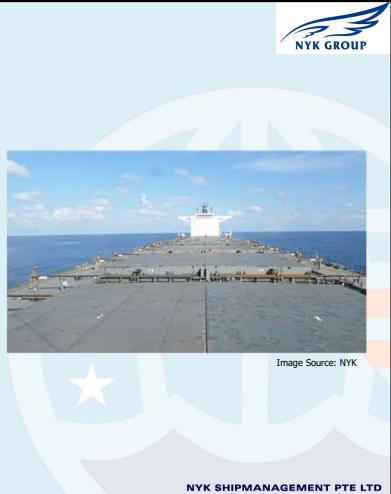


NMC 74

Bulk Carrier Ship
Inspection
Training

NYK Management College



1

Image Source: <https://www.thebalancecareers.com>

INTRODUCTION
NAME / RANK / EXPERIENCE / EXPECTED
LEARNING ?

2

Objectives of Training Course

- Understanding and preparing for:
- Rightship Vetting Inspection
- Port State Control Inspection

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3

Eliminating Vessel detentions / Serious observations.

Implications of detention and reduction in Rightship rating

Follow up after Inspections

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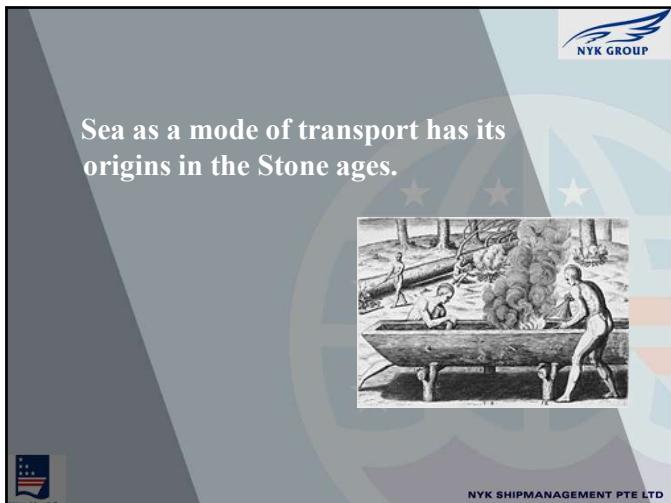
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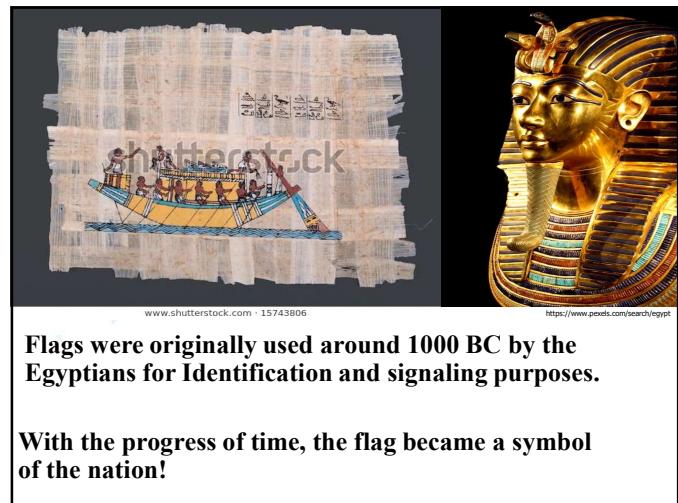
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8



Assigning Flags gained importance as voyages were undertaken at greater distances from Home port...

and this practice slowly spread to other countries.

9



As shipping advanced, the need of flag state was felt for the following reasons:

- The Legal regime on the vessel – Who governs the activities on the ship?
- Is it being used for piracy, etc?
- Maintenance of public order
- As a tool for competing with rival trading nations or for furthering political and economic interests

10

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» Further developments:

- 1921 Flag rights declaration and 1958 Convention on the High Seas (Freedom of Navigation)
- United Nations Convention on Law of the Seas 1982 (duties of Flag state, rights of a coastal state)
- It became necessary for every vessel to be registered at a particular port and to abide by rules set by the administration of that port / country.

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Image Source: NYK

As per UNCLOS article 94, Checks for Compliance with all applicable Statutory, International and Local regulations is the responsibility of the Flag state.

12

Since flag states were incapable of handling all these responsibilities, the duties were delegated to the Classification societies



13



Today, some of the Flag State and Classification Societies are failing in their duty to maintain a vessel Seaworthy

WHY!!!

14

Unseaworthy!

WHY!!!???

- Unethical Owners, Dubious Operators (Fly-By-Night Operators)
- Tighter Budgets
- Limited surveyors with Flag and Class to ensure all registered tonnage is thoroughly inspected
- Multi national Crew - some with poor skills
- Inadequate manpower to do all jobs safely
- Tight schedules leaving little time for maintenance
- Wider coverage of incidents by Media resulting in higher pressure/liabilities on Charterers too!

15

Flags of Convenience

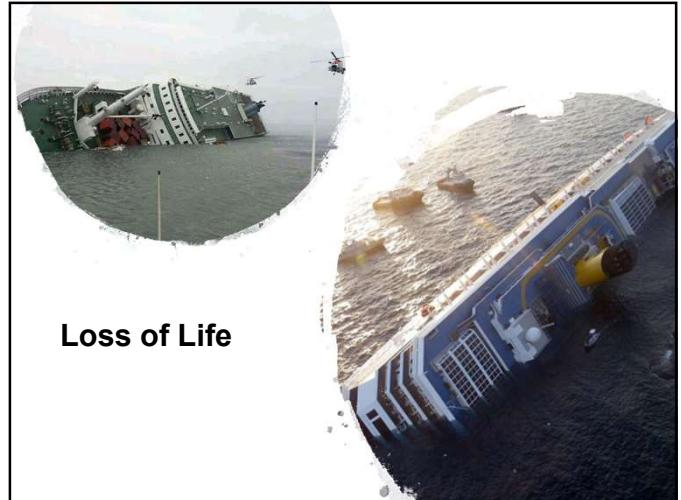
Implementation of duties by a Flag state is not being carried out effectively; Most flag States and especially those which have been termed as open registers or flags of convenience adopt a very lax attitude with respect to their international obligations under UNCLOS and other relevant international maritime conventions

Flag State	Percentage of World Fleet in DWT
Panama	~35%
Liberia	~15%
Marshall Islands	~10%
Bahamas	~8%
Belize	~5%
Malta	~5%
China	~5%
Uruguay	~3%
Argentina	~3%
U.S.	~3%
Other	~10%

16



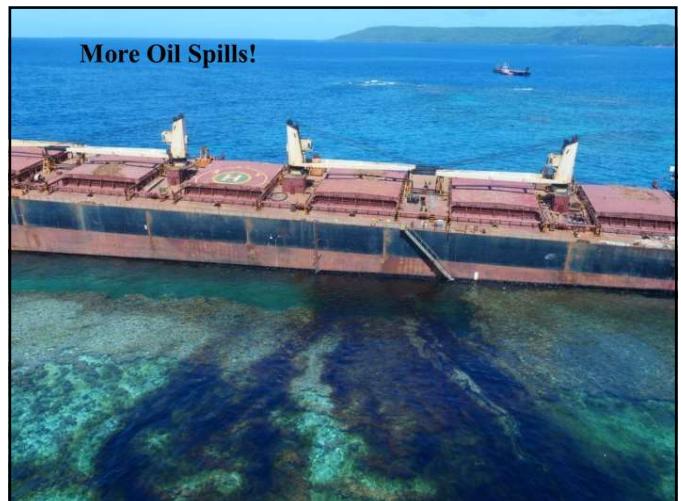
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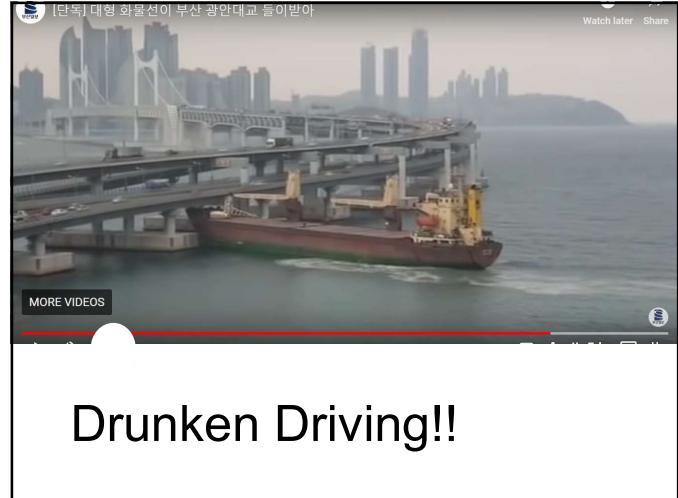


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Loss of Property

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Drunken Driving!!

26



27



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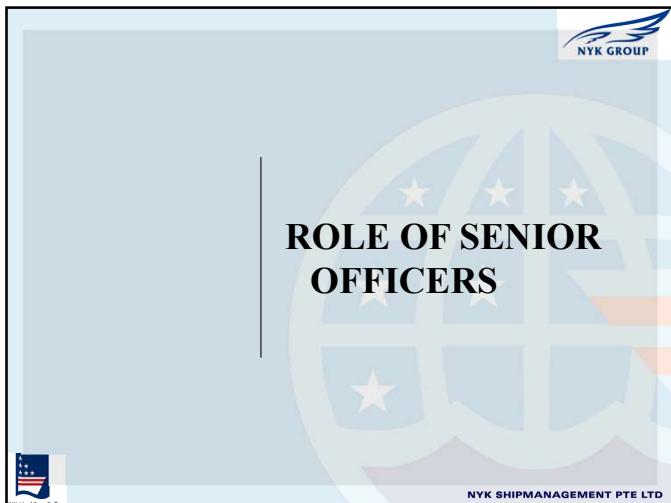


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30

So where do
I figure in all
this?



31



32

Image Source: NYK

Master and Chief Engineer are responsible for implementation of SMS on board

33

Some SMS Procedures to ensure standard of vessel is maintained for Inspections :

- Monthly Inspection of Vessel with respective Department Head to grasp the condition of whole ship.
- Weekly Inspections of vessel to ensure good hygiene.
- Marpol compliance checks within a month of joining and ensuring compliance with Marpol compliance checklist.

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Navigational Audits
within a month of joining

Diligent conduct of
ECDIS Proficiency test

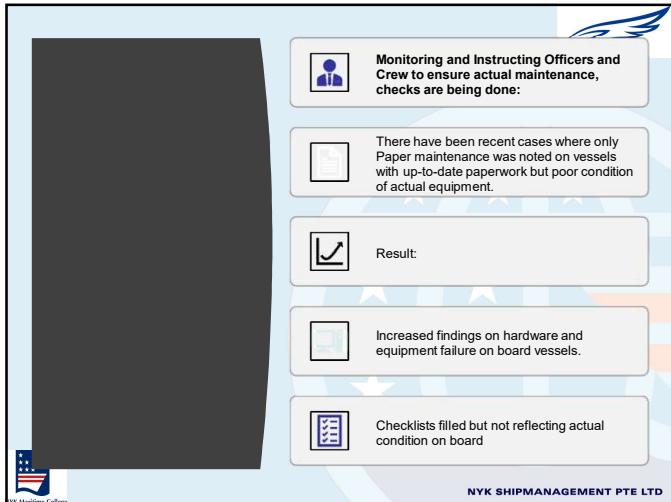
Daily Job Order Meetings
to ensure Maintenance of
vessel carried out safely
as per PMS.

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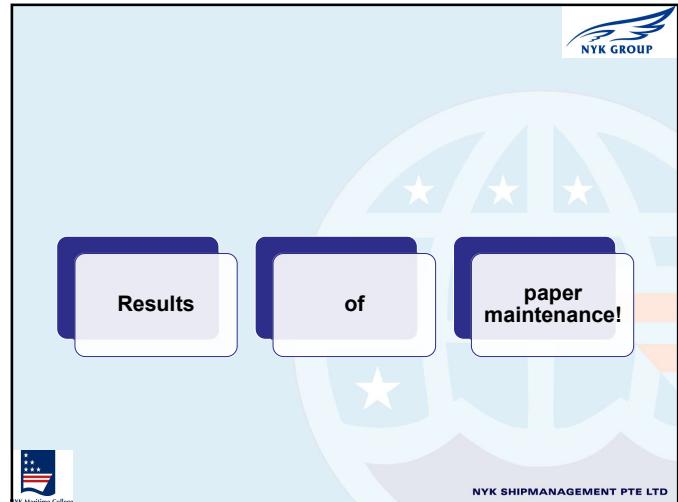
35

- Ensuring Maintenance as per PMS is diligently carried out avoiding all chances of "**only paper maintenance**".
- Ensuring Drills are conducted as realistically as possible (without causing any danger to participants).
- Regular Crew Training to upgrade knowledge and skills including shadow play and understudy by junior officers.

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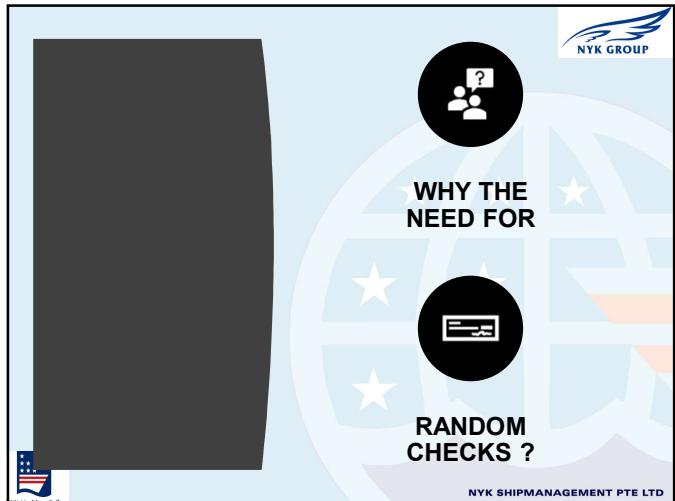
41



42



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44



45

CADET - STARS

CADET
Ships
Training and
Assessment
Revised
System

To ensure a faster churn out of officers, there has been a greater emphasis on academics with a higher time spent in maritime academies ashore and a reduction in apprenticeship on board. Even at Sea, there is a greater emphasis on completion of Training Modules and consequently.....

.....Less time to gain practical Seamanship skills

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A collage of images related to maritime shipping, including a ship's wheel, a flag, and a NYK Group logo. Overlaid text includes:

Resulting in Ships Officers Today!

High in Knowledge.....

..... Low in skills !!

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Faster Promotions

means

Demand for instant results.....sometimes resulting in Lack of perseverance and lack of skills!!

Very short time spent in Junior ranks – understudy for next rank!!

<https://www.rawpixel.com/image/31362/premium-photographer-by-rawpixel.com>

48

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Additionally, factors such as:

- Different nationalities –
- Varying work cultures
- Social Media!!

<https://www.pexels.com/search/pad%20with%20a%20baby/>

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Under such conditions,

How can we sustain high quality ?

50

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- Identification of mistakes/weak areas by regular checks.
- Proposing corrective measures in a non-offensive manner.
- Training of Junior ranks by **Shadow Play** and **On the Job Training** to ensure they are prepared for the next rank.
- Use of behavior and culture knowledge, for convincing and motivating ships crew

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- Proper guidance and monitoring is the only way to ensure future generations will have safe operations!

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53



54

Source: UK P&I

2) Pre-
Inspection
Meeting :-

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If possible rectify deficiencies "on the spot" when inspector is still on board. Doing this may signify the observation as "MINOR" and "ISOLATED"

- Master can give corrective explanations for certain findings and thereby prevent them from being mentioned in the report

Accommodation ladder – safety net as rigged, before.

Accommodation ladder – safety net position rectified immediately

Image Source: NYK

58

Enter inspection details for all external inspections in the NiBiKi SMS database (Called NCD in the Previous e-SMS).

Image Source: NYK

59

Non Conformity / Deficiency Report (NCD Report)		
Ref: 2015.12.15 - 2015.12.15		
PART 3: FOLLOW UP		
Ref	Non Conformity/Deficiency , Cause and Corrective Action Plan	Completion
Ref	Non Conformity/Deficiency:	Target Date
Department	Root Cause:	Actual Date
Action By	Corrective Action Plan:	OPEN / CLOSE
Ref	Non Conformity/Deficiency:	Target Date

Note: Before PRINT
DEFICIENCIES ARE:
Detail & DEF NC are

Image Source: NYK

60



The NCD should address the "Reason" as to HOW the "deficiency" remained unnoticed.



"Overlook" "Missed out" "Oversight" usually not accepted as valid reasons for observations.



" Overlook"/ Oversight = Negligence



Proposed counter measures should address Long Term Action Plan to prevent recurrence.



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Thank you very much

Image Source for all Images: NYK

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1

Where is vetting applicable today!

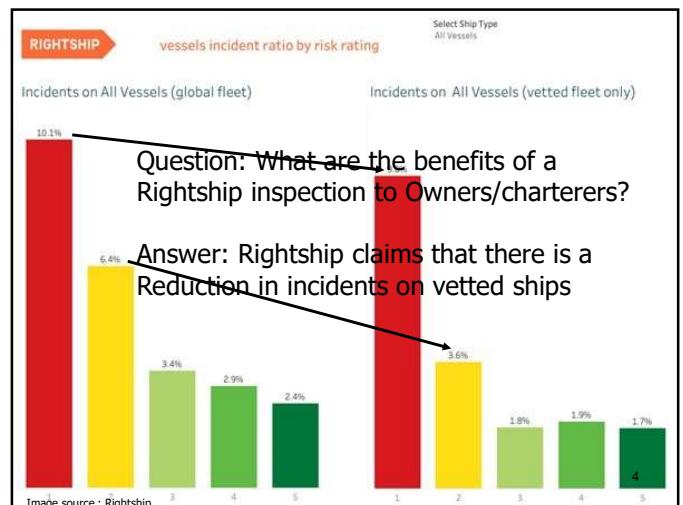
- Traditionally vetting was applicable to tankers but now being applied to bulk carriers too (RightShip, Enel inspection in Europe)!
- Charterer inspects a vessel and determines the vessel suitability for the charter based on its safety score or rating
- Ports, terminals, insurers and other maritime industry operators also vet ships to identify and manage risks
- Many ship owners and ship managers use ship vetting services to monitor information about their own vessels
- Some companies arrange for a pre-vetting inspection by special agencies to rectify faults prior the actual inspection.

2

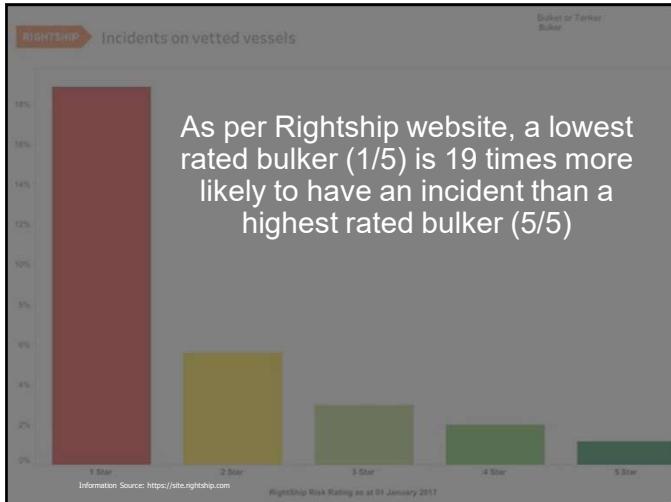
Purpose : Vessel safety concerns in the late 1990s when ships were sinking off the coast of Australia.

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3



4



5

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RightShip has moved away from a predictive star rating system to a performance score card based "Safety Score System", in the month of September 2020.

Image source: RightShip

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RightShip Safety Score System

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Vessel will be awarded a safety score based on 50 assessment items that are grouped into 6 sub scores, each with their own impact on the overall result. The 6 sub scores are considered for last 5 years. Please refer to snapshot below to see the impact (i.e. weightage) of each sub score.

