Welcome

Safety Seminar
February 2023

Hong Kong Marine Department

We are One in Promoting Excellence in Marine Services

Opening

CHOI Chi-Chuen
Assistant Director of Marine
Shipping Division

We are One in Promoting Excellence in Marine Services

What's On Today

1. HK Fleet Quality Performance and Enhancement
2. Compliance of MLC
3. Decarbonization implementation and Case Study by Dr. Zhang
4. AMSA Presentation (only for PM session)
5. Q&A Session

HK Fleet Quality Performance and Enhancement

LAM Siu-Chan, Teddy
Senior Surveyor/Quality Assurance

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PSC MoUs+USCG
HK Registered Ships

	2021	2022	
Deficiencies per Inspection	1.12	1.17	↑ 4.5%
Detention Rate	1.25%	1.40%	↑ 10.7%
No. of Detentions	53	58	↑ 8.6%
No. of Inspections	4257	4142	

Detention by MOUs+USCG

	2021	2022
Tokyo	30	30
Paris	10	18
USCG	3	6
Other MOUs	10	4
Total	**53**	**58**

Australia (Tokyo MoU)

2021	2022
21 (40%)*	12 (21%)*

Paris MOU

2021	2022
10 (19%)*	18 (31%)*

USCG

2021	2022
3 (6%)*	6 (10%)*

()* indicate the percentages from the total number of detention for the year

Geographical Distribution of Detention (Top 6)

2021	
Australia	21 (39%)
Indonesia	6 (11%)
Russia	4 (11%)
USA	3 (9%)
Canada	3 (9%)
United Kingdom	3 (9%)

2022	
Australia	12 (21%)
USA	6 (10%)
Indonesia	4 (7%)
Russia	4 (7%)
Germany	3 (5%)
Canada	3 (5%)

Detention Rate at USCG

- 3 years rolling detention % <1%
- Hong Kong Ship 3 years rolling (2020-2022) is 0.92%
- "QUALSHIP 21 programme" as a qualified flag since 2011

Certificate Number: HKG - 001334

UNITED STATES COAST GUARD

HEREBY RECOGNIZES

HONG KONG

FOR MEETING THE ELIGIBILITY
REQUIREMENTS OF THE
QUALITY SHIPPING IN THE
TWENTY FIRST CENTURY

J. W. Mauger
Rear Admiral, U. S. Coast Guard
Assistant Commandant for Prevention Policy

Date Issued: July 01, 2022
Expiration: June 30, 2023

Detention Rate at USCG

	2021	2022
Tokyo	30	30(51.7%)*
Paris	10	18
Indian Ocean	0	0
USCG	3	6
Abuja MOU	1	0
Riyadh MOU	1	1
Vina del Mar	2	1
Black Sea	5	2
Mediterranean Ocean	1	0
Total	**53**	**58**

USCG Detention Rate

2021	2022
0.59%	1.35%

PSC detention deficiencies in USA

Oil accumulation in engine room (fire risk)

PSC detention deficiencies in USA

Emergency generator failed to start

PSC detention deficiencies in USA

Fire line's pipe rupture and seriously corroded

PSC detention deficiencies in USA

Ventilation and adjacent hinge were deformed

PSC detention deficiencies in USA

Leakage of fuel oil booster pump, large quantity of used combustible trash in engine room

PSC detention deficiencies in USA

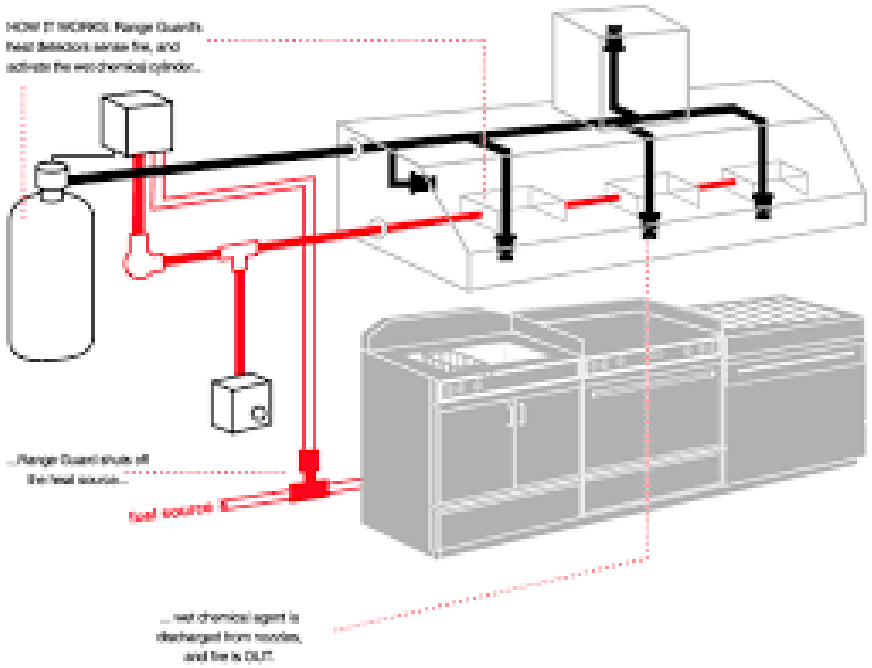
Numerous foam application nozzles throughout the engine room that were closed by hardened foam creating the potential for the failure of the fire fighting system

Fixed firefighting equipment

	Type	Used	Tips
	**Sprinkler**	Cooling	Check piping is free from damage and that the compartment has the correctly rated nozzle. Never paint over nozzles. Check for cracked bulbs in readily accessible heads.
	**Drencher**	Cooling	Check manually operated valves are open and that nozzles are not blocked. Always verify if release controls are set to local or remote release.
	**High pressure water mist**	Smothering	Release water mist system as soon as a fire is confirmed. Never paint over nozzles. Check for cracked bulbs in readily accessible heads.
	**High expansion foam**	Smothering	Release foam as soon as a fire is confirmed.
	**CO_2**	Smothering	Before release, batten down and seal the compartment and verify that everyone on board the ship has been accounted for. CO_2 is a dangerous health hazard.

PSC detention deficiencies in USA

Deep fat fryer in the galley without presence of fixed on manual fire-extinguishing system



PSC detention deficiencies in USA

Immersion suits have broken zippers and can not properly seal, inoperable light on life jacket

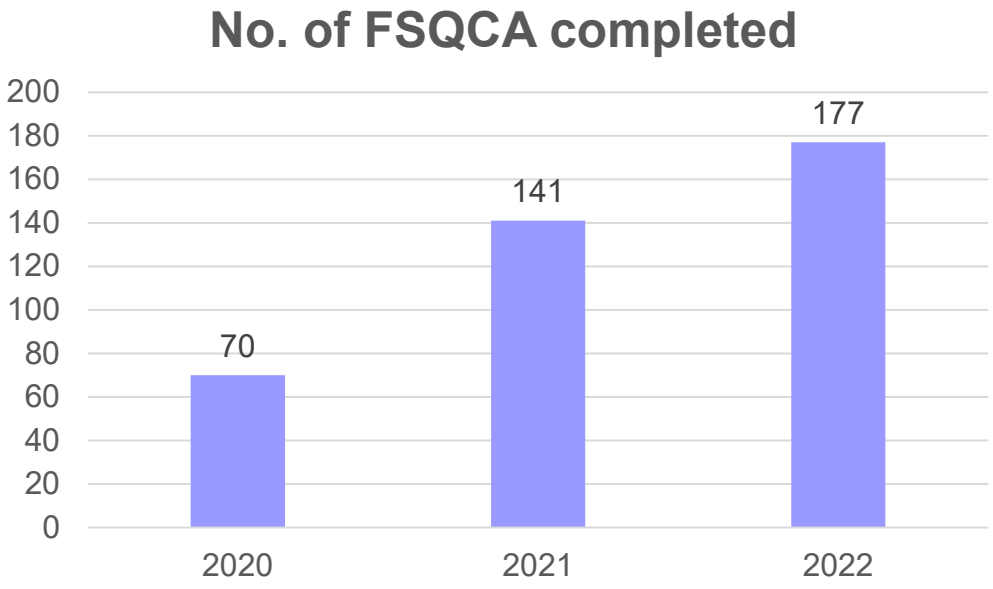
Measures to maintain USCG QUALSHIP 21 status

With immediate effect:

- Provide the itinerary of any HK ships calling US ports one month in advance;
- Pre-arrival FSQC Audit;
- Complete and verify the PSC Inspection (Pre-arrival) Checklist with photos;
- DPA should submit the Checklist with photos to ss_css@mardep.gov.hk;
- MD Circular "QUALSHIP21 Status for 2023" : https://www.mardep.gov.hk/en/faq/pdf/let221104.pdf

FSQC Audit Update

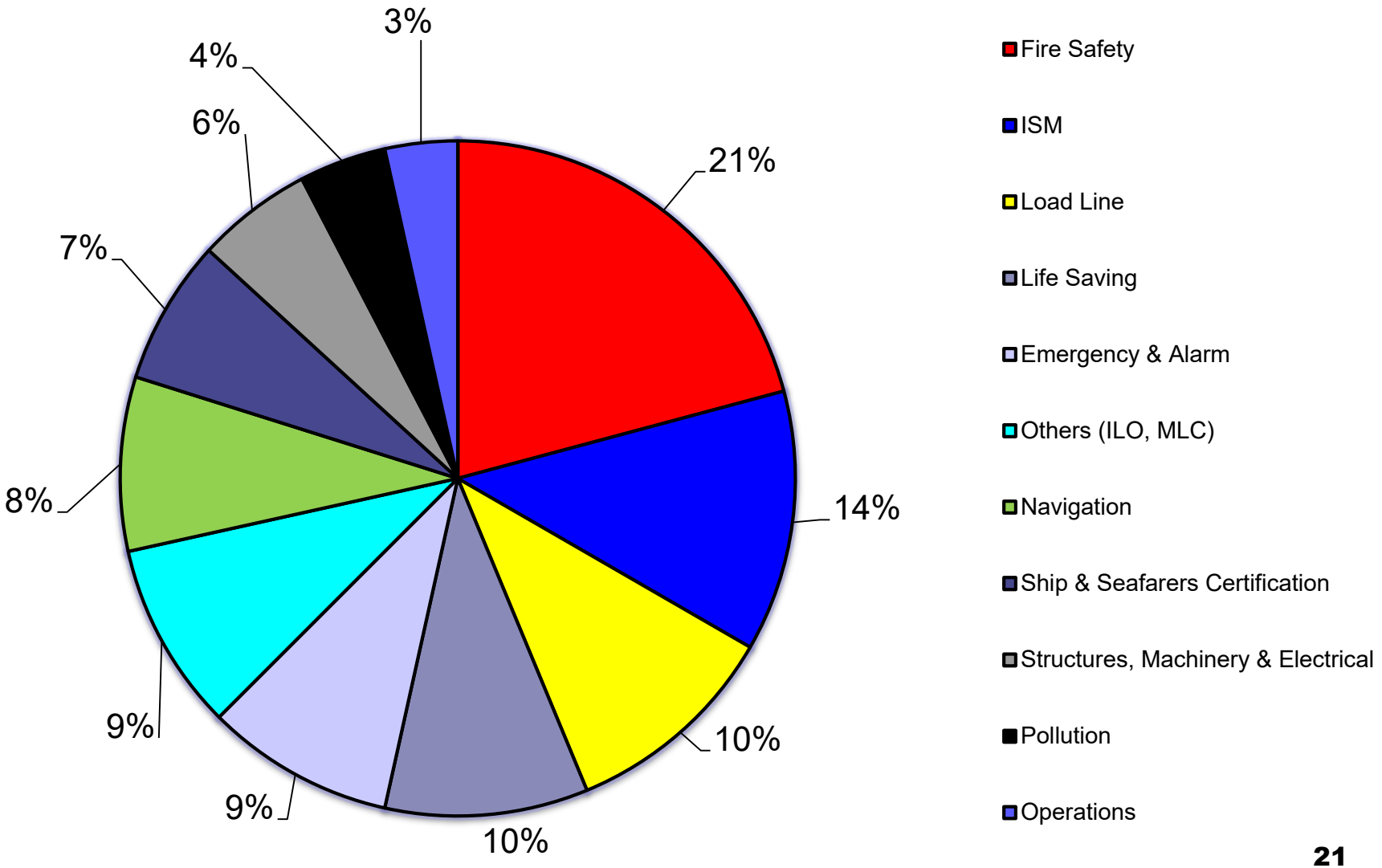
- The total number of FSQC Audits conducted for HK registered ships has been increased gradually under the establishment of seven Regional Desks in different phases
- There were 177 FSQC Audits completed in 2022



