INDUSTRY GUIDANCE ON THE

Safe Management of Vessel Transit through the Strait of Hormuz

IMPORTANT NOTICE. This document complements BMP MS by providing guidance to vessel owners/operators. It is intended to support voyage-specific threat & risk assessment, facilitating safe shipboard and office planning. It does not replace company procedures, Master's professional judgment and overriding authority, flag State or coastal State requirements, charterparty obligations, insurance advice or current official naval and governmental guidance.

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1. Purpose and Scope

This guidance has been prepared to assist in planning and safely managing all vessel transits into, within, or out of the Gulf region where a transit through the Strait of Hormuz may be required during periods of heightened regional security risk. It should be read in conjunction with the latest version of the Best Management Practices for Maritime Security (BMP-MS)

2. Guiding Principles

- The safety of life, safe navigation and protection of environment remain the primary considerations, with Masters having overriding authority. Transit decisions should be based on fresh, continually updated voyage-specific assessments.
- The Master, Company Security Officer (CSO), shore management and Ship Security Officer (SSO) should maintain a shared and constantly updated operational picture before and during transit.
- Guidance should be drawn from official, trusted sources, including JMIC, UKMTO, MSCIO/EUNAVFOR, BMP Maritime Security, relevant military advisories, specialist security consultants and applicable Flag instructions.
- When based on the latest security threat assessment, should the risk be increased, then deferment of transit should be considered a safer option.
- Where applied to passenger vessels operating without passengers, the guidance should be interpreted in light of having reduced onboard personnel, albeit with unchanged safety and regulatory obligations.
- To support safe decision-making under pressure, recognise that human performance is affected by workload, stress, fatigue and environmental conditions. Transit planning and execution should aim to take into account the potential for “performance impacts” and put in place mitigation measures,

2.1 Threat Assessment

! Vessels operating in these waters are advised to conduct a specific pre-voyage/operation threat and risk assessment, incorporate appropriate protective measures into vessel security plans, exercise heightened caution and monitor VHF Channel 16 at all times. In the event of attack, incident or suspicious activity, the Ship Security Alert System (SSAS) should be activated and the United Kingdom Maritime Trade Office (UKMTO) notified.

2.2 Extreme Congestion Traffic Conditions

When a transit window opens – particularly following a period of restriction or heightened threat – the following conditions may develop rapidly:

Condition	Risk Implication
Simultaneous, uncoordinated transits	Unpredictable traffic picture; chain-reaction manoeuvres.
Mixed vessel size and type (VLCC to coaster to dhow)	Wide variation in stopping distances, turning circles and reaction times. Hazardous overtaking and course changes.
AIS saturation / poor CPA reliability	Overreliance on incorrect vectors; missed close-quarters development. Hindered COLREG compliance response.
Erratic manoeuvring by vessels, differing from routine navigation practices	Unexpected course/speed alterations creating secondary conflicts.
Congestion/merge/choke points	Forced CPA reduction; limited sea room for avoiding action. Collision risk.
Reduced military oversight	Slower response to distress or incident; Masters / vessels should be self-reliant.
Limited salvage resources in the area	Impossibility to quickly remove vessels with lost propulsion or steering/blackout out of the way to clear transit corridor.
Limited oil spill response capability	Inability to appropriately and quickly address the risk to environment due to the paramount priority of safety of life at sea. In any decision taken by the Master, company, State or military to limit the harm to environment due to oil spill, personal safety and life-saving emergency activities must always remain a supreme consideration and top priority.
Elevated crew workload, fatigue, stress and uncertainty	Reduced situational awareness, delayed or degraded decision-making, increased likelihood of fixation on unreliable information, communication breakdowns and higher risk of human error during close-quarters or rapidly developing situations, particularly under conditions requiring enhanced coordination and expanded responsibilities.

Planning Consideration: During extreme traffic congestion periods, collision and grounding risks may materially increase. Both dimensions must be appropriately addressed in the pre-transit planning.

3. Current Operating Context

Conditions affecting merchant shipping in and around the Strait of Hormuz (SoH) can change rapidly. This environment may include kinetic threats, electronic interference, reporting uncertainty and periods of compressed, or unpredictable, traffic flow at various speeds. AIS spoofing has been used by attackers placing fake AIS echoes in the vicinity of the course-line in an attempt to trigger course and/or speed changes desirable by the attackers. Visual and radar observations must be prioritised to effectively mitigate that risk.

Even when the SoH TSS waterway is open, operational conditions may be degraded by:

- GNSS jamming or spoofing.
- AIS anomalies and false target injection (AIS spoofing).
- Heavy traffic concentration and reduced decision margins within or near the Traffic Separation Scheme (TSS).