Highest Impact Incidents
DOC Holder Performance

Medium Impact Detentions
PSC deficiencies

Lower Impact Flag Class

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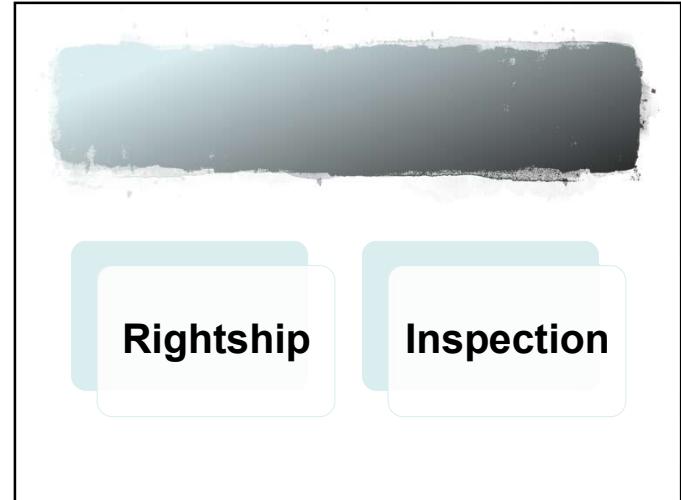
8

• Rightship inspections no longer have any impact on the Rightship score. They will just show up as an Inspections badge for a positive inspection outcome, clearly displayed on each vessel page in the new platform. The inspection badge allows operators to showcase their commitment to safety.

• However, an adverse inspection as well as lack of effort by manager to address the findings of an inspection could result in rejection of vessel for cargo

Image Source: Rightship

9



10

Rightship Standard Vetting Criteria

1. Request your vet

- When your vet is requested, sanctioned country checks are completed. Sanctioned vessels are clearly marked in the platform.
- Your vet is assigned in the platform for processing.
- All documents, including RFIs for open incidents, deficiencies, deferrals or MOUs are requested automatically.
- Your vet is assigned to a RightShip vetting superintendent.

2. RightShip's vetting process

- Vessels and DOC operators are checked against your restrictions.
- Using its own criteria, RightShip's expert superintendents use the platform's built-in communication channels to collect additional data and industry reports.
- They review ship manager post-incident responses, PSC inspections, RightShip inspections and external reports including GRS, MPAQ, class status, survey reports and GRI.
- Additional checks include open incidents, PSC deficiencies, deferrals, feedback reports and terminal reports from our cleaned and verified vessel database.
- RightShip's global specialist vetting teams exchange their technical and operational knowledge.

3. The role of RightShip's vetting superintendents

- RightShip's expert superintendents use the platform's built-in communication channels to collect additional data and industry reports.
- They review ship manager post-incident responses, PSC inspections, RightShip inspections and external reports including GRS, MPAQ, class status, survey reports and GRI.
- All vessels are checked against RightShip's proprietary data including vessel questionnaires, terminal feedback and conditions for review.

4. Vetting outcome

- Based on this comprehensive assessment, the vetting superintendent provides a recommendation.
- Your vet outcome is timestamped and the record of due diligence is documented in the RightShip platform.

All vessels with a Safety Score of 1 to 5 can be vetted. A lower score does not necessarily mean a vessel will be recommended unacceptable.

The Standard Vetting Criteria represents the RightShip minimum acceptable standard for a vessel to achieve an 'acceptable' recommendation.

In January 2019, several updates were made to the Standard Vetting Criteria. The new Criteria extends beyond the previous standard from 20 assessment items to 50 assessment items, covering aspects of the vessel history, operation, sustainability and crew welfare including new sections for flag and class, ship structures, mechanics, and human rights.

11

Rightship Standard Vetting Criteria

RightShip's vetting standards are at the heart of RightShip's ecosystem.

The vetting standard was the inspiration for the Safety Score rules, bringing these two products together as many of the rules for which govern a Safety Score of 1 and Safety Score of 2 originate from the new vetting criteria.

Some of the important rules of the vetting criteria include:

- > Incident review, performance and resolution
- > PSC performance review
- > Certification and compliance status
- > Class records (conditions, status)
- > DOC performance (ISM)
- > Prior RightShip history and database
- > Special vetting criteria (customer-specific requirements)
- > Physical validation (RightShip Inspections)
- > Refer below extract from the Vetting Criteria which requires annual inspections for vessels aged 14 years and above.

All vessels of 8,000 dwt and above.	An annual RightShip inspection is required from 14 years of age.
All vessels below 8,000 dwt.	An annual RightShip inspection is required from 25 years of age.

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Rightship Vetting Inspections



Inspection Criteria	Why	Result Impact
<ul style="list-style-type: none"> An Annual inspection is mandatory for ships aged 14 and over Other inspections are carried out by Rightship on a case by case basis 	<ul style="list-style-type: none"> Stakeholders want to segregate safe and unsafe ships 	<ul style="list-style-type: none"> A scoring adjustment leading to a 1 score or 2 score rating means less cargo prospects for the vessel

Image Source: Rightship

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Time required for a Rightship Inspection



A RightShip inspection is typically undertaken at the discharge port to minimize disruption to the vessel, usually taking approximately two working days (1 – 1.5 days for Handy size vessels).

The inspector is expected to manage and complete the actual inspection within 14 hours.

The inspector is not required to enter the ballast tanks, void spaces, duck keel or cofferdam. The inspector shall sight and assess the physical condition of ballast tanks, void space, and cofferdam from the deck only, where the access hatches or manhole plates can be removed. In any event, actual entry should only made following specific written instruction from RightShip.

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**Preparing for
a
Rightship Inspection!**

15

Preparing for Rightship Inspection



It is often said that the vessel must be in perfect condition and thus, ready for inspection at all times.

Pre-vetting checks through use of Rightship Inspection Ship Questionnaire (RISQ) can improve inspection result

The Rightship Inspection Ship Questionnaire (RISQ – Feb 2021 Ed.) has 16 sections, each concerning a specific area or function of a ship and consists of 177 pages

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RightShip Inspection Ship Questionnaire (RISQ)

February 2021

- The latest edition of the Rightship Inspection Ship Questionnaire (Feb 2021 Ed.) should be on board, and all available details should be completed prior boarding of the inspector (and handed over during the opening meeting)

- There are two options for the completion of an inspection using the Rightship Inspection Ship Questionnaire. The first is in the traditional approach where all questions are answered during a physical inspection. The second is a hybrid approach where those questions denoted with the letter (M) can be completed on review of documentation provided by the vessel managers in advance of a physical inspection, with the remaining questions denoted with a letter (V) completed during a subsequent shortened physical inspection of the vessel. For either approach all questions must be answered.

- The questions in each section may be accompanied by a "Guide to Inspection". The Guide to Inspection assists the ship's manager in preparing the vessel for inspection and the inspector in answering the questions and completing the inspection report.

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Image Source: Rightship

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RISQ Structure

Section 1: General Information

Section 2: Certification and Personnel Management

Section 3: Navigation

Section 4: ISM System

Section 5: Pollution Prevention and Control

Section 6: Safety Management

Section 7A: Fuel Management (Oil Fuel)

Section 7B: Fuel Management (LNG Fuels)

Section 8A: Cargo Operation: Solid Bulk Cargo other than Grain

Section 8B: Cargo Operation: Bulk Grain

Section 9A: Cargo Operation: General Cargo

Section 9B: Cargo Operation: Cellular Container Ships

Section 9C: Cargo Operation: Soft Unloading Transhipment

Section 9D: Hatch Cover and Lifting Appliances

Section 9E: Gating Cranes

Section 10: General Appliances - Hull and Superstructure

Section 11: Radio and Communication

Section 12: Security

Section 13: Machinery Space

Section 14: Ice and Polar Water Operations

Section 15: Fire Fighting Vehicles or Firefighting

Section 16: Ice or Polar Water Operations

Bibliography

www.rightship.com

Image Source: Rightship

18

Section 1 – General Information

In this section, a variety of details are required by the inspector

Such details must be filled up in the RightShip vetting questionnaire, prior to the inspector's embarkation

Section 1: General Information

11	Vessel's name as it appears on the Certificate of Registry [M]
12	Vessel's M-Number [H]
13	Flag [M]
14	Date the vessel was delivered [M]
Guide to Inspection	
15	Date of delivery can be found either in form A of the International Oil Pollution Prevention (SOP) Certificate or Safety Construction Certificate
Quick to Inspection	

Image Source: Rightship

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Section 2: Certification and Personnel Management

Class Survey Status

Machinery Logbook

Machinery Logbook (continued)

Image Source: NYK

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Various ships certificates will be checked. They may include the following:

- Trading certificates
- Insurance certificates
- MLC related Certificates
- Certificate of Financial security for seafarers

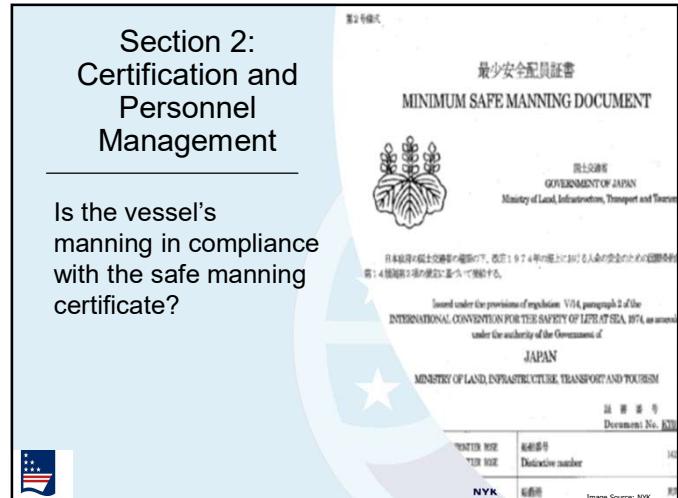
Section 2: Certification and Personnel Management

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Section 2: Certification and Personnel Management

Is the vessel's
manning in compliance
with the safe Manning
certificate?



22

Section 2: Certification and Personnel Management

All personnel should maintain rest period / work hours and rest hours should be in compliance with STCW or MLC requirements. RightShip requires its Inspector to record a N/C if:

- ❖ There are two or more consecutive violations by any seafarer on-board.
- ❖ The vessel's manager has not been informed at least monthly of compliance levels on board.
- ❖ The work hour records are not to ILO format

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Recent Rightship Finding

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No.	Code	Comment	Date	Age
60	Certificates Ship Crew	Records of resting hours indicated that at various times in port, Oilers were carrying out watchkeeping alone without officers. This was not covered by Operator's procedures or C/Eng standing orders.	24/1/2021	8

Question: What are the possible root causes and corrective action plan?

Proper watchkeeping levels must always be maintained as per SMS requirements and CE Standing Orders. Appropriate training and instruction of Ship staff to be enforced to prevent recurrence.

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Section 2: Certification and Personnel Management



Ship's personnel able to communicate effectively in English?



NiBiKi e-educative CatEdu

SMS / Z-M-02.00.00 Shipboard Organization

Version: 2018.08.01
Approved By: Head of G-SMSC

4.5 Working Language
The Company declares "ENGLISH" as the official working language. All crew members shall communicate with each other on board the ship and with the Company in "ENGLISH" language.
The official working language shall be stated in the ship's log book. On JG Flagged vessels this shall also be stated in the official log book.

Image Source: NYK SHIPMANAGEMENT PTE LTD

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Section 2: Certification and Personnel Management



Master's ship handling training - A master with less than 5 years sea time in rank must have attended a ship handling course.

Hazmat training (only for vessels carrying IMDG / MHB Cargo)

Officer Matrix and STCW cert check,
Sufficient Overlap period during handovers especially for Senior Officers



Image Source: NYK SHIPMANAGEMENT PTE LTD

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Section 2: Certification and Personnel Management



What is the Drug and Alcohol Policy of the company and is it being complied with?

Any unannounced D&A test being carried out on board or by an external agency?

NiBiKi e-educative CatEdu

SMS / S-P-03.10.00 Drug and Alcohol Policy

Version: 2018.08.01
Approved By: Head of G-SMSC

1. Scope
This policy applies to all seafarers.
2. Purpose
The purpose of this policy is to control the use of drugs and alcohol immediately related to its C & A is issued.
3. Responsibility
The responsibility for this policy lies with the Company's General Manager, Senior Officers on board the vessel, Managementuling vessels, ship's Master.
4.1 Water
Water is available at all times.
4.2 If the results of any test of a seafarer fail to meet the required standard, the vessel will be denied entry to port.
4.3 Any individual who fails a drug and alcohol test will be denied entry to the vessel.

Image Source: NYK SHIPMANAGEMENT PTE LTD

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Section 2: Certification and Personnel Management



ECDIS Training - Generic and Type specific familiarization should be provided to all on-signing deck officers before they take charge of an independent navigation watch, and each time they join any vessel.

Value-added training courses beyond the STCW provided to on-board engineers?

Air Conditioning System operating well and regularly maintained? (Ideal temperatures of 22 °C to 27 °C with relative humidity of 40% to 60%)



Image Source: NYK SHIPMANAGEMENT PTE LIMITED SINGAPORE



Image source: unknown pictures on THEMETAPICTURE.COM

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Section 3: Navigation

- Master's Standing orders issued & explained
- Bridge Order Book (Night orders) to be written daily and signed by OOW's
- Log books, Bell Books, etc. updated
- Maneuvering information displayed on bridge and its familiarity by the OOW's

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Image Source: NYK

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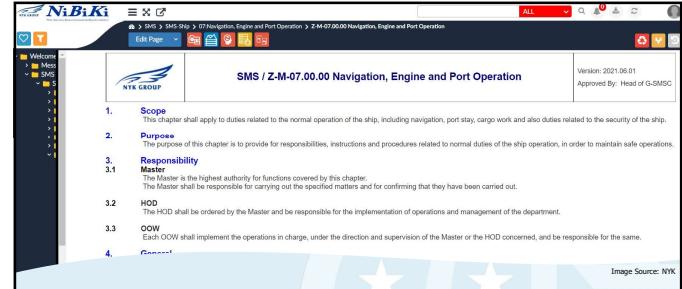


Image Source: NYK

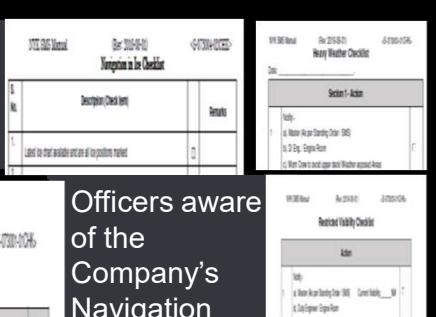
Section 3: Navigation

- Practical guidance on navigational safety incorporated in the Company's SMS? (Navigation instruction / procedures)
- Officer's to be familiar with the company's navigation procedures

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Section 3: Navigation



Officers aware of the Company's Navigation Checklists and are they being used appropriately?



Image Source: NYK

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Section 3: Navigation

Bridge equipment tests conducted & records maintained





UKC and air draft in compliance with SMS Policy?





Master/Pilot Info Exchange

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4.3 Ship safety Patrol

4.3.1 Inspection Rounds (At Sea)

a) The off-watch COB and duty AB from sunset to sunrise shall carry out inspection rounds of the ship and enter the results in the ship's log book.

d) During LMS condition of Engine Room -

i) The Master and the CE shall ensure that Engine room fire rounds are executed every two hours or less

Image Source: NYK

Section 3: Navigation

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- Fire and safety rounds to be conducted at the end of each watch
- The officer of watch should not be the sole look-out during hours of darkness.

Section 3: Navigation

Bridge Manning Matrix posted on Bridge & complied with?

A. Watch Levels							A. Watch Levels / Job Description							
Job	Conn.	Traffic	Communi-	Naviga-	Others	Look	Steerin-	Respon-	Inspec-	Maneuv-	Monito-	Attend-	Record-	Assist-
Job	Taking the conn.	Radar ARP A	VHF	Fixing Position	Engine Telegraph	Look out	Steering	Overall charge	tion Round s	ing (as applicable)	Parame	to Alarms	keepin	as requi
W.Level 1-1					Steering, Engine Monitoring, Record Keeping									
W.Level 1-2	Master					OOOW	AB	Duty Engineer						Oiler
W.Level 1-3	Master		Extra Officer			OOOW	Look out [*]	W.Level el-1						Oiler
								Chief Engineer						Duty Engineer

All Nav Equipment in good condition?

Echo sounder to be used during transit of shallow waters & recorder chart to be initiated suitably

Image Source: NYK

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Section 3: Navigation

Nav lights & Emergency Lights working & regularly tested

At least 3 spare bulbs and a portable battery pack should be available for Aldis Lamp

BNWAS to be operational and key in Master's custody only

Gyro & Magnetic compass operational and adjusted (Deviation less than 5 Deg)?

Deck officers to be familiar with VDR download procedure and SMS requirements with regards to playback

Image Source: NYK

35

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Section 3: Navigation

Master and OOW's competent with the operation of ECDIS (Safety Settings, Manual Posn fix, Knowledge of SCAMIN / CATZOC, etc.)

ECDIS type approval with adequate, independent back-up arrangements in place (Latest version of the ECDIS presentation library edition 4.0 installed?)

Image Source: NYK

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Section 3: Navigation

- Chart and publication management system to be implemented to ensure that all charts and publications are up to date (RightShip recommends that a shore-based company be engaged to provide the above support services e.g. Chartco)
- Berth-to-berth passage plan should be comprehensive and approved by the master, only after the visual check and route validation have been completed.
- User charts to be marked with No Go Areas, Parallel Indexing, Abort points, etc.

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Section 3: Navigation

- For the previous voyage of the vessel, the inspector is likely to check:
- If the vessel has been safely navigated in compliance with international and inland regulations
- If the track of the ship was monitored at sea and during pilotage using Parallel indexing, Radar fixes, etc.
- If the appropriate largest scale charts and publications were used and safety check of the route was carried out
- If there is a record of the ECDIS route checking alarm summary
- If the vessel utilized a weather routeing service
- Measures that had been taken to ensure compliance with environmental requirements and regulations
- If T&P NM's and Navigation Warnings were correctly used in Voyage planning and monitoring and correctly displayed on ECDIS (AIO or as a manual update)?

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Recent Rightship Finding

No.	Code	Comment	Date	Age
42	Safety of Navigation	Abort positions were not included in the passage plan to the port of Ust-Luga.	20/1/2022	9

Question: What are the possible root causes and corrective action plan?

Charts to be suitably marked with Abort points, WO positions, Contingency Anchorage, etc. Proper training of OOW's to be enforced to prevent recurrence.

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Section 4: ISM System

- SMS being effectively implemented on board
- Internal and External Audits (Corrective action in place and findings suitably closed)

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40

Section 4: ISM System

Master's review of SMS (reported to Office and feedback received?)

41

Section 4: ISM System

Safety Officer appointed and suitably trained (Attended safety officer's training course)
Are they familiar with principles and practice of risk assessment?

42

Section 4: ISM System

- Are enclosed space entry procedures defined, up to date and accurate in the SMS (Included as Key Shipboard Operations) and are ship's personnel familiar with same?
- Ship Specific list of enclosed spaces to be clearly defined
- Appointment of a 'qualified' Competent person and Attendant during enclosed space entry

43

Section 4: ISM System

Enclosed space rescue drills conducted regularly and record maintained?
Various checks conducted during each Drill (PPE, Communication equipment, gas measurement, rescue equipment, first aid and resuscitation techniques, etc.)

44

M-SCAT®
Marine Systematic Cause Analysis Technique

Procedures in place for reporting, investigation and close-out of non-conformities, accidents and Near Miss and same being followed on board.

Section 4: ISM System

Image Source: NYK

45

Section 4: ISM System

- SMS procedures for control of Hot Work to be effectively implemented on board and evidence available.
- Normally, ER workshop designated for hot work and first consideration given to performing any hot work in that space.
- Hot work in places other than the workshop should be the subject of a permit to work.

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Section 4: ISM System

- Specific permit to work system and effective Lock-Out/Tag-Out (LOTO) system to be in place and effectively implemented for all high-risk duties, such as Entry into enclosed spaces, Hot work, Working aloft or overside, etc.
- Rightship Inspector is likely to scrutinize closely any permit issued during his visit and give finding against any shortcuts or omissions in the permit.

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Section 4: ISM System

Schedule of Drills and Exercises effectively conducted on board to address all potential emergency shipboard situations such as Fire, abandon ship and rescue boat drill, Em'cy Steering drill, collision, grounding, flooding, heavy weather damage, cargo damage, rescue from enclosed spaces, serious personal injury, pollution clean-up, emergency operation of hatch cover, etc.