FSQC Audit Update

Regions	Shanghai	Singapore	London	Australia	Canada	USA	Japan	Hong Kong	Total
FSQCA completed in 2022	44	42	7	45	13	13	12	1	177

Percentage of PSC Detainable Deficiencies on H.K. Ships 2022



Common detainable deficiencies

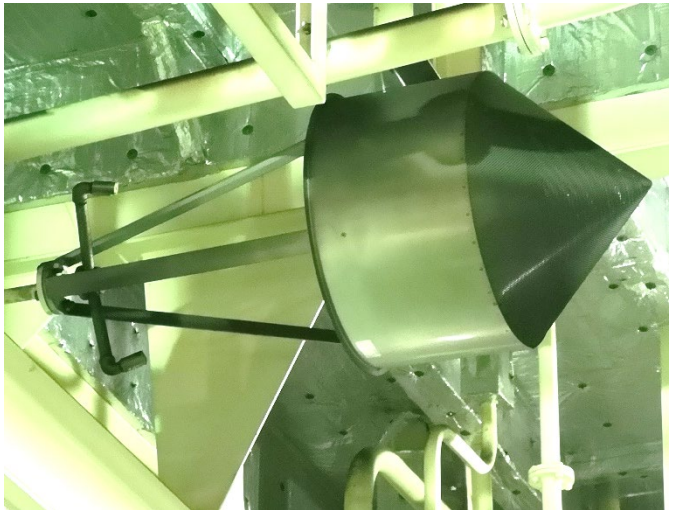
Fire Safety

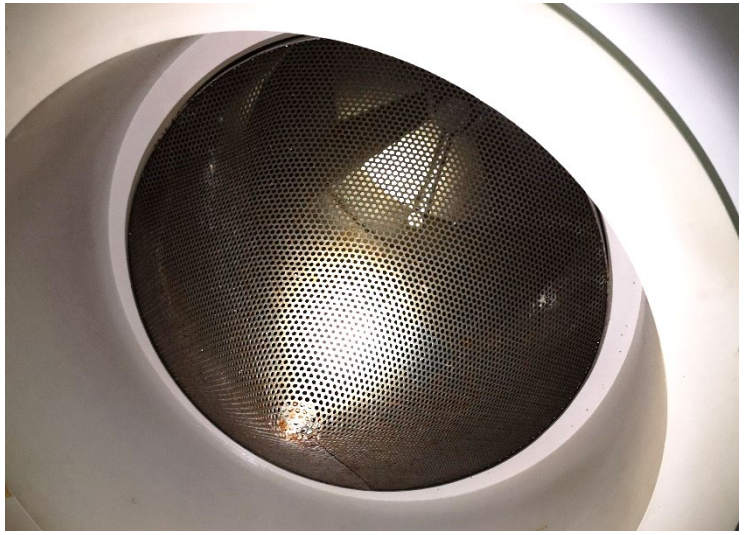
- Fireman outfit and Breathing apparatus not readily available (locked and key not readily available)

Common detainable deficiencies

Fire Safety

- 24 of 33 Foam Discharge Nozzles in the engine room were blocked preventing the operation of primary firefighting capabilities within the space.

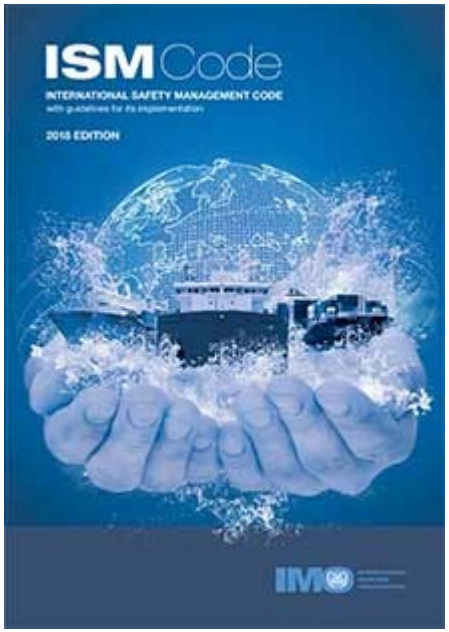




Other common detainable deficiencies

Safety Management System

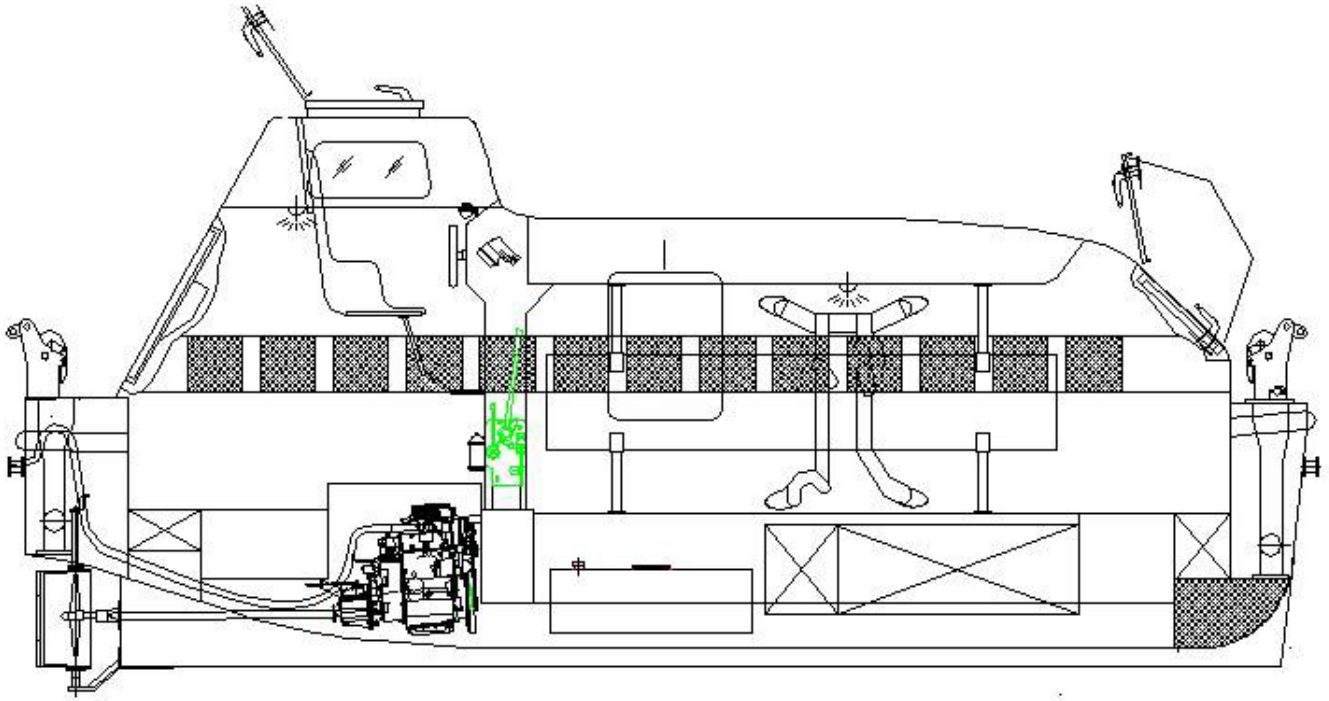
- Failure or lack of effectiveness of the implementation of ISM code. (evident by other PSC deficiencies)



Other common detainable deficiencies

Life Saving

- Crew could not start and properly test lifeboat engine



Other common detainable deficiencies

Life Saving

- Emergency operation of rescue boat davit not possible. When crew opened valve to accumulator there was oil spill on deck.

Other common detainable deficiencies

Life Saving

- Launching arrangement of rescue boat unable to operate by storage mechanical power.

Other common detainable deficiencies

Life Saving

- The limit switch on vessels rescue boat davit did not function during operational test.

Marine Accident Case 1

- C/O checking cargo hold through partially opened hatch cover
- Hatch cover closed suddenly
- C/O crushed to death at the spot

