

MARINE INTELLIGENCE WEEKLY

MARITIME INTELLIGENCE REFERENCE

Vol. 2 — Issues 23–27 | June–July 2026 | Integration Era (Continued)

A thematic record of regulatory actions, class society decisions, AI deployments, and maritime nation policy from June–July 2026.

REGULATION

CLASS SOCIETY

AI DEPLOYMENT

DECARBONISATION

NATIONS & SECURITY

STANDARDS

MASS CODE

NAV & COMMS

Nixon Antony, Second Engineer, Maersk A/S · Independent Editorial

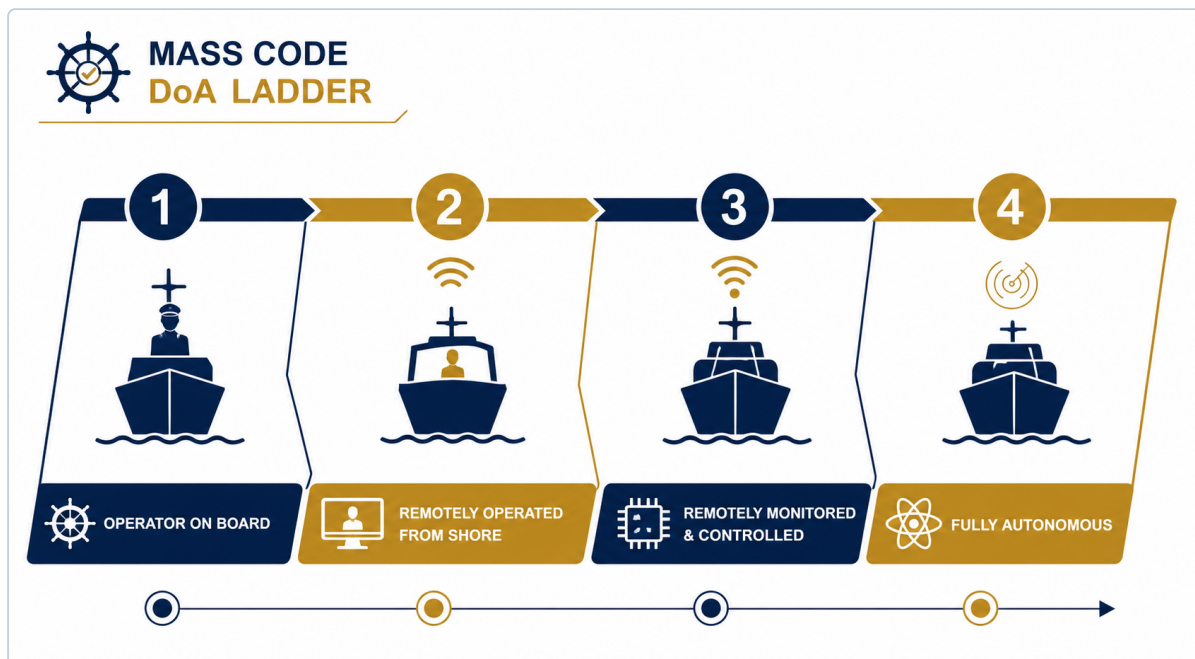
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1. Regulation

1.1 MASS Code — Entry into Force 1 July 2026 (MSC 111)

Goal-based, non-mandatory; does not replace SOLAS, MARPOL, COLREGs, or STCW. EBP follows; MSC 112 (Dec 2026) re-establishes the working group; mandatory Code adoption targeted 1 Jul 2030, EIF 1 Jan 2032.



Engine-room scope: machinery fallback control modes; IAS/PMS cyber (UR E26/E27); ROC machinery data feeds; sensor validation; UMS as MASS foundation.



Master's overriding authority (SOLAS Ch.V) vs. ROC functional command under DoA 3/4 remains legally unresolved — central issue for future STCW revision.

1.2 UK ETS for Shipping — Live 1 July 2026

≥5,000 GT on UK voyages (offshore ≥5,000 GT from 1 Jan 2027); covers CO₂, CH₄, N₂O; Tank-to-Wake basis; first surrender 30 Apr 2028 (2026+2027 combined).

Engineer's action: verify flow/torque/shaft-power meter calibration; separate noon-report legs (UK/EU/non-covered); confirm SEEMP III & Monitoring Plan cover UK ETS.