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Section 4: ISM System

NYK GROUP

- Usage of appropriate PPE as per PPE Matrix
- Usage of Respiratory Protective Equipment (RPE) and Safety goggles in case of dusty cargoes

Image Source: NYK
NYK SHIPMANAGEMENT PTE LTD

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Section 4: ISM System

NYK GROUP

- On-board Safety meetings to be conducted regularly, reviewed by the vessel's manager and feedback provided where necessary
- Every ship with five or more seafarers must have a Safety Committee which will include the master, safety officer and any elected safety representatives.

Sample feedback from VM
Image Source: NYK
NYK SHIPMANAGEMENT PTE LTD

50

Section 4: ISM System

NYK GROUP

- Use of ship-shore safety checklist(C/L) and compliance with the items checked
- The purpose of the ship/shore safety checklist is to improve working relationships between ship and terminal, and thereby to improve the safety of operations
- Rightship requires its Inspector to record an NC in case of an incomplete ship/shore safety checklist and/or non-compliance with the checklist.

Image Source: NYK
NYK SHIPMANAGEMENT PTE LTD

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Section 4: ISM System

NYK GROUP

Designated Smoking Areas properly identified and evidence of stevedores acceptance of ship's 'No Smoking Policy'

Image Source: NYK
NYK SHIPMANAGEMENT PTE LTD

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Section 4: ISM System

- Are portable multi-gas detectors available on board and in good condition (for measurement of O₂, % LFL, CO and H₂S)?
- Gas detectors should be calibrated in accordance with the manufacturer's instructions (Manual to be available) and officers should be trained and competent with their operation
- RightShip recommends vessels to carry at least two portable multi-gas detectors with a built-in sample pump
- A personal multi gas detector must never be used as a substitute for portable multi gas detector



Image Source: NYK

NYK SHIPMANAGEMENT PTE LTD



Section 4: ISM System

- Water ingress detector systems (WIDS) and alarms maintained in good condition and test records available?
- The audible and visual alarms shall be located on the navigation bridge

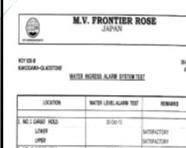


Image Source: NYK

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Section 4: ISM System



Is the Welding and gas equipment (Piping, valves and flashback arrestors) in good condition and properly stored?

- Oxygen & Acetylene stored separately
- Annual check of gas equipment done by manufacturer's competent engineer
- Cylinders disconnected from piping when not in use
- PPE onboard, posters for gas equipment and welding posted



Image Source: NYK

NYK SHIPMANAGEMENT PTE LTD

Section 4: ISM System

- LSA and FFA in good condition, maintained regularly as per SOLAS requirements and records available?
- Lifeboats, Liferafts, rescue boats, their launching equipment and embarkation ladders in good condition and serviced periodically
- Immersion suits and lifejackets in good condition, allocated as per safety plan, and Donning instructions clearly displayed?



Image Source: NYK

NYK SHIPMANAGEMENT PTE LTD

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Section 4: ISM System

- Fixed fire detection and alarm systems and Fixed fire extinguishing systems have been inspected, tested at regular intervals and maintained in good condition?
- Emergency Fire Pump, portable fire extinguishers, fireman's outfit, fire mains, isolation valves, fire boxes, hoses, nozzles, etc. regularly inspected, maintained and in good condition
- International Shore Connection clearly marked, well maintained and crew aware of its location
- Sample of Foam compound, applicable to both fixed and portable systems, been sent for regular testing and results available.
- SCBA's and EEBD's well maintained and located as per plan.

Image Source: NYK

57

Section 4: ISM System

- IMO symbols displayed appropriately and in good condition
- Material Safety Data Sheets (MSDS) for all bunkers, chemicals, paint, corrosive, and toxic materials available, and crew familiar with their contents

Image Source: NYK

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Section 4: ISM System

- Accommodation Ladder rigged properly
- Bottom step securing pins in place
- Adequate lighting available
- A lifebuoy with a self-igniting light and a buoyant lifeline available
- Angle of Inclination not greater than 55° from the horizontal
- A safety net rigged beneath the ladder from the ship to dockside
- Ladders marked with SWL, angles of operation, etc

Image Source: NYK

59

Recent Rightship Finding

No.	Code	Comment	Date	Age
48	Safe Access	Gangway safety net rigged on each side of the Gangway railing. It was not in accordance with ILO publication 'Accident prevention on board ship and in port' para 8.1.13. It is required to be rigged from the wharf, underneath the gangway and upto the ship side.	03/6/2019	20

Question: What are the possible root causes and corrective action plan?

Gangway net to be rigged appropriately as mentioned above and crew to be suitably trained and monitored to ensure same.

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Section 4: ISM System

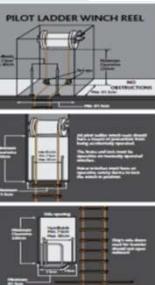
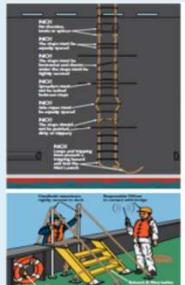


Image Source: NYK

REQUIRED BOARDING ARRANGEMENTS FOR PILOT

As per SOLAS Chapter V Regulation 19(4)(a) and 19(4)(b)

INTERNATIONAL MARITIME PILOTS' ASSOCIATION

H.Q.S. "Wellington" Temple, 50-52 Victoria Embankment, London WC2B 2PF Tel: +44 (0)20 7240 3973 Fax: +44 (0)20 7240 3918 Email: office@impa.org

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Pilot ladder in good condition, inspected regularly, clearly identified with tags or with permanent marking and are maintenance records available ?

NYK

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Section 4: ISM System

- Vessel must have a Ship specific SOLAS training manual, Fire Safety Training Manual and Fire Safety operation booklet, and same should be updated (matches the equipment onboard)
- The above manuals should be written in the working language of the ship and shall be provided in each crew mess room and recreation room or in each crew cabin

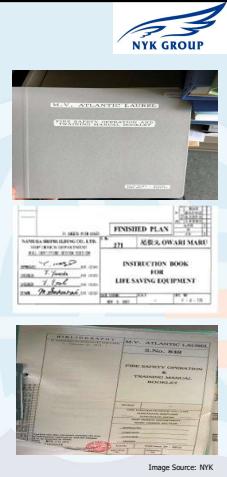


Image Source: NYK

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Section 4: ISM System



- Helicopter operating area meets the requirements of ICS guidelines
- Is there a safe access from the hatch cover to deck?
- Helicopter Hatch strength confirmation Certificate available from class and Design load marked?
- Ship staff familiar with helicopter operations at sea (Helicopter safety checklist used and RA carried out)

STRENGTH CALCULATION

HATCH COVER

HELICOPTER LANDING AREA

SHIP YARD : HYUNDAI HEAVY INDUSTRIES CO. LTD.
HULL NO. : H2389
TYPE : 168,000 DWT BULK CARRIER
OWNER : NYK
DATE : 28. DEC. 2011.



Image Source: NYK

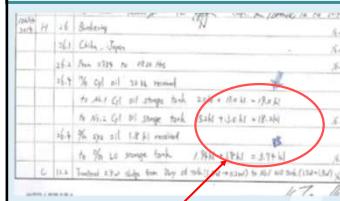
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Section 5: Pollution Prevention and Control



Oil Record Book (Part 1) to be completed correctly



Sample Incorrect entry



Image Source: NYK

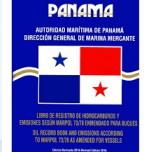
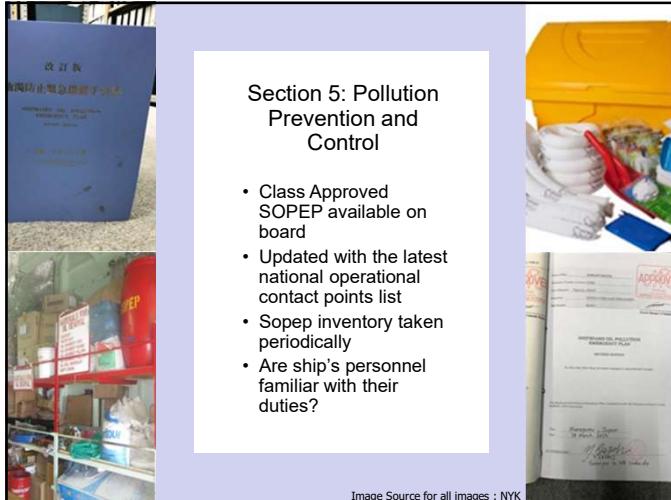


Image Source: NYK

When disposal of engine-room oil water or sludge to a shore reception facility has taken place, the entry in the Oil record Book shall be made accurately and in consistency with the shore reception facility receipt.



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Section 5: Pollution Prevention and Control

NYK GROUP

Marpol Annex V requirements related to handling of operational waste incident to hold cleaning and handling of cargo residues

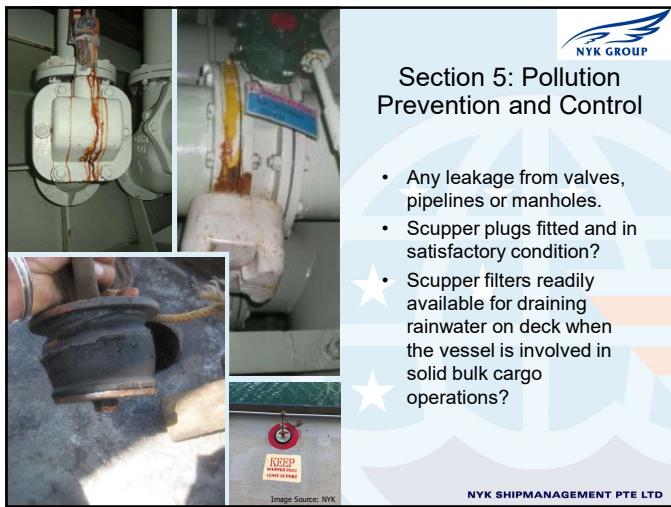
CARGO RESIDUES

Simplified overview of the discharge provisions regarding cargo residues of the revised MARPOL Annex V

Type of portage	Where remote port areas	Where remote open areas	Offshore port areas
Cargo residues not containing oil or oily mixtures and which are contained in waste water	Discharge practice: Discharge permitted	Discharge practice: Discharge permitted	Discharge practice: Discharge permitted

Source: Skuld NYK SHIPMANAGEMENT PTE LTD

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Section 5: Pollution Prevention and Control

NYK GROUP

Cargo hold bilge pumping systems and bilge arrangements appropriately set, in good order and tested?

Bilge high level alarms and Non-return valves must be inspected and tested to ensure they are fully operational.

Image Source: https://officerofthewatch.com

Image Source: Skuld

Flow back prevented Inflow allowed

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Section 5: Pollution Prevention and Control

Is the sounding of cargo hold bilge, ballast tanks, chain lockers, pipe ducts and other void spaces regularly performed and records maintained?

TANKS AND BILGES DAILY SOUNDING RECORDS		Month	Year
		JULY 2012	
DATE	Conning	Quantity	Remarks
No. 1 WHT	C 1211.84	7-76	350
No. 2 WHT	C 1211.84	7-76	350
No. 3 WHT	C 1211.84	7-76	350
No. 4 WHT	C 1211.84	7-76	350
Total	4 698.88	15-19	1478




Image Source: NYK
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Section 5: Pollution Prevention and Control

- Arrangements for detection and disposal of water from forecastle store and chain locker in good order and are measures in place to prevent the accidental discharge of oil (Placards posted)?
- Approved ballast water and sediment management plan provided and complied with
- BWTS in good condition and Officers familiar with its use
- Ballast Water Record Book properly maintained.

BILGE EDUC.DRIV. BOSUN'S STR.

BALLAST WATER MANAGEMENT PLAN (MANUAL)

APPROVED

Ballast Water Management Plan - NYK TWISTER-MAX

M.S. "ELIZABETH SALUTE"

Image Source: NYK
NYK SHIPMANAGEMENT PTE LTD

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Section 5: Pollution Prevention and Control

- Ballast pumping systems, their associated instruments, controls, valves, and pipework in good order and is there recorded evidence of regular inspection?
- Ballast tank manholes being maintained in good condition
- Condition of rubber gaskets and fastening bolts?






Image Source: NYK
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Section 5: Pollution Prevention and Control

- Emergency and Direct bilge suction and emergency overboard discharge valves in good order, sealed with numbered seals and marked with a notice warning against accidental opening.
- Area around the bilge injection suction bellmouth clear of debris and clean
- Arrangements for sludge collecting pumps free from any connection to a direct overboard discharge?

DON'T OPEN W/O C/E PERMISSION

DIRECT BILGE SUCTION B.W. PORT

Image Source: NYK

72



Image Source: NYK

Section 5: Pollution Prevention and Control

- Engine Room Bilge pumping system and Oily Water Separator (OWS) in good order and being operated in accordance with MARPOL requirements?
- Have specific warning signs been posted at the Oily Water Separator overboard discharge valve and effective sealing arrangements implemented to prevent accidental opening?
- Is the steering compartment oily bilge water discharge arrangement satisfactory?

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Section 5: Pollution Prevention and Control

- Has the vessel been provided with a specific Ship Energy Efficiency Management Plan (SEEMP) and an International Energy Efficiency Certificate (IEE)?
- Planning, implementation, monitoring, self-evaluation and improvement are the four key processes of the SEEMP.
- Declaration been provided by the shipper as to whether the cargo is harmful to the marine environment or not (HME)
- HME waste must be discharged to an onshore waste reception facility.

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Section 5: Pollution Prevention and Control



Garbage management plan provided?
GRB maintained properly?

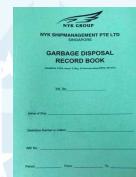


Image Source for all images : NYK

Garbage storage and disposal facilities in a tidy and hygienic condition?



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Section 5: Pollution Prevention and Control

- If the vessel is provided with an exhaust gas cleaning system (scrubber system) are the engineers familiar with its safe operation and have procedures been incorporated in the SMS?
- Is the system approved by the classification society?
- Rightship requires it's Inspector to record an N/C if there was soot on the water surface, which have been traced to the wash water discharge from vessels using an 'Open Loop Scrubber'.

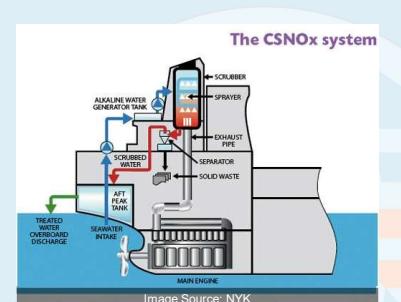


Image Source: NYK

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Section 6: Ship's Structure

- Any Hull repairs unreported to class?
- It is the responsibility of the shipowner to maintain and repair the vessel in periods between regular surveys.
- Significant hull defects to be reported and repaired to the satisfaction of the class society.
- Rightship requires it's Inspector to Record a NC if documents or visual evidence indicated that unauthorised hull repairs have been carried out

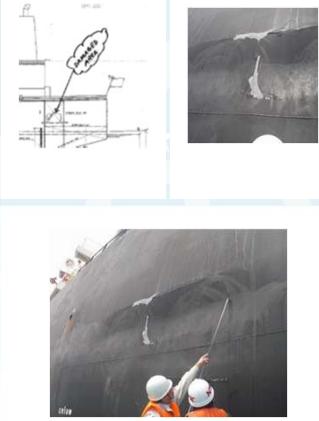


Image Source: NYK



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Section 6: Ship's Structure

- Cargo holds, ballast tanks, void spaces, trunks, duct keel and cofferdams to be regularly inspected by ship's personnel and records maintained
- After every discharge and each cleaning, cargo holds should be formally inspected by the Master or Chief Officer.
- The ballast tanks, void spaces, cofferdams, and duct keel should be inspected at least annually.

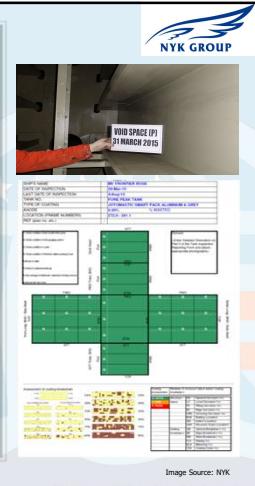
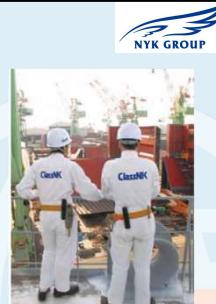


Image Source: NYK

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Section 6: Ship's Structure

Is the enhanced survey report file adequately maintained and does the condition evaluation report confirm the fitness of the ship for its intended service for the next five years?



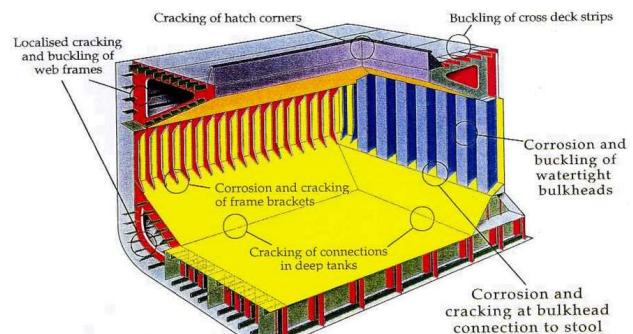
ADOPTION OF AMENDMENTS TO THE GUIDELINES ON THE ENHANCED PROGRAMME OF INSPECTIONS DURING SURVEYS OF BULK CARRIERS AND OIL TANKERS (RESOLUTION A.95(1), AS AMENDED)

Image Source: NYK

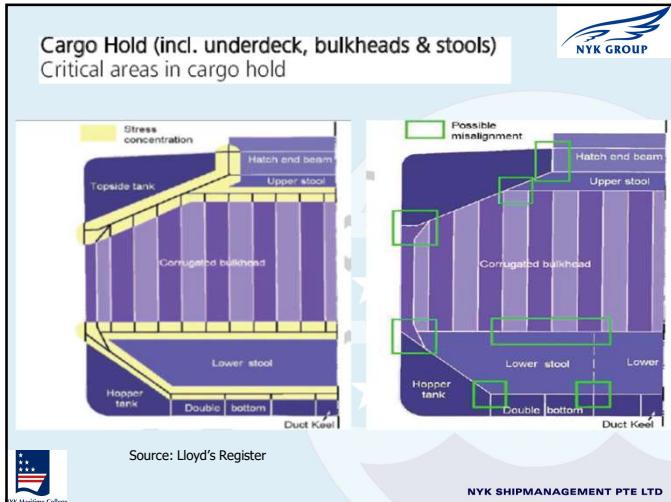


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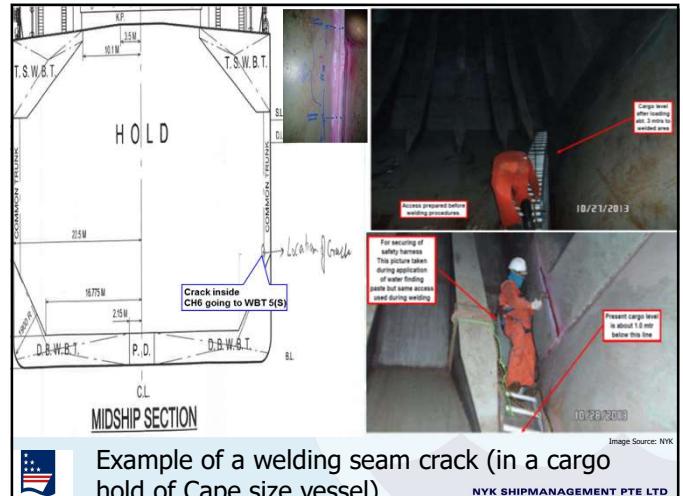
Structural Problems: Bulk Carrier



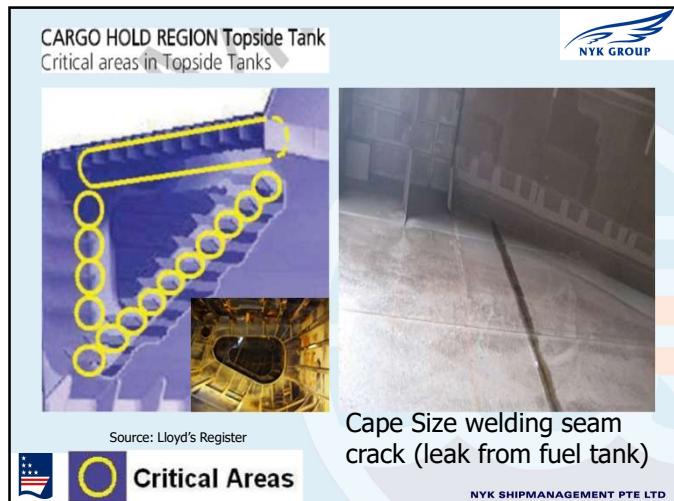
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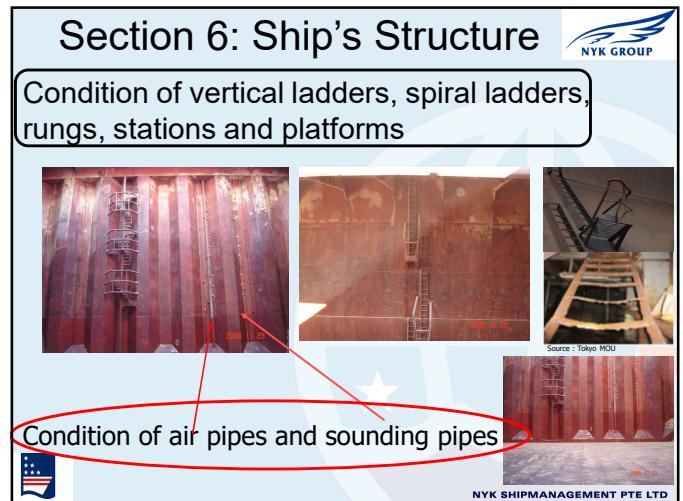
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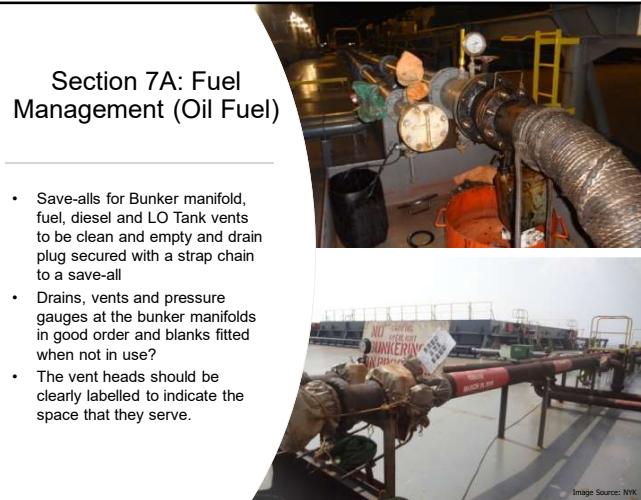


Section 6: Ship's Structure

- If the vessel has a duct keel, is the access, mechanical ventilator, and lighting adequate and is it free of water?
- Are cargo hold ventilation systems being maintained in good condition?