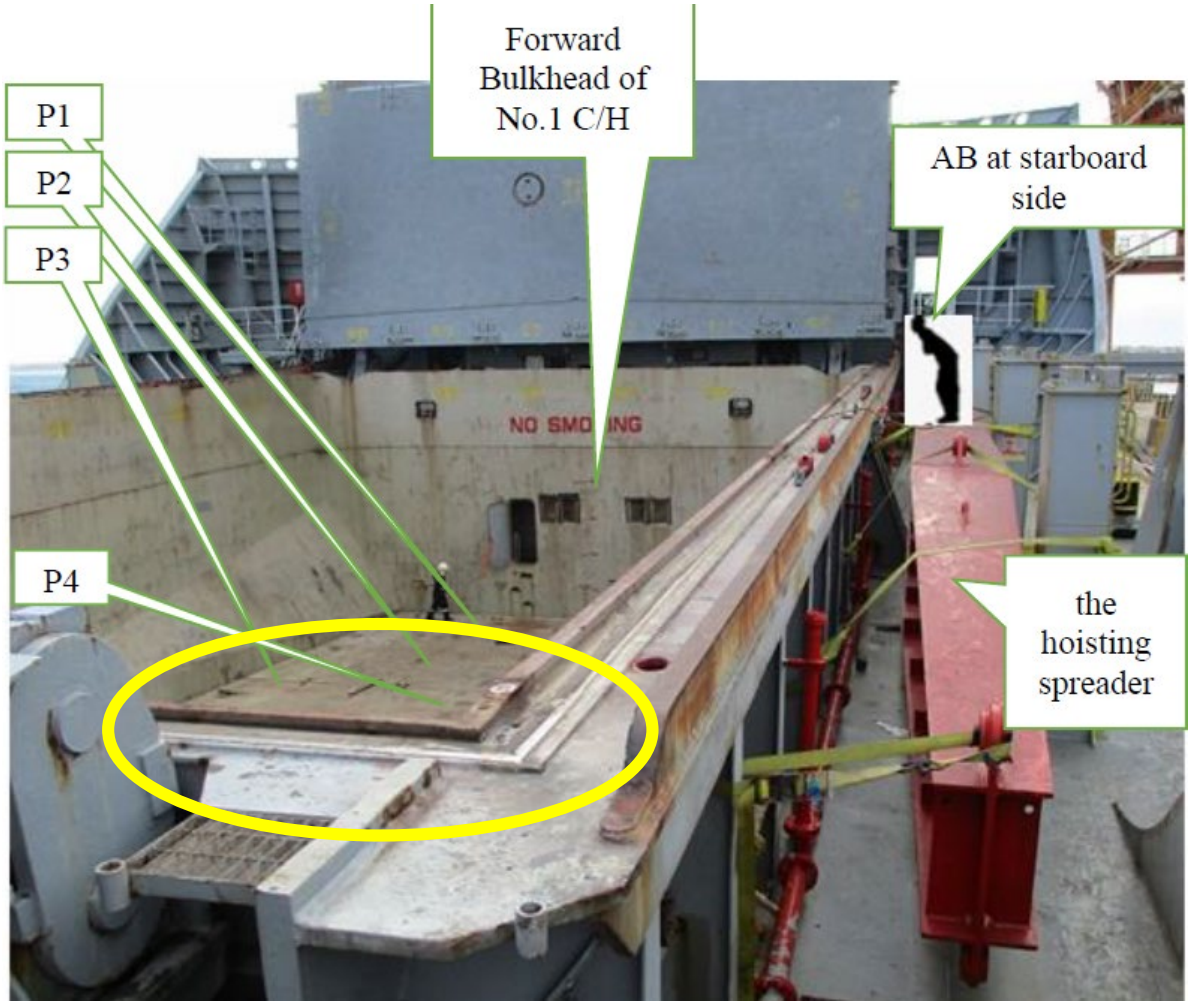
Marine Accident Case 1

Marine Accident Case 1

Lesson Learnt

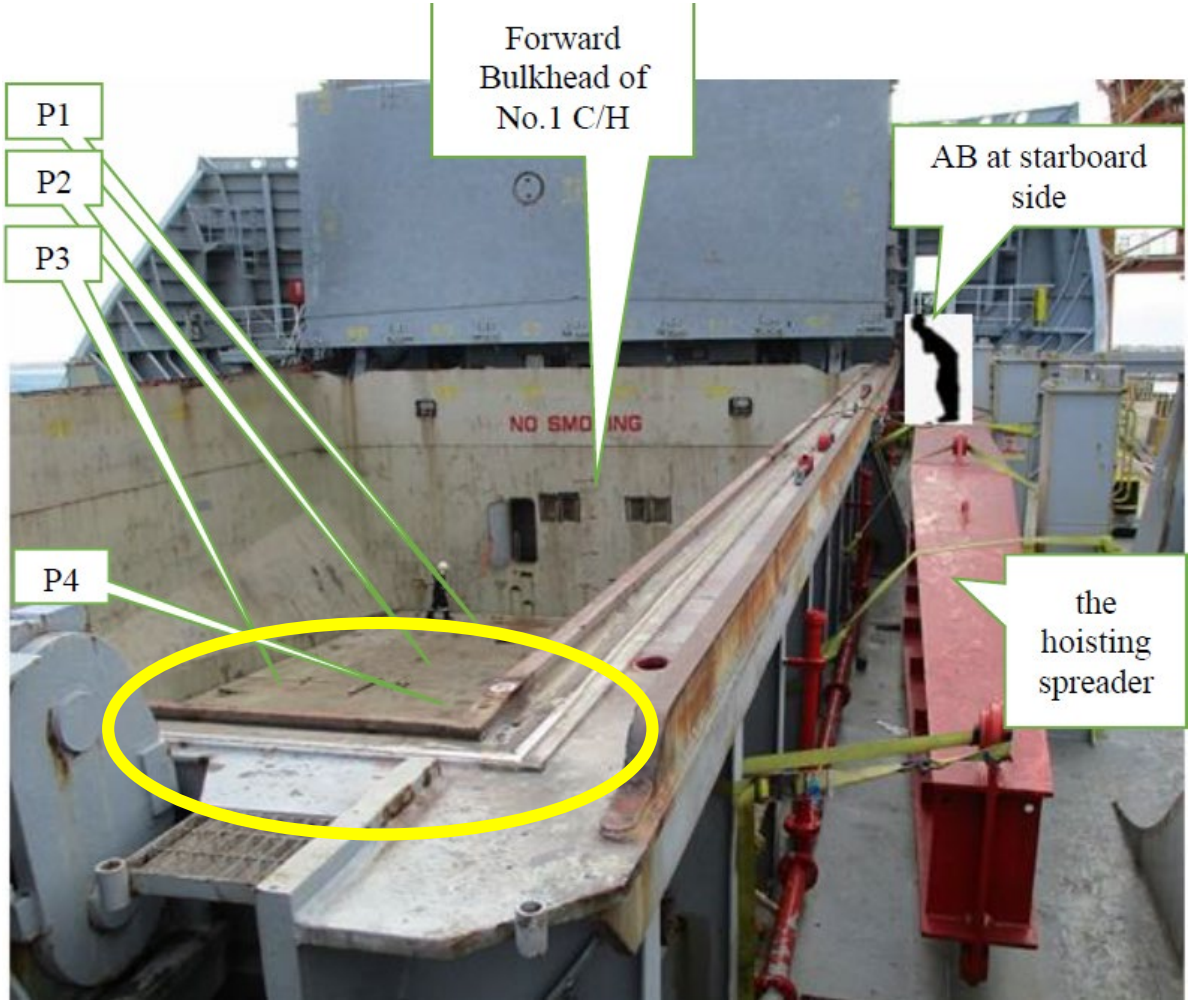
- Enhance Safety awareness and provide training
- Follow requirements of COSWP
- Ensure hydraulic operating system included in shipboard maintenance manual

Marine Accident Case 2



- Pontoon P4 was lifting up by ship crane
- AB holding the lanyard to control pontoon movement
- Ship rolled suddenly
- AB fell into the cargo hold.

Marine Accident Case 2



Lesson Learnt

- Always Conduct risk assessment
- Awareness of falling from height

Marine Accident Case 3

- Dragged Anchor
- Vessel grounded
- Hull breach
- Fuel oil pollution to sea

Marine Accident Case 3

Lesson Learnt

- Maintain effective anchor watch
- M/E prepared for emergency
- Weather monitoring
- Proper training and drills

Compliance of MLC

Kuang Zhi Jian
Senior Surveyor/Seagoing Examination and
Mercantile Marine Office

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Period - Seafarers Employment Agreement (SEA)

Deficiencies relating with SEAs:

- *not in compliance with MLC Regulation 2.1; SEAs expired; over 11 months continuous service*

Maritime Labour Convention, 2006, as amended (MLC, 2006) Frequently Asked Questions (FAQ)

- FAQ C2.1.j.: *The MLC, 2006 does not set a maximum period for a contract of employment. In fact Standard A2.1 envisages SEAs of an indefinite period. However, the duration of a SEA and the maximum period of continuous service on board are two different concepts.*

Conclusion:

- ***No requirement for the maximum period for a SEA***

Period - Seafarers Employment Agreement (SEA)

Change shipowner, change ship manager:

- *Some crew may continue serving on board with new / consecutive SEAs longer than 12 months. But the period of continuous service shall not exceed 11 months.*

Extension of SEA, or consecutive SEA

- *On voluntary of Seafarers,*
- *Submit to MD*
- *Continuous service shall not exceed 11 months*

Period - continuous service on board

Maritime Labour Convention, 2006, as amended (MLC, 2006) Frequently Asked Questions (FAQ)

- *FAQ C2.1.j.:* ***The period should be, in principle, of 11 months.***

Hong Kong Legislation: Merchant Shipping (Seafarers) (Repatriation) Regulation (Cap.478Q)

- *Section 3A(c) of Cap.478Q: Seafarer is entitled to be repatriated while the seafarer has served on board the ship consecutively for— (i) 11 months; or (ii) any longer period agreed to by the seafarer in writing.*

MD Circular letter was issued on 13 June 2022:
https://www.mardep.gov.hk/en/faq/pdf/CL_swespob.pdf

- *no seafarers shall exceed the service period of 11 months on board without written approval from MD*

Compensation – Premature termination of SEA Conditions and Terms of Service

Findings of compensation clauses of premature termination in SEAs:

- *Where the vessel is wrecked necessitating the termination of employment, the seafarers shall be entitled to earned wages, medical examination, repatriation and* ***one month basic wages*** *as the termination pay. Similar clauses of one month basic wages as termination pay due to unseaworthy, vessel sale, etc.*

Hong Kong legislation requirement:

- *Section 91 of Merchant Shipping (Seafarers) Ordinance (Cap.478) , where a Hong Kong ship is wrecked or lost, sold or ceases registration, therefore, the employment is terminated, or a seafarer's employment in a Hong Kong ship is terminated other than for disciplinary reasons before the date contemplated in the agreement, be entitled to wages at the rate payable under the agreement for 2 months.*

Compensation – Premature termination of SEA Conditions and Terms of Service

MLC Regulation 2.6 – Seafarers are entitled to adequate compensation in the case of injury, loss or unemployment arising from the ship's loss or foundering.

- *Guideline B2.6.1 – 1. The indemnity against unemployment resulting from a ship's foundering or loss should be paid for the days during which the seafarer remains in fact unemployed at the same rate as the wages payable under the employment agreement, but the total indemnity payable to any one seafarer may be limited* ***to two months' wages.***

Amendments:

- *The company was notified the findings. The SEAs were amended to meet the legislation requirement (one month was changed to two months basic wages) for premature termination of SEAs.*

Payment - the trip to ship / repatriation

MLC Guideline B2.5.1.3 (c) (non mandatory):

- *pay and allowance from the moment the seafarers leave the ship until they reach the repatriation destination, if provided by national laws or regulations or collective agreements*

Hong Kong Legislation:

- *Hong Kong has no legal requirement on the basic wages for the road period to joining ship & repatriation.*

MD recommendation:

- *MD issues Standard Clauses For Crew Agreement For Hong Kong Registered Sea-Going Ships for the company's reference, which including the seafarer's entitlement of basic wages until the date of arrival in the repatriation destination.*

Recommendation:

- *Considered the current practice by referring to standard clause, the SEA may clearly include the clauses of payment during the trip period to ship and repatriation trip period to repatriation destination.*

Report- reported incidents of abandonment of seafarers

2021 to 2022, two abandonment cases of Hong Kong ships were recorded in the ILO Database on reported incidents of abandonment of seafarers (https://www.ilo.org/dyn/seafarers/seafarersbrowse.home)

- *After investigation: one is extremely long service on board, the second case is the seafarers infected COVID-19 and Malaria during the ship staying at West Africa and delayed payment. Both cases did not meet the criteria of abandoned seafarers in Standard A2.5.2.2 of MLC.*
- *Final results: The record could not be able to be removed from the date base. The cases were closed by inserted **[resolved]** only after the repatriation and payment being completed.*
- *Recommendation: repatriation shall be well planned to avoid continuous service over 11 months; payment shall be arranged on time according to regulation 2.2 of MLC; to* avoid misunderstanding during PSC inspection, MLC inspection and any other party inspection.

Grievance Procedures on board Ships

MLC: *All seafarers shall be provided with a copy of the on board complaint procedure applicable on the ship.*

MD : *Mercantile Marine Office (MMO) is established for the purpose of the Merchant Shipping (Seafarers) Ordinance(Cap.478). MMO handles seafarers matter on board HK ships. The published the Guidance note includes the standard Grievance Procedures on board Ships:* https://www.mardep.gov.hk/en/forms/pdf/ca_gn.pdf

To avoid the detention of ship and or other undesirable consequences due to MLC deficiency, companies and ships masters are requested to reiterate the seafarers filing their complaints to company, shipowner and flag State at first priority as early as possible. MMO will follow up and render assistance ASAP once the complaint being received. The contact of Flag Administration is also included in the Grievance Procedures.

