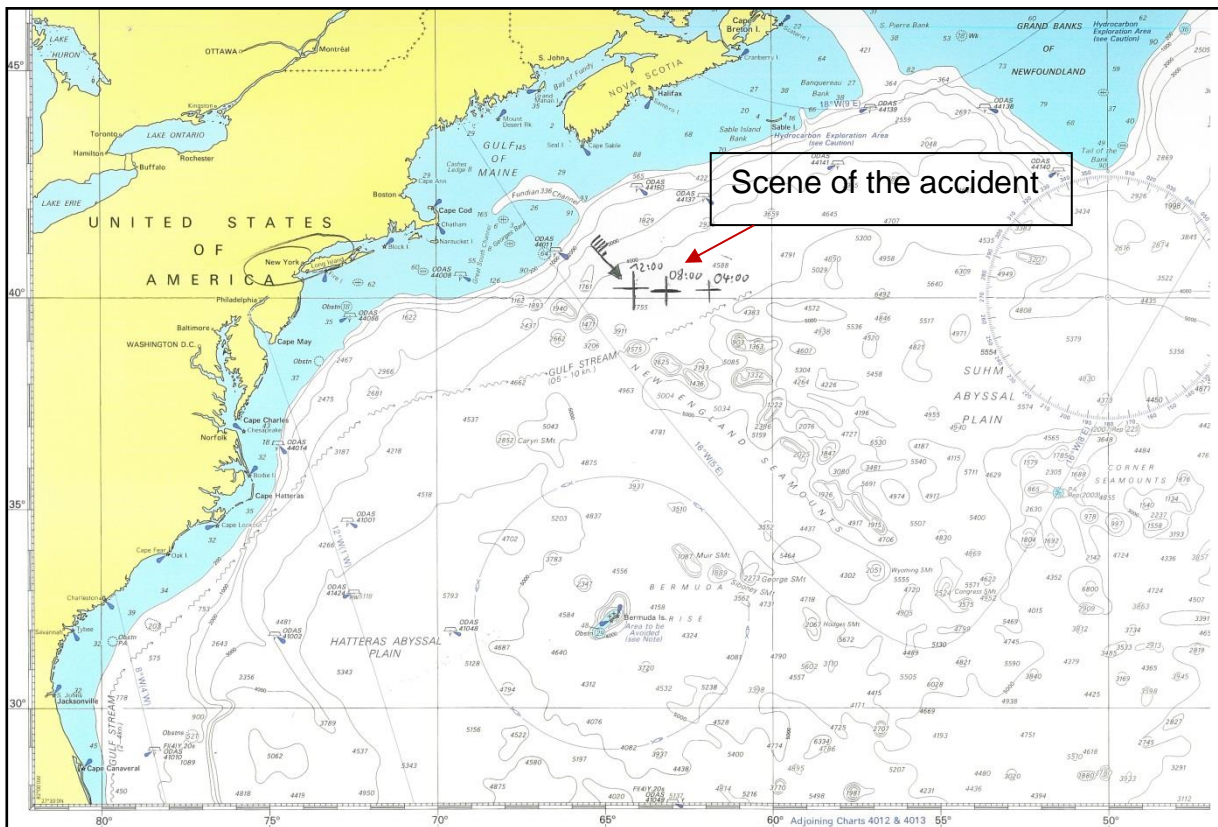


Figure 2: Nautical chart



## 2.5 Shore authority involvement and emergency response

Agencies involved:	Medico Cuxhaven, United States Coast Guard
Resources used:	Oxygen, defibrillator
Actions taken:	First aid, cardiopulmonary massage, attempts at resuscitation
Results achieved:	Person deceased

### 3 COURSE OF THE ACCIDENT AND INVESTIGATION

#### 3.1 Course of the accident

The MV HANJIN DALLAS was en route from Singapore to New York. At about 1000 on 1 February 2015, the ship mechanic (SM) found the 50-year old bosun lifeless behind the container lashing bars on a hatch cover located on the starboard side of the forecastle.