Image Source: NYK

85

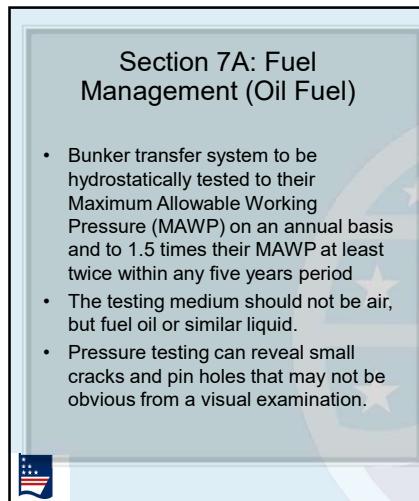


Section 7A: Fuel Management (Oil Fuel)

- Save-alls for Bunker manifold, fuel, diesel and LO Tank vents to be clean and empty and drain plug secured with a strap chain to a save-all
- Drains, vents and pressure gauges at the bunker manifolds in good order and blanks fitted when not in use?
- The vent heads should be clearly labelled to indicate the space that they serve.

Image Source: NYK

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Section 7A: Fuel Management (Oil Fuel)

- Bunker transfer system to be hydrostatically tested to their Maximum Allowable Working Pressure (MAWP) on an annual basis and to 1.5 times their MAWP at least twice within any five years period
- The testing medium should not be air, but fuel oil or similar liquid.
- Pressure testing can reveal small cracks and pin holes that may not be obvious from a visual examination.

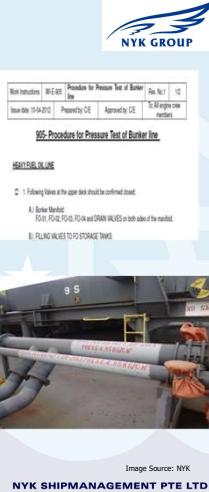
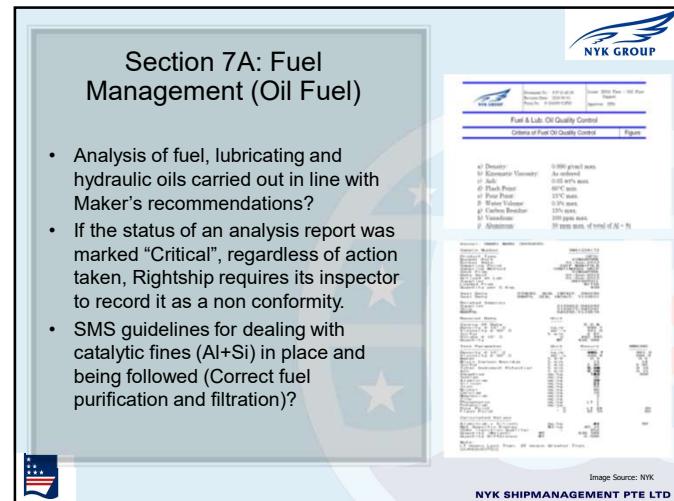


Image Source: NYK
NYK SHIPMANAGEMENT PTE LTD

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Section 7A: Fuel Management (Oil Fuel)

- Analysis of fuel, lubricating and hydraulic oils carried out in line with Maker's recommendations?
- If the status of an analysis report was marked "Critical", regardless of action taken, Rightship requires its inspector to record it as a non conformity.
- SMS guidelines for dealing with catalytic fines (Al+Si) in place and being followed (Correct fuel purification and filtration)?

Image Source: NYK
NYK SHIPMANAGEMENT PTE LTD

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Section 7A: Fuel Management (Oil Fuel)

Bunkering and oil transfer ops planned and executed according to SMS?
(Inspector is likely to check records for previous bunkering to verify above)

Image source for all images: NYK

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NYK GROUP

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Section 7A: Fuel Management (Oil Fuel)

Emission Control Area (ECA) requirements complied with (Fuel Oil for ME, AE & Boiler to contain a maximum of 0.10% sulphur)
If modification of the burners and control equipment is required, is it Class approved?
Ship specific procedures available for Fuel change over?
Is the fuel oil change over logbook and data collection system being maintained correctly?

PROCEDURES FOR ME FUEL CHANGE OVER

Change over from "D.O" to "B.F.O" during running condition
 Open return valve of ME FO burner
 a. 30 s. 1 ME FO burner inlet 120°C / 120°C outlet 120°C
 b. 30 s. 2 ME FO burner inlet 120°C / 120°C outlet 120°C

MODIFIED PIPELINE DIAGRAM

Image source: NYK

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Section 7A: Fuel Management (Oil Fuel)

Quick Closing Valves of the fuel system regularly tested & in good order
High pressure fuel delivery pipes of diesel engines protected with a jacketed piping and alarm system
Is the alarm system being tested regularly and in good order?
Is the reserve fuel tank of the emergency generator filled with sufficient fuel of a suitable type for at least 18 hours operation at full load?
Purifier rooms well ventilated, free of oil leaks and clean

Image Source: NYK

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Section 8A: Cargo Operation - Solid Bulk Cargo other than Grain

SOLAS
MARPOL
BLU CODE
IMSCB CODE

Vessel staff aware of SMS procedures for safe carriage and handling of bulk cargoes and relevant publications available onboard
Appropriate information about the cargo and its characteristics been provided to the master prior to loading? (e.g. Information about the cargo's physical and chemical properties, correct Shipping Name, etc.)

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Section 8A: Cargo Operation - Solid Bulk Cargo other than Grain

- Has the Master been provided with a signed certificate or declaration, indicating the moisture content, Transportable Moisture Limit (TML) and density?
- The date of TML cert must not be more than 6 months old and MC cert not more than one week old.
- Cargoes which may liquefy shall only be accepted when the actual moisture content is less than the TML.

Image source for all images : NYK
NYK SHIPMANAGEMENT PTE LTD

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Section 8A: Cargo Operation - Solid Bulk Cargo other than Grain

- Is information on the ballasting and de-ballasting rate, the maximum allowable load per unit, the surface area of the tank-top plating, the maximum allowable load per hold, etc. readily available and prominently posted?
- Inspector may enquire regarding same to check the knowledge level of officers

Image Source: NYK
NYK SHIPMANAGEMENT PTE LTD

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Section 8A: Cargo Operation - Solid Bulk Cargo other than Grain

- Approved damaged stability / stability and loading booklet available
- Any limitations or restrictions specified in the Loading Manual or Trim and Stability Booklet?
- Is a Class-approved loading computer or program in use and has the operational accuracy been regularly tested and records maintained?
- The computer software shall be approved for stability calculations by the Administration and shall be provided with standard conditions for testing purposes relating to the approved stability information.

Image Source: NYK
NYK SHIPMANAGEMENT PTE LTD

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Section 8A: Cargo Operation - Solid Bulk Cargo other than Grain

- Are the stresses, stability information and any limitations included in the cargo plan understood by the cargo watch officers?
- Are conditions being monitored and maintained within design limits throughout the cargo operation?
- If a significant deviation from the agreed loading/unloading plan is detected, all cargo and ballast operations must STOP.
- The cargo operation and intended ballast/de-ballast procedure should be synchronised

Image Source: NYK
NYK SHIPMANAGEMENT PTE LTD

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Image Source: NYK

Section 8A: Cargo Operation - Solid Bulk Cargo other than Grain

SMS guidelines and procedures in place for:

- Loading, ballasting and de-ballasting of the designated ballast holds
- Hold cleaning after completion of unloading (Hold cleaning matrix for change of cargo and hold cleaning inspection checklist to be followed)

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Section 8A: Cargo Operation - Solid Bulk Cargo other than Grain



- Officers familiar with Cargo carriage requirements and cargo hazards such as oxygen depletion, emission of toxic gases, self-heating.
- Have precautionary measures to minimize the risk of potential liquefaction and chemical reaction within the cargo during the voyage been incorporated in the procedures and followed?
- Details of cargo care during the voyage been adequately recorded (Ventilation, Temperatures, Bilge sounding/PH testing, Bilge pumping, Gas measurements as applicable)

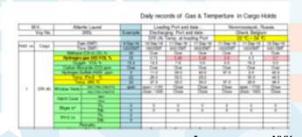


Image source : NYK

NYK SHIPMANAGEMENT PTE LTD

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Section 8A: Cargo Operation - Solid Bulk Cargo other than Grain

Cargo loading/unloading plan providing a detailed sequence of cargo and ballast transfer been prepared, understood, and signed off by the master and deck officers?

LOADING SEQUENCE FOR CARGO	BALLAST MANEUVER LOGS

Record of all cargo operation activities maintained during loading and unloading (Ballast and cargo operations log)

CARGO MANEUVER LOGS	BALLAST MANEUVER LOGS

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Section 8A: Cargo Operation - Solid Bulk Cargo other than Grain

- Coal cargo equipment available for measuring the temperature of cargo, monitoring the atmosphere of the cargo hold (Methane, Oxygen, CO) and checking the pH value of cargo bilge sample
- Is any special emergency equipment required by IMSBC on board (as applicable) and in a state of readiness during the cargo operation?

RECORD FOR GAS & TEMPERATURE IN CARGO HOLD	RECORD FOR GAS & TEMPERATURE IN CARGO HOLD

Image source : NYK

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Image source : Pexels

Section 8B: Cargo Operation – Bulk Grain

- For carriage of grain in bulk, has the vessel been provided with an approved document of authorisation and grain stability booklet (Grain Loading Manual)?
- Has the grain cargo been examined and sampled during loading to ensure that the apparent conditions meet the requirements as described in the cargo documentation?
- Is there recorded evidence of regular monitoring? (E.g. temperature, colour, dryness, dampness, free-flowing, lumps, etc., should be recorded)

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Section 8B: Cargo Operation – Bulk Grain

- Hold cleaning guidelines and procedures in place? (To achieve Hospital clean or Grain clean, where applicable)
- Has the ship's hold inspection certificate been issued by a 3rd party prior to loading grain?
- Officers familiar with the hazards associated with grain such as shift of grain, contamination, ingress of water, moisture migration, inadequate surface ventilation, etc.
- Hatch covers been ultrasonically tested for weather tightness before loading grain?

Image source : NYK

101

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CHECKLIST FOR IN TRANSIT FUMIGATION

Master _____
Port _____ Terminal/Quay _____
Ship's name _____ Type of fumigant _____ Method of application _____
Date of fumigation _____ Name of fumigator/company _____

The master and fumigator-in-charge, or their representatives, should complete the checklist jointly. The relevant sections of the checklist should be checked off to indicate that the requirements of DRAFT MSC.1/Circ.1264, paragraphs 3.3.2.1, and 3.3.2.2 are carried out fully for each fumigation operation.

Safety of operations requires that all questions should be answered affirmatively by taking the appropriate action. If this is not possible, the reason should be given and operation rescheduled upon

Image Source: NYK

Section 8B: Cargo Operation – Bulk Grain

- Fumigation instructions, procedures and contingencies provided to the Master prior arrival load port
- Master's appointed representatives for fumigation suitably trained (one officer and one crew member)
- Pre and Post fumigation statements provided to the Master
- Sealing of areas containing fumigants and adjacent areas with visible warning signs and compliance with fumigation checklist (Before and after fumigation)
- Air con intakes controlled as required to prevent the possibility of drawing in fumigant gas
- Adequate procedures in place for entering cargo holds under fumigation, in emergency cases only

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Image source : NYK

Section 8B: Cargo Operation – Bulk Grain

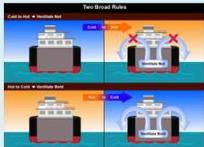
- Information about fumigants passed on to discharge port prior arrival (E.g. the type of fumigant used, the date of fumigation, etc.)
- Gas Free Certificate provided prior start of discharge operations?
- Records of Fumigation operations maintained?

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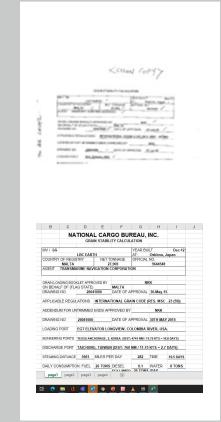
Section 8B: Cargo Operation – Bulk Grain

- Are necessary instruments (with spares) to determine the dew point provided, maintained in good condition and are there records of the calibration of such instruments?
- Cargo hold ventilation criteria available onboard? (Dew point rule, three degree rule or shipper specified criteria)

Image source for all Images: NYK

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Section 8B: Cargo Operation – Bulk Grain

- Grain stability calculations available and comply with Grain stability requirements
- Total grain heeling moment at each stage of the voyage is less than the corresponding maximum permissible grain heeling moment?
- Hold bilges cleaned and dried prior to loading and made grain tight with hessian or similar porous material, so as to prevent the entry of grain into the bilge well, but to permit the entry of water

Image source : NYK

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Image source : NYK

Thank You

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1



2

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1. Procedure
1.1 Hatch Covers Maintenance Guidelines

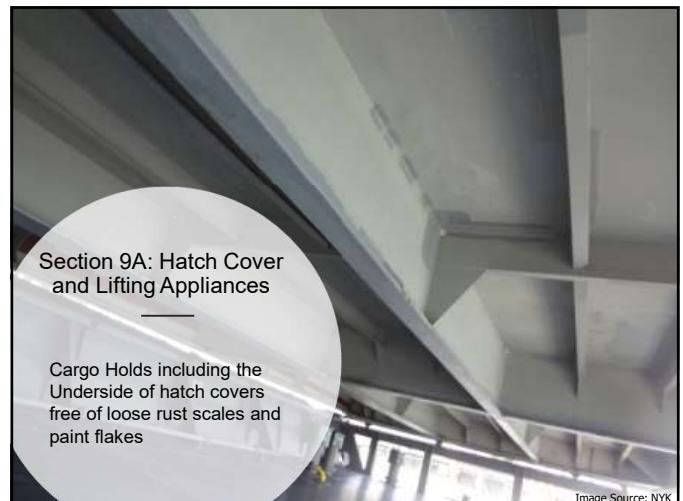
1.1.1 Hatch Cover Paint - Corrosion reduces the strength of a hatch cover. Therefore, dry corrosion leads to holes in the top plate. Hatch covers and earnings, including running support frames should be repainted and the front significant corrosion, coated and isolated.

Image Source: NYK

Section 9A: Hatch Cover and Lifting Appliances

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3



4



Section 9A: Hatch Cover and Lifting Appliances

- Is the master / chief officer suitably trained in the inspection and maintenance of hatch covers?
- RightShip recommends that master and chief officer attend formal Hatch Cover Inspection and Maintenance training (shore-based and/or onboard) course. The onboard training course shall be conducted by a manufacturer's representative and shall be properly documented.



5

Section 9A: Hatch Cover and Lifting Appliances

- Procedures in place for carrying out hose and / or ultrasonic testing of hatch covers and records of testing available
- RightShip recommends that the weather tightness of hatch covers should be checked at least once every 3 months.
- The following parameters can be used for a hose test: Water pressure 2 bar, Nozzle size 15 - 18 mm, Spraying distance 1 - 1.5 m.
- In case of steel cargo shipment, weather tightness of hatch cover should be carried out by means of ultrasonic testing, before loading and in the presence of the loading surveyor



Image Source : NYK

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Section 9A: Hatch Cover and Lifting Appliances



Compression bars/coaming top water channels clean, free of corrosion and maintained in good condition.



Drain holes clear, inboard coaming faces with absence of rust stains, NR valves in good condition



Image Source : NYK

7

- Cleats & holders in good working condition (free of corrosion or bending, well greased and adjusted)?
- Clear rubber washers still elastic and free from Paint and crack
- Hatch panel side and end plates with any steel to steel contact with coaming?
- Coaming tops free of grooves?



Image Source for all Images: NYK

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8



- Bearing pads (also known as Rest pads) free from wear and damage?
- Bearing pads should be replaced with original spares only. Rightship recommends that manufacturers or specialists are consulted for bearing pad adjustment.
- Side and Cross-joints rubber seals in good condition?
- Packing rubbers are designed to be compressed to a certain depth referred to as 'Design Compression' (rule of thumb: design compression = 25% of the nominal thickness of the packing rubber)

Section 9A: Hatch Cover and Lifting Appliances

9

Section 9A: Hatch Cover and Lifting Appliances



- Hatch cover panels free of misalignment?
- The permanent deflection of rubber seals should be in the center of the rubber and not to one side. Non-central permanent set may indicate misalignment of panel.



10

Section 9A: Hatch Cover and Lifting Appliances

Image Source for all Images: NYK

- Rubber seal retaining channels free of corrosion and in good condition?
- Are the cross-joint seal retaining channels and the cross-joint compression bar straight, free of corrosion and damage, and are the channel supports and brackets in good condition?

11

Section 9A: Hatch Cover and Lifting Appliances

Are the following parts of hatch covers, where applicable, all in good order and do they appear to be well maintained?



Image Source: NYK

12

Section 9A: Hatch Cover and Lifting Appliances

- Wheels/bearings or track-way
- Hydraulic system including hoses

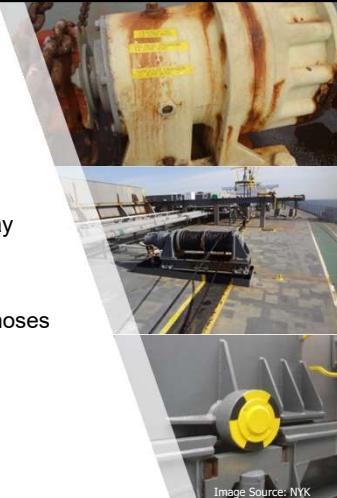


Image Source: NYK

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Section 9A: Hatch Cover and Lifting Appliances

Chains, Link pin and safety pin



Image Source: NYK

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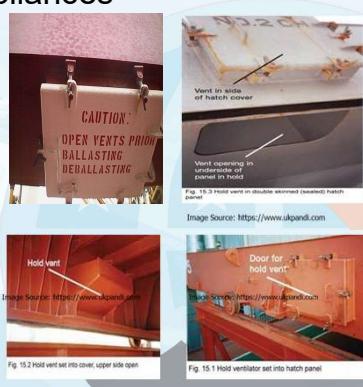


Section 9A: Hatch Cover and Lifting Appliances

- Condition of Cargo holds ventilator on the side and end of hatch panel?
- If fitted with a screen (mesh or louvre type), what is the screen condition?
- Open/close okay?
- Rubber gasket and fastening bolts in good condition?