1.3 FuelEU Maritime — DoC Carriage 30 June 2026

≥5,000 GT EU/EEA trade must carry Document of Compliance; PSC actively checks; WTW basis. **Action:** confirm DoC issuance with DPA; cross-check THETIS-MRV.

1.4 MEPC 84 — Four Operational Outputs

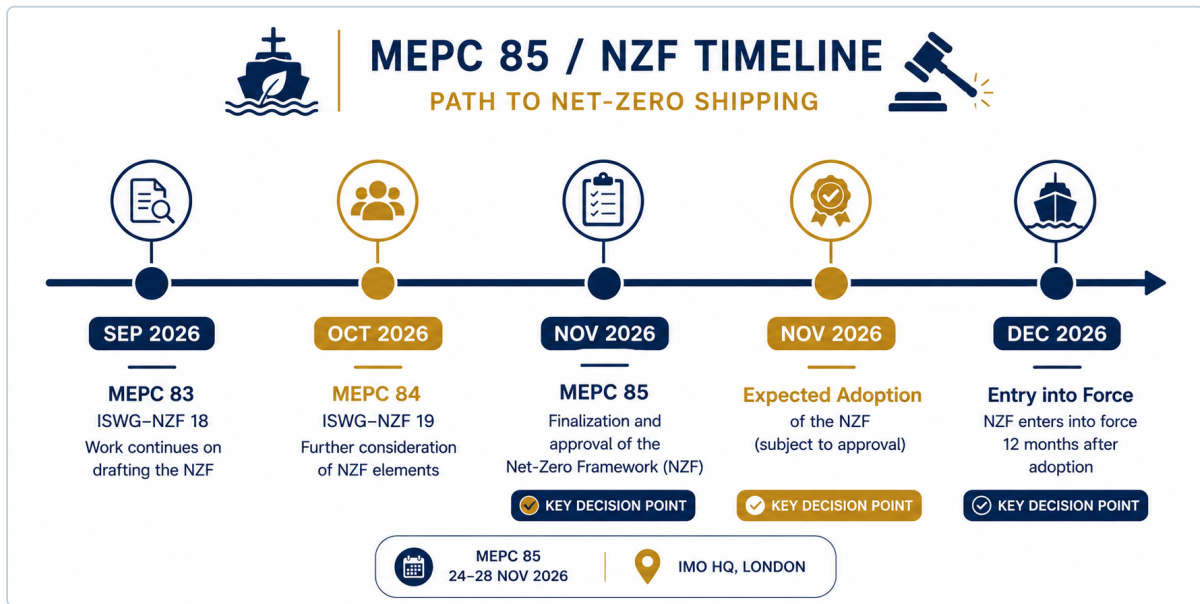
Output	Status	Action
BWM D-2 amendment	Performance must be proved	Live logbook: sampling, UV hours, alarms
CII methodology (alt. fuels)	Refined — LNG/methanol/biofuel	Recalibrate fleet software
NE Atlantic ECA	EIF 1 Sep 27; Tier III Sep 28	EGR/SCR assessment; check NOx Tech. File
MARPOL Annex I Reg.12B (IBTS)	Draft; adoption MEPC 85	Monitor class circulars

1.5 SOLAS — Lifting Appliances & PFOS-Free Foam (EIF 1 Jan 2026)

Lifting appliances (Reg. II-1/3-13, MSC.532(107)): overload testing 110% brake-holding/max line-pull at next renewal survey; manuals on board or reconstruct+flag approval.

PFOS-free foam: three documentation routes (manufacturer declaration / lab test / Type Approval-MED), traceable to the **actual batch installed**.

1.6 MEPC 85 / ES.2 — December 2026 Deadline



GFI standard + levy on excess intensity, WTW basis; revenue → Net-Zero Fund. Methane slip, fuel choice at bunkering, shore power/renewables all become GFI inputs. CII D×3yr/E×1yr corrective-action trigger stays independent of NZF timing.

1.7

MSA 05-25 (Marshall Is.): Mitsubishi components for Marioff Hi-Fog being discontinued — SOLAS II-2 readiness risk. Cross-check model, raise spares requisition, notify DPA/class.


