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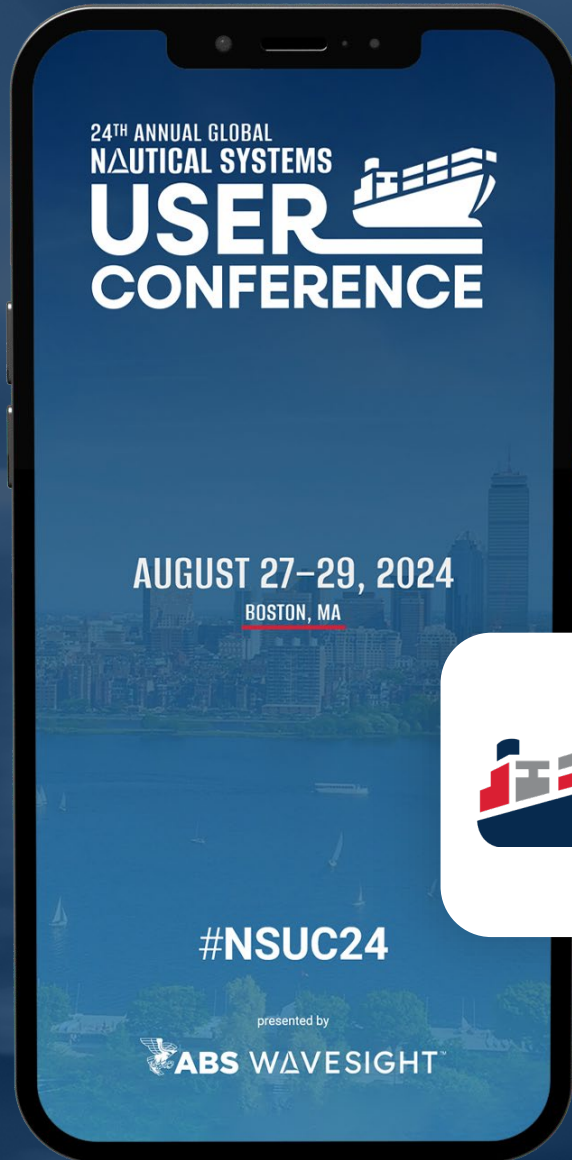
Navigating Regulatory Waters

Gurinder Singh

27 Aug 2024

Presented by





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Gurinder Singh

Director, Solution Engineering

Joined ABS in 2011 and has held several leadership roles within ABS Bureau including topics like LNG, sustainability and marine and offshore projects before transitioning to his current role. Prior to joining ABS he worked as a Project Manager at US Gulf Coast shipyards.