Contact details of Mercantile Marine Office:

Tel: (852) 2852 3075, Fax: (852) 2545 4669

Email: mmo_mdd@mardep.gov.hk

Break

GHG compliance

Dr. Zhang Shuang
Associate Professor
Shipping Development Research Institute

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香港特别行政区政府海事处2023年安全研讨会
2023 Safety Seminar，Hong Kong Marine Department

国际海事组织船舶温室气体减排规制体系

IMO REGULATORY FRAMEWORK TOWARDS DECARBONIZATION

张 爽 · 大连海事大学

Dr. Shuang ZHANG, Dalian Maritime University

28th Feb. 2023

IMO REGULATORY FRAMEWORK TOWARDS DECARBONIZATION

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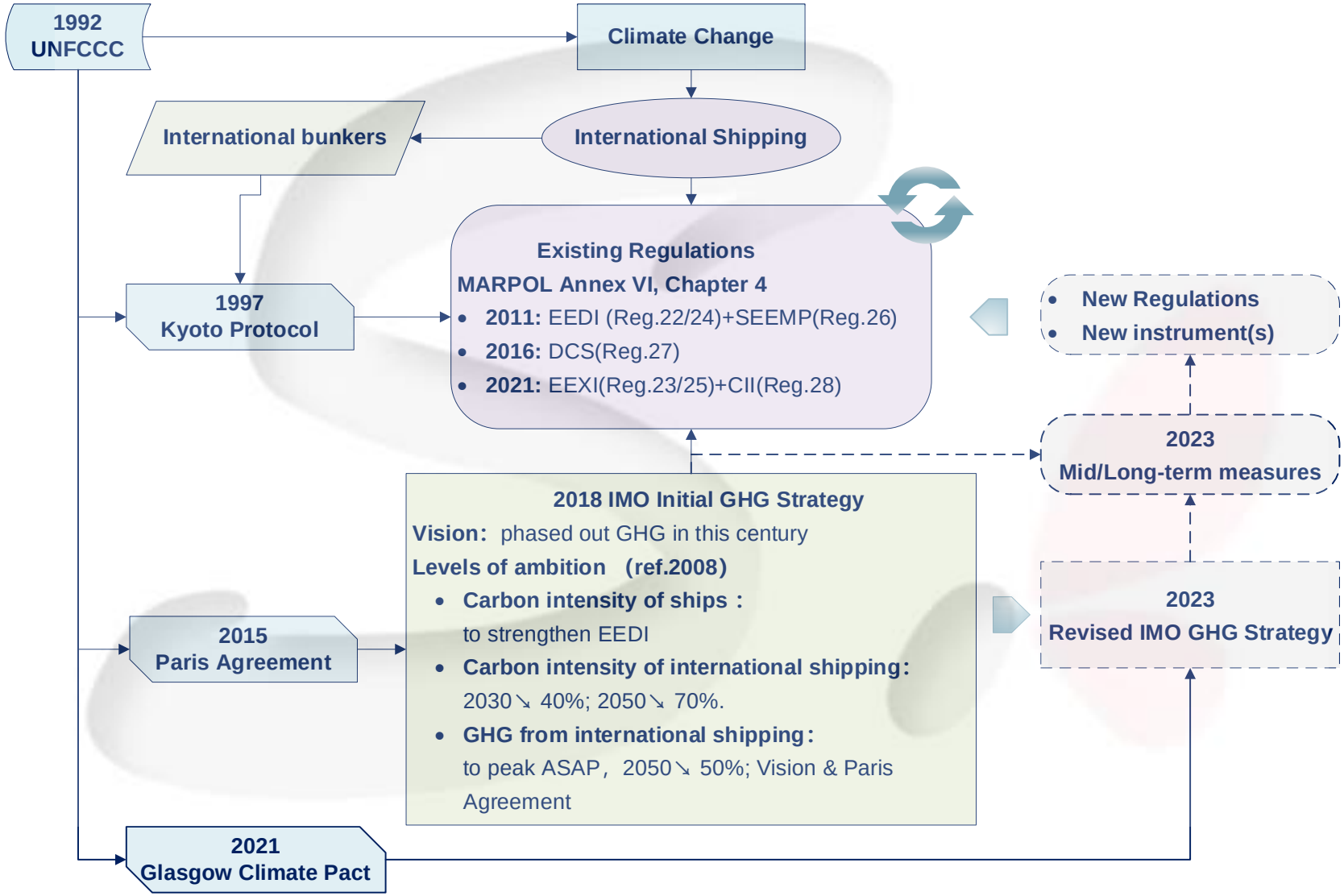
IMO船舶脱碳规制框架概览

Overview of IMO GHG regulatory framework

IMO GHG Regulatory Framework



MEPC.328(76)：2021 Revised MARPOL Annex VI

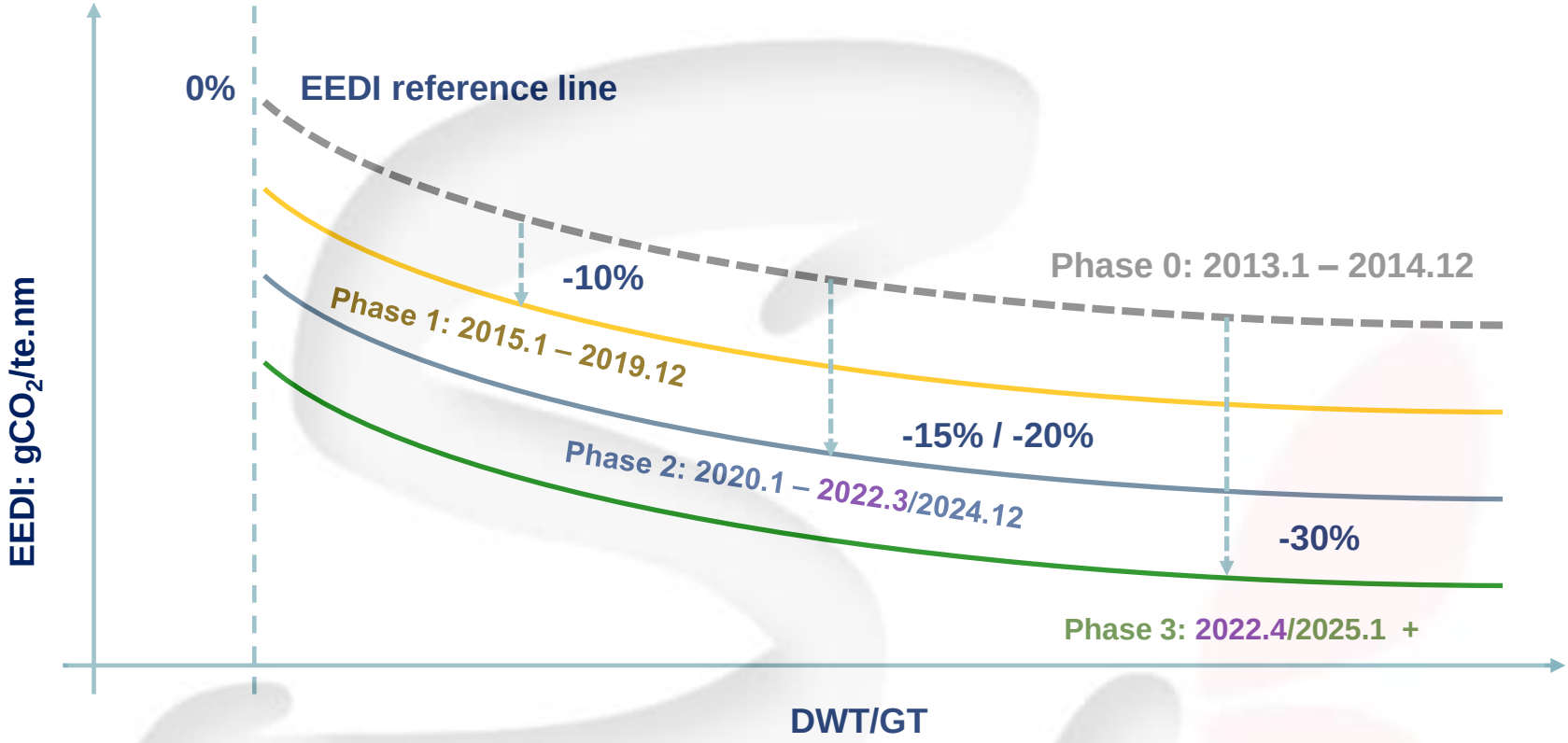
- **A basket of technical & operational measures**
  - Follow-up actions to implement IMO GHG Strategy
  - Adoption： June 2021, MEPC 76
  - Entry into force： 1 November 2022
  - Review: completed by 1 Jan 2026
    - Effectiveness
    - Reinforced corrective actions
    - Additional EEXI requirements
    - Enhanced DCS
    - Revision of Z factor and CII-ref

技术性措施：船舶设计/技术能效

Technical measures: EEDI & EEXI

Regulations on energy efficiency: Chapter 4, MARPOL Annex VI

Understanding of EEXI in the context of EEDI



- EEXI:
  - An extension of EEDI requirements to pre-EEDI 和 EEDI phase 1 ships
  - Roughly equivalent to EEDI requirement on 1 Apr. 2022 (phase 2 or 3 depending on ship types)

Enforcement of EEXI and supporting documents

Enforcement

- Scope: 400GT and above, 12 ship types (as per EEDI)
- Year of built: including new and existing ships, including pre-EEDI and EEDI ships
- Certificate : IEEC, applicable on first annual, intermediate or renewal IAPP survey or the initial IEE survey after 1 January 2023

Supporting documents

- MEPC.350(78)： 2022 Guidelines on attained EEXI calculation
- MEPC.351(78) ： 2022 Guidelines on survey and certification of attained EEXI
- MEPC.335(76)： 2021 Guidelines on shaft/engine power limitation and use of a power reserve
- MEPC.1/Circ.901： 2022 Guidance on in-service performance measurement

Methods to improve EEXI performance

EPL / SHaPoLi

Alternative fuel/energy

- Waste heat recovery
- Photovoltaic cells

$$\frac{\left(\prod_{j=1}^{n} f_j\right)\left(\sum_{i=1}^{nME} P_{ME(i)} \cdot C_{FME(i)} \cdot SFC_{ME(i)}\right) + \left(P_{AE} \cdot C_{FAE} \cdot SFC_{AE}*\right) + \left(\left(\prod_{j=1}^{n} f_j \cdot \sum_{i=1}^{nPTI} P_{PTI(i)} - \sum_{i=1}^{neff} f_{eff(i)} \cdot P_{AEeff(i)}\right) C_{FAE} \cdot SFC_{AE}\right) - \left(\sum_{i=1}^{neff} f_{eff(i)} \cdot P_{eff(i)} \cdot C_{FME} \cdot SFC_{ME}**\right)}{f_i \cdot f_c \cdot f_t \cdot Capacity \cdot f_w \cdot V_{ref} \cdot f_m}$$

Energy Saving Device (ESD)

- Propeller hub caps
- propeller boss cap fins
- efficiency propeller/rudder
- bulbous bow retrofit