- Stress-driven manoeuvring by surrounding vessels.
- Some vessels operating at low crewing levels with limited spare crew redundancy (fatigue and rest management), limiting quality of watch and efficiency of emergency response.
- Unmanned surface vessel (USV/WBIED) attack, combat swimmer sabotage and limpet mine threats against stationary and transiting vessels, small craft in attack or harassment mode.
- Errant mines not detected during original clearance ops.
- Missile/drone attacks including unexploded ordnance (UXO) hazards on board following drone or missile strikes.
- Shoreside stand-off weapon attacks.
- Intelligence, surveillance, and reconnaissance (ISR) by UAVs/quadcopters conducting surveillance of ports and anchorages.

These conditions may occur simultaneously, creating a high workload and high-stress operating environment. The combined effect of these factors can reduce the quality of situational awareness and its interpretation, with consequent impacts on communication and decision-making. In such environments, situational awareness may erode, particularly where conditions are novel or rapidly changing, making it more difficult to recognise patterns and affecting both the speed and quality of decisions.

Transit planning must consider both security risk and navigational risk. Companies and Masters are strongly encouraged to maintain continuous situational awareness and to verify the complete threat picture immediately prior committing to transit. OCIMF information paper "**Loitering Munitions – The Threat to Merchant Ships**" offers useful insights into the transit planning and execution process.

4. Anchoring and Waiting Position Considerations

Vessels may need to wait for a suitable transit window, favourable naval presence or improved security threat conditions. The selection of a waiting or drifting position requires careful risk-benefit assessment.

Factor	Closer to Port / Installations	Offshore / Open Water
Proximity to other vessels	Higher – near refineries, terminals	Lower – less congestion
Counter-drone / counter-missile coverage	Potentially better – infrastructure protected by systems covering vessel	Potentially limited
Traffic density risk	Higher near port approaches	Generally lower
Evacuation/rescue access	Better shore access	Potentially slower response

A secure waiting area must be determined by the respective company in consultation with their Head of Security / CSO, Master and SSO, in co-operation with military and local authorities as appropriate. No single position is universally safe: the assessment should be voyage- and condition-specific.

Vessels should implement evasive or counter action manoeuvres wherever safe, as avoiding reductions in speed and remaining underway makes targeting and boarding more difficult (BMP-MS Section 6). As ships are vulnerable to attack while both underway and stationary, it is recommended that static operations, such as anchoring or drifting, be conducted outside of increased threat areas whenever possible (BMP-MS Section 4). If an Unmanned Aerial Vehicle (UAV) or Water-Borne Improvised Explosive Device (WBIED) – which can include Uncrewed Surface Vehicles (USV) – is identified, maintaining full speed and utilising evasive manoeuvring are critical to minimising vulnerability and maximising the very short reaction times available (BMP-MS Section 6).

Where vessels are required to wait at anchor or drift, consider maintaining periodic movement (short repositioning manoeuvres at irregular intervals) to complicate targeting, particularly where the vessel, operator, flag or cargo may be of interest to hostile actors. Periodic movement should not induce navigational or collision risk, or conflict with port, VTS or coastal-State direction.

5. Recommended Planning Considerations

5.1 Threat and Commercial

- Confirm the latest security threat assessment, recent incidents, and any current notices or advisories affecting the intended route.
- Consider the latest military advice.
- Review whether the SoH transit is necessary now, whether it can be delayed, or can be executed in a lower-risk time window.
- Confirm insurance cover and its specific extent, including war-risk cover, applicable listed areas, additional premium requirements, charterparty terms, and any operational conditions or warranties imposed by underwriters prior to committing a vessel to transit.
- Consider sanctions and trade-compliance exposure. The current operating environment includes States targeting ports and linked vessels, with reported enforcement activity on the open seas. Payments demanded for transit or port services may create sanctions or secondary-sanctions risk for the vessel, operator, and charterers. Companies should obtain appropriate legal advice if they consider that they have exposure.

5.2 Vessel and Technical Readiness

- Review the vessel's technical resilience – navigational sensors, steering arrangements, propulsion readiness, external communications, emergency power and other redundancies.
- Check the Vessel Hardening Plan against the latest threat and risk assessment.
- Maintain heightened state of watertight integrity. Ensure clear instructions exist for GNSS-compromised navigation. Refer to Annex I – GNSS Bridge Quick-Reference Card.
- Bridge teams, including lookouts, should participate in a GNSS signal loss drill at least once before transit. Findings and lessons learned should be evaluated and addressed by the Master on board and the company DPA/Nautical Manager ashore.
- The planning assumption must be total unavailability – or unreliability – of the GNSS signal for the entirety of the transit.
- Consider the availability of salvage capability in the area. Additional coverage or resource support should be sought if required.
- Purchase up-to-date paper charts as back-up for enhanced terrestrial navigation and position plotting, particularly if ECDIS is not fitted with the radar overlay. Confirm that Officers of the Watch (OOW) and the Master are proficient in position plotting on paper charts; ref. ICS Bridge Procedures Guide, 6th Edition.
- Review navigational charts to identify in advance any characteristic landmark(s), shore objects and fixed aids to navigation which will be used for independent position plotting by radar to verify the unreliable GNSS signal. Make sure bridge team is familiar with them and briefed accordingly, knowing what to expect during transit.
- Consideration should be given to installation of CRPA (Controlled Reception Pattern Antennas), where available, due to their increased resistance to GNSS jamming and spoofing.