Selected Topics for Today

Emissions Regulations

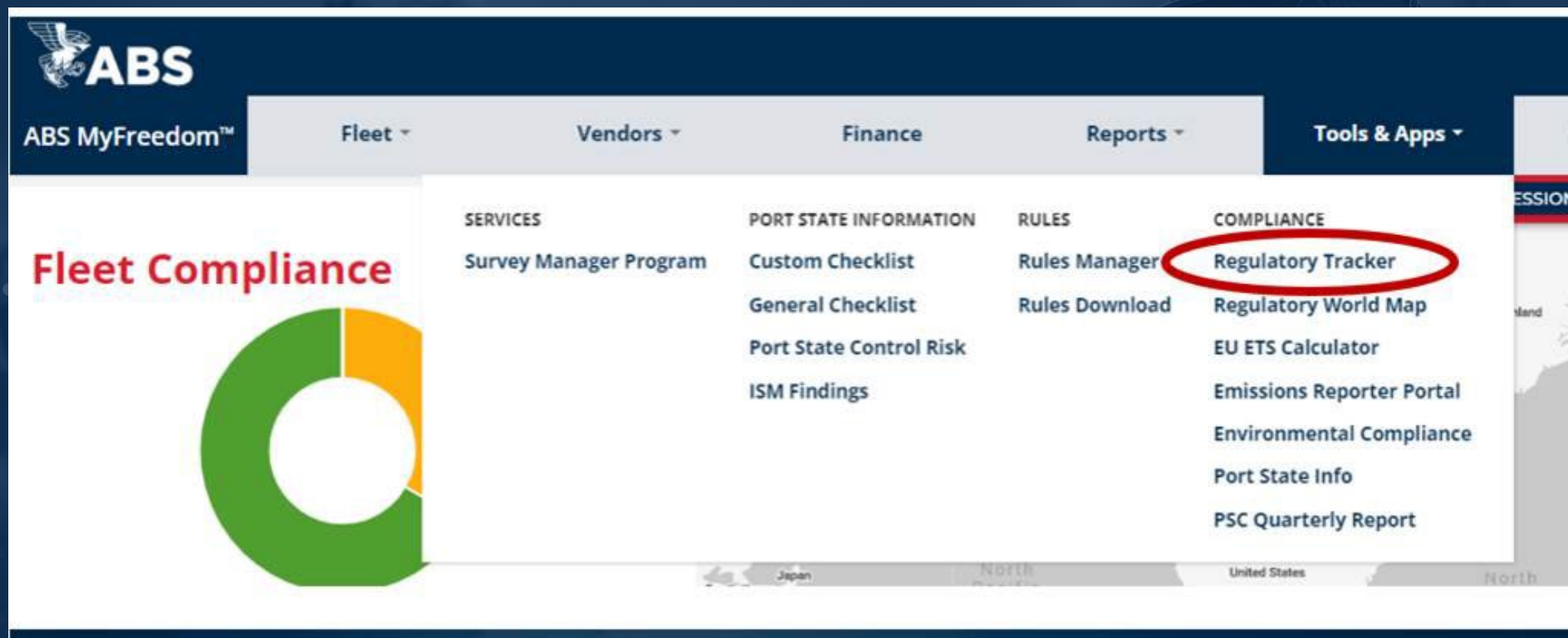
Cybersecurity

Hong Kong Convention

Ballast Water Management

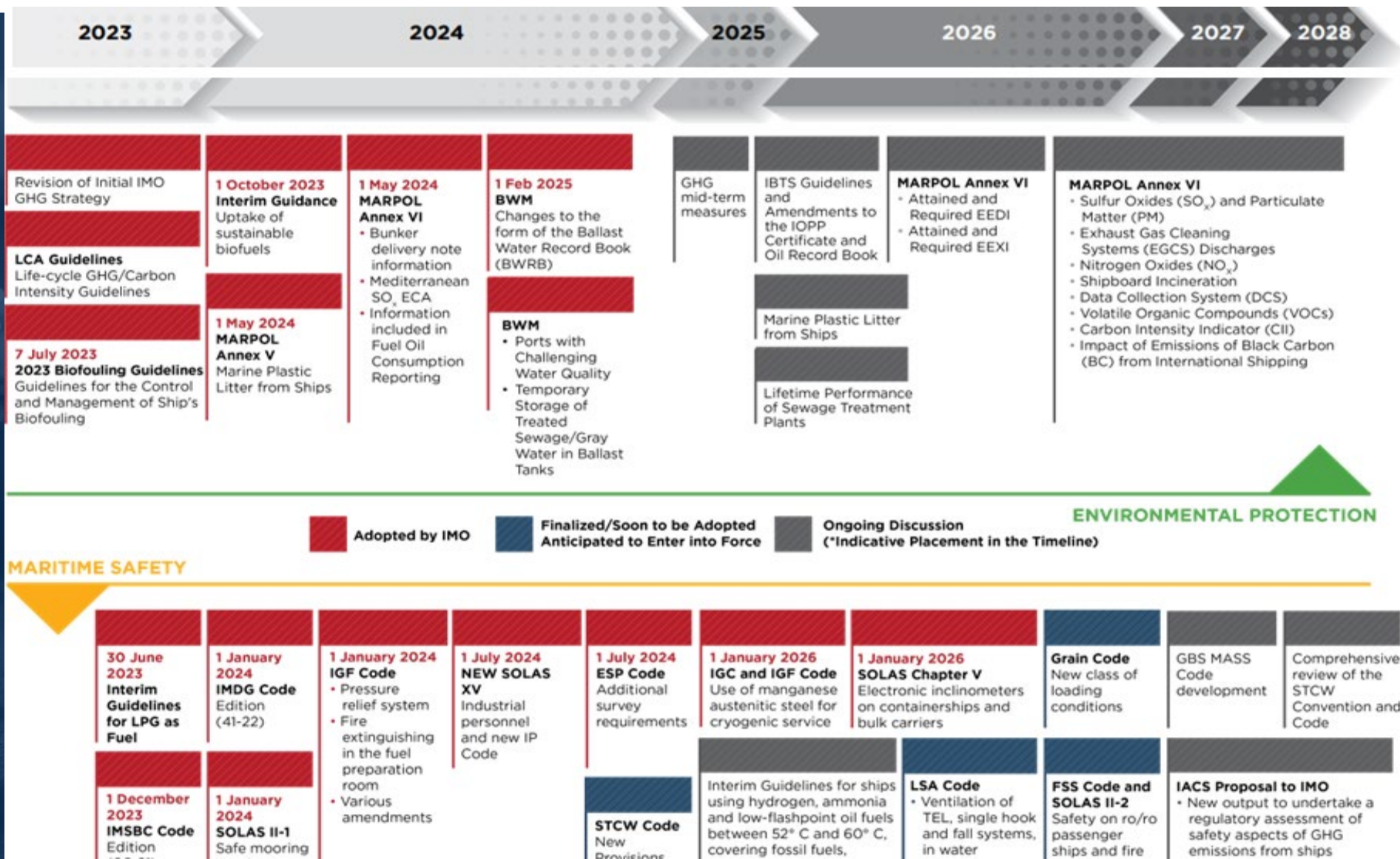
Notable Mentions

ABS My Freedom Regulatory Tracker



Regulatory Changes on or after 1-Jan-24: 63 amendments across 44 regulations

IMO Regulatory Forecast



Emissions Regulations



Amendments to IMO DCS

Enhanced Level of Granularity

Amendments to enter into force on 1 August 2025, with voluntary early application from 1 January 2025

Mandatory data reporting:

- Fuel consumption by fuel type per consumer type (total and when the ship is not underway)
- Total amount of Onshore Power Supplied (OPS), expressed in kWh

Transport work reporting:

- Tonne-mile data
- TEU-Mile and/or passenger-mile data
- Containerships especially both tonne-mile and TEU-mile data
- Laden distance travelled (nm) on a voluntary basis
- Installation of innovative technology, if applicable

Technical characteristics of the ship

Year of delivery.....
 Ship type, as defined in regulation 2.2 of this Annex or other (to be stated)
 Gross tonnage¹ (GT).....
 Net tonnage (NT)²