DWT increase

- Wind assisted propulsion
- low friction coating
- hull air lubrication

Main engine part

Auxiliary engine part

Shaft motor

Innovative energy efficiency technology for reduction of main engine power

Innovative energy efficiency technology for reduction of auxiliary engine power

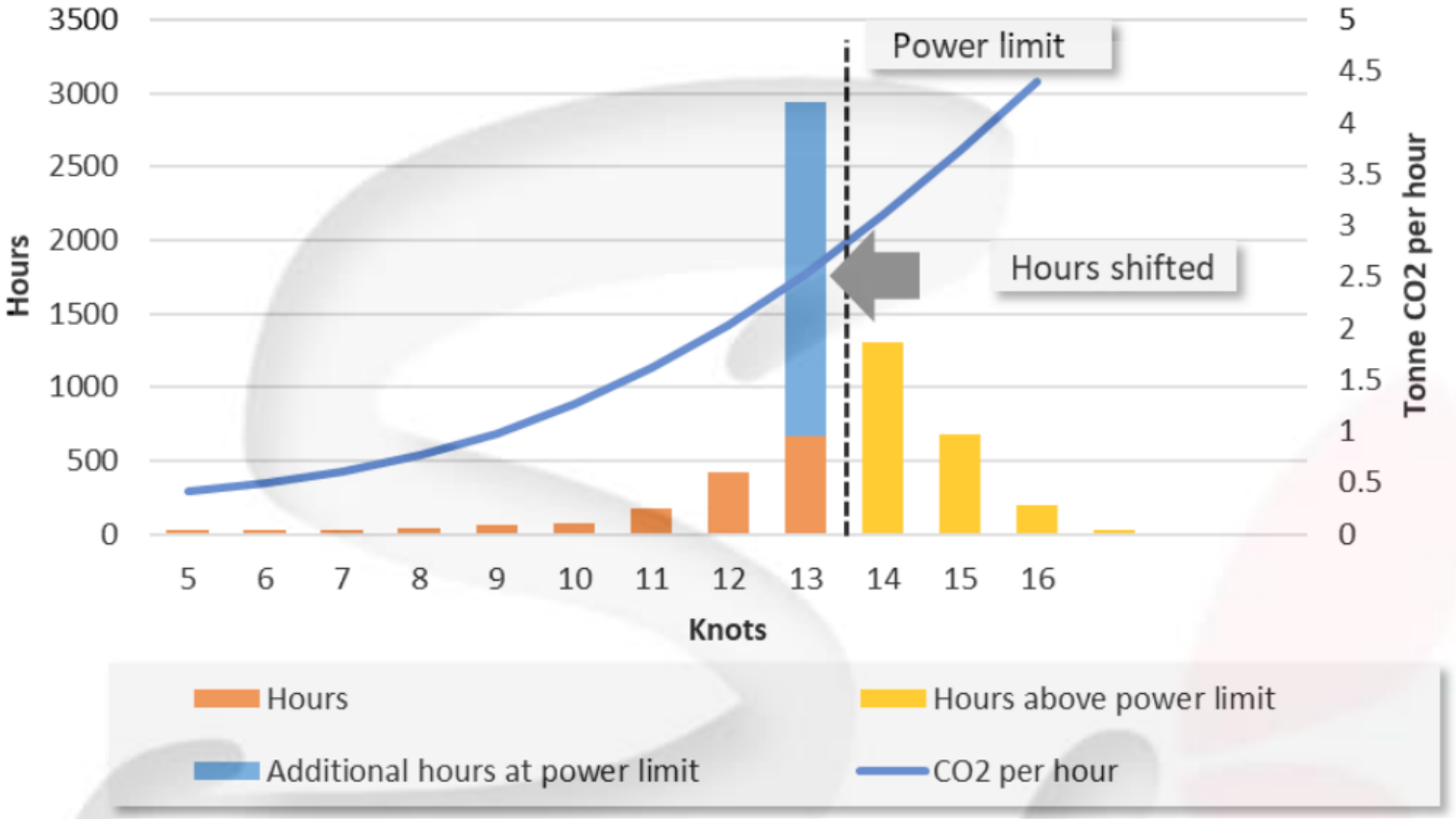
Ship-type specific correction factors

Potential of representative improvement measures

Measure	Power limitation	Impact	EEXI improvement
EPL	50% MCR	21% speed reduction	37.0%
Change from MDO to LNG	10% SFOC	15% reduction in Cf	25.0%
ESD	1-10% P_{ME}	0.3-3.5% speed increase	0.3-3.3%
Shaft generator	6% P_{ME}	1.7% speed reduction	5.6%
Wind assisted propulsion	4% P_{ME}	~	3.8%
DWT increase	5-10% DWT	~	1.5-3.0%

Data source: DNV·GL

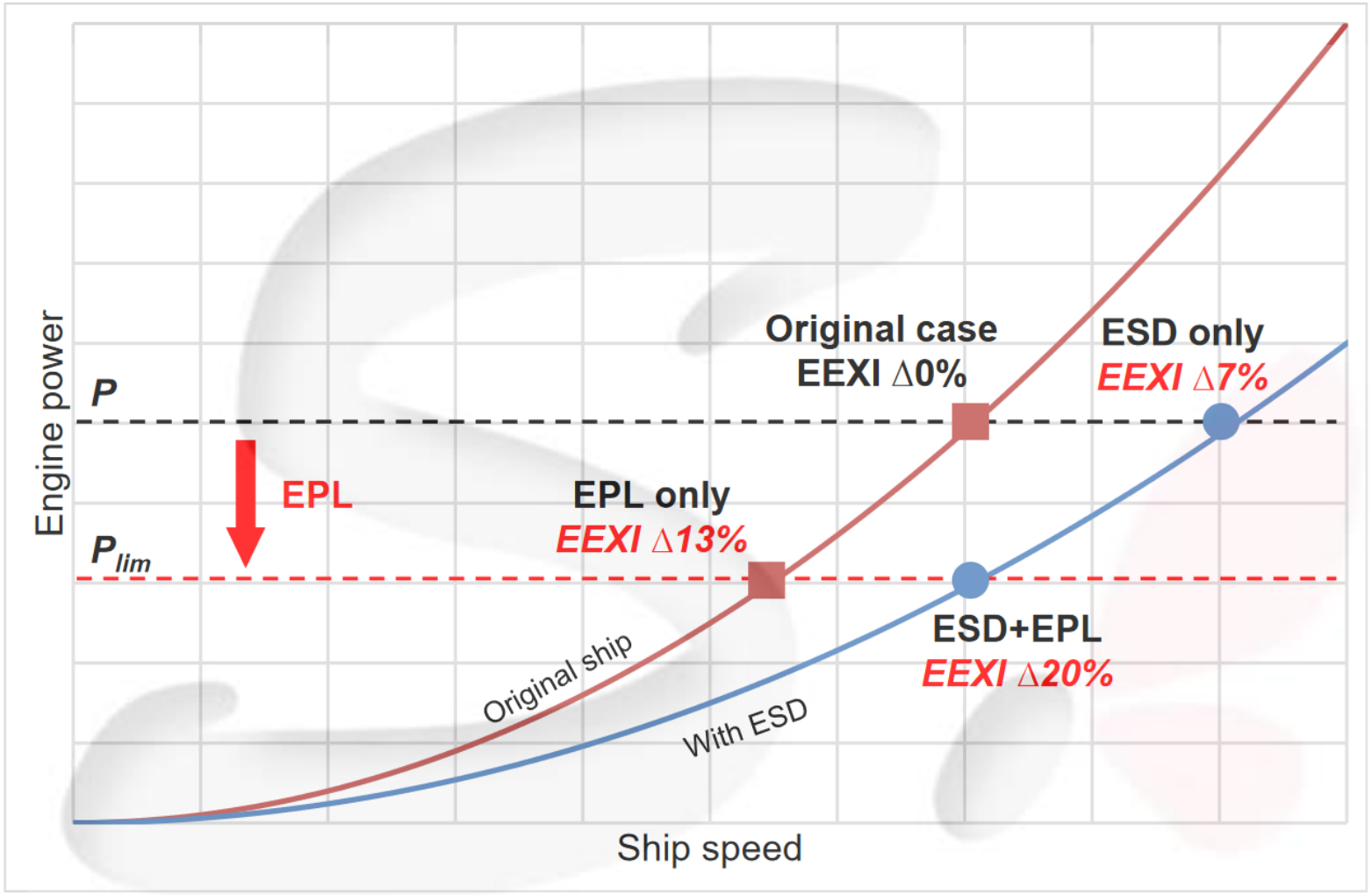
Impact of power limit on sailing speed



	Current	After	Reduction
Main Engine power MCR (kW)	6000	4380	27%
Deadweight	17000	17000	-
Design speed (Vref)	14.5	13	10%
EIV (g/dwt-mile)	11.9	9.86	17%

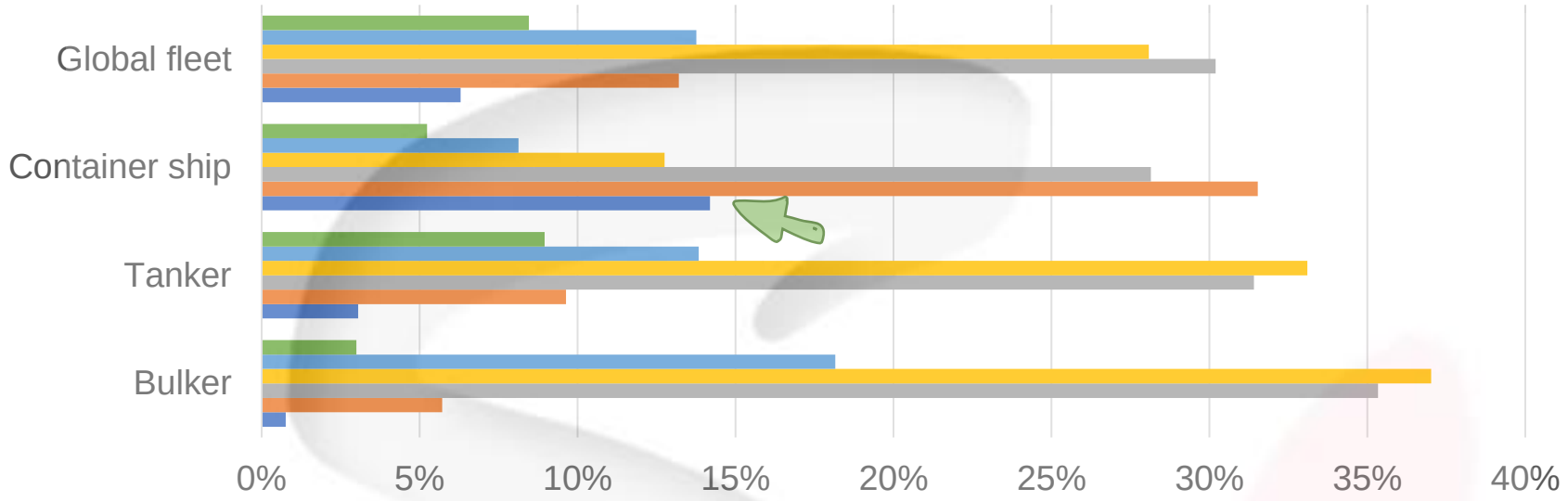
Data source: ISWG-GHG 7-2-15

Effect of “EPL+ESD” on EEXI



Source: ISWG-GHG 6-2-3, IMODOCS

Share of ships per range of power reduction



	Bulker	Tanker	Container ship	Global fleet
Fulfilled	3%	9%	5%	8%
1-10%MCR	18%	14%	8%	14%
11-20%MCR	37%	33%	13%	28%
21-30%MCR	35%	31%	28%	30%
31-40%MCR	6%	10%	32%	13%
>40%MCR	1%	3%	14%	6%

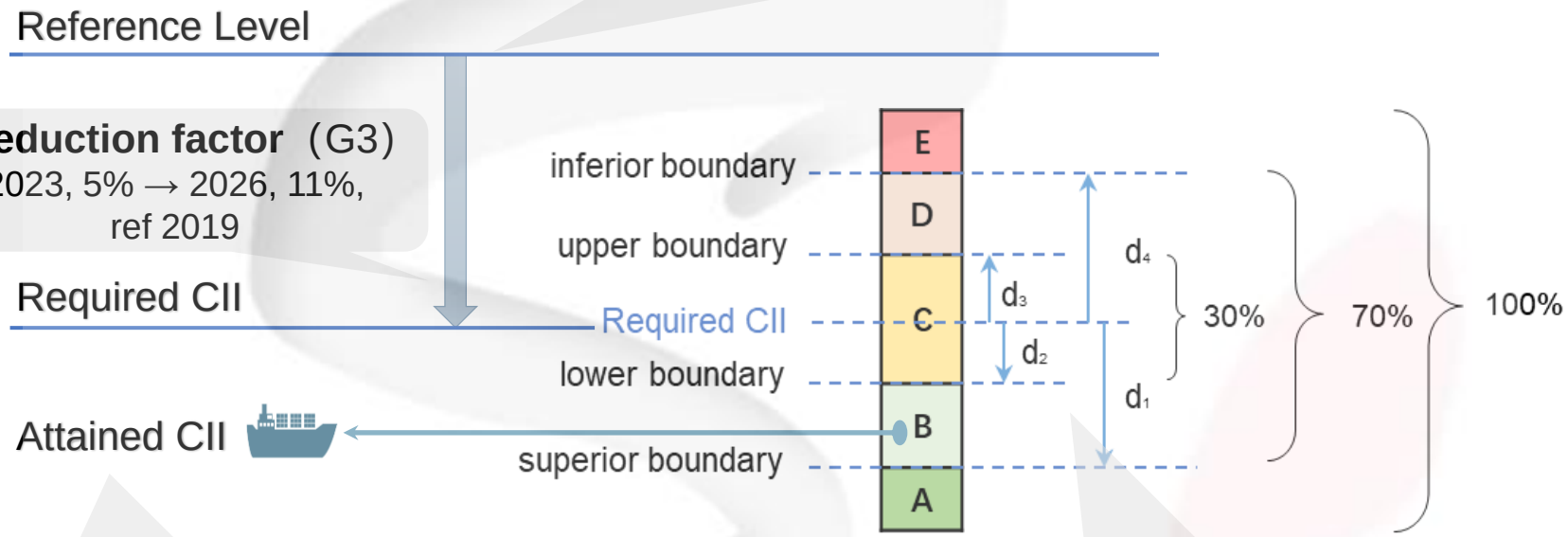
Source: ISWG-GHG 7-2-15, IMODOCS

营运性措施：船舶营运碳强度

Operational measures: CII & SEEMP

Rating of operational carbon intensity indicator (CII)