5.3 Crew and Crewing

- Assess and confirm crew readiness, taking into account fatigue, welfare and psychological conditions and ensure compliance with applicable MLC and safety obligations.
- Consider disembarking non-essential personnel (trainees, cadets, shore workers, service engineers, riding squads, etc.) prior to transit.
- Ensure crew are aware of available support (BMP-MS Annex B helplines).
- Ensure any minimum crewing levels are tested and have sufficient redundancy to accommodate contingency situations and watchkeeping requirements.
- Carefully plan fatigue mitigation and rest hours management for the transit.
- Fatigue, psychological stress and other human factors should be treated as critical risk multipliers for all identified hazards, particularly during prolonged high-threat operations, as they may reduce the quality of situational awareness and the effective use of available information, with consequent impacts on communication and decision-making.

5.4 Passage Planning

- Ensure passage plan addresses all maritime security and navigational safety risks related to the SoH transit on the basis of the latest threat assessment and external advice received, including military advice and UKMTO recommendations on a coordinated transit, if received.
- The passage plan should support safe adaptation to actual conditions encountered during transit, recognising that real-time decisions may differ from planned assumptions and required adjustment based on prevailing conditions.

5.5 AIS and Navigational Lights Policy

- AIS policy should be set in accordance with flag, company and current official guidance.
- Active AIS may be a targeting factor. ISR UAVs collect positional data regardless. This risk, alongside SOLAS obligation, should be considered.
- If AIS is switched off, inform UKMTO and NAVCENT NCAGS of the vessel's position every two hours, or as otherwise directed by authorities.
- Masters should make informed choices about AIS policy as per all available information and updated guidance, but they shall retain overriding authority under which, to the best of their professional judgment, safety of the crew, cargo, the ship and protection of the environment can be best ensured.
- Navigational lights must be shown in accordance with COLREGS at all times throughout the transit.

6. Reporting Channels

Established voluntary reporting mechanisms should be used and continuous awareness of official products should be maintained. Contact details should be verified against the latest published official source before use. Best Management Practices for Maritime Security (BMP-MS) should continue to inform all voyage risk assessments.

Organisation	Primary Role	Suggested Use	Contact Details
UKMTO	Primary merchant shipping liaison and incident reporting point	Register 24hrs before entering the Indian Ocean Voluntary Reporting Area (UKHO Chart Q6099). Include ETAs at the Strait of Hormuz in reports. Reports auto forwarded to NAVCENT NCAGS. Report	Emergency: +44 (0) 2392 222060 watchkeepers@ukmto.org UKMTO advisories and warnings are available at https://www.ukmto.org/.

		incidents or suspicious activity promptly.	Vessels operating in this area are advised to include the NAVCENT NCAGS watch on all update and incident report emails: NAVCENT NCAGS: +1-813-529-7108 (Primary/Watch Desk), +973-3986-4800 (Alternate), or **m-ba-navcent-ncags@us.navy.mil** or **m-ba-navcent-ncags-ice@us.navy.mil**. Fifth Fleet Battle Watch: **cusnc.bwc.mil@us.navy.mil** or + 1-813-529-7430.
MSCIO	Voluntary registration, threat information, coordination with EU naval structures	Register ship movements; monitor threat products relevant to the voyage.	Tel: +33(0)298220220 (24/7) / +33(0)298220170 (24/7) Email: postmaster@mscio.eu Website: www.mscio.eu
IFC-IOR	Regional information sharing and voluntary reporting support	Consider additional reporting in line with current industry practice.	Ship Reporting Form, can be accessed at http://117.219.8.190/ifcior/ Communication details: IFC-IOR Email: ifc-ior.gurugram@navy.gov.in Tel: - +91 85275 99898/ +91-124-2208385
Flag State / Company Crisis Team	Regulatory, security and company governance support	Escalate any deviation from normal operating posture and all major risk decisions.	Use company-specific escalation matrix.

7. Decision Considerations

Rather than a rigid go/no-go rule, the following structured decision aid is intended to assist companies and Masters in framing their transit decision. All five areas should be reviewed before committing to transit.

Area of Review	Transit May Be Considered Where...	Deferment Should Be Considered Where...
Threat Picture	Official reporting is current, recent incident trends are understood and company risk assessment permits movement.	Confirmed kinetic engagement within last 12 hours, strike activity or mining concerns materially worsen exposure.
Navigation Picture	Traffic density is manageable and reliable independent navigation methods are ready.	Traffic compression, CPA instability or electronic interference materially degrade safe navigation.
Vessel Readiness	Bridge, engine, communications and emergency arrangements are fully ready.	Critical equipment is degraded or bridge-team readiness is insufficient.
Crew and Security Posture	Crew are briefed, rested and protective arrangements are in place.	Fatigue, welfare concerns or unresolved security posture issues remain.