 Deadweight tonnage (DWT)³
 Power output (rated power)⁴ of main and auxiliary reciprocating internal combustion engines over 130 kW (to be stated in kW)
 Attained EEDI⁵ (if applicable).....
 Attained EEXI⁶ (if applicable)
 Ice class⁷

Fuel oil consumption data

Total fuel oil consumption by fuel oil type⁸ in metric tonnes and methods used for collecting fuel oil consumption data:.....

Total fuel oil consumption by fuel oil type⁸ per consumer type in metric tonnes and methods used for collecting fuel oil consumption data:

Main Engine(s)
 Auxiliary Engine(s)/Generator(s)
 Oil-fired Boiler(s)
 Others (specify)

Fuel oil consumption while the ship is not underway by fuel oil type⁸ per consumer type in metric tonnes and methods used for collecting fuel oil consumption data:

Main Engine(s)
 Auxiliary Engine(s)/Generator(s)
 Oil-fired Boiler(s)
 Others (specify)

Total distance travelled (nm).....

Laden distance travelled (nm) (on a voluntary basis)

Hours under way

Total amount of onshore power supplied (kWh)

For ships to which regulation 28 of MARPOL Annex VI applies

Total transport work

Applicable CII⁹: ☐ AER ☐ cgDIST

Required annual operational CII⁹.....