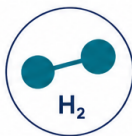





























1.8

NCSR 13: Digital VHF, S-100 ECDIS, R-mode (GNSS-independent backup) finalised; EPIRB two-way Galileo SAR link (MSC.471(101)); NAVDAT deferred to NCSR 14. All pending MSC 112.

2. Class Societies

2.1 LR — First Type Approval, 100% Hydrogen Engine (BeHydro, 17 Jun 2026)

Hydrogen now class-approved propulsion alongside ammonia/methanol.

 HYDROGEN vs LNG vs METHANOL vs LPG SAFETY COMPARISON				
	HYDROGEN	LNG	METHANOL	LPG
	 H ₂		 CH ₃ OH	
 CHEMICAL FORMULA	H ₂	CH ₄	CH ₃ OH	C ₃ H ₈ / C ₄ H ₁₀
 STATE AT AMBIENT	 GAS	 CRYOGENIC (-162°C)	 LIQUID	 PRESSURIZED LIQUID
 FLAMMABILITY RANGE IN AIR	4 – 75 %	5 – 15 %	6 – 36 %	2.1 – 9.5 %
 AUTOIGNITION TEMPERATURE	~ 585 °C	~ 540 °C	~ 455 °C	~ 470 °C
 MINIMUM IGNITION ENERGY (mJ)	0.02 VERY LOW	0.28 LOW	1.14 MEDIUM	10.0 HIGH
 RELATIVE HAZARD (OVERALL)	 VERY HIGH	 HIGH	 MEDIUM	 MEDIUM
 KEY HAZARDS				
	 FLAMMABLE  CRYOGENIC  VAPOR CLOUD  BUOYANT  HIGH DISPERSION  TOXIC  EXPLOSION RISK			

Source figures: LR/DNV/EMSA hydrogen safety data, IGF Code fuel property tables.

Beyond IGF basics: double-wall + inert purge; catalytic/electrochemical H₂ detection; ESD for near-zero ignition threshold; wider hot-work exclusion; ventilation for 4–75% envelope; embrittlement-aware material selection.

LR / Alan Turing Institute (LR Foundation): MASS design-assurance framework in development — architecture, alarm management, HMI, fail-safe states — feeds future LR rules and IMO instruments.

2.2–2.8 Class Developments at a Glance

Item	Key Point	Engineer's Note
LR+HD Hyundai 185k cbm LNGC JDP	Hybrid-electric propulsion	DC bus, BMS, thermal-runaway response, mode-switching procedures
DNV LPG dual-fuel AiP (4 Jun)	1,400 TEU container concept	Heavier-than-air gas — detector placement opposite to LNG; no methane slip

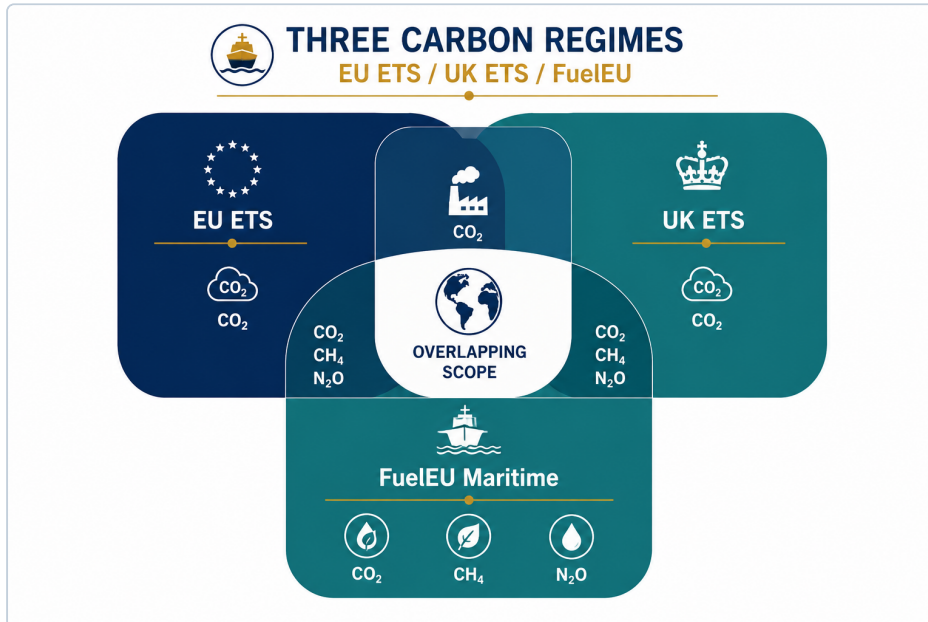
LR Digital Disconnect Initiative	Structured data replacing free-text logs	Poor records now risk charter disputes & ESG findings, not just PSC
DNV Steel Load Planner V2.0	100+ vessels; 5-min AI assessment	Master/C.O. endorsement under SOLAS II-1 still mandatory
DNV Autonomous Notations	Remote/reduced-manning entering class framework	AI-OT links are part of the audited cyber perimeter
ABB Dynafin (MARIN tests)	22% power reduction at design speed	Hull-form choice = CII lever
Class+BIMCO emissions data standard	Harmonised post-FAL 49 baseline	Noon-report integrity feeds ETS/CII/FuelEU directly