Shore Support	Office support, insurance confirmation, and emergency escalation routes are confirmed.	Shore-side decision support or insurance position remains unclear.

This framework is indicative and does not replace the Master's judgement or company decision-making processes.

8. Pre-Transit Preparation Considerations

8.1 Shore-Side Considerations

- Issue a concise threat (security assessment) brief and identify the preferred transit window.
- Consolidate current UKMTO, MSCIO, BMP Maritime Security, flag State and other relevant official advice.
- Confirm commercial, insurance, war-risk and charterparty implications of the intended movement.
- Clarify the vessel's AIS policy in accordance with company policy, flag requirements, and current official advice of military authorities.
- Pre-agree contingency routing, emergency anchorages, sheltering, delay points, communications triggers and post-incident support arrangements.
- Determine tugs and salvage availability in the area of transit and anchorage.
- Confirm daily threat brief is being issued and naval advisories consolidated.
- Ensure contingency routing is pre-approved.
- Remind the Masters of their overriding authority.
- Consider company drill covering SoH emergency scenario, activating crisis management team.
- Verify that ship(s) considered for transit are supplied with adequate fuel quantity, including necessary margins and increased consumption, factoring in intense manoeuvring and/or operating at maximum speed for prolonged period(s).

8.2 Shipboard Considerations

Navigation

- Review the passage plan: wheel-over positions, parallel indexes (both sides), manual position fixing intervals appropriate for the proximity to navigation hazards, abort points noted, and no-overtaking/no-crossing cautions where appropriate.
- Confirm radar ranges are optimized (3/6/12 nm split).
- Monitor echosounder continuously throughout the transit.
- Ensure ARPA data, supported with visual observation and visual monitoring of targets, are used for collision risk determination and that collision avoidance action is not only based on AIS or VHF data.
- Report to company without delay if onboard fuel stocks are considered insufficient for safe and expeditious transit.

GNSS Resilience

- Prepare alternative navigation methods and cross-check routines for loss or degradation of GNSS, AIS or gyro-dependent inputs.
- Identify landmarks and shore objects which can be useful as quick reference points to plot terrestrially based observed positions on ECDIS.
- Cross-check GNSS position continuously against gyro, log, and radar, plotting it on the ECDIS screen based on measurement(s) of distance(s) and or bearings from the well identified fixed objects.
- Maintain continuous dead reckoning plotting.

- Refer to **INTERTANKO GNSS Spoofing and Jamming Guidelines 2nd Edition**: *Appendix D*: **Bridge Procedure for GNSS Spoofing and Jamming** or company procedure for GNSS Spoofing/Jamming.
- Consult Appendix I – Bridge Quick-Reference Card: GNSS Jamming and Spoofing.
- Frequently plot position obtained by radar from land/shore objects and available aids to navigations (for instance, RACONs and e-RACONs) on electronic and paper charts (if on board).

Security

- Consider raising to ISPS Level 3, or as recommended by the flag Administration.
- Prepare deck lighting and blackout plan.
- Secure all external access points.
- Follow the BMP-MS (Best Management Practices for Maritime Security).
- Consider appropriate, proportionate and operationally feasible measures for bridge personnel. If required, bridge crew to wear ballistic protection such as kevlar helmets and vests if necessary.
- Physical protective measures (e.g. sandbags) should be placed at the bridge windows to protect from flying glass as operationally feasible.

Machinery

- Test steering arrangements, propulsion readiness, emergency generator, communications equipment and the SSAS.
- Confirm engine(s) standby readiness.
- Test steering redundancy.

Emergency Preparedness

- Prepare and test an emergency communication plan with essential contact numbers and pre-drafted messages.
- Display communication plans at all external communication stations, including the safe muster point and/or the citadel.
- Carry out the following shipboard drills before transit, ensuring that outcomes are reviewed and where appropriate used to inform procedural adjustments, considering the conditions at the time of transit and relevant personnel factors:
  - GNSS Failure Drill
  - Steering Gear Drill
  - Fire, Damage Control and related Medical Emergency Drills
  - Abandon Ship Drill
  - Security Drill – based upon threats noted in the area for various attack scenarios
  - Loss of propulsion.
- Consider carrying out a company emergency response drill covering the SoH incident scenario.

Procedural

- Review the Ship Security Plan (SSP) and Vessel Hardening Plan, amending them if required following the pre-voyage risk assessment.
- Consult the following publications:
  - BMP-MS (Best Management Practices for Maritime Security)
  - OCIMF Information Papers “Loitering Munitions – The Threat to Merchant Ships” and “Ship Security – Hull Vulnerability Study”
  - NATO Shipping Centre (NSC) ATP-02.01 — US NAVCENT Naval Cooperation and Guidance for Shipping prior to entry into the Maritime Warning Zone (MWZ).