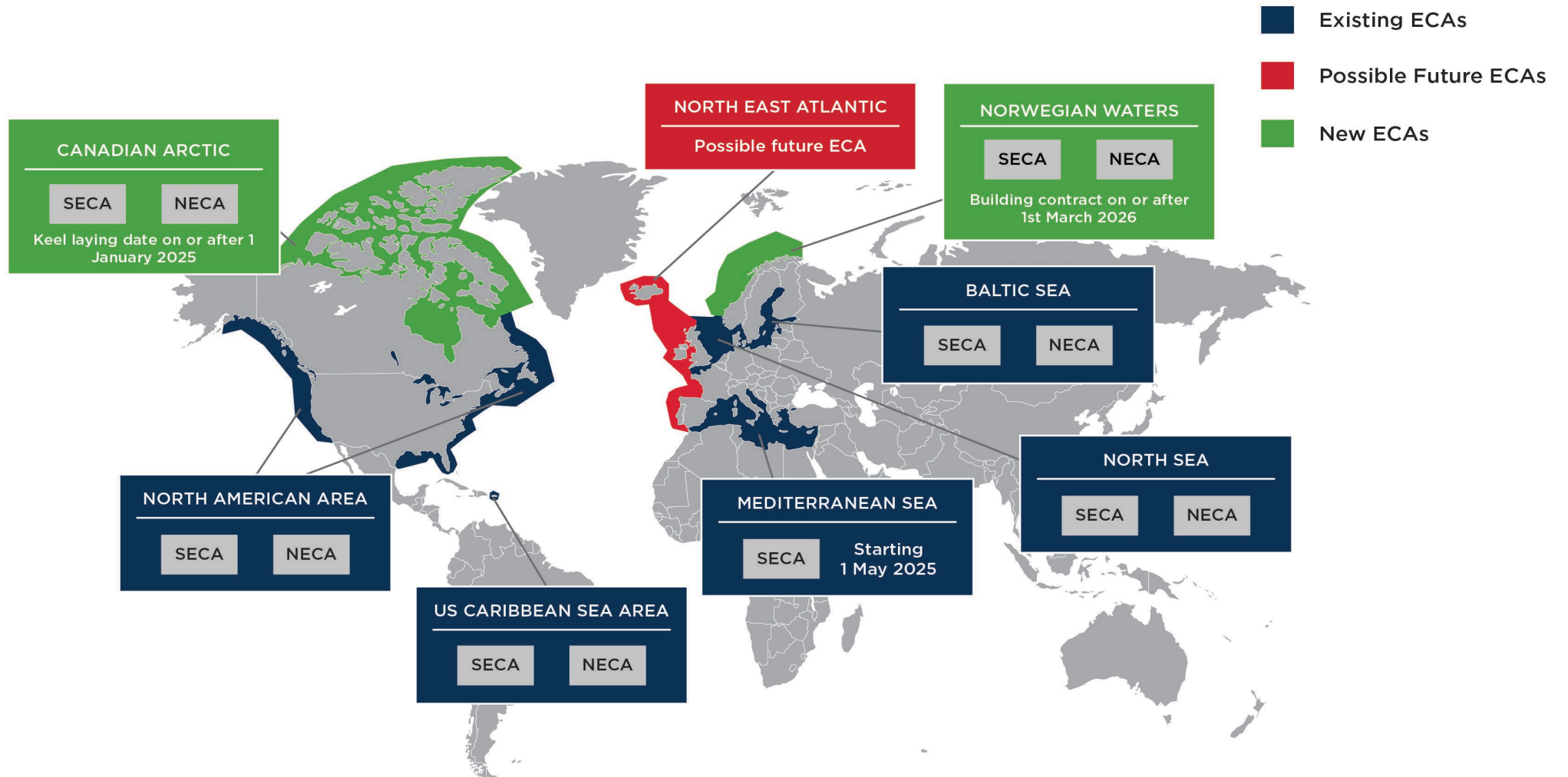
Attained annual operational CII before any correction¹⁰.....

Attained annual operational CII¹¹.....

Installation of innovative technology¹², if applicable: ☐ A ☐ B-1 ☐ B-2 ☐ C-1 ☐ C-2

Operational carbon intensity rating¹³: ☐ A ☐ B ☐ C ☐ D ☐ E

ECA Updates



FUEL EU - Key dates & Obligations



Companies

Submit the
**monitoring plan to
verifier**

Start monitoring according
to the approved monitoring
plan

Submit Fuel EU
report to verifier

Company to notify in the FuelEU database the intention to
include the vessel in a pool

Record any advance
compliance surplus

Issue FuelEU
Document of
Compliance (DoC)
after payment of
possible remedial
penalties

Verifiers

Verify the submitted monitoring plan

Verify submitted data, record FuelEU report, calculate
GHG intensity, compliance balance

Record in FuelEU database composition
**and allocation of total pooled
compliance to each vessel**

Issue FuelEU
Document of
Compliance (DoC), in
case no compliance
deficit

Cybersecurity



IACS UR E-26 & E-27

IACS has issued new Unified Requirements for Cyber Resilience that will be implemented by Class Societies for new vessels contracted 1-July-2024.