Reference line (G2): $reference\ CII = a \cdot Capacity^{-c}$



CII (G1)
- AER/cgDIST (mandatory)
- EEOI/EEPI/… (voluntary)

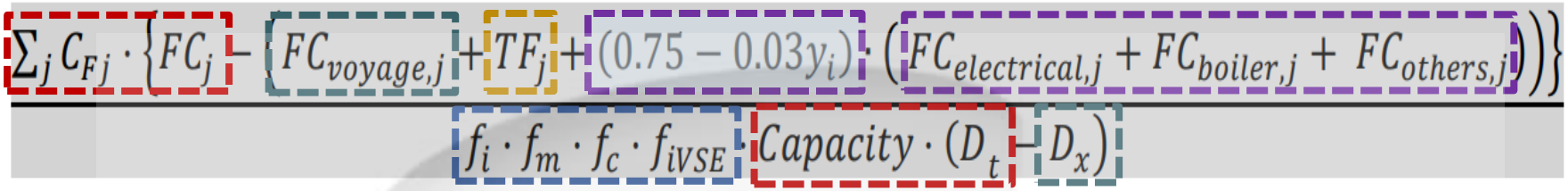
Rating boundaries (G4)

CII correction (G5)

Guidelines to support CII Rating mechanism

MEPC.352(78)	G1	CII 指标计算导则 （2022 CII Guidelines）
MEPC.353(78)	G2	CII 基线导则 （2022 CII Reference Lines Guidelines）
MEPC.338(76)	G3	CII 折减率导则（2021 CII Reduction Factor Guidelines）
MEPC.354(78)	G4	CII 评级方法导则（2022 CII Rating Guidelines）
MEPC.355(78)	G5	CII 计算修正系数与航次调整导则（2022 CII Correction Guidelines）

G5：CII correction factors and voyage adjustments



FC_{voyage}

- Rugualatlin 3.1 in MARPOL Annex VI
- Ice voyages

EEDI corrections

- f_i/f_m : cubic capacity correction for ice-classed ships
- f_c : cubic capacity correction for chemical ships
- F_{iVSE} : voluntary structural enhancement of self-unloading bulk carriers

TF

- Shuttle tankers equipped with DP (dynamic positioning)
- STS voyages of tankers

$FC_{electrical}$, FC_{boiler} , FC_{other}

- $FC_{electrical}$: refrigerated containers; cargo cooling /reliquefaction systems on gas/LNG carriers; discharge pumps on tankers
- FC_{Boiler} : cargo heating and cargo discharge on tankers
  FC_{Others} : standalone engine driven cargo pumps on tankers

Enforcement of CII Rating

- Scope : 5000GT and above, 12 types (EEDI/EEXI + cruise ships with conventional propulsion)
- Certificate: SEEMP + CoC / SoC (DCS+CII)

MARPOL Annex VI

Reference CII & reduction factors 2023 to 2026

Required CII in years 2023 to 2026

Rating boundaries in years 2023 to 2026

A <> B <> C <> D <> E

By 31 Dec 2022

Updated SEEMP (Part III)

- Required CII for 2023, 2024 and 2025
- Implementation plan
- Method to calculate attained CII
- Procedure for self-evaluation and improvement

- Flag state/RO initial verification, CoC issued

2023

- Implementation of SEEMP
- By 30 Nov, company audit, if conducted

- PSC for SEEMP and CoC

2024…

- By 31 March, submission of attained CII for verification
- By 30 April, submission of corrective action plan for E or 3rd D

- By 31 May, Flag state/RO verification, SoC issued

- Implementation of SEEMP
- Implementation of corrective actions, where applicable
- By 30 Nov, company audit, if conducted

- PSC for SEEMP and SoC

- Voluntary incentives for A and B ships

Other supporting documents related to CII Rating

Documents related to SEEMP

MEPC.282(70) → MEPC.346(78) : ~~2016~~ 2022 SEEMP Guidelines

MEPC.347(78): 2022 SEEMP Part III Verification and Company Audit

Documents related to Data Collection System (DCS)

MEPC.292(71) → MEPC.348(78) : ~~2017~~ 2022 DCS & CII Verification Guidelines

MEPC.293(71) → MEPC.349(78) : ~~2017~~ 2022 DCS Database Guidelines

MEPC.1/Circ.871/Rev.1 : Non-party data submission procedure

PSC Procedures

Amendments to the Procedures for Port State Control, 2021 (resolution A.1155(32))

MEPC.362(79): Amendments to MARPOL Annex VI (DCS)

Additional data to support CII Rating mechanism

Entry into force:
1 May 2024

Early implementation encouraged:

1 Jan 2024

Technical parameters

- Year of delivery
- Attained EEXI

Operational data

- AER /cgDIST
- Required CII
- Attained CII
- Attained CII (before correction)
- CII Rating: A/B/C/D/E
- Trial CII: EEPI / cbDIST / clDIST / EEOI

Measures to improve CII performance

- **Machinery: 5-20%**
  - Waste heat recovery
  - Engine de-rating

- **Hydrodynamics : 5-15%**
  - Hull coating
  - Air lubrication
  - Bio-fouling cleaning

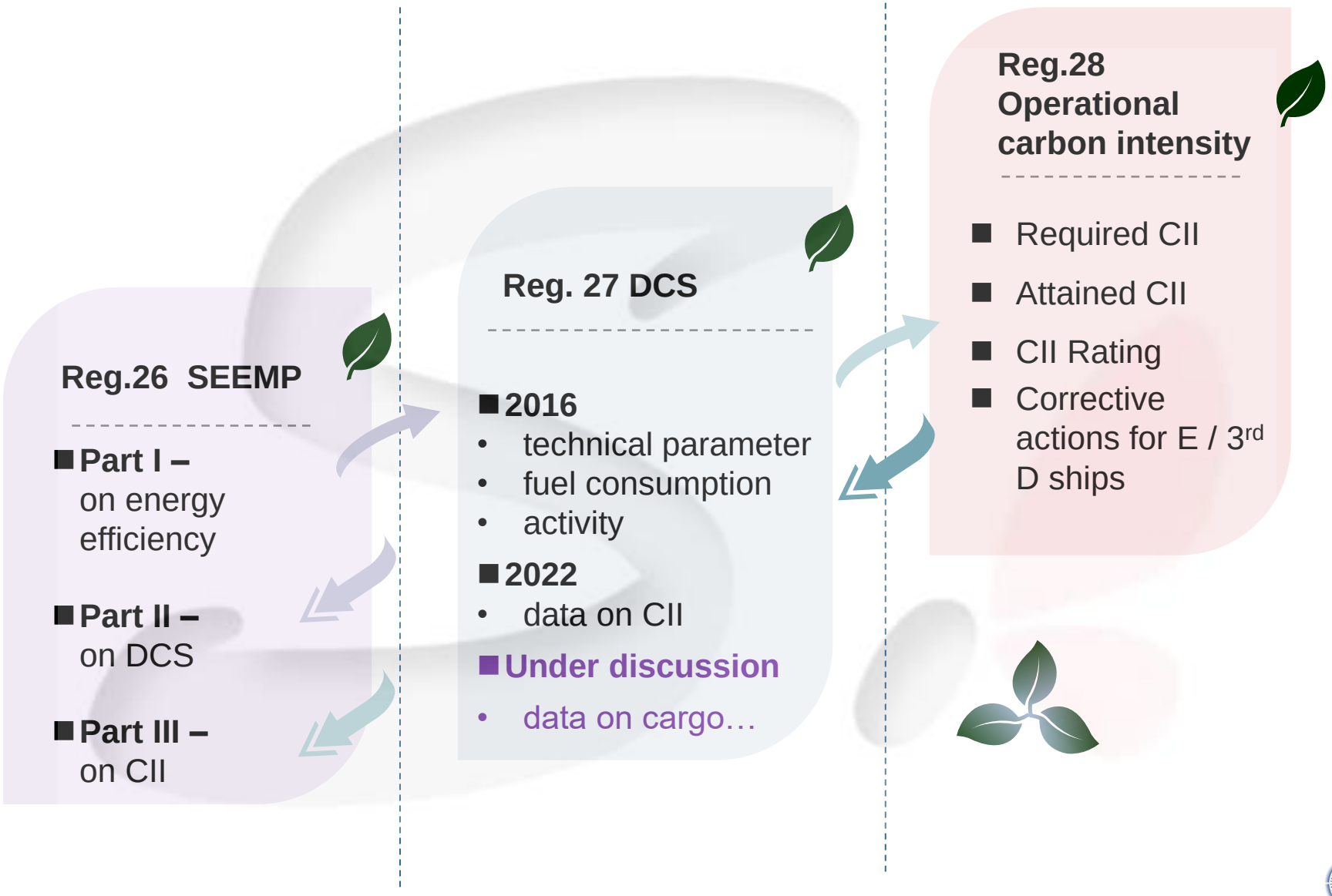
- **Alternative fuel/energy:** up to 100%

$$CII = \frac{Fuel\ consumption \cdot CO_2\ conversion\ factor}{Distance\ travelled\ \cdot Capacity\ \ (\mathrm{DWT}\ or\ \mathrm{GT})} \cdot f_{correction\ factor}$$

- **Operational >20%**
  - Speed optimization
  - Voyage optimization
  - JIT

Other measures to improve EEXI

Regulations on operation: Chapter 4, MARPOL Annex VI



中长期减排措施

Mid/Long-term measures

Work plan for mid- and long-term measures

Phase I
Collation & initial consideration
Spr. 2021- Spr. 2022

Phase II
Assessment & selection
Spr. 2022- Spr. 2023

Phase III
Development & finalization
Spr. 2023-?

Review of 2018 IMO GHG Strategy

- Vision
- Levels of ambition
- Measures and timeline
- Impacts on states……

EEXI/CII Review by Jan 2026

Mandatory Carbon Intensity Code

EEDI Phase 4?