9. Transit Execution Considerations

Vessel operators should implement enhanced bridge management procedures for the full transit, including:

- Master or Chief Officer on the bridge throughout the transit
- Additional Officer of the Watch where practicable
- Dedicated lookout or radar plotter night and day
- Manual steering when conditions warrant
- Lookout cannot be a helmsman and vice versa
- Manned engine room
- Prioritisation of critical tasks under high workload.

While the Master's presence on the bridge throughout the transit is desirable, Masters should consider to be periodically relieved by a qualified and briefed senior deck officer to ensure that bridge conning officer retains physical and mental fitness necessary to conduct safe transit in extreme traffic congestion and is fully able to lead crew response in emergency. Both senior deck officers should recognise the impact that fatigue may have upon their judgment and situational awareness, planning their rest hours periods accordingly.

Situational awareness should be actively supported within the bridge team through continuous communication, cross-checking and confirmation of understanding, considering the prevailing operational context and ensuring that relevant information is shared to maintain a common operational picture.

These measures are indicative and should not override COLREGS, SOLAS / ISM Code obligations, or the Master's professional judgment.

Mobile Device OPSEC Risks

Personal mobile phone use in the Middle East conflict environment presents a security vulnerability. Devices continuously generate geolocation and metadata through cellular networks and applications, which can be exploited via network-level weaknesses or compromised commercial apps. Vessels operating in or near conflict zones should treat all mobile devices as potential exposure points.

Actions for consideration:

- Disable non-essential services (Bluetooth, Wi-Fi, location services).
- Restrict or remove location-enabled applications.
- Limit app permissions and background activity.
- Keep devices in airplane mode when not required for operations.
- Assume any connected device may leak positional information.

9.1 Navigation Discipline

While navigation should remain disciplined and predictable, alternate routing not through the SoH Traffic Separation Scheme (TSS) may be recommended by competent authorities dependent upon the threats. Any designated route selected for transit may carry elevated risk, and such risks must be fully evaluated and mitigated with applicable controls prior to commencement of the transit.

! Voyage planning should take into account reports of mined areas

Incidents on both northern and southern routes in the SoH have been reported, including small-arms fire, projectile activity, and threats to destroy vessels using the southern route. Route selection is a company and Master decision based on current intelligence, flag guidance and voyage-specific threat/ risk assessment. Coordination with UKMTO and JMIC is essential.

NOTE: GNSS positioning signals and their data feed to ECDIS cannot be relied upon during the transit.

- Where electronic interference is suspected, navigational position fix intervals should be shortened and radar, visual, dead reckoning, echo sounder and other independent inputs should be used to validate the vessel's position and track. Do not rely solely on any single electronic positioning source. Report to Master without delay if in any doubt as to the quality or stability of position, remembering that the good officer is the one the Master can rely on to be called.
- Where electronic interference is confirmed, switch to DR + radar-only navigation. Maintain continuous fixes from visual and independent electronic sources. Keep plotting position on electronic and/or paper chart(s) measuring radar distances and bearings from land/shore or other aids to navigation, remembering that the buoys are far less reliable than distinct landmarks and shore objects.
- Consider maintaining an open line between the vessel Bridge Team and the CSO / DPA or vessel management.

10. Post-Transit Actions

- Submit a lessons-observed report to assist future guidance revisions and industry analysis.

Appendix A – Example Threat and Hazard Matrix

This example matrix is intended as a planning aid and should be adapted to vessel type, cargo, timing, route and current official reporting. Risk scoring is a company and voyage-specific responsibility.

Assessment method: Risk assessed using a 5×5 matrix. Likelihood: 1-5. Severity: 1-5. Total Risk Score = Likelihood × Severity.

Risk bands: Low (1-4) | Medium (5-9) | High (10-14) | Extreme (15-25)