Image Source: NYK



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Section 9A: Hatch Cover and Lifting Appliances



Image Source: NYK

- Cross-joint wedges and their wedge bridge (where fitted) in place, operational and effective?
- If hatch covers are hydraulically operated, has the hydraulic oil been tested regularly for contamination and deterioration?
- Hydraulic oil should be changed every five years or after there have been significant repairs, such as piping or cylinder replacement.
- Hydraulic oil filters should be changed every twelve months or as per manufacturer recommendation.

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Section 9A: Hatch Cover and Lifting Appliances

- Officers familiar with emergency hatch cover operation arrangements and evidence of effective training of personnel available
- Emergency or auxiliary operation of hatch covers can be executed either by traditional hand pumps and wire pullers or by portable electric pump units, connected either to the on-board electric power system or to shore.



NYK GRO

Image Source: NYK

Work Instructions: WH-D-001-2 | Procedures for Hyd. Machinery Operation | Rev. No.: 1/1

Issue date: 08-03-2016 | Prepared by: GO | Approved by: Manager | To: All deck crew members

D901(Attachment -2) Emergency Operation of Hatch Cover

- OPENING**
- Check if the oil level of the hatch cover portable hyd. pump unit is within range.
 - Plug the cable into socket near Cargo Hold.
 - Connect the quick coupling connector of the hatch cover portable hyd. pump unit to the quick coupling connector at the bottom of the hatch cover control stand. Open knobs (P to P and T to T).
 - Operate at the control knobs until hatch cover is fully jack-up.
 - Operate to open hatch cover sideways with the same knobs.

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Section 9A: Hatch Cover and Lifting Appliances

- Examination and load test records for lifting appliances (including loose gear) available?
- All lifting appliances and loose gear shall be thoroughly examined by a competent person at least once in every twelve months and five yearly load testing shall be carried out when the SWL of the lifting appliance is more than one tonne.
- Hoisting and luffing wires of cranes in good condition, regularly inspected and records maintained.

Image Source: NYK

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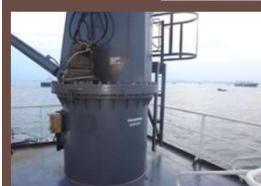
18



Image Source: NYK

Section 9A: Hatch Cover and Lifting Appliances

- Main structures, foundation structures and mountings of the cargo cranes in good condition.
- The holding down bolts and slewing ring should be free of significant corrosion and crane access ladders and platforms in apparent satisfactory condition.
- Machinery of the cargo crane, including controls in the operator's cab inspected, tested, and maintained as per manufacturer's recommendations?



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- Ship's grabs maintained as per manufacturer recommendation and maintenance requirements included in the PMS
- Loose gear of lifting appliances marked with SWL and a batch mark or number, certificates available and traceable

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Recent Rightship Finding				
No.	Code	Comment	Date	Age
24	Loadlines	It was observed that securing cleats of No.1~7 hatch covers at least 10 locations were heavily rusted.	17/1/2018	17

21

Section 10: Mooring Operation



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- Line management plan (LMP) available?
 - Inspection and maintenance of mooring ropes, wires and tail ropes carried out as per SMS criteria & LMP?
 - Wear zone management incorporated in the LMP?
 - Information from safe mooring campaigns, near misses and accidents related to mooring operations should be kept ready for Inspector's checking

BIBLIOGRAPHY		ATLANTIC LAUREL	
1. THE MARSHALL DOCK CO., LTD. 2. HANOVERIAN SHIPYARD 3. MARSHALL DESIGN DEPARTMENT 4. MARSHALL DESIGN SECTION		SNO. 1111	
APPROVED			
By Name _____ Title _____			
TOWING AND MOORING ARRANGEMENTS PLAN			
曳航及び係留設備配図			
FINISHED PLAN			
SCALE			
THE MARSHALL DOCK CO., LTD. HANOVERIAN SHIPYARD MARSHALL DESIGN DEPARTMENT OUTLET DESIGN SECTION			
APPROVED			
CENSORED			
CHECKED			
EXPIRED			
DATE		REF ID: A1234567890	
RELEASER		BAMBOO	
REF ID: B1234567890		P-4	

Image Source: NYK

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Section 10: Mooring Operation

- Certificates of mooring lines and mooring tails available on board?
- A method of correct identification and matching of individual certificates with the mooring ropes and wires should be established on board.
- Procedure for testing the winch brake rendering setting and test records maintained
- Rightship recommends to set the brake at 60% of the ship's design MBL as per OCIMF guidelines in section 6.4.6 of the MEG 4, so as to ensure that the brake will render at a lower load than the ship design MBL.
- RightShip recommends that tests are conducted at least annually.

Image Source: NYK



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Section 10: Mooring Operation



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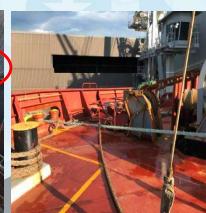
- Mooring lines correctly deployed and tended (to avoid sharp angles, chafing damage or criss cross / overlap)
 - The vertical angle of the mooring lines should be kept to a minimum so as to increase the holding power of the rope.
 - Mooring lines of the same size and material should be used for all leads. If this is not possible, all lines in the same service, i.e., breast lines, spring lines, etc. should be the same size and type.



Mixed Mooring



Sharp angle



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Section 10: Mooring Operation



Sufficient crew members on board to assist in the mooring operation, check and tend the mooring lines at regular intervals.

- e) Minimum Manning
Following minimum personnel shall attend mooring operations:
 - i) Mooring/ Unmooring at berth, Pier, Buoy, STS, SBM: 3 crew and Deck Officer
 - ii) Making fast and letting go of Tug: 3 Crew and Deck Officer
 - iii) Anchoring and heaving up anchor: 2 Crew and Deck Officer
 - iv) Laying up and stowing of ropes/wires on deck: 3 Crew
 - v) Rigging/ Adjusting fire wire (If Applicable): 2 Crew and Deck Officer



SMS / S-P-09.70.02
Safe Mooring Operations
Version 2018.01
Approved By Head of G-MSC

Image Source: NYK

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Section 10: Mooring Operation



Image Source: NYK
NYK SHIPMANAGEMENT PTE LTD

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Recent Rightship Finding



No.	Code	Comment	Date	Age
48	Safe Access	The weather decks walkways (fresh new paint) on portside and starboard side in vicinity of ship middle were not provided with anti-slip protection.	20/1/2022	9

Question: What are the possible root causes and corrective action plan?

Safe walkways with Anti-Slip protection must be provided at all areas of the vessel. Regular inspections to be done by Senior Officers to verify same.



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Section 10: Mooring Operation



- Split drums been set up correctly
- Split-drum winches should not have more than one layer of mooring line on the tension section of the drum because it can reduce the brake holding capacity of the mooring winch
- Mooring tails connected to the main mooring lines in accordance with industry guidance (by cow hitch or by shackle or link as per manufacturer's instruction)

« Tokyo Seiko Rope »
Five(5) or more wraps based on one(1) layer must be always remained on the tension side of the split drum winch at the lines full extension.



Image Source: NYK

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Section 10: Mooring Operation

- Mooring ropes stowed clear of the deck, preferably on a pallet, and mooring stations well lit, clean and free from oil leaks
- Monkey's fist free of any added weighting material?
- The monkey's fist should be made with rope only and shall not exceed 0.5 KG.

<http://survivemastery.com/diy/paracord-monkey-fist.html>

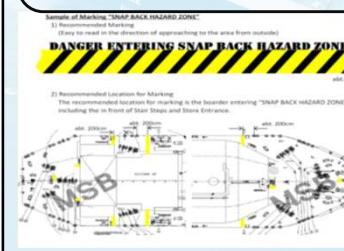


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Section 10: Mooring Operation

No painting of snap back zones, entire mooring area to be marked clearly as a potential snap back zone



Source: GI-07 Safe Operation – 2018/014->Mooring System Management Plan



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Section 10: Mooring Operation



- Appropriate stoppers in use and mooring ropes turned up to bitts correctly
- With fibre ropes, the stopper used should ideally be of the same material as the rope being stopped.
- Controls, linkages, operating levers, brake drums, brake linings and pins of winches appear to be in good order?
- Brake drum free of corrosion, Brake lining free of significant wear, Smooth operation of clutch levers, etc.



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Section 10: Mooring Operation

- Are the fairleads, rollers, bitts, chocks and other items of mooring equipment clearly marked with the relevant SWL?
- The SWL should be expressed in tonnes (letter 't') or in kilo newtons (letter 'KN').



Image Source for all images : NYK

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Section 10: Mooring Operation



Image Source: NYK

NYK GROUP
NYK SHIPMANAGEMENT P

- Are the pedestal fairleads, roller fairleads and other rollers free of grooving, well-greased and free to turn?
- Grooving over part of the surface of the roller indicates that the roller is frozen and that the line/wire is always chafing against the roller in the same area.
- Are the windlasses, anchors, locking bars and cables in good order, operating effectively and is their maintenance incorporated in the plan maintenance system?

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Section 10: Mooring Operation



Image Source: NYK

- Anchors secured tightly in the Hawse pipe? (brake and guillotine in place)
- Chain locker doors firmly battened down?
- Bitter end securing arrangements located outside the chain locker and accessible? (the tools for quick release, sledge hammer, readily available?)

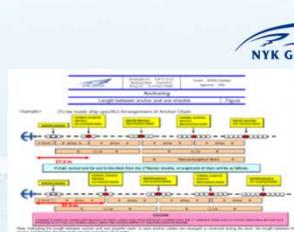


State where anchor chain is not properly stored.

34

Section 10: Mooring Operation

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EM'CY TOWING BOOKLET

Image Source: NYK

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- Master aware of the limitations of anchoring equipment (Max. anchoring depth, critical wind velocity, etc.)
- Ship specific Emergency towing booklet provided (at bridge, forecastle and ship's office)

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Section 10: Mooring Operation



Image Source: NYK

- Does the capsized vessel (DWT 120,000 or more) meet the Pilbara Ports Authority (PPA - Port Hedland) requirements for towing? (In force since 01 Feb 2021)
- Vessel should have at least one set of bitts and Panama leads / roller fairleads on the vessel's aft deck at or near the centreline to be rated to a minimum of 120 T safe working load (SWL).
- PPA Towing Arrangement should be certified by Class.

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Section 11: Radio and Communication

- Has a qualified person other than the master been designated to handle distress and safety radio communication?
- Is communication equipment, listed in the Record of Equipment attached to the Safety Radio Certificate or Safety Certificate (Form R or Form C), in good condition
- Has the GMDSS Logbook (the Radio Log) been maintained correctly and are daily, weekly and monthly tests being carried out?

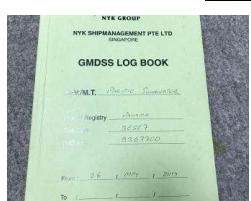


Image Source: NYK

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Section 11: Radio and Communication

- GMDSS batteries well maintained and Battery log kept up to date (Record of annual capacity test in the port)
- Satellite EPIRB correctly installed, maintained and tested - At intervals not exceeding 12 months
- EPIRB ID and other information (Call sign and MMSI of the ship) is clearly marked on the outside of the equipment?



Image Source: NYK

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Section 11: Radio and Communication

- Is the most current edition and up to date List of Radio Signals (or equivalent Digital publication ADRS) available on board?
- Search and Rescue Radar Transponders (SARTs) in good order and tested regularly?
- Each SART should have self-test capability and is subject to annual testing.



Image Source: NYK

39

Section 11: Radio and Communication

- Vessel equipped with sufficient portable two-way UHF radios, for use in general on-board operations?
- Survival craft portable VHF radios in good order and charged? (back up battery seal intact?)
- AIS static, dynamic and voyage data up to date?
- AIS annual test, by approved shore testing facility, performed and record available?



Image Source: NYK

40



Section 11: Radio and Communication

Shore-Based Maintenance Agreement in place to fulfil the maintenance requirements?

MOCOS JAPAN	
SHORE - BASED MAINTENANCE VERIFICATION	
NAME OF SHIP / CALL SIGN	OWARI MARU / 3ENJ3
MARITIME MOBILE SERVICE IDENTITIES	355 915 000
NAVIGATING SEA AREAS	A1 + A2 + A3

Image Source: NYK

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Section 12: Security

- The inspector should not sight the sensitive security materials.
- Access to the ship being controlled by an adequate deck watch? (Crew member permanently posted at gangway)
- Ship Security Officer (SSO) been appointed and trained adequately to perform the duties of SSO? (SSO training certificate available?)
- All crew received security-related training and instructions? (Crew security awareness training certificate available, as per STCW code Reg A-VI/6-1)

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From: 41523571@nammalc.com
To: cs@nykmaritimecollege.com.sg; aud@nykmaritimecollege.com.sg
Cc:
Subject: SSAS ALERT MESSAGE

THIS IS SECURITY ALERT MESSAGE
THE SHIP IS UNDER EMERGENCY
SHIP NAME: OWARI MARU
MMSI:4152357101
CALL SIGN:R 9 D W

TEST TEST
MMSI NO: 4152357101
LAT:43 48.81;LON:133 11.97;TIME:27.12.2015 02:40;DGN: 0.1KT;COG: 54DEG

Image Source: NYK

Section 12: Security

- Deck officers familiar with the function and use of the Ship Security Alert System?
- SSAS tested regularly? (Inspector shall not ask for details or location of SSAS)
- SSAS activation points to be located on the navigation bridge, and in at least one other location.
- Record of security activities maintained.



Section 12: Security

If the vessel transits or may transit a high-risk piracy area:

- Are updated security charts and publications being provided?
- Has a voyage risk assessment been produced?

NYK SHIPMANAGEMENT P	Re: 10-10-01 SOLAS/SECURITY/PIRACY	00000000000000000000000000000000
Ref:	Report No:	Date:
Subject:	Report Type:	Report Status:
Initials:		

General Instruction Letter	NYK Line - 10-10-01 Navigation Instructions for the Gulf of Aden, Bab El Mandeb Strait and Red Sea (High Risk Area)
Details:	

SAFETY BULLETIN	NYK LINE 2015-01-01 2015-01-01 2015-01-01 Original: Marine Group
SUBJECT: NYK MRA Map & Anti-piracy Equipment	

Image Source: NYK
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Section 12: Security

- Is there a procedure for Inspection, test, calibration and maintenance of security equipment? (Are records for above available?)
- Security Drills conducted as per Security Drill Planner?
- Have preventive measures been taken by the master and crew during the stay in port and prior to departure to prevent stowaways?



Image Source: NYK

45

Section 12: Security

- Are cyber security policies and procedures being incorporated in the SMS?
- Was the cyber security management system evaluated and certified by Class?
- Are measures in place for controlling the use of removable media such as USB memory sticks, CDs, DVDs, and diskettes on shipboard computers?
- To avoid unauthorized access, removable media blockers should be used on all physically accessible computers and network ports.



Image Source: NYK

46

Recent Rightship Finding

No.	Code	Comment	Date	Age
32	ISPS	It is recommended to implement Risk assessment for Cyber attack based on a written Risk assessment provided by Management.	03/9/2019	11

Question: What are the possible root causes and corrective action plan?

Ship specific Risk Assessment for Cyber Attack should be available on board. Office standard template for same may be used as reference. SSO to be suitably trained and aware of same.



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Section 13: Machinery Space

Engineering procedures, instruction and guidelines included in the SMS?

Watch level matrix in E/R

Job	Responsibilities Overall/Emp	A. Watch Levels /Job Description					
		Inspection Rounds	Monitoring	Attending	Record keeping	Assistant required	Start/Stop M/T
WLLevel 1			Duty Engineer				
WLLevel 2	Chief Engineer		Duty Engineer				

Ch Eng Standing Order and Night order available, read and signed by all engineers and crew

B. Minimum Watch Level -1				
Coastal Passage	Restricted visibility	Heavy Weather	Burst Traffic	Confined Waters, Narrow Channels and Straits In areas where Low Sulfur Fuel is used for operating Main Engines (IMO 2020)

C. Minimum Watch Level - 2				
Entering Harbor	Leaving Harbor		Maintenance of Critical Equipment	Emergency Handling

Image Source: NYK

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Section 13: Machinery Space

- If the vessel has been certified for periodically unattended machinery spaces (UMS), is the machinery space being operated in that mode?
- If the engine room is not being operated in UMS mode, are there sufficient engineers and crew on board (to keep E/R manned without compromising rest hours)?
- If the machinery space is not being operated in UMS mode as a result of defective equipment/machinery or unreliability of UMS system, Rightship requires its inspector to record it as a non conformity.

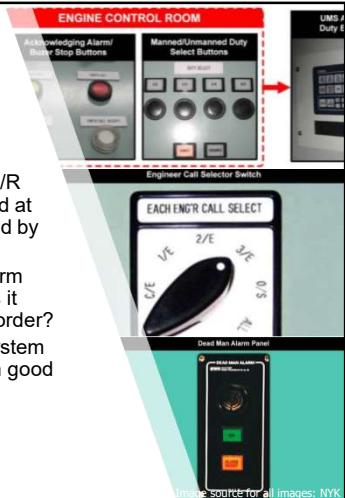


Image source for all images: NYK

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Section 13: Machinery Space

- Procedures related to Entry in E/R during UMS documented, posted at the E/R entrance and understood by all?
- If an engine room dead man alarm (personnel alarm) is provided, is it being set correctly and in good order?
- Is an engineer's calling alarm system fitted and is it tested regularly, in good order and the results recorded?



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- E/R Log book properly maintained?
- Procedures to recover essential equipment documented and posted in the engine room?
- Are engineers familiar with the equipment which is shed on the operation of the preferential trip?

Image source: NYK

Section 13: Machinery Space

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Section 13: Machinery Space

- PMS effectively implemented on board and kept updated at all times
- RightShip recommends a computer-based PMS (e.g. Bassnet)
- The officers and engineers are to be familiar with the use of the PMS software and should have received formal training
- The PMS must be approved by Classification Society
- Is critical equipment identified and are sufficient spare parts available as per the manufacturers' recommendations?
- Any critical machinery maintenance overdue?

Image source: NYK

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Image source: NYK

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Section 13: Machinery Space



- Critical spare parts availability
- Major ME and DG components maintenance carried out as per maker recommendation and records available?



No.	Name of Equipment / System	Risk Assessment Category		Reference	Minimum Safe Rating	Notes
		High Risk	Medium Risk			
1	Safety and Detection Equipment					
2	Oil Detection System					
3	Emergency Fire Pump					
4	Emergency Air Compressor					
5	Emergency Generator					
6	Emergency Stop					
7	Emergency Closing System (Sail)					
8	Navigation and Communication Equipment					

Image source: NYK

53



Section 13: Machinery Space

- E/R Emergency escape routes clearly marked, free of obstruction and adequately lit?
- Pad eye, shackle, single block, rope, and harness should be provided for lifting an incapacitated person from ER
- Lighting illumination level in engine room space adequate?

Image source: NYK

54



Section 13: Machinery Space



- Emergency equipment tested, in good condition and result recorded (E.g. Emergency fire pump, Emergency air compressor, emergency generator, emergency stops, etc.)?
- E/R emergency stops for ventilation fans and the closing mechanism of ventilation ducts clearly marked, in working condition, and regularly tested?

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Section 13: Machinery Space



Section 13: Machinery Space

Are engine exhausts and other hot surfaces effectively shielded against oil spray?



Exhaust bellows exposed

Are flanges and connections of flammable liquid pipelines adequately protected with guards and spray tape?



Image source: NYK

Surfaces with temperatures above 220°C which may be impinged as a result of a fuel system failure shall be properly insulated.

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Section 13: Machinery Space

- Is lagging and insulation, free of any significant oil impregnation?
- Main engine bearing temperature monitors or crankcase oil mist detector(s) in good condition and regularly tested as per manufacturer instruction?