3. AI Deployment

Deployment	Result / Status	Engineer's Principle
KR + Microsoft AI agents (9 Jun)	AI-drafted findings, human-reviewed	Ask class how AI-assisted findings are evidenced/audited
Orca AI fleet scale	94% precision, 98.6% recall, 739 targets; Gram Car Carriers (22), Anglo-Eastern (750+)	Cross-check tool, not watch substitute — document overrides
ABS AI/New Energy Report	Up to 30% maintenance cost cut, 20% availability gain	Cross-reference alerts with manual readings before acting
Further Ventures (Posidonia)	AI accountability think tank	Document outcome ownership & override path before deployment
FIT-HORIZONS (19 partners)	AI-supported retrofit design	Demand predicted-vs-actual + class acceptance
DNV/SMF Future of Seafarers 2030	Alt-fuels, data maintenance, cyber, remote monitoring = core competencies	Skills narrative behind current oral testing trends
ABB waterside automation	Quay-crane AI vision	Shore power quality & interface safety during automated berthing
Indian ecosystem	Smart Ship Hub, Docker Vision, OceanAI/MariApps — recommend, not just display	AI alerts never authorise deferring statutory overhauls; CBM notation still required

4. Decarbonisation and Fuel Pathways

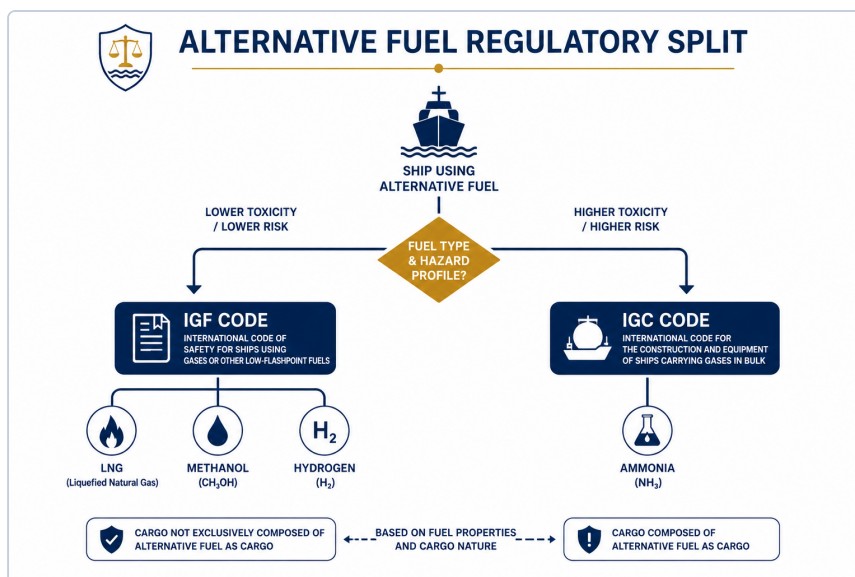
4.1 Three Overlapping Carbon Regimes (live 1 Jul 2026)



EU ETS & FuelEU = Well-to-Wake; UK ETS = Tank-to-Wake. Vessels on both must keep two separate accounting trails from one noon report.