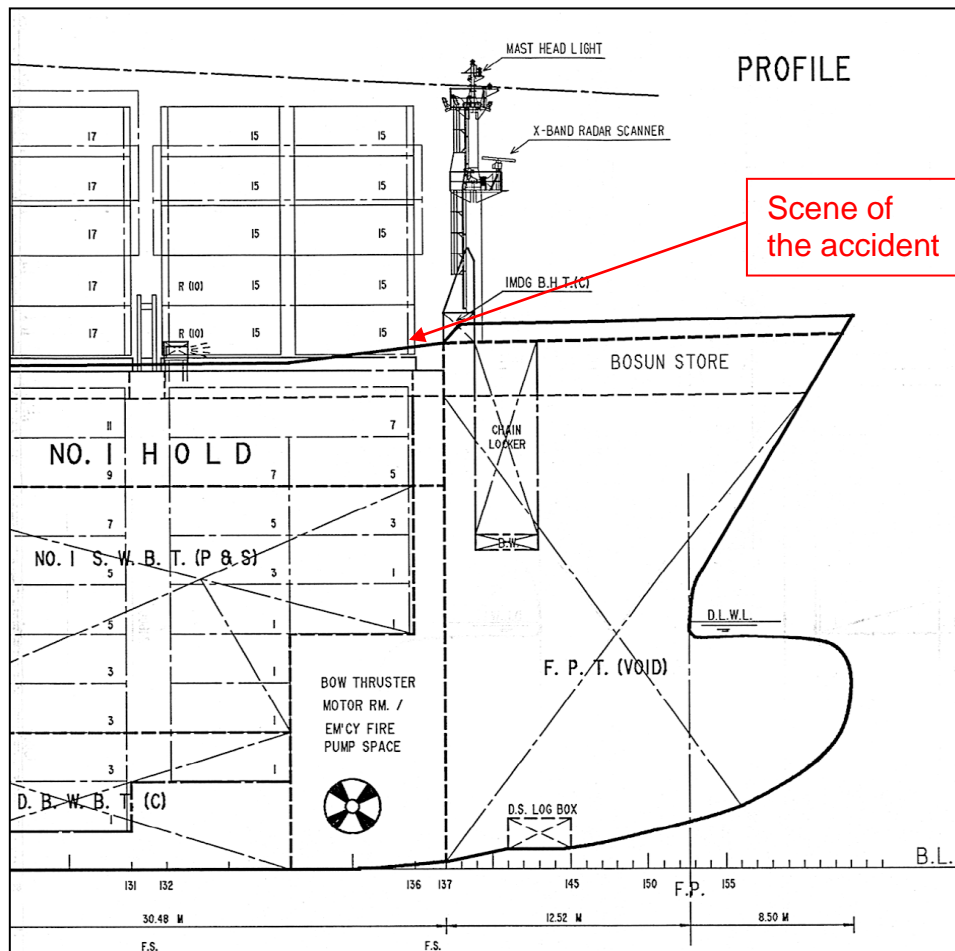


Figure 3: Extract from the general arrangement plan (side view)

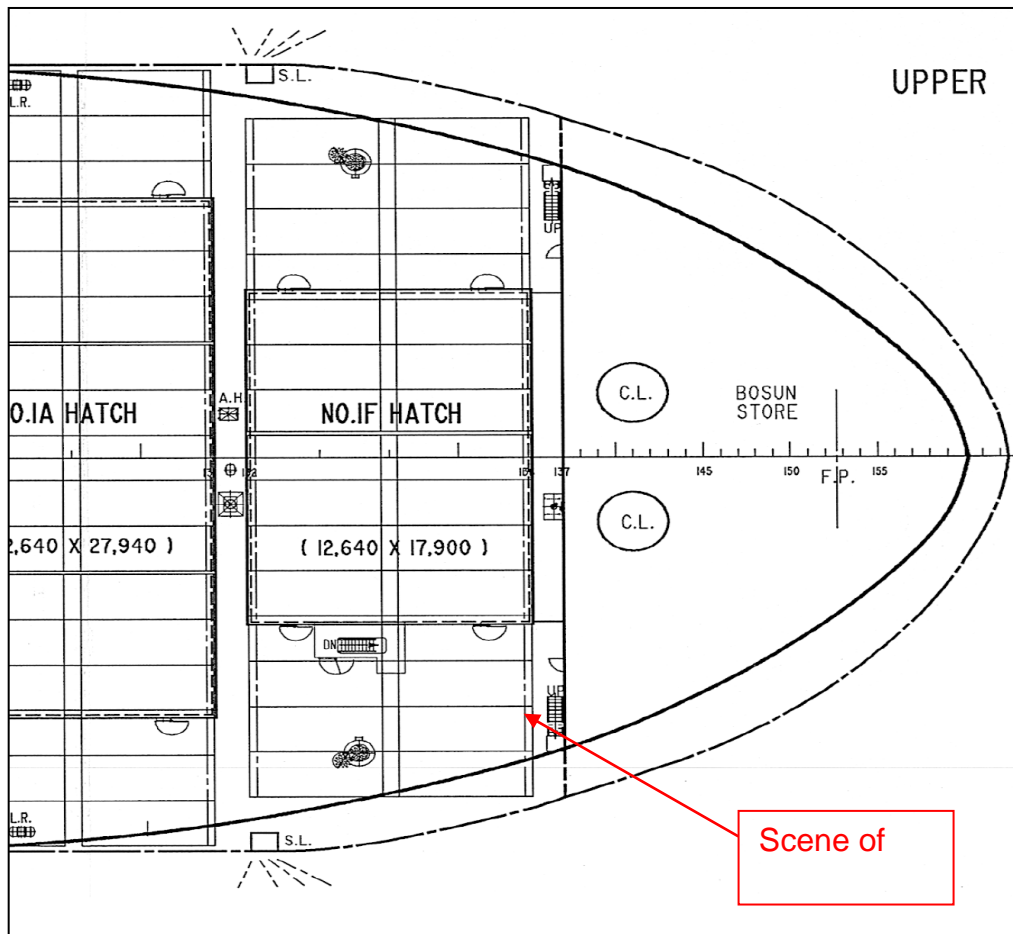


Figure 4: Extract from the general arrangement plan (top view)