Short- /Mid- /Long-term measures:

To be finalized and agreed:

- **between 2018 and 2023**
- **between 2023 and 2030**
- **beyond 2030**

A basket of mid-term measures

Divergent Views:

- How to address upstream emissions and sustainability: mandatory regulations Vs. economic incentive?
- How to allocate revenues for different purposes?
- Compatibility and coordination between different measures/elements

Technical Element

- GHG Fuel Standard
- CII
- Sustainability

Economic Element

- Cap & Trade
- Levy/tax
- Reward/feebate
- IMRB/IMRF

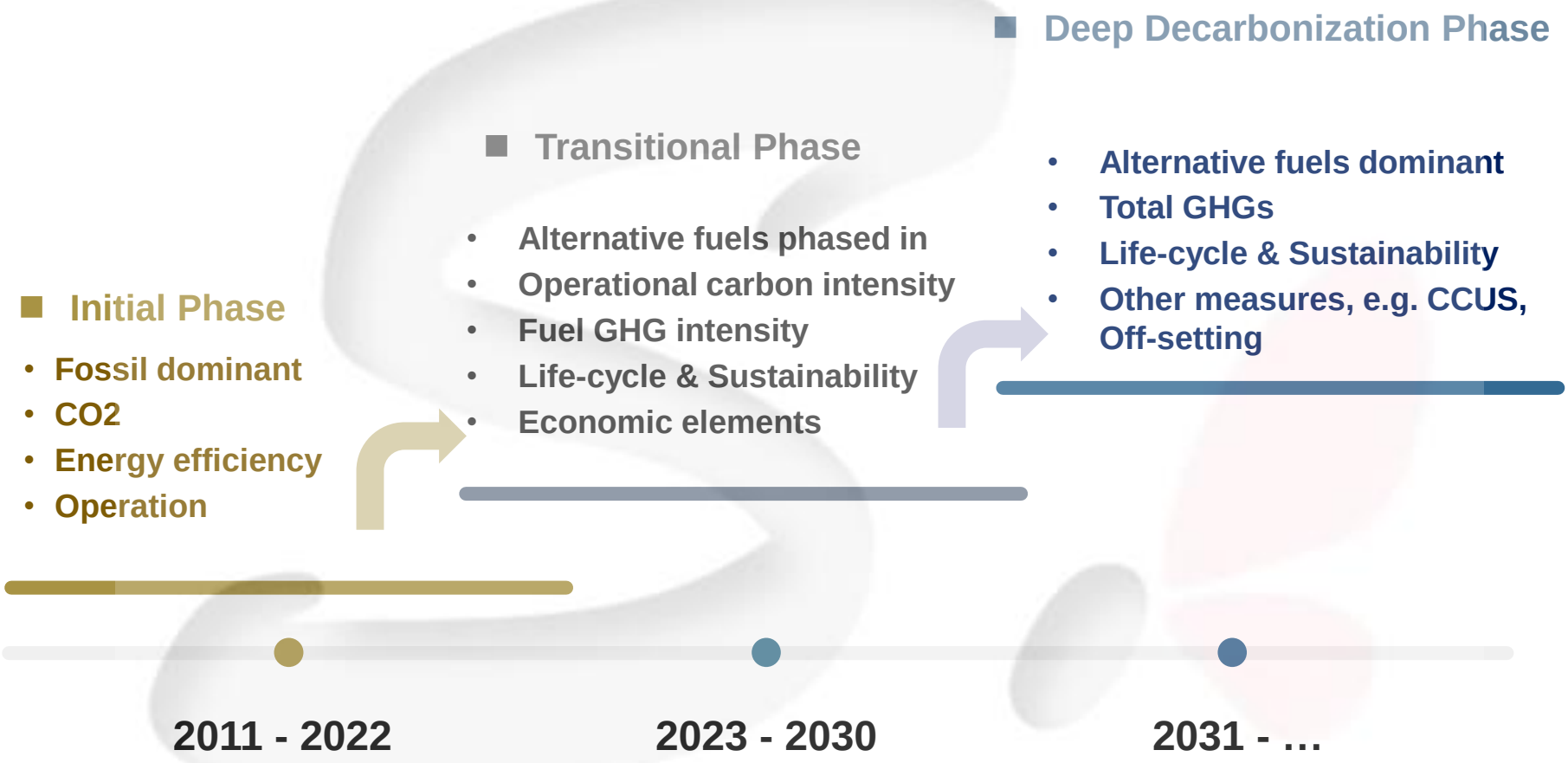
LCA Guidelines

- **Nature**: Technical tool
- **Elements**: initial fuel list; methodology and default values for WtT/TtW/WtW; FLL; Sustainability; Certification; Review
- **Timeline:** CG, to be finalized by Apr. 2023 for approval by MEPC80 (Jul. 2023)

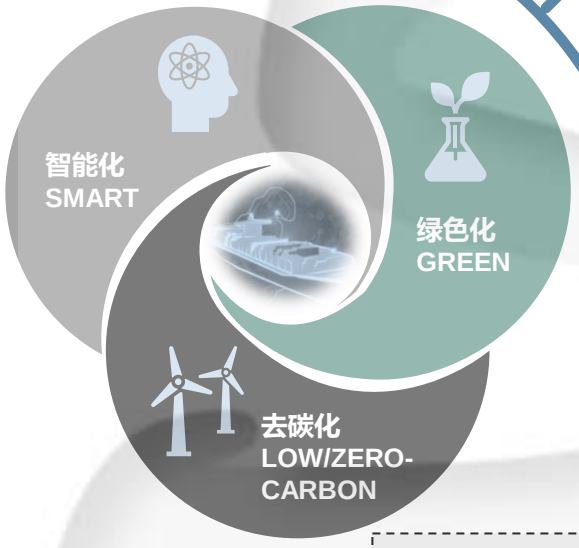
总结与展望

Summary & Outlook

Phases and features of IMO's effort towards decarbonization



Recommended strategy for the transition period



01 **New ships: LNG/Methane (Fossil/Bio/Synthetic) - important transitional option**

02 **Existing ships: Bio-fuels + fleet compliance**

03 **Zero emission ships: key to fleet compliance**

04 **Chicken-and-egg dilemma: Route/hub specific solutions**

Voluntary cooperation through the whole value chain

- **MEPC.366(79)** : cooperation between the port and shipping
- **MEPC.367(79)**: voluntary *National Action Plans*

感谢关注

Thank you for your attention

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Email: zhangshuang@dlmu.edu.cn

Ship inspection

Stephen McMeeking
Manager Ship Inspections
Australian Maritime Safety Authority

We are One in Promoting Excellence in Marine Services

Australian Government
Australian Maritime Safety Authority

Port State Control in Australia

Visit to Hong Kong by Stephen McMeeking Manager Ship Inspections.

AMSA Operations Division

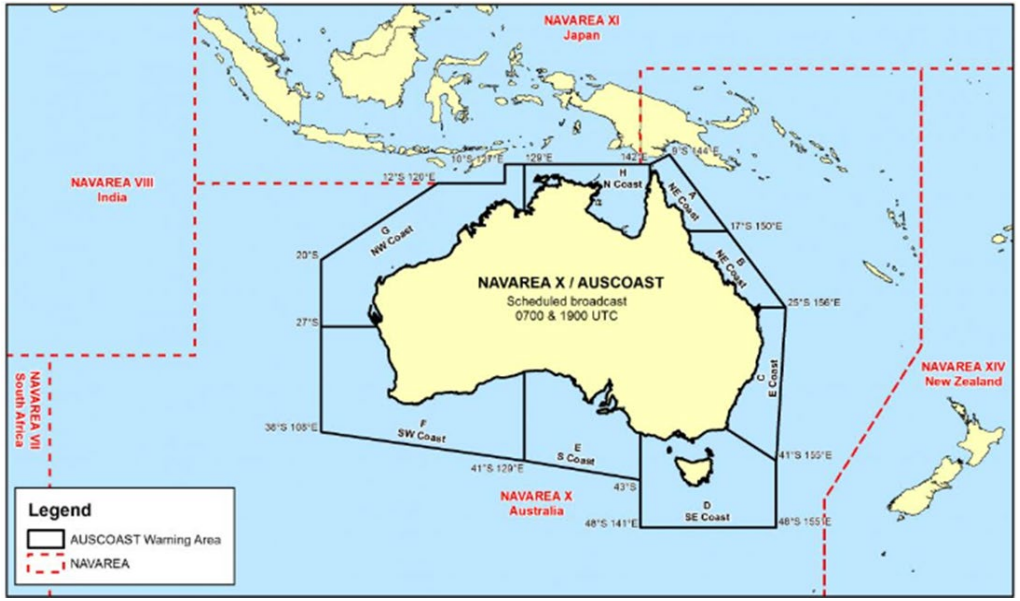
PORT STATE CONTROL IN AUSTRALIA

Results for 2022
With some comparisons back to 2021

Operating Environment

Australia is the largest island nation in the world

- **3rd largest EEZ** – 10 million km^2
- 60,000 km of coastline with 12,000 islands
- 79 ports receive about 26,000 international visits
- **10% of earths surface equates to SAR Region**
- **10% of world sea trade**
- Covers 5 of the world's ocean climate zones
- 6 maritime boundaries



2022 Figures – Activity and outcomes

		2021	2022	When compared to 2021	
Arrivals	Total arrivals	26,400	26,774	1.4%	(an increase of 374)
	Individual ships which made those arrivals	6,170	6,042	-2.1%	(a decrease of 128)
	Ships eligible for PSC inspection	5,995	5,884	-1.9%	(a decrease of 111)
PSC inspections	Total PSC inspections	2,820	2,405	-14.7%	(a decrease of 415)
	Total PSC inspections - by individual ships	2,567	2,167	-15.6%	(a decrease of 400)
	Inspection rate of eligible ships %	42.8%	36.8%	-14%	(a decrease of 14%)
	Total deficiencies	6,242	6,216	-0.4%	(a decrease of 26)
Deficiencies	Total detainable deficiencies	221	220	-0.4%	(a decrease of 1)
	Rate of deficiencies per inspection	2.2	2.58	17.3%	(an increase of 0.38)
Detentions	Total detentions	159	145	-8.8%	(a decrease of 14)
	Detentions as a % of total inspections	5.6%	6.0%	7.1%	(an increase of 0.4%)

Detainable Deficiencies 2021 & 2022

Year DEFICIENCY_CODE (groups)	2021 Deficiencies	Share %
ISM	53	23.98%
Life-Saving Appliances	32	14.48%
Fire Safety	30	13.57%
Emergency Systems	27	12.22%
Water/Weather-Tight	20	9.05%
Labour Conditions	12	5.43%
Pollution Prevention - MARPOL Annex 1	11	4.98%
Other	8	3.62%
Pollution Prevention - MARPOL Annex 4	7	3.17%
Certificates & Documentation	6	2.71%
Cargo Operations	4	1.81%
Safety of Navigation	4	1.81%
Radio Communications	3	1.36%
Propulsion & Auxiliary Machinery	2	0.90%
Structural Conditions	2	0.90%

DEFICIENCY_CODE (groups)	2022
ISM	29.09%
Fire Safety	14.55%
Emergency Systems	10.45%
Life-Saving Appliances	9.09%
Labour Conditions	7.27%
Water/Weather-Tight	6.36%
Other	5.45%
Pollution Prevention - MARPOL Annex 1	4.55%
Pollution Prevention - MARPOL Annex 4	3.64%
Propulsion & Auxiliary Machinery	2.73%
Cargo Operations	2.27%
Radio Communications	1.36%
Safety of Navigation	1.36%
Certificates & Documentation	0.91%
Structural Conditions	0.91%

2021 Top 5 Detentions Rate by ship type

The continued relatively poor performance of general cargo, container ships and bulk carriers is of concern to AMSA.

Top five detention rates by ship type Min 10 Inspections

Year	2022	
SHIP_TYPE	Initial Detention Rate	Detention Count
general cargo/multi-purpose ship	11.9%	21
container ship	8.3%	25
wood-chip carrier	7.9%	5
bulk carrier	6.4%	76
NLS tanker	5.3%	1

PSC - Some Suggestions

Be honest – report all defective equipment ***before*** the inspection commences.

- Requirement of SOLAS Chapter I Regulation 11; and
- Relaxations afforded provided appropriate steps taken

- **Don't try to hide things**
  - If in doubt, report it.
  - Have rectification action in place where necessary
- **Be fully aware of your ship** and how everything works
- **Question findings –** make sure you understand what the deficiencies mean

The AMSA PSCO provide you a letter spelling out the intent of the PSC at the beginning of the process. This includes a contact you can use if you have any concerns about the conduct of the PSC.

PSC – Operational Requirements

The ability to exercise control over operational requirements SOLAS XI-1/4 has existed for some time. From a control perspective the following is pertinent…

1. A ship when in a port of another Contracting Government is subject to control by officers duly authorized by such Government concerning operational requirements in respect of the safety of ships, when there are clear grounds for believing that the master or crew are not familiar with essential shipboard procedures relating to the safety of ships.