57

Section 13: Machinery Space

- Are the main, emergency switchboards and local starter panels surrounded by non-conducting mat and are the mats in good order?
- Non-conducting mats or gratings shall be provided at the front and rear of the switchboard and should extend the entire length of the switchboard, and be of sufficient width to suit, the operating space.



58

Section 13: Machinery Space

- Are the self-closing sounding devices, self-closing valves and gauge glasses being maintained and in good order?
- Self-closing sounding devices and valves are essential safety devices. Chocks of wood, pieces of wire and purpose-made clamps shall not be used to keep these devices open.

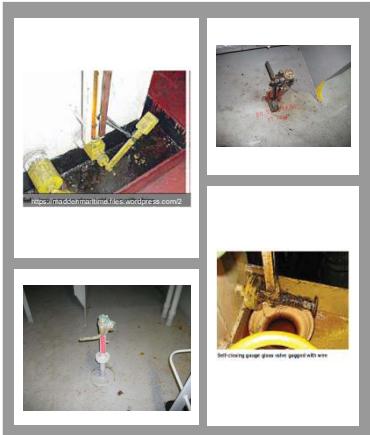


Image source: NYK

59



Image source: NYK

Section 13: Machinery Space

- Where moving machinery presents a hazard, is it guarded effectively?
- Are the protective guards, shields and emergency stop of the engine room workshop tools being maintained in good order?
- The guards fitted to the lathe, drill and grinder should be well maintained, transparent and made from impact-resistant material.

60



Section 13: Machinery Space

- Engine room crane and other lifting gear regularly inspected, tested, and maintained?
- Engine room transverse crane beam and Loose gear (shackles, slings, etc.) clearly marked or stamped with SWL?
- The engine room crane is subject to annual thorough examination every 12-month period and load test every 5 years.

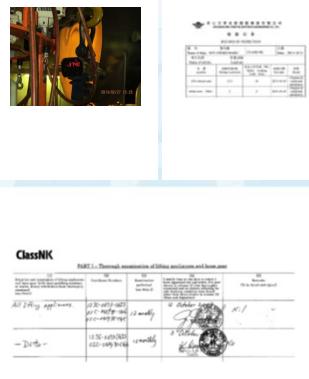


Image source for all Images: NYK

61

Are all spare parts and loose gear in the machinery spaces, stores and steering compartment properly secured?

Section 13: Machinery Space

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Section 13: Machinery Space

- Is the standard of housekeeping in the machinery space and steering gear room satisfactory and are they clean and free from obvious leaks?
- Emergency signage and fire and life-saving equipment should be kept clear at all times.
- Instruction plates, notices and operating indicators should be kept clean and legible and should not be obstructed by other items.

63

Section 13: Machinery Space

- Engine room bilges clean and free of oil and sediment?
- RightShip recommends painting engine room bilges a light colour to assist in visually identifying a fresh leak.

64

Section 13: Machinery Space

Bilge high level alarm system regularly tested, in good order?

Test Records maintained?



Image source for all Images: NYK

65

Section 13: Machinery Space



Are the sea chest, seawater pumps and related sea water lines, in good order, free of hard rust and temporary repairs?



Poor condition



Good condition



Image source: NYK
NYK SHIPMANAGEMENT P

66

Section 13: Machinery Space

Other related machinery / equipment in ER in good order and well maintained?

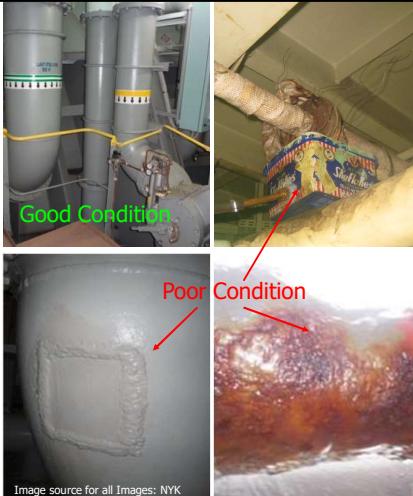


Image source for all Images: NYK

67

Section 13: Machinery Space



Image source for all Images: NYK

Engineers familiar with Local maneuvering operation?



Work instructions available and posted?



68

17

Section 13: Machinery Space

- Are crew familiar with the starting procedure for the emergency generator and how to put power on the emergency switch board (if system is not automatic)?
- If the vessel is provided with a test switch that enables automatic starting and connecting of the emergency generator to the ESB during simulated blackout conditions, then same must be tested at appropriate intervals.
- Emergency generator starting devices should be capable of providing at least three consecutive starts. A second starting device shall be provided for an additional three starts within 30 minutes unless manual starting can be demonstrated to be effective.

Image source for all Images: NYK



69

Section 13: Machinery Space

If the starting source of the emergency generator relies on a single starter motor, has a spare starter motor been provided?



Image source: NYK

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Recent Rightship Finding

No.	Code	Comment	Date	Age
42	Emergency Equipment	Emergency generator could only be started by single air motor. However there was no spare starter motor available for use in event of failure of the existing starter motor.	19/2/2017	11

Question: What are the possible root causes and corrective action plan?

Non compliance with regulations. Spare starter motor should be kept on board at all times. Crew should be suitably briefed and trained.



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Section 13: Machinery Space

If an emergency generator is not fitted, are engine room emergency batteries in good order, fully charged and capable of supplying the designed power load up to a minimum of 18 hours?

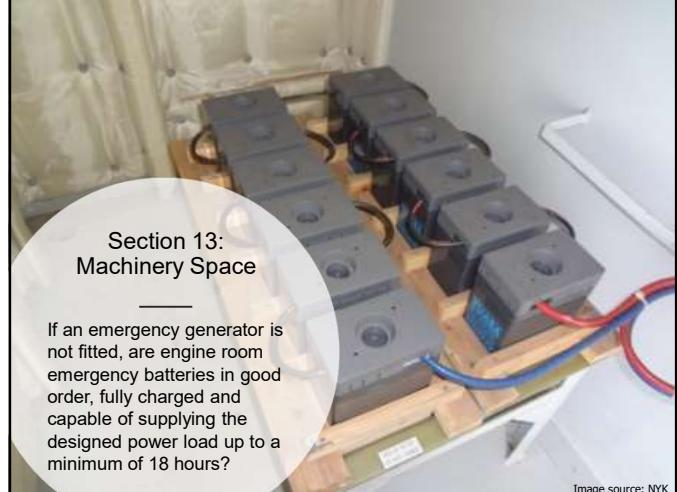
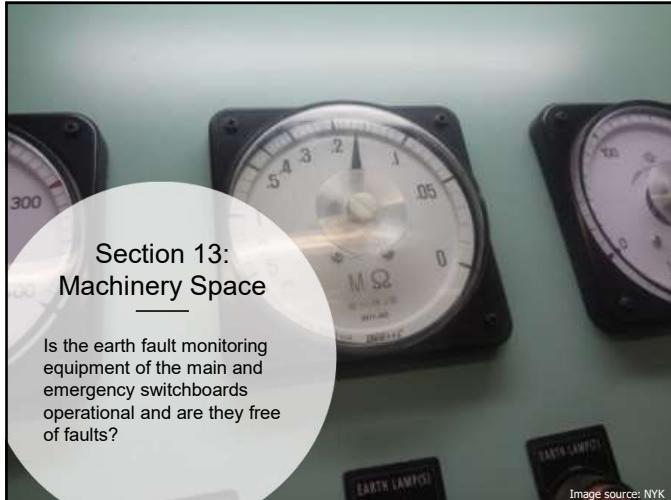


Image source: NYK

72



Section 13: Machinery Space

Is the earth fault monitoring equipment of the main and emergency switchboards operational and are they free of faults?

73

Recent Rightship Finding

No.	Code	Comment	Date	Age
42	Emergency Equipment	Resistance insulation for emergency switchboard section 220V was observed 1 mOhm. There were two alarms noted (low resistance insulation for 440 V and 220 V) in Engine Room Control ship monitoring system history on 20 Jan 2022. During the inspection resistance insulation for 440 V section was close to Infinity.	20/1/2022	9

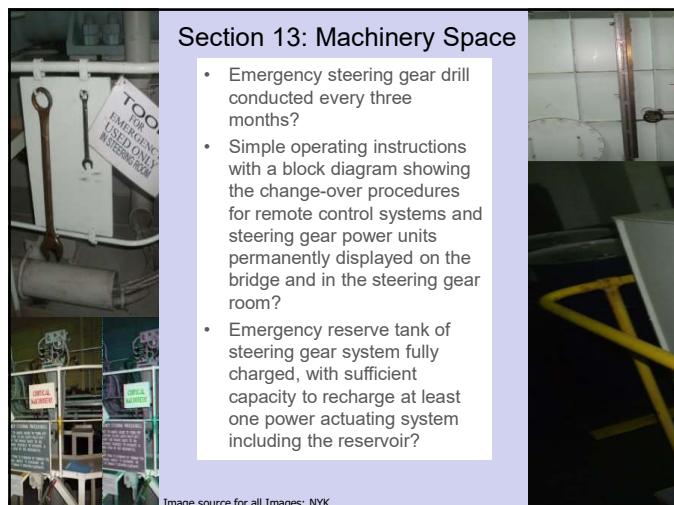
Question: What are the possible root causes and corrective action plan?

All low insulation alarms on emergency switchboard should be investigated and rectified at the earliest opportunity. Concerned ship staff should be suitably briefed and trained.



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Section 13: Machinery Space

- Emergency steering gear drill conducted every three months?
- Simple operating instructions with a block diagram showing the change-over procedures for remote control systems and steering gear power units permanently displayed on the bridge and in the steering gear room?
- Emergency reserve tank of steering gear system fully charged, with sufficient capacity to recharge at least one power actuating system including the reservoir?

Image source for all Images: NYK

75

Section 13: Machinery Space

- Is a heading indicator and communication system provided in the steering gear room and are they in good order?
- Is the emergency steering position rudder angle indicator in good order and clearly marked in red and green?



Image Source: NYK

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Image Source: NYK

Section 13: Machinery Space

- Is the steering gear compartment clear of obstructions and loose equipment properly secured?
- Are suitable handrails, gratings or other non-slip surfaces provided for the steering gear compartment?

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NYK Maritime College

Section 14: General Appearance - Hull and Superstructure

NYK GROUP

- Is the ship's hull, clean, free of significant corrosion, extensive coating breakdown and marine growth?
- Hull resistance can be optimized by new technology-coating systems, possibly in combination with cleaning intervals. Regular in-water inspection of the condition of the hull is recommended.

Poor condition

Good Condition

Image Source: NYK

NYK SHIPMANAGEMENT P

78

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Section 14: General Appearance - Hull and Superstructure

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Image Source for all images : NYK

Are the following permanent markings on the ship's hull, where applicable, plainly visible and painted in a contrasting colour?

- The vessel's name;
- Port of registry;
- Loadlines;
- Draft marks
- Thruster warnings
- Tug push points
- IMO number
- Bulbous bow mark

Bad condition

Good condition

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79

NYK Maritime College

Section 14: General Appearance - Hull and Superstructure

NYK GROUP

Are the weather decks free of loose rust scale and maintained in a satisfactory condition?

Poor Condition

Good Condition

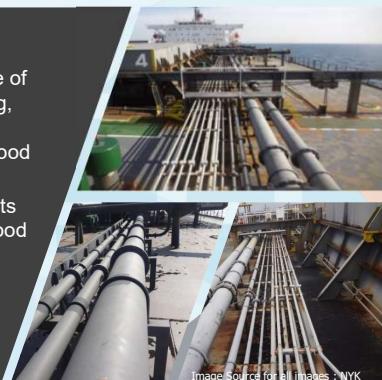
Image Source for all images : NYK

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80

Section 14: General Appearance - Hull and Superstructure

- Are the pipes on deck, free of significant corrosion, pitting, soft patches or temporary repair and maintained in good condition?
- Pipe securing arrangements should be maintained in good condition and allow free movement of the pipes, as necessary.



81

Section 14: General Appearance - Hull and Superstructure

Are all the watertight doors, weathertight doors, portholes, and wheelhouse windows maintained in good order?



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82

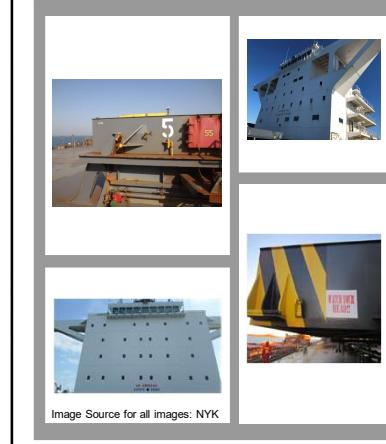


- Are the vents and air pipes on weather decks maintained in good order?
- Are they clearly marked to indicate the compartment they serve?
- The flame screen, if fitted, and the closing device which prevents the ingress of water into the space through the vent head should be in good condition and operating correctly.

Section 14: General Appearance - Hull and Superstructure

Section 14: General Appearance - Hull and Superstructure

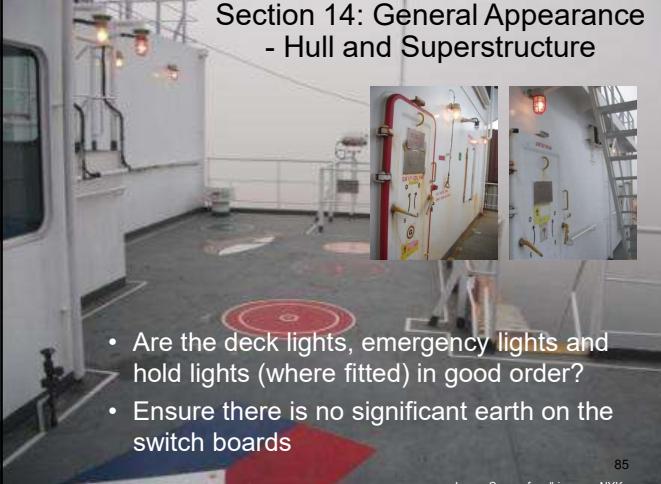
- Cosmetic appearance of the superstructure satisfactory?
- Accommodation and the decks surrounding it in good condition?
- Are the hatch numbers clearly indicated and correctly placed?
- The location, size and colour of these numbers should be chosen so that they are clearly visible to the operator of the loading or unloading equipment.
- Cargo spaces shall be certified by permanent marking with the letters CC (Cargo Compartment)



83

84

Section 14: General Appearance - Hull and Superstructure

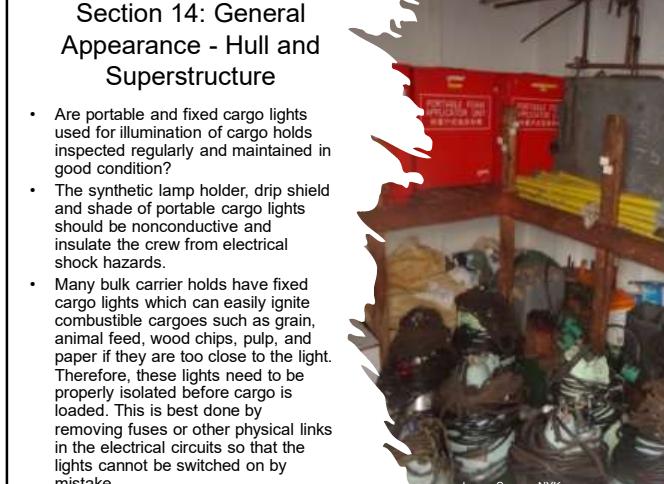


- Are the deck lights, emergency lights and hold lights (where fitted) in good order?
- Ensure there is no significant earth on the switch boards

85
Image Source for all images: NYK

85

Section 14: General Appearance - Hull and Superstructure



- Are portable and fixed cargo lights used for illumination of cargo holds inspected regularly and maintained in good condition?
- The synthetic lamp holder, drip shield and shade of portable cargo lights should be nonconductive and insulate the crew from electrical shock hazards.
- Many bulk carrier holds have fixed cargo lights which can easily ignite combustible cargoes such as grain, animal feed, wood chips, pulp, and paper if they are too close to the light. Therefore, these lights need to be properly isolated before cargo is loaded. This is best done by removing fuses or other physical links in the electrical circuits so that the lights cannot be switched on by mistake.

86
Image Source: NYK

86

Section 14: General Appearance - Hull and Superstructure



- Is the condition of electrical equipment including switches, sockets, junction boxes, plugs, conduits and wiring on weather decks satisfactory?
- Are the explosion-proof lights in paint lockers, acetylene stores or similar spaces in good condition?
- Are they appropriately certified for safe usage with the dusts, vapours, or gases likely to be encountered?

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Section 14: General Appearance - Hull and Superstructure



Are the stores located inside the accommodation and on the weather decks clean and tidy?

Untidy condition Tidy condition

Image Source for all images: NYK

88



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Section 14: General Appearance - Hull and Superstructure

- Laundry room in clean condition (clothes drying in the dedicated drying room only)
- Are dryers inside the laundries clear of any build-up of lint?
- The build-up of lint inside and under the dryer can cause fire. Dryer vents, vent hoses and filters should be cleaned regularly.



Good condition



Bad condition



Source: myhomeinspectortraining.com

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Image Source: NYK

89



Section 14: General Appearance - Hull and Superstructure

- Are galley appliances, audio-visual equipment, and other electrical equipment inside the accommodation in good order?
- The electrical cooking appliances inside the galley must all be in working condition.

Image Source: NYK

90

Section 14: General Appearance - Hull and Superstructure

- Are the door seals, catches and alarm system of the refrigerated space in good order?
- Separate refrigerators should be used for cooked and raw food.
- Safe temperatures for cold stores are generally considered to be 5°C or colder and minus 18°C or colder for chill and freezer cabinets respectively
- Food should never be stored in front of cooling units as this restricts the circulation of air.



Image Source for all images: NYK

Section 14: General Appearance - Hull and Superstructure

- Is the elevator, where fitted, inspected, tested and in good order? (condition of emergency escape hatch?)
- The inspection and maintenance should preferably be carried out at 12-month intervals, but at intervals not exceeding 18 months, by authorised lift maintenance personnel.
- Evidence of permit to work and risk assessment related to maintenance should be available.

エレベーター点検表
CHECK LIST OF THE ELEVATOR

項目	基準
安全装置	正しく動作する
電気回路	正しく動作する
機械構造	正しく動作する
運転音	正常な音
運転感覚	正しく動作する
運転操作	正しく動作する
運転音	正常な音
運転感覚	正しく動作する
運転操作	正しく動作する

Image Source : NYK



Image Source : Pixels

91

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Section 14: General Appearance - Hull and Superstructure

- If provided, is the ship's hospital properly equipped, clean, hygienic and for medical use only?
- RightShip recommends that the annual inspection of medical chest be conducted by a vessel's supplying pharmacist or a doctor.
- The ship's hospital shall not be used as a cabin or storage space.
- Medical inventory must be updated and expired medicines should be segregated properly and marked for disposal.



Image Source for all images : NYK

93

Section 15: Health and Welfare of Seafarers

Do the Seafarer Employment Agreements (SEA) comply with the requirements of MLC 2006?

All seafarers must be given an original copy of the SEA.

94



Section 15: Health and Welfare of Seafarers



- Are the accommodation spaces safe, provided to a respectable level of health and hygiene and regularly inspected, including checks of ventilation, noise, heating, lighting, and sanitation?
- Example: Cabin portholes not leaking, hot/cold water availability, bed/mattress, overall tidiness, laundry equipment, sufficient soap/detergent?



Image Source: NYK



95

Section 15: Health and Welfare of Seafarers

Adequate recreation facilities available onboard?

Following recreation facility shall be provided on board:

- Separate smoking room,
- TV, radio, video, CD, DVD and PC equipment,
- Sports facilities,
- Table and deck games,
- Library,
- Communication facilities including email and internet access.



Master provided with a monthly welfare budget?

Image Source: NYK

96

Section 15: Health and Welfare of Seafarers

- Sufficient quantities of good quality food including fresh fruit, vegetable and drinking water supplied free of charge?
 - Food served in hygienic conditions?
 - The cook should be over 18 years of age and hold appropriate qualifications



Image Source: NYK

97

Section 15: Health and Welfare of Seafarers

Ship staff provided appropriate medical care (free of charge) together with health promotion and education programmes?