Despite immediately rendered first aid and subsequent attempts at resuscitation, the bosun passed away on board in the medical room at about 1200.

### 3.2 Investigation

The owner notified the Federal Bureau of Maritime Casualty Investigation of the accident at about 1300 (UTC) on 2 February 2015 and forwarded any necessary documents immediately. The owner interviewed the chief officer on 10 June 2015 in Buxtehude and the investigation team surveyed the scene of the accident on 23 September 2015 in the port of New York.

No eyewitnesses observed the course of the accident.

## 4 ANALYSIS

The following analysis deals with the circumstances that led to the accident and action taken to prevent such accidents in the future.

### 4.1 Weather report

The Maritime Division of Germany's National Meteorological Service (DWD) was requested to prepare an official report on the weather and sea conditions in the sea area off New York for the period 0600 to 1000 local time.

#### Weather situation

An extensive storm front (989 hPa) was situated between Nova Scotia and Newfoundland on 1 February 2015. It moved on a north-easterly track to the sea areas north of Newfoundland as the day progressed, continuing to deepen slightly in the process. Swinging eastward, the associated frontal systems were already east of the area of the accident and no longer influenced the prevailing weather there. The accident occurred in a windstorm area on the back of the surface low and behind an upper trough within a high-altitude influx of cold polar air, the layers of which were unstable in the lowest kilometres. The strong differences in air pressure were facilitated by a high-pressure system (1,027 hPa) off the south-east coast of the United States.

#### Wind

A force 8 Bft (34-40 kts) north-west wind prevailed (from about 300 degrees). This is confirmed by ship measurements made in the area of the scene of the accident, satellite-based wind measurements, model analyses, and forecasts.

The competent American Ocean Prediction Centre's sea state and weather forecast valid for the time of the accident included an accurate storm warning (wind of 25-40 kts).

#### Significant sea state

The long period of effect of the high wind force with simultaneous directional stability and the sufficient wind fetch enabled the formation of an almost fully developed wind sea of 7-8 metres in height with wave periods of 11 s and thus a corresponding wavelength of 150-250 metres. Swell waves were negligible. It should be noted that single waves of 10-15 metres were highly likely, mainly due to interference.

The competent American Ocean Prediction Centre's sea state and weather forecast valid for the time of the accident included an accurate warning of heavy swell (wave heights of 10-19 feet).

### 4.2 Scene of the accident

The scene of the accident is on the starboard side of the forecastle. A breakwater is installed forward of the first container tier, which has a passageway to the forecastle on each side.



Passageway                      Breakwater                      Casualty found here

Figure 5: Scene of the accident (view from above)



Figure 6: Scene of the accident (view from fore)

### **4.3 Course of the accident according to witness testimony**

According to all the witness testimony and documents on board, the master issued a special watch order not to enter the main deck outside the superstructure due to the poor weather.

Based on the audio recordings saved on the voyage data recorder and witness testimony, the following facts were determined:

The bosun asked the officer on watch (chief officer) for permission to go forward to the bosun store (cable tier) at about 0700 in the morning. There was reportedly no actual work order, however. Inter alia, mooring lines and other ropes, lashing equipment, several receptacles of 1 cbm in size filled with container fittings, and a bench for repairing these semiautomatic fittings were located forward in the cable tier.

After a lengthy discussion and repeated requests by the bosun, the chief officer complied and gave the bosun permission to go forward – but as opposed to in the morning only in the afternoon at about 1500, as the storm was due to slacken then – via the passageway that leads below the main deck.

The bosun was last seen by an ordinary seaman at 0840.

Information regarding the bosun going forward later on and prior to this calling the bridge was relayed during the brief handover of the watch to the third officer.

The chief officer went for breakfast after finishing his watch and called at the cargo control room to discuss the tasks for the day with the SM. One of the SM's tasks was to check the some 150 reefer containers, which were located more towards the superstructure. The fire extinguisher line on deck also had to be drained due to the risk of freezing. At about 0940, the chief officer tasked the SM with opening the foremost extinguishing valve behind the breakwater. He was told to use only the passageway when carrying out the task.