Apply to vessels over 500 GT engaged in international voyages and offshore units over 500GT

These new URs are large with a lot of new requirements.

Areas covered:

- Equipment and System providers
- Shipyards
- Owners acquiring new vessels/units



IACS UR E-26

IACS has recognized the need for robust cyber security and has issued:

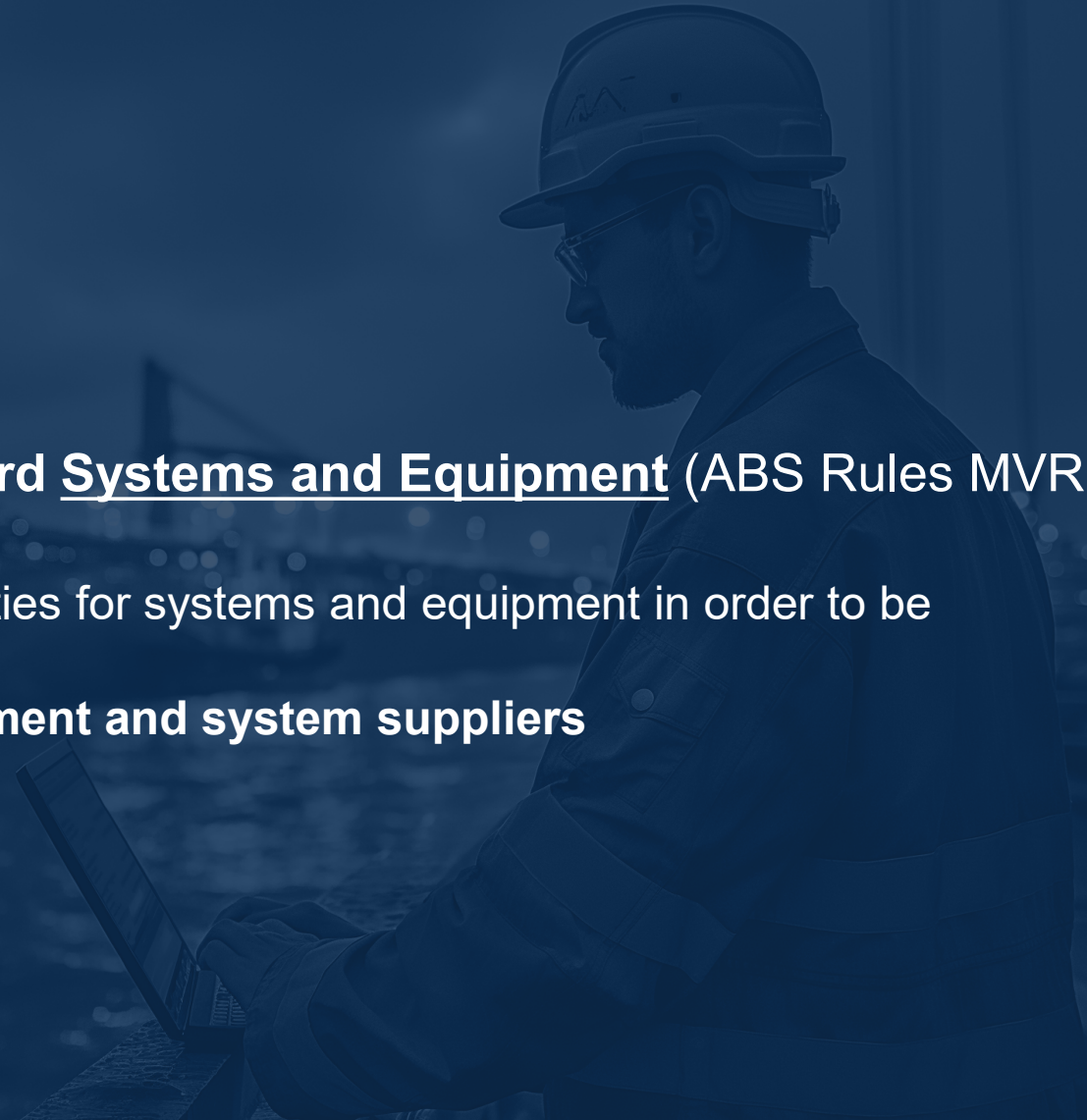
UR E26 Cyber Resilience of Ships (ABS Rules MVR 4-9-13)