Image Source: NYK

98

Section 15: Health and Welfare of Seafarers

Visits to a qualified medical doctor or dentist arranged without delay in ports of call, where required?
(Inspector is likely to check evidence for same)

The medical log and visit reports should be kept up to date.

A standard medical report form (Ship Master's Report Form) is used for both onshore and on-board medical personnel and the completed forms are kept confidential.



Image Source: NYK

99

Section 15: Health and Welfare of Seafarers

Individual monthly statements provided to all seafarer on board? (Detailing monthly wage and any authorized deductions such as allotments)

Image Source: NYK

100

Section 15: Health and Welfare of Seafarers

What is the complaints procedure on board?
Are all onboard aware of this procedure?

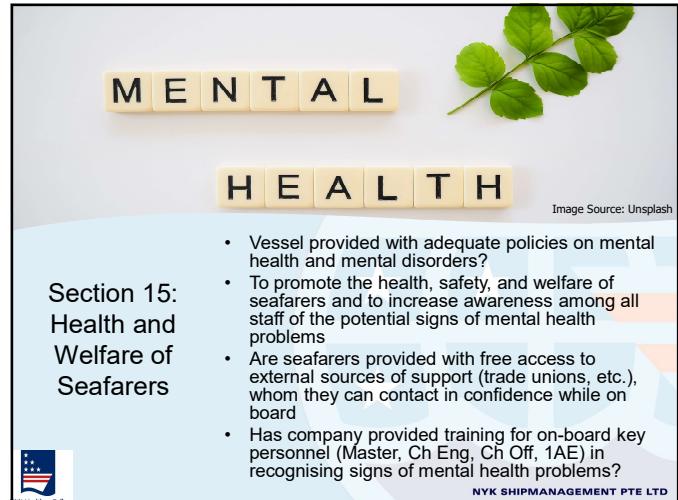
**Shipboard Complaint Form
(Confidential)**

This form may be completed by the complainant (seafarer) or by one of the counsellors nominated by the Company or appointed by the complainant, in his/her behalf. Seafarers who opt to avail the services of the counsellors below may do so under the following option. Otherwise, the seafarer may write the specific description of the complaint in A and bring it to the attention of the superior officer or head of department, or directly to the Master.

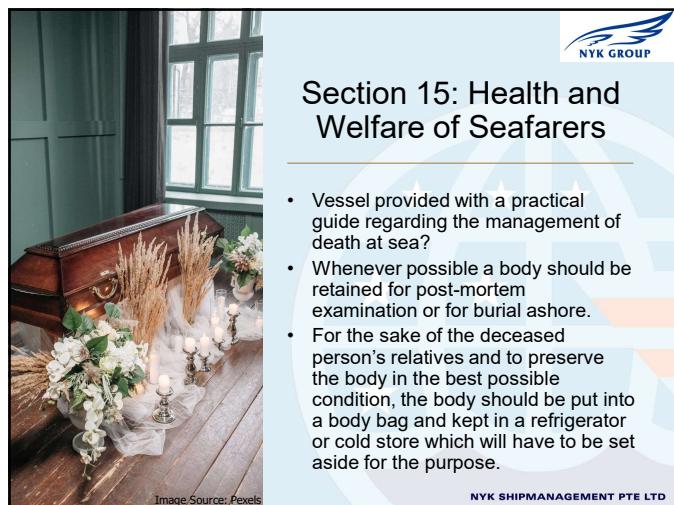
Vessel Name:	IMO No.:	Date/Place:
Complainant (Rank/Name):		DOB:
<input checked="" type="checkbox"/> OPTION 1: Company-nominated counsellor		
Rank/Name:		DOB:
I hereby received the below complaint based on the verbal statements provided by the complainant. I will strive to resolve the complaint within reasonable time limit appropriate to the seriousness of the issues involved.		
Furthermore, I will carefully assess with discreet the confidentiality of this complaint and represent the complainant.		
Signature:	Date: _____ <small>Company-nominated counsellor</small>	
<input checked="" type="checkbox"/> OPTION 2: Other seafarer appointed by the complainant		
Rank/Name:		DOB:
I hereby agreed and accepted to accompany and/or to represent the complainant, to attend any meetings or hearings into the subject matter of the complaint.		
Signature:	Date: _____ <small>Counsellor appointed by the complainant</small>	

Image Source: NYK SHIPMANAGEMENT PTE LTD

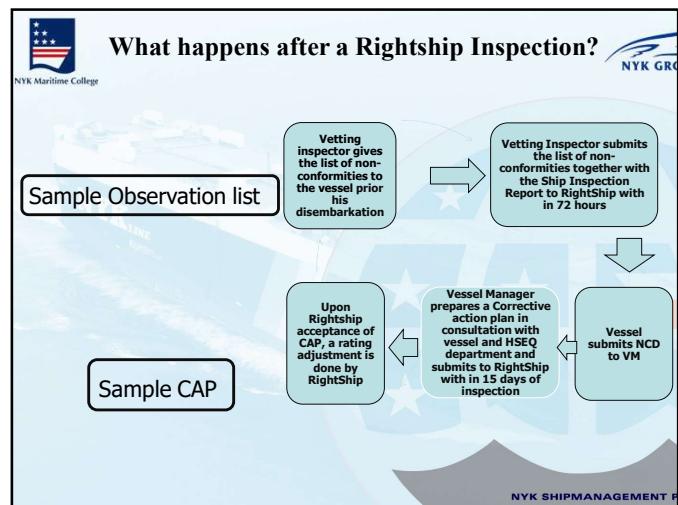
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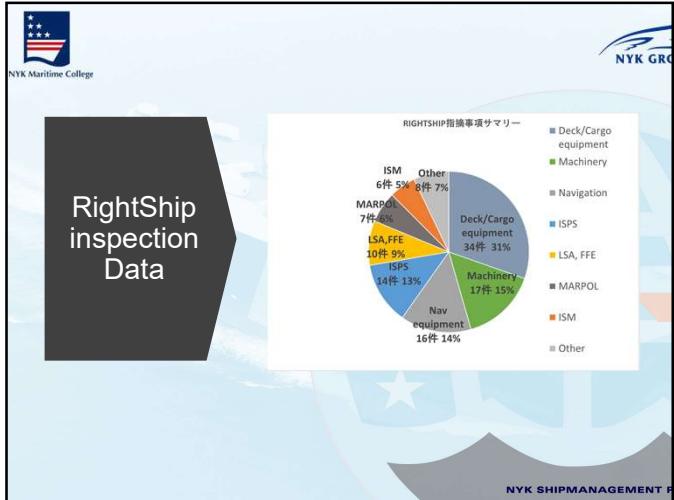
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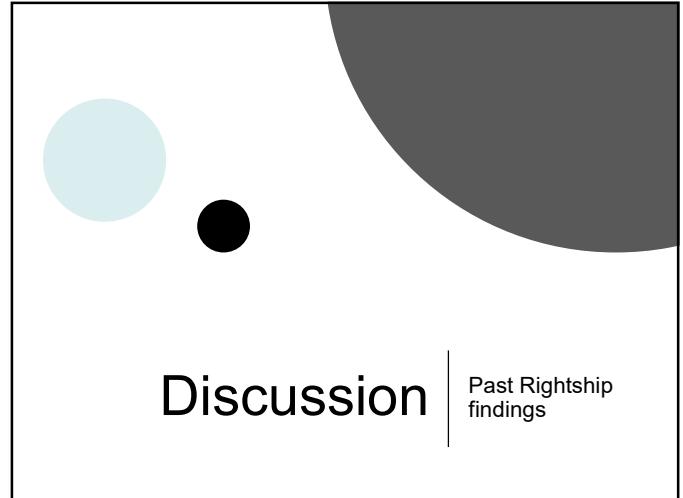
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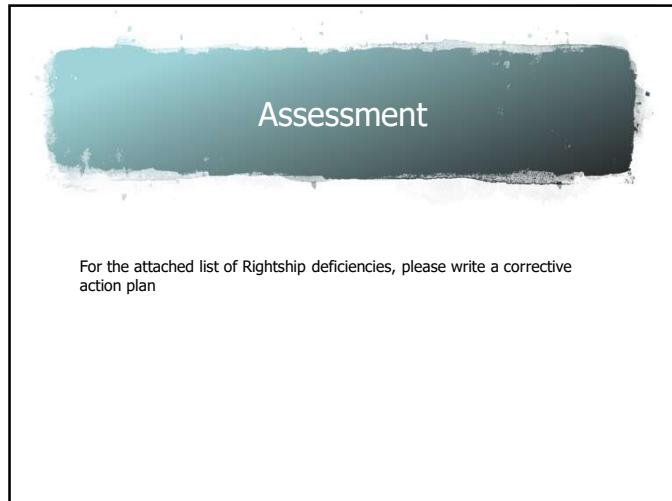
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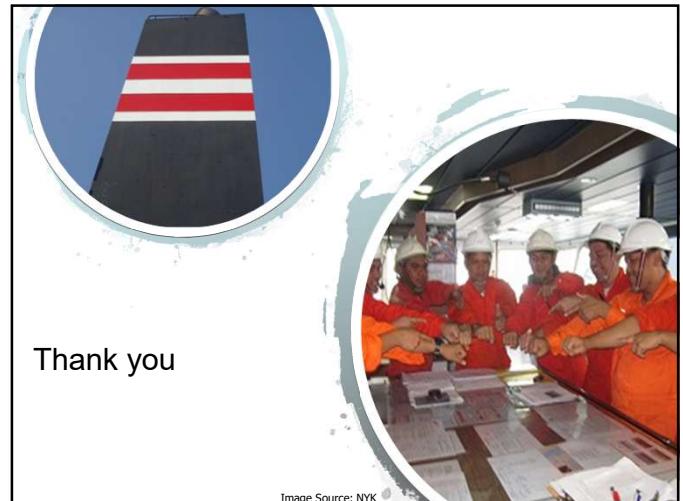
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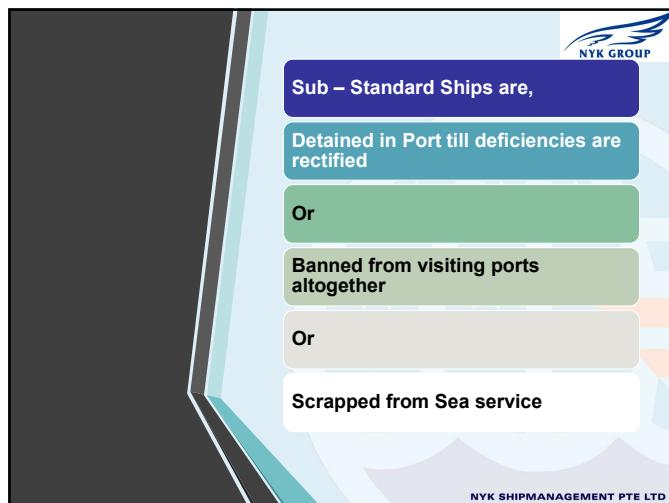
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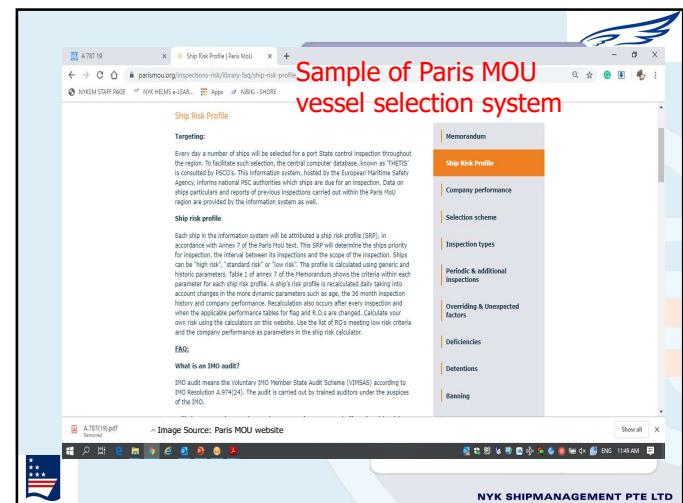
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3



4

What is inspected during a PSC Inspection?



Compliance with the following regulations is verified during inspections

- 1) SOLAS
- 2) International Load Line Convention
- 3) Marpol
- 4) STCW
- 5) Colregs

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- 6) International Tonnage Convention
- 7) ISM Code
- 8) MLC
- 9) IMSBC Code and IMDG code (where applicable)
- 10) Certification related to conventions such as AFS2001, CLC69/92, Ballast water management.
- 11) Certain Local Regulations (especially environment related) such as fines by Chinese MSA for garbage disposal in Bohai sea.
- 12) IMO Res. A. 787(19)(IMO Procedures for PSC)

Compliance with concentrated inspection campaigns

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How does the PSC mechanism operate?

7

M.O.U.



GROUP OF REGIONAL COASTAL STATES COME TOGETHER COMMONLY CALLED M.O.U – MEMORANDUM OF UNDERSTANDING

THESE GROUPS OF COASTAL STATES AGREE TO IMPLEMENT A HARMONIZED SYSTEM OF PORT STATE CONTROL

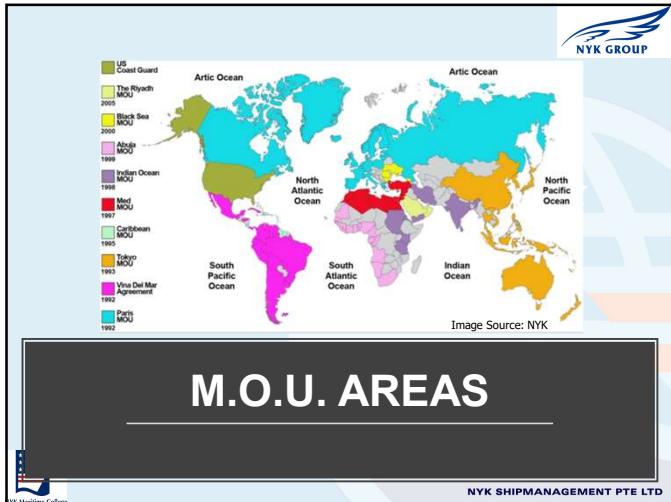
THE FIRST M.O.U WAS FORMED IN 1982 BY SOME OF THE EUROPEAN COUNTRIES AND CALLED THE PARIS M.O.U.

SUBSEQUENTLY 8 OTHER MOU'S HAVE BEEN FORMED IN DIFFERENT GEOGRAPHICAL REGIONS OF THE WORLD

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2



9

Implementation of PSC Inspections

Following is the list of 9 MOU's

1) Paris MoU (Europe and North Atlantic) -

Belgium, Bulgaria, Canada, Croatia, Cyprus, Denmark, Estonia, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Latvia, Lithuania, Malta, Netherlands, Norway, Poland, Portugal, Romania, Russian Federation, Slovenia, Spain, Sweden, United Kingdom.

Image Source: pixabay.com

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2) Tokyo MOU (Asia and Pacific) -

Australia, Canada, Chile, China, Fiji, Hong Kong, Indonesia, Japan, Republic of Korea, Malaysia, Marshall Islands, New Zealand, Panama, Papua New Guinea, Peru, Philippines, Russian Federation, Singapore, Thailand, Vanuatu and Vietnam.

3) Acuerdo de Vina del Mar Agreement (Latin America) -

Argentina, Bolivia, Brazil, Colombia, Chile, Cuba, Dominican Republic, Ecuador, Guatemala, Honduras, Mexico, Panama, Peru, Uruguay and Venezuela.

Image Source: pixabay.com

Image Source: Google maps

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4) Caribbean MOU (Caribbean Region) -

Antigua & Barbuda, Aruba, The Bahamas, Belize, Barbados, The Cayman Islands, Cuba, Curacao (formerly the Netherlands Antilles), France, Grenada, Guyana, Jamaica, The Netherlands, St. Kitts and Nevis, St. Lucia, Suriname and Trinidad and Tobago. (St. Vincent & the Grenadines is an Associate Member)

Image Source: Google maps

5) Abuja MOU (West and Central Africa) -

Angola, Benin, Cameroon, Cape Verde, Congo, Cote d'Ivoire, Gabon, Ghana, Guinea, Equatorial Guinea, Liberia, Mauritania, Namibia, Nigeria, Senegal, Sierra Leone, South Africa, São Tomé and Príncipe, Democratic Republic of Congo, Guinea Bissau, The Gambia, and Togo

Image Source: Google maps

12



6) Black Sea MOU (Black Sea Region) –

Bulgaria, Georgia, Romania, Russian Federation, Turkey and Ukraine.

7) Mediterranean MOU (Mediterranean Sea Region)

Algeria, Cyprus, Egypt, Israel, Jordan, Lebanon, Malta, Morocco, Tunisia and Turkey.

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8) Indian Ocean MOU (Indian Ocean Region) –

Bangladesh, Comoros, Djibouti, Eritrea, Ethiopia, France (La Reunion Island), India, Iran, Kenya, Maldives, Mauritius, Madagascar, Mozambique, Myanmar, Oman, Seychelles, South Africa, Sri Lanka, Sudan, Tanzania, Yemen.

9) Rivadh MOU (Gulf Region) –

Bahrain, Kuwait, Oman, Qatar, Saudi Arabia and UAE

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Types of Inspections by PSC Regimes

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An Initial Inspection will consist of a visit on board to check the following:

- Ship's certificates and documents
- Overall condition and hygiene of the ship including
- Navigation Bridge
- Accommodation and Galley
- Decks including forecastle, lifeboat, emergency generator room, Co2/Foam room
- Cargo holds/area
- Engine room meets generally accepted international rules and standards
- Verify whether any deficiencies from previous inspections have been rectified within the time limit specified in the report.
- Emergency preparedness

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Image Source: NYK

Some examples of High Risk Areas on Vessels:

- Hatch Covers
- Cargo Holds, WIDS, Tank top condition, hold condition
- Hold Vents
- Deck
- Pipelines
- LSA, FFA, Dampers, fire detection

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Competence of officers, crew training and emergency preparedness

Some examples of High Risk Areas on Vessels (cont'd):

Engine Room house keeping, Steering gear system, MARPOL equipment and firefighting system

D&A policy, poor standard of housekeeping resulting in safety issues to the vessel.

Emergency generator, lifeboat launching appliances, lifeboat engine, emergency fire pump

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Common observations from Initial Inspection

Expired Licenses, certificates	Absence of Flag Licenses	Poor Housekeeping
Dirty Engine rooms, Marpol equipment operation and condition	Poorly marked ECDIS (lack of user charts, Inadequate understanding of Safety depth/contour)	Fault alarms of fire panel, defective fire dampers
Faults in Fixed Fire Fighting System	Rest hour violations	LSA (Lifeboats, liferafts, other LSA equipment), problems with starting lifeboat engine/emergency generator

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Detailed Inspection

- A Detailed Inspection is carried out whenever there are **Clear Grounds** for believing during an inspection that the **Condition of the ship or its Equipment or Crew** does not substantially meet the requirements of a relevant instrument.
- If the PSC officer finds evidence which, in his professional judgement warrants a more detailed inspection then **Clear Grounds** are said to exist.

Image Source: Pixabay

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Clear Grounds for Detailed Inspections



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 Crew members unable to communicate appropriately	 Certificate(s) fraudulently obtained
 Ship's Operations not being conducted safely or in accordance with IMO guidelines.	 Crew members not aware of duties in the event of a fire or an order to abandon ship.

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Clear Grounds (cont'd)



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 Serious hull or structural deterioration.	 Excessively unsanitary conditions on board the ship.	 MARPOL related Violations.	 Rest Hours not filled properly
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22

Some examples

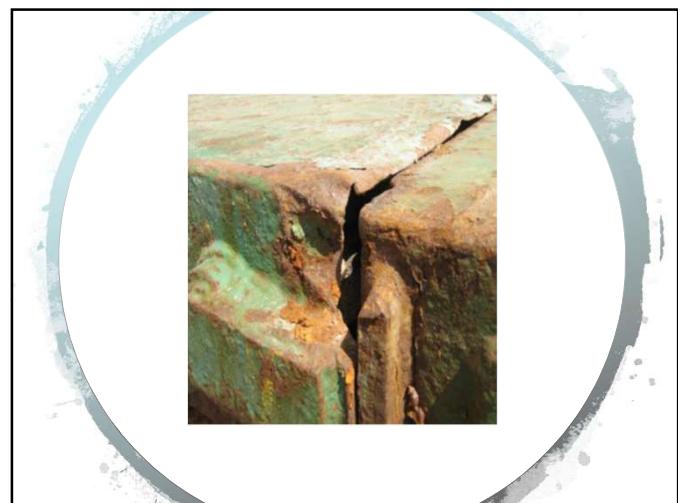


of

CLEAR GROUNDS !