Three overlapping carbon-cost regimes run live and simultaneously — noon-report discipline, methane-slip data, and fuel-quality evidence are now financial risk vectors.

4.2–4.6 Fuel Pathways & Capacity Building



- **Hydrogen** — class-approved (§2.1); examinable as current propulsion option.

- **LNG** — most cost-effective to 2050 (LR); 1,665 dual-fuel vessels, 982 on order; methane slip down to 0.2 g/kWh; under UK ETS/GFI, slip = direct financial exposure.
- **LPG** — no methane slip (GFI advantage); compatible with EEXI/CII/EU ETS/UK ETS/FuelEU; gas detection logic **opposite** to LNG (heavier-than-air).
- **IGF/IGC split** — LNG, methanol, hydrogen dual-fuel under IGF Code; ammonia-fuelled gas carriers remain under IGC Code, not IGF.
- **DNV-RP-0703 + EMSA/DNV hydrogen study** — competence RP supplements STCW/ISM; human response time inadequate alone — automated ESD/ventilation/isolation is first line of defence; secondary enclosures recommended for all H₂ components, including open-deck.
- **IMO TC Committee (Jun 26)** — GreenVoyage2050, MTCC network, NextGEN as the implementation layer for LDC/SIDS fleets.

STCW sets the floor; class and flag-endorsed RPs are increasingly setting the operational standard above it.

5. Nations and Security

Item	Key Point	Engineering Implication
Hormuz evacuation (23–25 Jun)	11,000+ seafarers, ~600 ships; corridor paused after 25 Jun attack	Route/speed change stresses steering, propulsion, power; drill-verify emergency power before transit
DGS Circular 31 (13 Jun)	Most-urgent Gulf advisory after fatal incidents	Documented consent for emergency crew change; 24/7 MMDAC contact
DGS Circular 33 (26 Jun)	Supersedes 09 & 31; blanket restriction lifted	Full ISPS compliance; documented crew security competency
Hong Kong Convention (1st anniv. 26 Jun)	EIF 26 Jun 2025; Alang remains key certified yard	IHM = active SMS item, updated through service life
India e-Samudra / electronic FAL	Mandatory MSW portal from 15 Jun 2026	Confirm agent MSW access before next Indian port call

6. Standards and Cyber

- **IACS UR E26/E27** — mandatory newbuilds (contracts \geq 1 Jan 2024); E26 OT segmentation + AI gateway type-approval; E27 system-level resilience.
- **SSE 12 interim battery/NEV guidance** — raised survey scrutiny on thermal-runaway response & emergency isolation for containerships/ro-ro NEV carriers.
- **FAL 49 Compendium** — 140+ emissions fields, standardised by LR/ABS/BV/ClassNK/DNV/BIMCO; Indian firms (MariApps, Dyle.AI) now contributing — consumer to standards-contributor shift.
- **ISO 19847/19848** — machinery data-logging protocols underpin digital twins & predictive analytics.

7. MASS Code — Engineer's Frame

Three questions for any automated system: (1) What does it do automatically, and what triggers it? (2) What is its fallback state on failure/low confidence? (3) Is that fallback in the SMS/manual, and drilled?

ROCs become regulated spaces under DoA 3/4 — SMS, manning, competency must be MASS-aligned; machinery data to ROC is now a safety input. **STCW review** initiated; amendments expected by 2027 — class/flag RPs lead until then.

8. Navigation and Communications

VDES — AIS successor under SOLAS Ch.V; mandatory carriage 1 Jan 2028; 32× bandwidth; IEC 61162-460 cyber compliance + annual approved-surveyor testing.

R-mode — GNSS-independent backup via existing radio infrastructure; finalised NCSR 13, pending MSC 112; key for conflict-zone GNSS jamming/spoofing.