The SM went forward via the passageway at about 0955. On arriving forward he had to open the passageway door, which was only possible from inside. The SM opened this door in the sheltered area of the upper deck at about 1000. He then saw the lifeless body of the bosun lying one deck higher next to the stairs on the starboard side.

After that, he went to the casualty, pulled him starboard into a sheltered area, and then notified the bridge using the phone in the cable tier.

The officer on watch (third officer) alerted the chief officer, who immediately went forward via the passageway.

Rescue and resuscitation measures were then initiated (an account is dispensed with here), which were unsuccessful, however. The bosun passed away at about 1200 in the ship's medical room.

The casualty's position was reconstructed when the scene of the accident was surveyed in the port of New York. The passageway door was closed when the SM went forward. Consequently, it is reasonable to assume that the bosun went forward on the port side of the main deck.

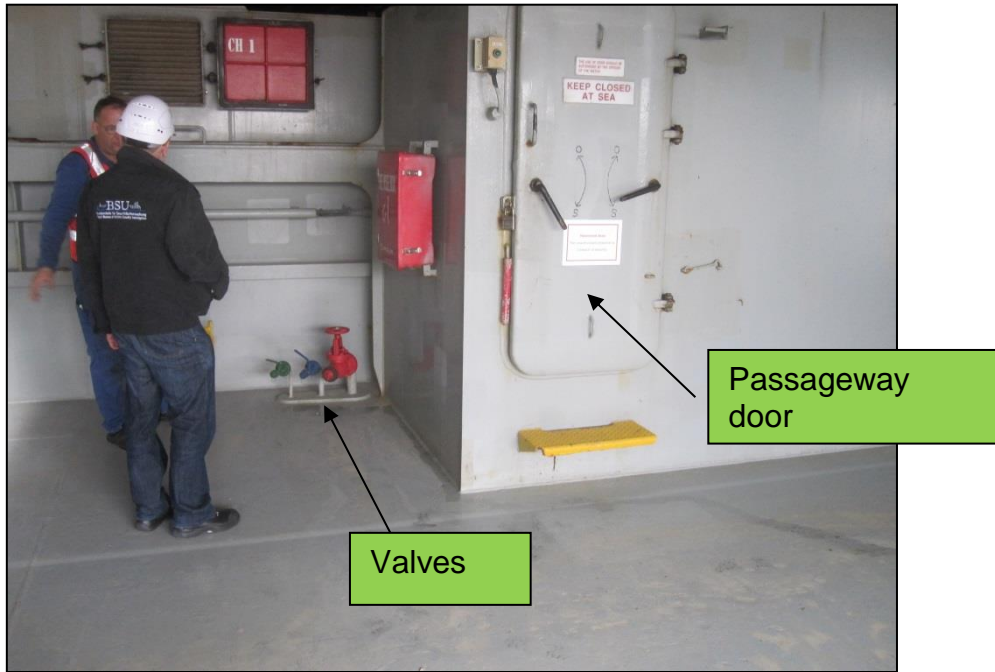


Figure 7: Valves and passageway door



Figure 8: View of the casualty from below

The route on the port side of the main deck is initially protected from the wind and waves, leading into the sheltered area on the aft edge of the forecastle behind the breakwater. Steps lead upwards (the last one is painted yellow) and end behind the breakwater where the forecastle passageway is located.



Figure 9: View from fore through the breakwater

The bosun was found behind the lashing bars (not yet fitted in the above image). The opening in the breakwater that leads to the forecastle is located exactly in the area where the casualty was found.

#### 4.4 Cause of death

The body was examined by New Jersey's department of forensic medicine on 3 February 2015. A fracture of the 5th and 6th cervical vertebrae with associated bleeding was determined as the cause of death.



## **5 CONCLUSIONS**

### **5.1 Analysis of the accident**

In the course of the BSU's investigation, it was not possible to determine what the bosun was doing on the forecastle. The explicit instruction not to enter the main deck had been given. There was no work order. The access to the passageway was locked. The officer on watch (third officer) did not receive a call from the bosun until he was alerted by the ships mechanic.

Due to wash, the bosun was probably struck very unfortunately by waves at the passageway of the breakwater and forced against the containers. The injuries he sustained in the process were so severe that he later succumbed to them.

### **5.2 Safety measures taken after the accident**

The owner reviewed the accident extensively and took various measures to prevent such an accident in the future. The instructions and announcements issued by the owner to its ships are listed in the Annex.

### **5.3 Opinion**

In all likelihood, the accident happened without the involvement of another person.

Although the measures of the owner taken before and after the accident are sufficient, such accidents cannot be ruled out entirely in the future.

Publication of safety recommendations is dispensed with given the measures already taken by the owner.