Hazard	Risk Level	Typical Drivers	Potential Impact
Missile / Drone Attack	**Extreme**	Regional conflict cycles; proximity to threat launch areas	Direct strike on hull, cargo area, bridge, or machinery; fire/explosion; fatalities or serious injury; loss of propulsion/steering; pollution; abandonment risk; major casualty.
Naval Mine Threat	**Extreme**	Choke-point geometry; uncertainty over recent incidents	Catastrophic underwater damage; flooding and structural failure; loss of life; pollution; immobilisation in confined water.
GNSS Jamming / Spoofing	**Extreme**	Confirmed regional interference patterns	False position indication; TSS deviation; collision or grounding risk.
AIS Target Overload	**Extreme**	High concentration of vessels released simultaneously	Loss of situational awareness; late collision-avoidance action; bridge team overload.
Close-Quarters Collision	**Extreme**	Convoying and clustering under surge conditions	Hull/tank damage; fire or spill; injury/fatality; loss of manoeuvrability; multi-vessel casualty.
Erratic Manoeuvring	**Extreme**	Stress-driven helm/engine changes by surrounding vessels; mixed vessel types	Unpredictable traffic picture; sudden close-quarters situations; chain-reaction alterations.
Forced CPA Reduction	**Extreme**	Compression at merge points and choke sectors; overtaking in constrained water	CPA falling below limits; increased collision probability; abrupt avoiding action required.
Fast Boat / Asymmetric Attack	**High**	IRGC tactics history	Harassment; forced course alteration; distraction of bridge team; escalation to collision or attack.
Boarding / Interference	**High**	Opportunistic risk	Threat to crew safety; disruption of bridge/engine operations; forced deviation or detention.
AIS Manipulation / False Targets	**High**	Hybrid information environment	Misleading traffic picture; delayed avoidance decisions.
Congestion	**High**	Commercial pressure; variable ship speeds and manoeuvring characteristics	Reduced sea room; unstable traffic flow; near-miss and collision exposure; crew fatigue.

TSS Violation Cascade	**High**	Late entry/exit from traffic lanes; spoofing; poor position confidence	Multi-vessel COLREG/TSS non-compliance; secondary crossing conflicts; grounding risk.
Grounding	**High–Extreme**	Reduced sea room; track displacement under traffic pressure	Hull damage; pollution; loss of manoeuvrability.
Human Error,	**High**	Stress, fatigue, and uncertain environment/situation	Missed procedural steps; errors in judgement; loss of situational awareness; amplification of operational hazards.
Legal Non-Compliance	**Medium**	Flag/coastal-State directions; war-risk notification and reporting obligations	Breach of instructions; insurance and liability exposure; PSC action; charterparty dispute.
Weather	**High**	Poor weather conditions – particularly degraded visibility	Potential navigation hazard requiring additional vessel preparedness

Appendix B – Pre-Transit Preparation Checklist

Office Level

✓	Action Item
☐	Daily threat brief issued and distributed to vessel
☐	Naval advisories consolidated (UKMTO, MSCIO, NAVCENT, EUNAVFOR)
☐	Transit window confirmed or delayed based on threat picture
☐	Contingency routing pre-approved by DPA and Head of Security
☐	AIS policy defined and communicated to Master: If AIS OFF – inform UKMTO and MSCIO of ship position every 2 hours; If AIS ON – consider limiting transmitted data to identity, position, course, speed, navigational status and safety information
☐	Insurance, war-risk and charterparty positions confirmed
☐	Tug availability in transit area determined
☐	Salvage resources assessed; additional coverage sought if required
☐	Non-essential personnel disembarkation confirmed
☐	Pre-transit guidance issued to Master

Shipboard Level – Navigation

✓	Action Item
☐	Passage plan reviewed: wheel-over positions, parallel indexes (both sides), manual fix intervals ≤6 min, abort points defined
☐	Radar ranges optimised (3/6/12 nm split)
☐	Echo sounder monitored and operational
☐	Up-to-date paper charts obtained as back-up; OOWs and Master confirmed proficient in position plotting
☐	GNSS cross-check active (gyro / log / radar)
☐	Dead reckoning plotting continuous
☐	Spoofing detection checklist reviewed
☐	GNSS Failure Drill conducted – findings logged

Shipboard Level – Security, Machinery & Emergency

✓	Action Item
☐	ISPS Level 3 raised (or as directed by flag Administration)
☐	Deck lighting confirmed operational; blackout plan ready
☐	All external access secured
☐	Main engine on standby readiness
☐	Steering redundancy tested; emergency steering operational
☐	Emergency generator ready and tested
☐	SSAS tested and operational
☐	Emergency communication plan prepared; pre-drafted messages ready
☐	Communication plans displayed at all external comms stations, muster point, and citadel
☐	Drills completed: Fire, Abandon Ship, Steering Gear, GNSS Failure, Security (co-ordinated attack)
☐	Ship Security Plan reviewed and amended as required following pre-voyage risk assessment

Appendix C – Transit Execution Advice

A. Bridge Crewing

- Master on bridge for full transit duration – no relief except under exceptional circumstances.
- Additional OOW assigned, plus dedicated radar plotter.
- Helmsman on manual steering throughout.
- Additional bridge lookout.

B. Navigation Execution

- Operate within the TSS where safe and appropriate; maintain maximum feasible distance from the coast of Iran.
- Join TSS early — not at choke points.
- Avoid overtaking before entry; avoid crossing traffic near merge zones.
- Maintain maximum safe manoeuvring speed.
- Delay entry if >60 AIS or radar targets visible within 12 nm.
- Apply minimum Target CPA criteria.
- Maintain minimum 30 nm standoff from U.S. military vessels.
- Avoid course alterations >10° unless essential.
- Avoid speed reduction in narrow sectors.