9. Operational Reference Table

Topic	Key Point	Status	Action
MASS Code	EIF 1 Jul 26; mandatory target Jan 2032	IMO MSC 111	Know 4 DoA levels; document overrides
UK ETS	Live 1 Jul 26; CO2/CH4/N2O; surrender Apr 28	Mandatory	Verify Monitoring Plan; separate legs
EU ETS	100% from 30 Apr 26	Mandatory	WTW reporting; slip = cost
FuelEU DoC	Carriage by 30 Jun 26	Mandatory	Confirm with DPA; check THETIS-MRV
GFI/MEPC 85	Adoption target Dec 26; EIF 2027	Watch	Track WTW fuel intensity now
CII D/E rating	D×3yr or E×1yr → corrective plan	MARPOL Ann.VI R.28	Quarterly trajectory check
BWM D-2	Performance proof, not just install	MEPC 84	Monthly UV/flow/filter checks
SOLAS lifting appliances	EIF 1 Jan 26	MSC.532(107)	Overload test records; manuals onboard
PFOS-free foam	EIF 1 Jan 26	SOLAS	Trace batch to documentation pathway
Marioff Hi-Fog/MSA 05-25	Mitsubishi parts discontinued	IRI advisory	Cross-check model; raise spares req.
VDES	EIF 1 Jan 28	SOLAS (MSC 111)	Note in ISM; budget planning
NE Atlantic ECA	EIF 1 Sep 27; Tier III Sep 28	MEPC 84	EGR/SCR assessment
MARPOL Reg.12B (IBTS)	Draft MEPC84; adoption MEPC85	Watch	Monitor class circulars
LR BeHydro TA	1st 100% H2 engine class-approved	Class (LR)	Know H2 safety characteristics
IGF/IGC split	NH3 gas carriers stay under IGC	Regulatory	Don't conflate with IGF dual-fuel
SSE 12 battery/NEV	Interim fire-safety guidance	IMO SSE	Thermal-runaway response readiness
DNV SLP V2.0	AI cargo planning, 100+ vessels	Class tool	SOLAS II-1 endorsement still required
IACS UR E26/E27	Mandatory newbuilds Jan 24+	Mandatory	Type-approve AI sensor gateways
KR+Microsoft AI agents	AI-drafted, human-reviewed findings	Class practice	Ask how findings are evidenced

Orca AI fleet rollout	94%/98.6% precision/recall	Class-approved	Cross-check tool; log overrides
DGS Circular 33	Gulf restriction lifted, security mandated	DGS India	MMDAC drills; full ISPS
Hong Kong Convention	1st anniv. 26 Jun 26	Mandatory	IHM as active SMS item
India e-FAL	Mandatory 15 Jun 26	DGS India	Confirm MSW portal access
R-mode	Finalised NCSR 13	Pending MSC 112	Know function; conflict-zone use
Hybrid LNGC JDP	DC bus, battery safety	JDP stage	Build integrated power-system familiarity
LPG dual-fuel AiP	DNV AiP 4 Jun 26	AiP	Reversed detector placement vs LNG
DNV Autonomous Notations	Remote/reduced-manning in class framework	Class (DNV)	AI/OT cyber governance auditable
ABB Dynafin	22% power reduction	Commercial	Hull-form = compliance decision
LR/Alan Turing MASS framework	Design-assurance layer in development	In development	Watch for future LR rules
DNV/SMF Seafarers 2030	Alt-fuel, data, cyber competencies	Study	Anticipate competency expectations

10. Primary Sources

Source	Reference
IMO — MASS Code (MSC 111)	imo.org
IMO — MEPC 84 / FAL 49 / NCSR 13	imo.org
DNV — UK ETS, MASS Code, SLP V2.0, Seafarers 2030, RP-0703	dnv.com
Lloyd's Register — MEPC 84, BeHydro TA, Digital Disconnect	lr.org
Bureau Veritas — MSC 111 summary	marine-offshore.bureauveritas.com
ABS — MEPC 84 brief, AI/New Energy Report 2026	ww2.eagle.org
IACS — UR E26/E27	iacs.org.uk
ClassNK — AUTO-Nav2(All)/Genbu	classnk.or.jp
EMSA/DNV — Hydrogen Safety Study	emsa.europa.eu
Marshall Islands Registry — MSA 05-25	register-iri.com
DGS India — Circulars 31 & 33; MS Notice 3/2024	dgshipping.gov.in
EU Commission — FuelEU (2023/1805), EU ETS maritime	transport.ec.europa.eu / climate.ec.europa.eu
UK Government — UK ETS Order 2020 (amended)	legislation.gov.uk
Sternula — VDES SOLAS Ch.V	sternula.com
MARIN/ABB — Dynafin data	marin.nl / abb.com
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