## 6 SOURCES

- Enquiries of the BSU
- Written statements
  - Ship's command
  - Owner
- Witness testimony
- Nautical charts and ship particulars, Federal Maritime and Hydrographic Agency (BSH)
- Official weather report by Germany's National Meteorological Service (DWD)
- Documentation, Ship Safety Division (BG Verkehr)
  - Accident Prevention Regulations (UVV See)
  - Guidelines and codes of practice
  - Ship files


## 7 Annexes

 NSB Niederelbe Schifffahrtsgesellschaft, Buxtehude	Fleet Instructions & Fleet Announcements <b>500 Occupational Health and Safety</b>	Page:      of: 1            4
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**HAZARDS**

-  **Fatal hazard** MoB overboard, falling, hitting head, acceleration, washed away and overboard, hit by green water. Mechanical, chemical.
-  **Multiple hazard**
-  **Stumbling, falling, slipping**
-  **Falling from height**
-  **Hypothermia** after mechanical / natural impact and disability to move because of injuries etc.


**ACCESS LIMITATIONS**

 No seafarer should be on deck during heavy weather unless it is absolutely necessary for the safety of the ship or crew and approved by the Master.



**INFORMATION**

 Emergency Plan.  
Code of Safe Working Practice.






**CAUTION**

 If considered hazardous: the main deck, poop deck, weather deck must be closed by the Master and/or OOW. Access prohibited, if deck is closed.

**PROHIBITION**


-  Do not enter open deck, if not authorized to do so.
- Do not bypass the prohibition by using under-deck passage ways.
-  Do not let private, public and work spaces in a condition which may pose a hazard during heavy weather periods (ensure good housekeeping).
- Do not work with hazardous tools.
- Do not enter the deck, if closed and not approved by the Master and OOW.

**PPE**








Additional PPE may have to be worn, depending on the working task and risk assessment.


**DO**

 Generally use safe foot wear only at all times (on duty, off duty). Off-duty: stay inside the accommodation only.

**DEFECTS / Non Conformance**

 Report defects / unsafe procedures or hazardous instructions to the Master. Do not enter deck, if not authorized to do so (consider Master's approval).

**FIRST AID / MEDICAL INCIDENT**

 Contact OOW.

**PROCESS + INSTRUCTIONS**

**CLOSING DECKS:**

If considered hazardous, the main deck, poop deck respective weather deck must be closed by the Master and/or OOW.

**Master's Approval:** persons are not authorized to access closed decks unless personally approved by the Master and naut. OOW, except in an emergency case if approved by the nautical OOW.

**C/O + C/E:** Neither the Head of Departments nor any other superior are authorized to override the decision of the Master and/or OOW. They cannot grant the permission to enter deck areas, if the deck is closed. They shall not grant permission by bypassing controls (e.g. use of under deck passageway).

**Announcement:** The closing of decks must be announced to

- Heads of Departments (C/O, C/E).
- Bosun, SM Shipmechanic, Deck fitter, Duty Engineer
- Galley Department.
- Passengers.

**Posting:** The announcement "Decks closed" shall be displayed at a public space in the vicinity of both mess-rooms.

**Documentation:** Closing and re-opening of decks must be documented at

- the Ship's Logbook
- the Watch Order Book (signed by each OOW).

and must reflect the date and times.

**WORK ORGANIZATION:**

**Organization:** Consider the necessity / importance of the intended work - if possible, hazardous work shall be delayed until the vessel encounters calmer weather or sheltered seas.

**Risk Assessment:** Assess the risks prior commencing or directing work. Document the assessment for deck work or in case of fatal hazards / risks.

**Qualification:** According to the nature of the tasks, take into consideration whether the persons involved are able to comply with safety and health measures. Superiors shall not assign any tasks to those persons who are clearly unable to perform without causing a risk to themselves or other persons.

**Fatal hazards:** Any working task (deck/engine) comprising a significant and/or fatal hazard must be approved by the Master and relevant Head of Department after having conducted a documented risk assessment.

**WORKS ON DECK:**

**Duty Officer:** Any work activity must be approved by the naut. OOW, if the deck is closed: in addition, Master's approval is required.

**Communication:** Persons must be equipped with a portable radio. Determine and agree on reporting intervals for radio communication. In addition, it may be prudent to arrange a whistle signal with the OOW so that warnings can be sounded if large waves approach, thus allowing crew to move into sheltered areas.

**Team work:** Only group advancing – no single person or lone work. Consider to place a third man with a radio for monitoring the advancing team from a safe point.

**Person in charge:** An experienced person should be nominated as Team Leader and should stay in permanent radio contact with the bridge team. Start and end time of activities have to be reported. Regular reporting intervals must be agreed.

**PPE:** Water proof clothing, safety helmets and footwear have to be worn together with protection against drowning. Considerations shall be made of personnel may have to be protected by wearing a safety harness or similar protection equipment.