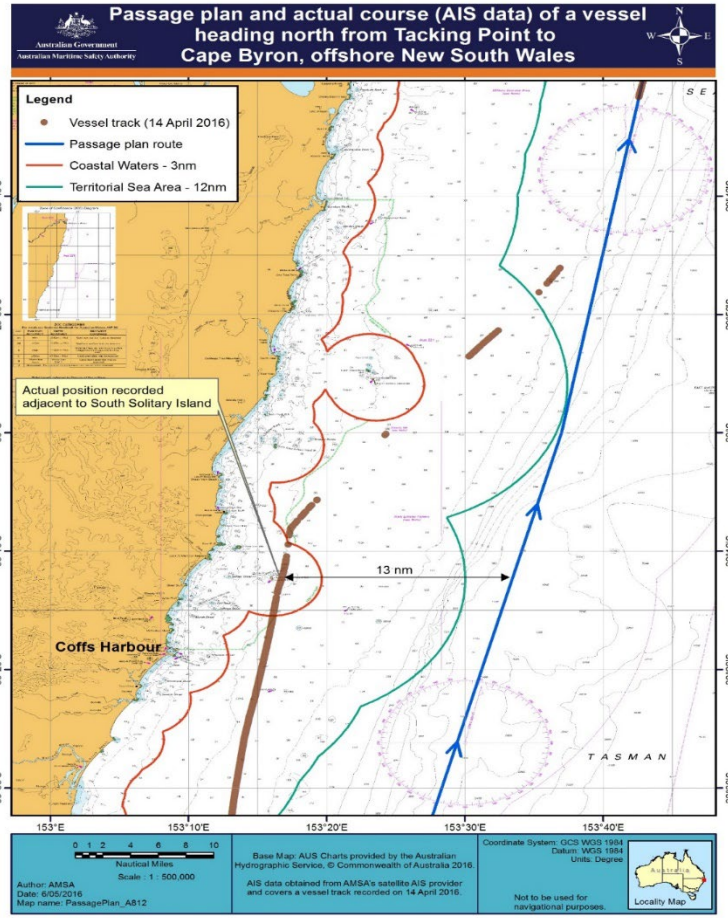
And ….

2. In the circumstances defined in paragraph 1 of this regulation, the Contracting Government carrying out the control shall take such steps as will ensure that the ship shall not sail until situation has been brought to order in accordance with the requirements of the present Convention.

The vessel sailed from a southern port in Australia with the radar set to dead reckoning. GPS positons were recorded but not checked. No verification was carried using other means …. As a result:

The vessel was some 13nm off course, 5nm off the coast … and about to hit an island.

Because they did not know where they were they dumped garbage as well.



Why?

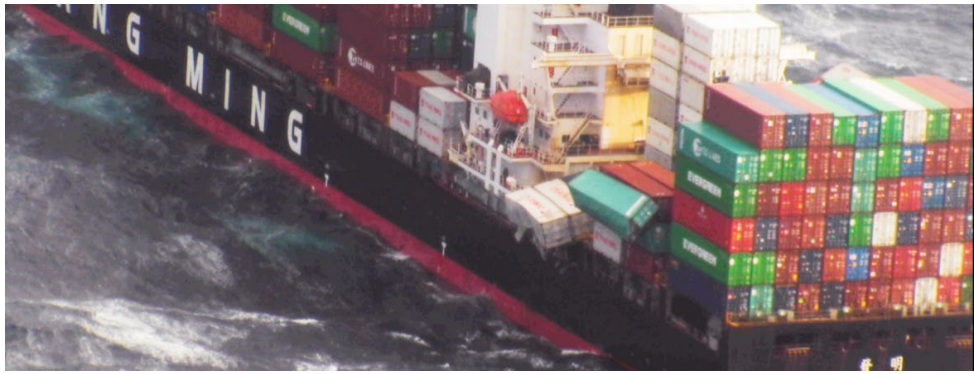
Why do we conduct Focused Inspection Campaigns (FICs)?

We conduct FICs to gauge the level of compliance to a particular topic within industry, to gather data on a particular aspect and to assist industry in areas that need greater focus.

Recent Focused Inspection Campaigns

- Proper stowage and securing of cargo – 1 August to 31 October 2020
- Safety of Navigation – 1 August to 30 September 2020
- Planned Maintenance – 15 January to 28 February 2022
- Hours of Work and Rest – 1 May to 30 June 2022

Cargo Securing remains an ongoing problem on container vessels coming to Australia. Recent high-profile incidents have highlighted the risk to the environment when containers are lost overboard.



Photos from the *APL England* ATSB report. AMSA is taking criminal action against the master and the charterers of the vessel.


13

Planned Maintenance on ships

During port State control inspections, AMSA will place a greater focus on planned maintenance of propulsion and auxiliary equipment and associated systems and will take necessary compliance actions to address any identified areas of concern.

MN 10/2022

Photo courtesy of ABC news
https://www.abc.net.au/news/2022-07-06/nsw-mv-portland-bay-finally-towed-to-port-botany/101212164

Pilot Transfer Arrangements

Two recent pilot transfer arrangement incidents have occurred, which nearly resulted in a death of a pilot.

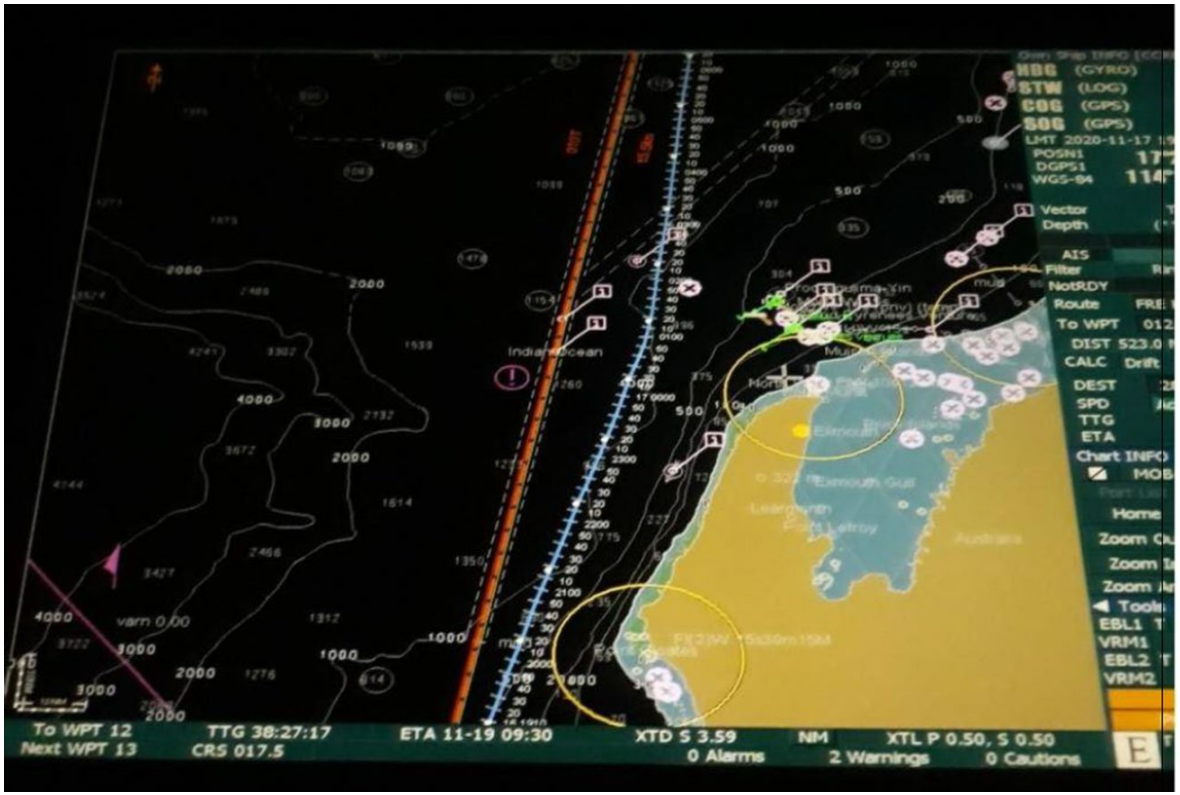
Man ropes parted while the pilot was descending from the deck to the pilot boat.

PORT STATE CONTROL IN AUSTRALIA

Deficiency Category	2008		2007
	No. of detainable deficiencies	Share of total detentions	Share of total detentions
Fire safety measures (SOLAS chapter II-2)	110	28.5%	31.9%
Life-saving appliances (SOLAS chapter III)	84	21.8%	17.0%
ISM related deficiencies (SOLAS chapter IX)	48	12.4%	7.8%
Radio communications (SOLAS chapter IV)	45	11.7%	8.8%
LOAD LINES	43	11.1%	12.2%

2020	2021
ISM – 28.1%	ISM – 24.0%
Fire safety – 13.7%	Lifesaving appliances – 14.5%
Lifesaving appliances – 13.7%	Fire safety – 13.6%
Emergency systems – 13.0%	Emergency systems – 12.2%
Water/weather-tight – 8.1%	Water/weather-tight – 9.0%

Safety of Navigation



During a PSC inspection a blackout sequence test will be conducted. This will simulate a blackout of the main power and test the emergency generator's ability to supply emergency systems.

Emergency generators are becoming an issue. Typically, vessels are detained as they can be started but do not go on load automatically.

PSC Issues – Rescue Boat

Vessels are still being detained for defective rescue boat engines. These are simply checked and can be easily repaired by the crew if sufficient spares are available. These detentions are entirely avoidable.

PSC Issues – Emergency Fire Pump

During a PSC inspection, the emergency fire pump was asked to be demonstrated.

After 1.5 hours of trying to pressurise the pump, the below is the best that could be achieved.

Imagine trying to fight a fire with the below....

PSC Issues – Fire Dampers

AMSA continues to identify fire dampers that are defective.

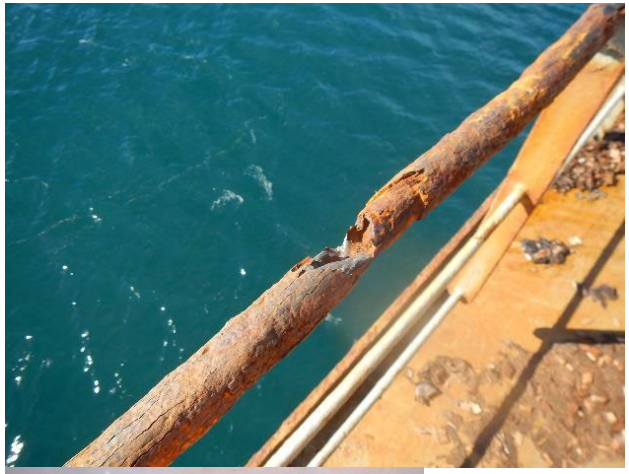
When dampers are tested, they may need to be visually inspected to ensure that the damper remains structurally sound and is completely closed.

PSC Issues – Overboard pipes

The condition of overboard discharge pipes, and the use of temporary patches

Where this condition is likely to have existed at the time of the previous survey, RO Responsibility is likely

Issues for Bulk Carriers: Load Line and hatch securing



Refusal of access and poor performing operators

- AMSA has the authority to refuse access for foreign vessels to an Australian port.
- AMSA does this when vessels poses an increased risk to seafarers, other ships and the marine environment.
- To encourage improvement in the operation of vessels, AMSA has a policy of identifying poor performing companies.
- These operators are given formal notification of their poor performance and are inspected more frequently to deal with the higher risk they pose.
- These more frequent inspections are cost recovered and if the companies PSC performance does not improve over a 12 month period AMSA may refuse access to Australian ports when vessels are detained.
- The full policy is available at: https://www.amsa.gov.au/vessels-operators/port-state-control/refusal-access-australian-ports

Potential Corruption

- AMSA is aware of the Marine Anti Corruption Network (MACN) report that was published late last year.
- AMSA has written to MACN, to advise that in the data provide by them we could only find six instances where a vessel was in port when the incident was reported.
- AMSA along with other flag states has written to MACN to recommend that data verification steps are undertaken before publishing reports.
- Any shipowner or operator that is concerned about the behaviour of AMSA staff or any potential corrupt acts should contact me at psc@amsa.gov.au or use the complaints page on our website https://www.amsa.gov.au/about/contact-us/complaints
- We take any allegation extremely seriously and your identity will be protected.

Questions

If you have any questions about AMSA's PSC processes, please visit the AMSA website or contact psc@amsa.gov.au

Q&A Session

Thank You for Your Participation and Cooperation to Uphold the Quality of HK Registered Ships

End