C. Communications

- Continuous VHF watch on Ch 16 and regional working frequency. Minimise unnecessary transmissions.
- If hailed or emailed by military forces and directed to divert or submit voyage information, the Master should assess the communication against current flag State guidance, company procedures, and applicable international law, prioritising the safety of the vessel and crew. Recent reporting indicates Iranian Navy units have made direct threats over VHF against vessels transiting the southern route. Report immediately to UKMTO and NAVCENT NCAGS and, where available, to the company CSO and any relevant naval cooperation point. Prefer email or secure satellite phone for sensitive communications.
- Maintain social media hygiene – no photographs or position details posted.
- Report to UKMTO / MSCIO per agreed reporting schedule.
- AIS ON – restricted data if advised by CSO.
- Clear communication, including confirmation of understanding, should be maintained at all times and all team members should feel able to raise concerns or challenge decisions where safety may be affected.
- Require crew members to repeat back instructions before carrying out tasks to ensure accurate understanding and reduce the risk of miscommunication.

D. Extreme traffic congestion mode

EXTREME TRAFFIC CONGESTION MODE – Activate if any of the following are detected:

- AIS targets > 60 within 12 nm radar scale
- Radar contacts > 60 within 12 nm
- CPA instability affecting ≥ 3 contacts simultaneously
- Continuous VHF congestion indicating saturated traffic

Master Checklist before entry in surge conditions:

- Is traffic stabilised?
- Is CPA manageable?
- Is radar picture clean?
- Is crew ready?

If any answer is NO → WAIT for conditions to improve.

Appendix D – Bridge Quick-Reference Card

STRAIT OF HORMUZ TRANSIT – BRIDGE QUICK-REFERENCE CARD

BEFORE ENTRY	DURING TRANSIT	IF THREAT OCCURS
☐ Threat brief completed ☐ Master on bridge ☐ GNSS cross-check active ☐ Parallel indexes set ☐ Security level raised ☐ SSAS tested ☐ AIS policy confirmed	**NAVIGATION** • Manual steering at all times • COLREGs to be complied with • Fix every ≤ 6 minutes • Continuous radar sweep • Visual lookout reinforced • Radar overlay on ECDIS **SECURITY** • Crew inside accommodation only **COMMS** • VHF Ch 16 + local channel • Position reporting active	**FAST BOAT:** ➞ Increase speed + alter course early **DRONE / MISSILE:** ➞ Alarm + hard manoeuvre + shelter crew **GNSS FAILURE:** ➞ DR + radar only navigation **BOARDING:** ➞ SSAS + Ship Security Plan + Citadel

GOLDEN RULES

✓ Stay inside designated route ✓ Avoid unpredictable manoeuvres ✓ Maintain maximum readiness ✓ Report early – act early

Annex I – GNSS Bridge Quick-Reference Card

Purpose: Maintain safe navigation when GNSS data becomes unreliable or deceptive. Use all available means and revert to traditional navigation (DR/EP, radar, visual) until GNSS integrity is confirmed.
Prior to entering an area with GNSS disruption – check all equipment with a GNSS (time) input.

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1. RECOGNISE THE SIGNS

Goal: Detect abnormal GNSS behaviour early.

Jamming (Loss or Degraded Signal)

- GNSS position shows *lost/invalid/frozen* on ECDIS or GPS receiver
- ECDIS switches to DR mode.
- GNSS-related alarms - ECDIS / AIS / GMDSS / GPS receiver. (“Position Lost”, “No Fix”, “Signal Lost”, *“DR Mode”, etc.*).
- Multiple GNSS receivers failing simultaneously.
- Low signal to noise ratio or high HDOP.
- GNSS accuracy suddenly degraded (HDOP/PDOP alarms, low satellites).
- Sudden drop in number of tracked satellites.
- Radar overlay disappears or misaligns on ECDIS.
- AIS targets not matching radar contacts.
- AIS position is unavailable or marked as invalid.

Spoofing (Plausible but Incorrect Data)

- Sudden, unrealistic position jumps or drifts on ECDIS.
- Unrealistic COG/SOG values.
- Radar overlay or visual scene do not match the electronic picture.
- AIS targets inconsistent with radar/visual observations.
- Echo-sounder depth mismatch vs. charted depth.
- Multiple GNSS receivers showing the same incorrect position.
- GNSS shows a valid position, but it does not match the vessel’s observed position.
- Unexpected GNSS time change.

Always check MSI warnings (NAVTEX, SafetyNET, Iridium SafetyCast) during planning and watch handover.

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2. IMMEDIATE ACTIONS (FIRST 1-3 MINUTES)

Goal: Stabilise navigation and prevent unsafe manoeuvring.