**Lifeline:** Rig lifelines and/or use lifelines for attachment to PPE.

**Sheltering:** If the vessel has sheltered passageways, these should be used instead of proceeding across open deck. If applicable, use under deck passage.

**Darkness:** Avoid access to decks during hours of darkness.

**Ship operation:** If it is necessary to enter the deck, the Master shall adjust the speed and heading of the vessel in such a way that "green water" cannot be encountered and crew cannot be hit or washed away.

**Briefing:** All members of the advancing team shall receive a safety briefing and shall be enabled to identify hazards and control measures.

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PROCESS + INSTRUCTIONS
WEATHER FORECAST:
<p><b>Monitoring:</b> the Master and Nautical Officers shall continuously monitor weather forecasts and prevailing sea conditions and shall initiate measures in time.</p> <p><b>Communication:</b> communicate forecasts and preventive measures with all departments including catering department and passengers. Conduct safety committee meetings.</p> <p><b>Prevention:</b> accidents often occurred when crew members ventured out on deck (or stores / workshops) to secure items that were not adequately secured, either prior to sailing or when the vessel was in sheltered waters.</p>
AWARENESS WAVE PATTERN
Be aware that even in a regular wave pattern, 'rogue' waves can exist which can vary in direction and size from the regular wave pattern being experienced. Always plan for and expect the unexpected and sudden acceleration.
CHECKLIST:
Prepare or keep a ship specific checklist available which reflects the necessary preparedness for heavy weather periods. Use such list as an assisting instrument. Include the engine room areas. A generic list is subject to this FI / to adjusted.
INCIDENTS / EMERGENCY PLAN:
In the event of an incident, any rescue efforts should be carefully planned in accordance with the emergency plan. Crew should resist the urge to proceed on deck / to hazardous areas before first considering the risks and ensuring every precaution is taken. Consider and review the <u>Emergency Plan</u> for training and necessary heavy weather preparedness.
Forecastle decks / main deck – avoid access by controlled prevention:
If safe to do: inspect and – if necessary – tighten anchor lashings daily and prior heavy weather periods. Closing and locking devices and seals of hatches, doors, pipes, ventilations etc. shall be subject to regular inspection / maintenance to ensure safe watertight conditions to avoid any action during heavy weather.
BOSUN STORE / PAINT STORE:
Independently of the size of the ship: ensure good seamanship and housekeeping, secure and lash equipment, anticipate severe acceleration of the vessel and equipment (heavy weather movement). Paint drums / equipment must be well secured. Do not rely on vessel's size, expect the unexpected weather.
LASHING:
Re-lashing and tightening shall be organized in time prior entering areas of heavy weather and/or swell. Note during heavy weather: Lashing activities for cargo, spare parts and stores shall not be done by only one person on his own.
SPILLS / SLIPPING / TRIPPING HAZARDS:
Remove any spill which creates a slipping hazard. Remove any tripping hazard.
CATERING CREW / STEWARD:
Personnel must be informed and/or familiarized by the Master or C/O about garbage handling and treatment including protective safety measures and closed decks. Furthermore, safe working practice in the galley and pantry shall be reviewed and communicated on the same occasion.
TOOLS + CHEMICALS:
Consider the potential of increased hazards which require additional control measures and adjustment of work organization incl. PPE.
BRIDGE:
Nautical personnel may be endangered by heavy rolling of the vessel. Vessels Command shall assess whether securing ropes or other appropriate measures shall be put in place or not. If reasonably possible, especially on board of huge container vessels, such securing ropes / equipment shall be available in longitudinal direction. Furthermore, consider: <ul style="list-style-type: none"> <li>▪ Wear safe foot wear only.</li> <li>▪ Helmsman and Lookout should wear a waist worn safety belts, properly fixed.</li> <li>▪ No Passengers or off-duty personnel are allowed on the bridge.</li> <li>▪ More detailed and individual safety measures shall be assessed and determined on board by Vessel's Command, considering the ship specific conditions and risk assessment tool.</li> </ul>