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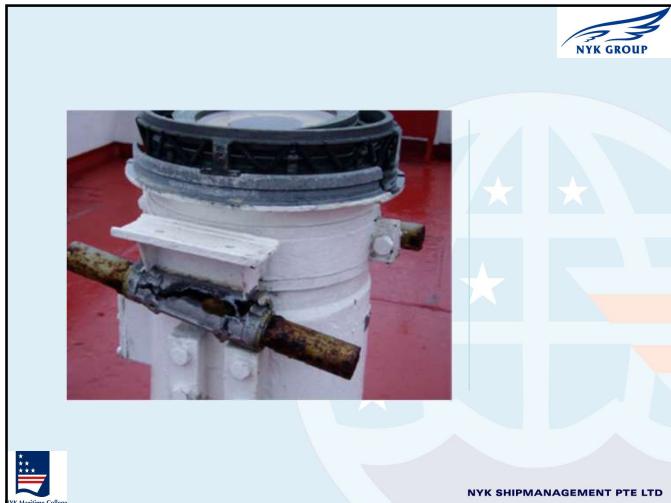
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Concentrated Inspection Campaigns

- RESTRICTED TO PORTS WITHIN A MOU REGION.
- CAMPAIGNS USUALLY LAST FOR 3 MONTHS
- INFORMATION REGARDING CIC IS DISSEMINATED TO SHIPPING IN ADVANCE SO THAT VISITING SHIPS ARE WELL PREPARED FOR THE INSPECTIONS
- IF FREQUENT FAILINGS ARE NOTED IN PARTICULAR AREAS OF SHIPBOARD COMPLIANCE THEN CIC'S ARE INITIATED BY MOU'S FOR THAT PARTICULAR AREA.
- SPECIFIC AREAS TARGETED ARE E.G. GMDS, DAMAGE STABILITY, FIRE SYSTEMS, ETC

Image Source: NYK

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Some Detainable deficiencies noted on vessels during PSC Inspections

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CO₂ Bottle Outlet Flexible Hose

Serious Observation noted on NYK Vessel by PSC

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- Poor condition of lifting appliances



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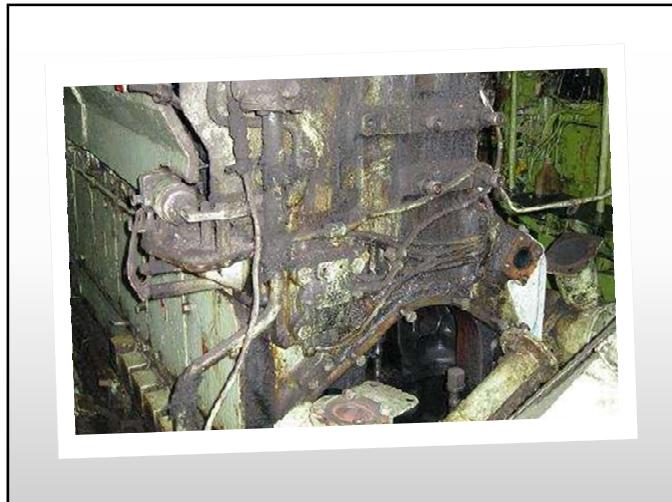
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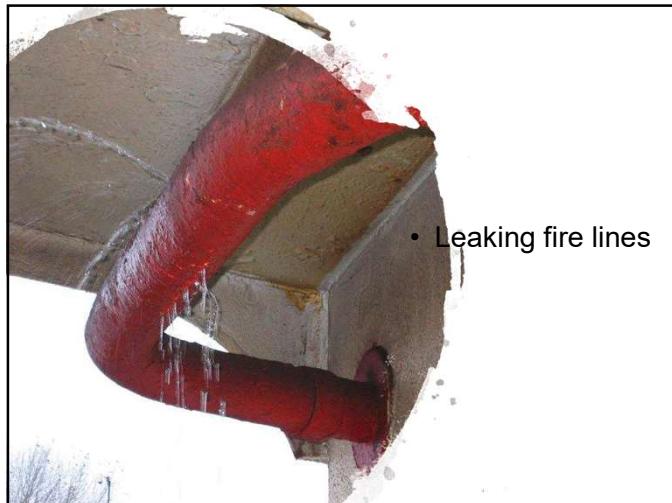
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- As a result of strict measures taken by
- Port State Control
- Most of the ships you have just seen have already been scrapped or are banned from port visits this year.
- Some images are courtesy of Paris MOU.

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After a PSC Inspection

PSC Inspector will issue vessel a Report of Inspection **Form A**

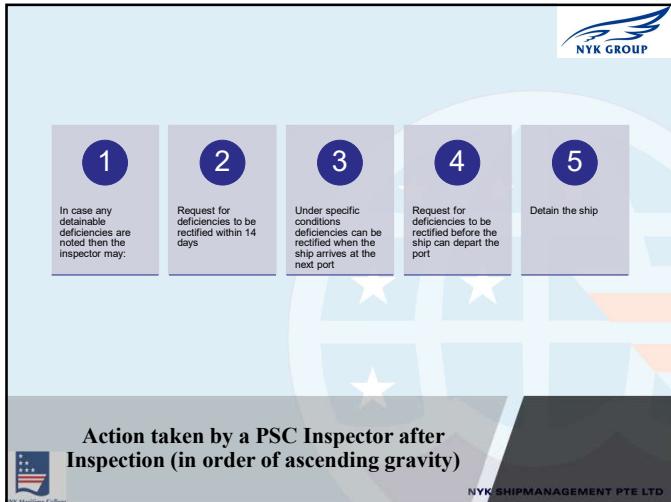
A Clean Inspection report, Form A is issued to the vessel if no deficiencies are noted.

47

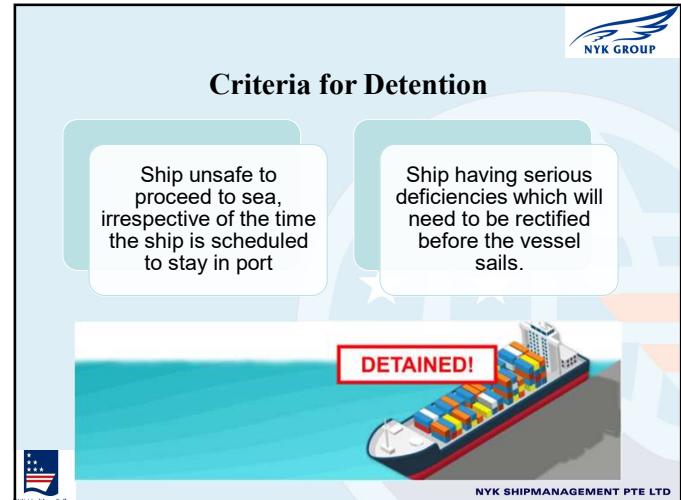
- If deficiencies are identified, **Form B** will also be given to the vessel which:
- Includes a report of deficiencies found.
- Details the deficiencies noted along with the PSC Codes
- The follow up actions to be taken to rectify the deficiencies noted.
- It also denotes the status of the vessel.

NYK	DEPARTMENT OF HOMELAND SECURITY U.S. Coast Guard PORT STATE CONTROL REPORT OF INSPECTION - FORM B In accordance with IMO Port State Control Procedures and the International Ship & Port Facility Security (ISPS) Code	MISLE Activity Number: 6570278 Exam Type: PSC/1818
1. Reporting Country: United States of America		

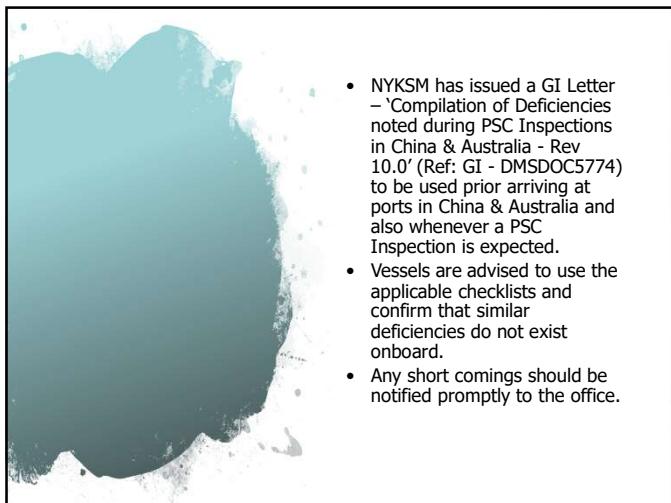
48



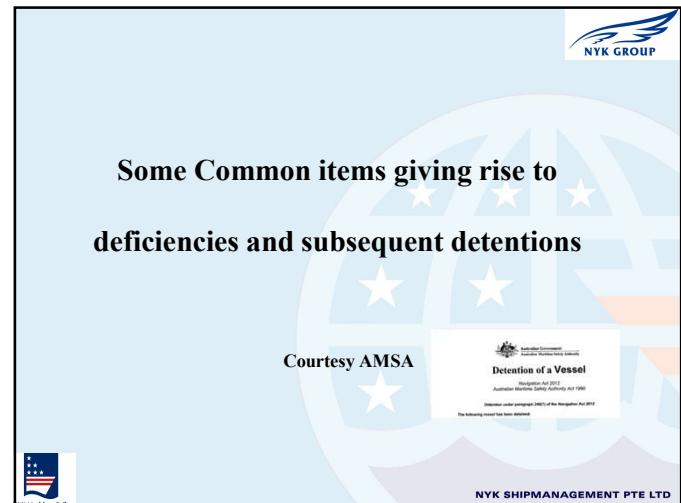
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Australian Government
Australian Maritime Safety Authority

Detention of a Vessel

Navigation Act 2012
Australian Maritime Safety Authority Act 1990

Detention under paragraph 248(1) of the Navigation Act 2012

M

The vessel is detained because:
I suspect that the vessel is unseaworthy or substandard.

Beyond checks were made to verify:

The reason for the detention is:
SMS, as implemented, fails to ensure bridge watch keepers are rested as per STCW requirements as evidenced by deficiency No.1.

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Life Saving Appliances

- Account for around 22% of all detentions
- Incorrect maintenance of hook release systems



Image Source: NYK

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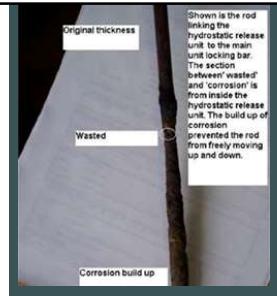
- Hydrostatic Interlocks not in normal position
- Override Indicators in danger area




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Original thickness
Wasted
Corrosion build up

Shown is the rod linking the hydrostatic release unit to the main unit locking bar. The section of the rod labeled 'wasted' and 'corrosion' is from inside the hydrostatic release unit. The build up of corrosion prevented the rod from freely moving up and down.



- Cabling connections between Hydrostatic unit and Interlock damaged by rust, wastage – resulting in only one hook being released, or different release timings for both hooks



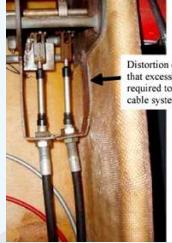
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- Loose or missing cable clamps allowing the cable to move relative to the release lever with end result of **different timing of release** of both hooks.

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- Individual components need to be well maintained.
- Excessive force for re-setting can lead to deformation.

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Routine checks expected for lifeboat maintenance:

- Lifeboat secured properly.
- Lifeboat release hooks reset properly and indicators, where fitted, show correct position.
- Lifeboat release operating lever locked and reset properly.
- Lifeboat release interlock arrangements locked and reset properly.
- Lifeboat release indicators clear and in correct position.
- Lifeboat release instructions fitted within boat and crew aware of correct operation.
- Crew aware of routine maintenance requirements and this carried out in accordance with manufacturers instructions.
- Lifeboat painter release operable

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Drills and Crew Training

- Some Inspectors (USCG) would also need the vessel to conduct a drill to assess crew preparedness for emergencies.
- Recently one of our vessels was detained by PSC after repeatedly failing to satisfactorily carry out a fire drill in 2 successive attempts



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- When scenarios for fire drills are prepared, consider vessel specific situations to create a practical plan for fire fighting.
- Include surprise/random changes/additions to the drill to improve crew response and skills.
- Carry out a critical de-briefing after drills, note all shortcomings and carry out a training session to cover all defects.
- Ensure Fire-fighting equipment is kept in **operational readiness** at all times

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- Time the drills** e.g. time to muster, time for lowering lifeboats (USCG gives 3-5mins for lowering lifeboats to embarkation deck), etc. as some PSC legislations monitor the time factor too.

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AMSA

Ensure Fire pumps and emergency fire pumps are tried out with requisite pressure generated from fire hoses/foam turrets on deck at farthest points. (Vessels in ballast must try out the fire pump soonest upon boarding of PSC inspector, in order to fill up the fire line and avoid delay in water discharge at sufficient pressure from the hydrant)

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The vessel is detained because:

I suspect that the vessel is unseaworthy or substandard.

The reason for the detention is:

Rescue boat engine defective

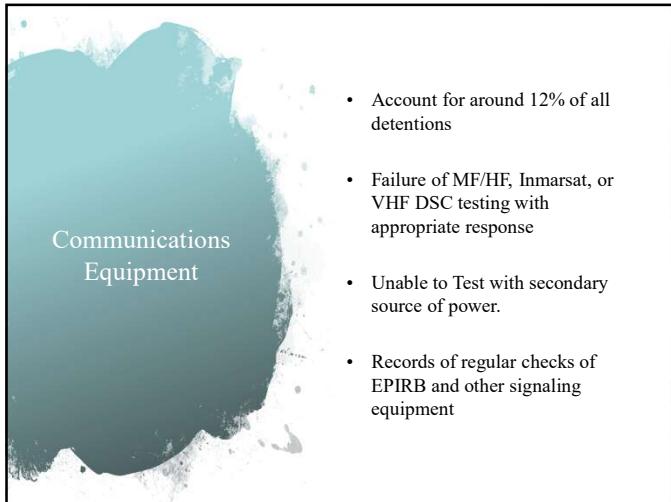
and as per Report of Inspection (Forms A and B) dated **12.10.2018**.

The detention is subject to the following conditions:

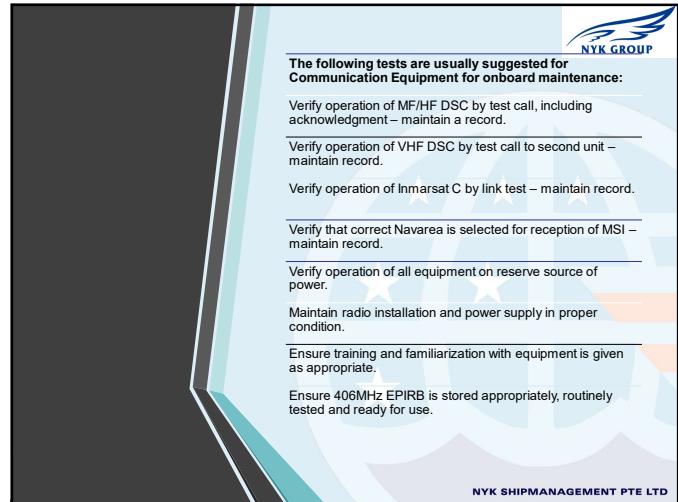
AMSA office	Port Hedland Office	Fax	
Telephone	+61(8)91732598		+61(8)91732887
Email	psc@amsa.gov.au		
Date	12.10.2018	Time	12:30

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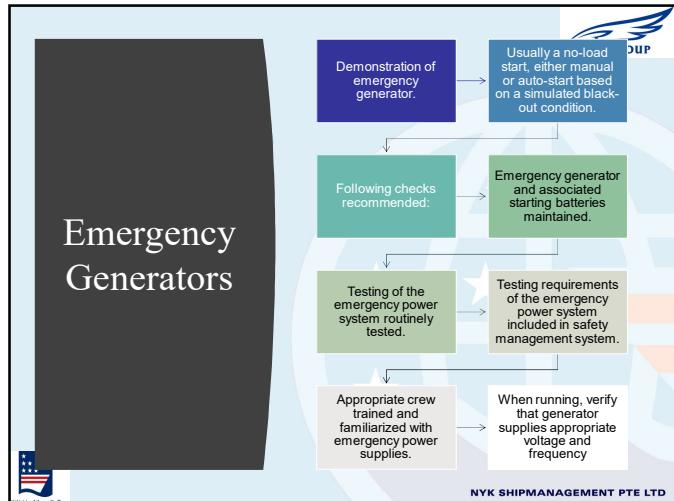
64



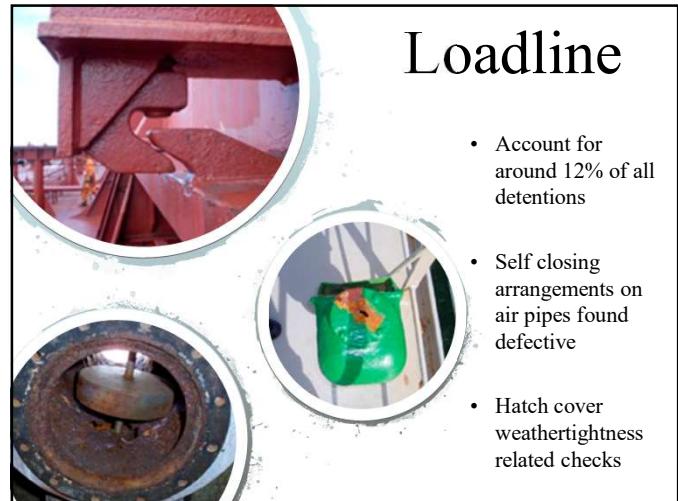
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ISM and SMS deficiencies

Deficiency Type	Description
Account for around 13% of all deficiencies	Icon: Person
Lack of effective maintenance	Icon: Cross
Ineffective corrective action	Icon: Checkmark
Lack of emergency preparedness	Icon: Ambulance
Lack of compliance with mandatory rules regulations	Icon: Hammer

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What does the Master do in case of a detention?

Forward a copy of the PSC Inspection Report Form A & Form B to the Flag state/Class as soon as detention orders are issued.

Also Inform ship owners/managers and cargo interests.

The Class Surveyor communicates and cooperates with the PSC Inspector to expedite the release of the ship

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Appeal Procedures

(Reference: Title 46, Code of Federal Regulations, Subpart 110)

Any person directly affected by a decision or failing to decide the validity of a PSC order or the association with an IMO inspection cannot水上延误. The appeal procedure is contained in 46 CFR 110.11-12 and is as follows below.

Detention, Safety and Security not related with IFCOS/Chamber

- Appeals must be submitted in writing within 30 days after the decision or action being appealed was made. The appeal must contain a description of the decision or action appealed and the reason why the decision or action is not valid.

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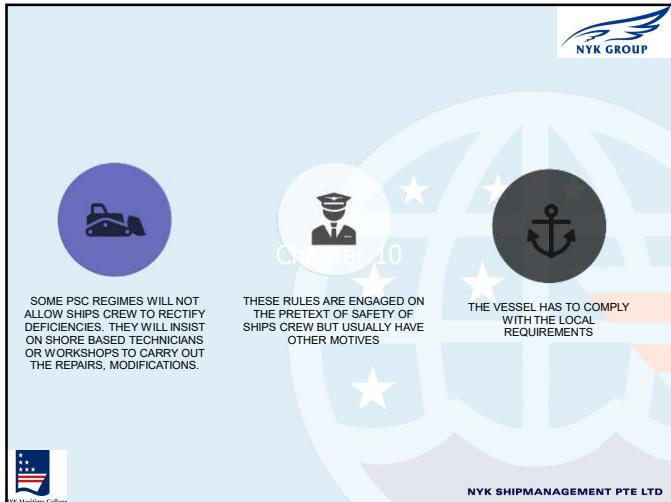
Sometimes shore support may be necessary to rectify the deficiencies and therefore company assistance will be needed

If a ship is detained, all costs accrued by Port State to inspect the ship will be charged to the owner or operator or to his representative in the Port state.

As soon as deficiency is rectified the Port State should be requested for a re-inspection along with documentary evidence of the rectification.

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