1. **Take the con.**
    - Reduce to safe speed.
    - Disengage GNSS-based track control/autopilot modes (avoid GNSS based track control).

- Steer using heading control or manual steering.
- Call Master immediately.
- Increase bridge vigilance and lookout.
- Record time and last valid GNSS position.
- Establish vessel position using radar fix / parallel indexing / visual bearings – if available.
- Avoid course alterations until position confirmed, maintaining safe heading.

2. **Stabilise navigation without GNSS.**
   - Shift to DR/EP using gyro + log.
   - Obtain rapid, frequent radar/visual/depth fixes.

3. **ECDIS actions.**
   - Switch display to DR/EP mode.
   - Disable GNSS input if possible.
   - Remove radar overlay if misaligned.
   - On dual ECDIS: keep one system dedicated to DR/EP.

4. **Collision avoidance.**
   - Use radar and visual bearings as primary references.
   - Do not rely on AIS (own-ship or others)

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3. DIAGNOSE & CONTAIN

Goal: Identify interference type and isolate affected systems

If JAMMING is suspected:

- Remain on DR/EP navigation.
- Continue non-GNSS fixes.
- Avoid excessive troubleshooting that distracts from maintaining situational awareness, adjust troubleshooting based on operational conditions and available information.
- Check / compare all GNSS receivers onboard.
- Compare primary and secondary GNSS receivers.
- Check GNSS satellite count and signal strength.
- Inspect antenna connections and power supply.
- Disable GNSS input to non-essential systems.

If SPOOFING is suspected:

- Do *not* follow the GNSS track.
- Navigate using DR/EP, radar, and visual observations.
- Isolate/deselect all GNSS inputs to ECDIS / AIS / INS.

- Avoid power-cycling GNSS equipment until situation is clear.
- Re-adopt GNSS only after reliable, independent validation.
- Check for identical abnormal position shift on multiple receivers

4. COMMUNICATE & REPORT

Goal: Ensure operational awareness.

- Make a **SECURITÉ** call if your position may be unreliable.
- Notify Vessel Traffic Service (VTS) if in controlled waters.
- Monitor NAVTEX + SafetyNET/Iridium SafetyCast.
- Report through SMS and externally to nominated authorities.
- Include time, DR position, duration, affected sensors, screenshots.
- Brief bridge team that GNSS is unreliable.
- Report incident to the Company.
- Record event in bridge logbook (time of occurrence, area/position, systems affected, actions taken).

5. CONTINUE THE PASSAGE SAFELY

Goal: Maintain safe navigation without reliable GNSS.

- Maintain DR/EP and validate with:
    - Radar coastline correlation.
    - Visual bearings.
    - Echo-sounder depth v chart depth check.
    - Parallel indexing.
- Only reinstate GNSS when cross-checks confirm integrity.
- Autopilot: keep in **Heading Mode**; do **not** use track control until GNSS is trusted again.
- Silence non-critical alarms but remain highly alert—expect persistent GNSS-related alerts.
- Increase fixing frequency.
- Maintain safe speed and enhanced lookout, if required.

5. POST-EVENT ACTIONS

Goal: Preserve evidence, document the event and improve resilience against future incidents.

- Preserve all evidence (ECDIS screenshots, sensor menus, alarm logs).
- Add a VDR bookmark.
- Update logbook and SMS incident reports / communications.
- When GNSS appears restored:
    - Conduct thorough cross-checks before trusting it.
        - Cross reference with vessels connectivity diagram.

- Ensure staff check all equipment having correct time input.
- Check navigation equipment performance.

- Check all equipment with a GNSS (time) input.
- Update risk assessment and conduct a bridge team / vessel / fleet debrief as required.
- Update bridge procedures, training and drills.

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7. QUICK DECISION AID

Alarm / Indication	Likely Cause	Primary Action
GNSS LOST	Jamming	Shift to DR/EP + non-GNSS fixes → Heading Mode → Report
GNSS PRESENT but WRONG	Spoofing	Isolate GNSS → DR/EP + non-GNSS fixes → Report

Fields for vessel details (optional):

Ship: ____ IMO: ____ Company/DPA 24/7: ____ Fleet Email: ____

Quick Identification and decision aid

Indicator	GNSS Spoofing	GNSS Jamming
GNSS signal	Present	Weak or lost
Position display	Incorrect but plausible	Unavailable or frozen
Satellite count	Normal	Reduced or zero
COG / SOG	Unrealistic or inconsistent	Not available
Radar overlay	Misaligned with coastline	Disappears or unreliable
AIS position	Incorrect position transmitted	Position unavailable or invalid
Alarms	Often **no alarm** or subtle warning	“NO FIX”, “POSITION LOST”, signal alarms
GNSS time	May change unexpectedly	Usually, unavailable
Primary Action	**Isolate GNSS → DR/EP + non-GNSS fixes → Report**	**Shift to DR/EP + non GNSS fixes → Heading Mode → Report**