MANAGEMENT Vessel's Command / Office
MAINTENANCE PMS
J. .... Anti-skid paint. Deck equipment incl. vents/hatches etc. must be well maintained to ensure good working order (e.g. prevention of water ingress).
DOCUMENTATION
Ship's Logbook. Watch Order Book.  FI 609b Familiarization Signature Letter FI 613a Training on QM
LABEL (placards) / POSTINGS / NOTES
Announcement "Deck closed" at a public space.
Vessel's Command (Master, C/O, C/E)
If deck is closed: Approval to enter decks can be granted by Master together with naut. OOW. The C/O and C/E are not authorized to do so. Ensure ship and crew preparation prior heavy weather. Instruct catering personnel for safe garbage handling
INSPECTION / MEASUREMENT CRITERIA
<ul style="list-style-type: none"> <li><input type="checkbox"/> Vessel's Command / Crew familiarized.</li> <li><input type="checkbox"/> Checklist available.</li> <li><input type="checkbox"/> General condition: deck.</li> <li><input type="checkbox"/> General condition accommodation.</li> <li><input type="checkbox"/> General condition engine and service spaces.</li> <li><input type="checkbox"/> Sport equipment gymnasium: secured.</li> <li><input type="checkbox"/> Workshops: tools + parts safe and secured</li> <li><input type="checkbox"/> Stores: secured, safe condition.</li> <li><input type="checkbox"/> Anti-skid paint applied if required.</li> <li><input type="checkbox"/> Galley and pantry considered safe.</li> </ul>
PURCHASING NOTES
Waist worn safety belts with snap hook and line for helmsman (member of bridge team).
NOTES + REMARKS
Risk of hypothermia, if a person suffers from mechanical or natural impact which does not allow him to proceed to sheltered place and/or back to accommodation.
TI Superintendent
- ensure compliance with Risk Assessment - ensure compliance with Class/Flag/IMO requirements - ensure compliance with MLC 2006 - ensure compliance with accident prevention rules. The identified "inspection + measurement criteria" shall be considered at vessel's inspection by the responsible Superintendent (documentation: inspection report).
RISK ASSESSMENT NOTES
If the available RA with control measures fails or is considered incomplete and/or not sufficient: a review and/or a new RA must be conducted or initiated by Vessel's Command or the responsible Superintendent.

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**GENERIC LIST only**

**General / Organizational**

- RISK ASSESSMENT CONDUCTED (documented).
- Work organization reviewed.
- Crew briefed.

**Bridge**

- Loose navigational equipment and other parts secured.
- Books, folders, charts: secured.
- Pantry: secured.
- Radio room: secured.
- PC, printer, communication systems, VHF: secured.
- Wipers checks and operational.
- Compass / transformer room: secured, no loose parts, buckets, sweeper, spare parts, clothes etc. stored inside.

**Deck**

- Anchors properly lashed and brake engaged.
- Mooring winches / lines: properly secured.
- Ventilation: forecastle + bow thruster closed.
- Ventilation: C/H closed (if applicable, care of reefer cont.).
- Ventilation: passage ways closed (if applicable).
- Watertight doors closed. Alarm working.
- Hatches+Access doors closed, watertight (mooring station)

**Deck Cargo Area**

- Cargo checked. Secured / re-lashed.
- Lashing material secured.
- If available: H/C closings checked, locked.
- Entrance hatches to C/H closed.
- Reefer checked (temperature log).
- Potential for shifting cargo evaluated.

**Crane**

- Monorail fixed and properly lashed as designed.
- Overhead crane engine room: fixed + secured.
- Provision cranes: secured.
- All cargo cranes: secured.
- Reference made to maker's instruction.
- Remote controls and wires secured

**Accommodation – general, stores, passages, outside**

- Tally Office: secured + safe.
- Laundry: secured + safe.
- Cable ducts: secured, no garbage, luggage, properties.
- Portable fire extinguishers, FE: fixed, secured.
- Furniture outside: secured.
- Hospital: secured, lockers closed. O2 cylinders fixed.
- Changing/dressing rooms: secured.
- Housekeeping / cleaning materials: secured.

**Galley / Pantry / Store**

- Knives and pointed tools secured.
- Reefer secured.
- Loose objects secured. Cooking oil secured.
- Plate guides rigged.
- Menu plan reviewed / adjusted.
- (Dry) provision stores checked, secured.

**Ship Operation / General**

- Rolling >25° : engine room must be manned.
- Further conditions for manning the engine room defined.
- Conditions for change of speed / course defined.
- Conditions for additional helmsman defined.

**Ship Navigational Operation**

- Weather routing active.
- All means of information active, forecasts reviewed.
- Review + adjustment of passage planning.
- Heavy weather maneuvering characteristics known / discussed / considered. Naut. Officers instructed.
- Watch Order Book: instructions documented, signed.
- Stability, GM, ballast water adjustment evaluated.
- Bridge procedure checklists reviewed.

**Engine**

- Spare piston crown / spare parts: secured.
- Other moveable parts: secured.
- Surfaces: clean, dry, free of oil.
- ECR: secured (furniture, chairs, papers, pantry etc).
- Emergency exits and escape routes safe and illuminated.
- Gas cylinders, chemicals, oil, liquids: secured.
- No lashings on power cables + guides, pipes, machinery.

**Workshop / Stores**

- Workshop: hand + power driven tools secured.
- Chemical store: secured.
- Other stores / shops / spare parts: secured.
- Pressurized gas cylinders: secured.
- (Gas) Welding equipment secured, cylinder fixed.
- Mobile transport units secured.
- Chemicals, fluids, grease etc. secured.