- Provides minimum requirements for cyber resilience of ships
- Design, construction, commissioning, and operational life of the vessel
- Recognizes different roles and has requirements for
 - **Suppliers**
 - **Integrators**
 - **Owners**
 - **Class**

IACS UR E-27

UR E27 Cyber Resilience of On-board Systems and Equipment (ABS Rules MVR 4-9-14)

- Provides minimum security capabilities for systems and equipment in order to be considered as cyber resilient
- Intended for third party **CBS equipment and system suppliers**



Hong Kong Convention



Hong Kong Convention Basics

Overview

Resolution MEPC.222(64) adopted 2012 but ratified in June 2023

Applicable for all ships over 500 GT starting 26-Jun-2025

Similar to EU Ship Recycling Regulation (SRR) required when visiting EU/EEA/UK ports.

Also applies to Ship Recycling Facilities.

Updates:

Changes to reflect cover the controls on cybutryne governed by the AFS Convention

Cybutryne added to “Items to be listed in the Inventory of Hazardous Materials” and the “Form of Material Declaration”

Amendments to include specific test methods for determining the concentration of cybutryne.

Hong Kong Convention Basics

Certification Process

Standard forms are provided in Annex of the regulation to assist in preparation of the IHM booklet

An independent 3rd party is required to conduct the necessary sampling to confirm presence/absence of hazardous materials from suspected areas

Authorized RO provides the IHM certificate after the booklet has been reviewed and survey completed

Certification will require:

IHM booklet with Visual/Sampling Check plan completed

Material Declaration (MD) and Suppliers' Declaration of Conformity (SDoC) are required from suppliers

Preferred is an onboard system that can track the inventory along with required records and location diagram

Ballast Water Management



Amendments to the BWM Convention (Use of Electronic Record Books)

The Committee adopted MEPC Resolution MEPC.383(81), Amendments to the BWM Convention amending the BWM Convention, Appendix II (Form of Ballast Water Record Book)

Regulation A-1 Definitions is amended to insert a new paragraph 9, defining an Electronic Record book as:

- a device or system, approved by the Administration
- used to electronically record entries for ballast water operation
- in lieu of a hard copy record book

Regulation B-2 BW Record Book amended to allow the BWRB to be an electronic record book to at least contain:

- the information specified in Appendix II and
- shall be approved by the Administration
- each group of electronic entries is to be verified by the master

Ports with Challenging Water Quality

adopted Resolution MEPC.387(81), Interim guidance on the application of the BWM Convention to ships operating in challenging water quality conditions:

- to assist ships in complying with the BWM Convention and the D-2 discharge standard
- when a type-approved BWMS encounters operational limitations due to challenging water quality (CWQ)
- practical operational guide for ships / voyage planning
- guidance for ships operating in CWQ for pre-planning, assessment, troubleshooting and mitigation, CWQ triggers, alternatives to bypass, bypass procedure decontamination, communication, and record-keeping.

also includes sections intended to guide Administrations, port States and BWMS manufacturers in providing appropriate support and oversight to ships before, during, and after CWQ operations

Temporary Storage of Grey Water or Treated Sewage in Ballast Tanks

- approved circular BWM.2/Circ.82 on *Guidance on the temporary storage of grey water and/or treated sewage in ballast water tanks*:
 - provides a procedure for the temporary storage of treated sewage and/or grey water (TS/GW) in ballast water tanks in exceptional situations
 - to comply with coastal State regulations due to inadequate reception facilities at ports, dry-docks and terminals
- The guidelines provide general guidance for:
 - use of a particular ballast water tanks for the temporary storage of TS/GW
 - prevent contamination of the ballast system by TS/GW and accidental discharge of TS/GW within restricted waters
 - procedure for restoring a ballast water tank from TS/GW storage back to ballast water service

Notable Mentions



New SOLAS Chapter XV

Safety Measures for Ships Carrying Industrial Personnel MSC.521(106)

Application

Cargo ships and high-speed cargo crafts of 500 GT and above, carrying more than 12 industrial personnel.