**Service spaces**


- S/G room: secured (drums, containments, safe walkway).
- EmGen.Room: secured.
- Battery room / areas: secured.
- Garbage room: secured.
- A/C room secured.
- Paint Stores / Chemical stores secured.
- O2 / Ace. Room secured.

**Accommodation – mess room, recreation room, gym**

- Crew recreation room secured (incl. furniture, TV, radio).
- Officers recreation room secured (incl. furniture, TV, radio).
- Crew mess secured (incl. furniture).
- Officers mess secured (incl. furniture).
- Gymnasium: generally secured, no loose parts.
- Gymnasium: sports gear lashed and secured.
- Pool: emptied, secured. Safety net rigged.
- Sauna: secured.

**CABIN + n.o.s.**

- Furniture + Media (TV, Laptop) secured.
- \_\_\_\_\_
- \_\_\_\_\_
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 NSB Niederelbe Schiffahrtsgesellschaft, Buxtehude	Fleet Instructions & Fleet Announcements <b>500 Occupational Health and Safety</b>	Page:      of: 4            4
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**ACCIDENT INFORMATION - CASES + FACTS**

**Severe injury**

- C/O was on his routine rounds, left the underdeck passageway to outside, when he was hit by a wave and washed along the deck.
- Crewman carried out reefer container round, when a wave broke over the bow. The water surged along the deck, knocking the man against the steelwork.
- Bilge Alarm in Bow thruster compartment sounded. C/O and deck crew went forward to investigate, ventilators and hatch tightened and crew returned to accommodation. C/O and bosun delayed due to closing the forecandle door. As they moved aft they were hit by a wave.
- Two ratings were sent on deck to check spaces for damage. While on deck they were hit by a large wave and both sustained injuries. The Master had used the pre-briefed whistle signal to warn of the approaching wave, and the two men had been trying to take cover when the wave hit.
- Two ABs were sent on deck to close ventilation covers. On completion, the ABs returned to the accommodation when a wave washed on board, knocking one of the men into the ship's side rails.
- Ship was moving in heavy weather. Three AB's were sent on deck to inspect the forecandle, when a large wave washed on board.
- Crewman stumbled as he crossed the deck to avoid water washing on board.
- Two crewmen got injured by a wave washing inboard while working on deck.
- When weighing anchor, the C/O was hit by a wave breaking over the forecandle.
- Vessel pitched heavily. Seas shipped on board burst over the watertight door. The water rushing into the passageway knocked a crewman over and injured him.
- After a stormy night, the OOW noticed loose equipment on deck, crew were sent to secure the same, and as they were coming off deck, the vessel shipped a sea, washing the seaman against the bulkhead.
- Two crew members went on deck to secure equipment. An unexpected large wave washed on board throwing both men against the accommodation bulkhead.

**Fatality**

- Crew member was washed overboard from the pilot door opening in the hull. He was never recovered.
- With the ship moving easily, four crewmen were working forward. A large sea broke over the bow, washing men into the iron work on deck. On crew died.
- Vessel leaving port with men completing the securing of the forecandle after letting the tug go. Vessel pitched and shipped large waves over the bow. This resulted in the death of two seamen and serious injury to a third.
- Two crew members went to aft mooring station to secure a mooring rope secured by lifeline. The station shipped a large wave washing both crew overboard, lifelines parted.
- A bosun was found disabled close to the wave breaker at heavy seas, he suffered from hypothermia whilst the deck was closed by the Master and nobody was authorized to access the deck.
- A C/O and C/E tightened a hatch on forecandle when they noticed a loose anchor lashing. When securing the lashing, a green sea came over, both were jammed into machinery, heavily wounded, one fatality.
- A non-deck crew member was found lying on the forecandle deck without breath and pulse, but with a deep wound on his left chest, probably thrown against the windlass by the waves which broke over the ship's bow.
- Four crew members performed tasks on forecandle and tightened anchor lashings when a wave washed over the deck. One seaman was washed overboard, three others were thrown and stroked facilities. Two fatalities, two injuries. \*\*\*

**Special reports**

- Bridge Team (fatality): The about 95,000 gt, partially loaded, container ship rolled severely at sea during a typhoon. As a result, several crew members on the ship's bridge lost their footing, including the Master, the helmsman and the lookout. The helmsman managed to regain his footing, but the Master and lookout were thrown violently across the wheelhouse. The lookout subsequently died and the Master suffered serious injuries, necessitating his medical evacuation. Four more seamen suffered minor injuries.\*\*\*

Sources: \* [www.maib.gov.uk](http://www.maib.gov.uk) \*\* [www.mardep.gov.hk](http://www.mardep.gov.hk) \*\*\* [www.bsu-bund.de](http://www.bsu-bund.de) \*\*\*\* [www.IMO.org](http://www.IMO.org)