Entry into force date

Scheduled for 1 July 2024.

IP Code

Adoption of the Code of Safety for Ships Carrying Industrial Personnel.

Grace period will be given for:

Existing **cargo ships** that carry more than 12 industrial personnel

- must comply by the first intermediate or renewal survey after entry into force date

Existing **high-speed cargo craft** that carry more than 12 industrial personnel

- must comply by the third periodical or first renewal survey after entry into force date

Existing **cargo ships or high-speed cargo craft**, not authorized to carry more than 12 industrial personnel

- must fully comply with and be certified in accordance with the IP Code before carrying more than 12 industrial personnel

Developments to Enhance the Safety of Ships' Fuel

New Technology - Power Conversion Systems

- Fuel Cell Power Installations
- Fuel Reforming
- Nuclear Power
- Solar Power
- Wind Propulsion

Fuel/Energy Storage

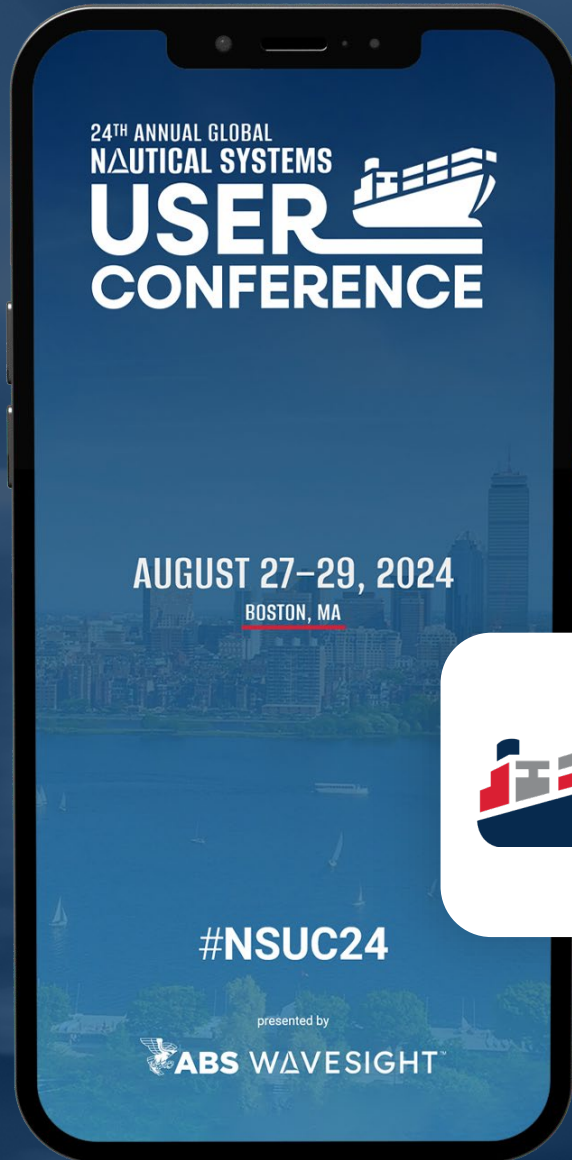
- Lithium-Ion Batteries
- Supercapacitor energy storage technology
- Other Battery Technologies
- High-Pressure Composite Cylinders
- Metal Hydrides
- Liquid Organic Hydrogen Carrier (LOHC)

Improved Efficiency

- Wind Assisted Power
- Air Lubrication
- Foils / Hydrodynamic Energy Saving Devices
- Low-Friction Antifouling Paints
- Hull Form Optimization
- Optimal Routing
- Propeller Optimization and Propulsion Improving Devices
- Advanced Waste Heat Recovery

Emissions Control & Reduction

- Ammonia Abatement
- CO₂ Abatement - onboard carbon capture and storage (OCCS, OCCU)
- Methane Abatement
- N₂O Abatement
- Onshore Power Supply / Cold Ironing



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THANK YOU

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