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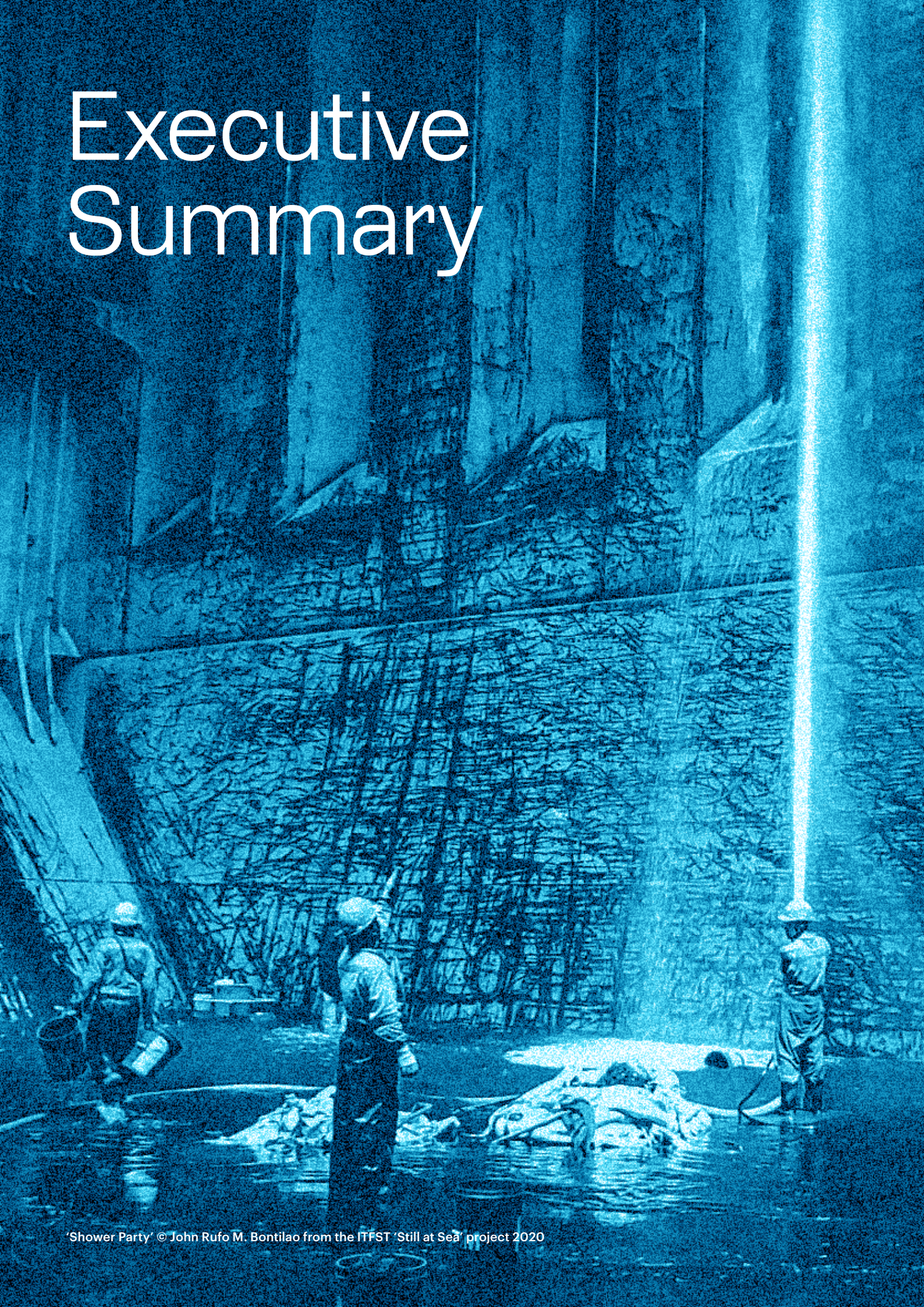
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Executive Summary



Underreporting of work hours or adjustment of work/rest hour records¹ has been suggested by previous research to be a common practice in the shipping sector.

With this starting point, the World Maritime University has conducted exploratory research into the implementation of the current regulatory and administrative framework on work and rest hours. The associated research activities broadly aimed to achieve the following:

1. Investigate stakeholder perceptions of the capacity of the current international regulatory framework to effectively prevent fatigue;
2. To assess the barriers to effective implementation onboard ships; and
3. To evaluate the level of compliance with the current regulatory regime.

Data collection approaches

This qualitative study made use of semi-structured interviews, focus group discussions and case studies, to gain in-depth appreciation of seafarers' recording practices, and a clear understanding of how different stakeholders deal with implementation, compliance monitoring and enforcement of the relevant provisions of the instruments of the International Labour Organization and International Maritime Organization.

To collect a diversity of views, the research sample used included maritime stakeholders such as seafarers, port State control officers (PSCOs) and representatives from shipowners' organizations, industry organizations, maritime non-governmental organizations, and casualty investigators.

Four (n=4) separate interview instruments were created according to the broad categorization of stakeholders: seafarers, shipping companies, maritime organizations, and port State control officers. In total, seventy-one (n=71) interviews were conducted with eighty-one (n=81) participants.

The interviews were complemented by two (n=2) separate focus group discussions. The first one was held with a group of International Transport Workers' Federation inspectors; the second focus group invited port State control officers and focused on compliance monitoring and enforcement.

Research findings

The clear convergence of empirical data collected confirms existing literature and suggests that recording malpractices are widespread.

On the relevance of the current international regulatory framework to effectively prevent fatigue and mitigate its effects, the research outcomes suggest that there is no scientific basis to ensure the effectiveness thereof. The thresholds of the existing regulations receive stark criticism across the entire range of stakeholders interviewed except for views expressed by a few shipowners' organizations.

¹ To monitor compliance, work/rest hours records are required by flag State legislation implementing the Maritime Labour Convention, 2006 and the International Convention on Standards of Training, Certification and Watchkeeping for Seafarers, 1978, as amended.

The determination of manning levels and their approval have been particularly questioned. The research findings indicate that the detailed principles listed in International Maritime Organization Resolution A.1047(27) for establishing minimum safe manning are not adhered to in most instances. It was apparent that flag States do not always fulfil their responsibilities, nor do they necessarily ensure that shipowners carry out theirs with regards to efficient and sufficient manning of ships. This results in an imbalance between workload and the number of personnel available to complete the diversity of onboard tasks. The analysis made indicates that insufficient safe manning levels are the root cause of violations and recording malpractices. The situation is exacerbated during peak workload conditions such as those experienced in relation to special operations and port-related activities. These findings corroborate previous research.

The effectiveness of recording practices to demonstrate compliance with regulations was widely questioned by research participants and viewed as purely a paper exercise for compliance purposes. Many of the recording software programmes are deemed to be “gamed for success” to ensure compliance with the regulations and “incentivise” crew to adjust their records.

The current research found a “culture of adjustment” among seafarers; work hours are either underreported or work/rest hour records are adjusted to facilitate compliance. As demonstrated in previous research, adjustment of records is found to extend beyond mere work/rest hour records. Participants were of the opinion that any record has the potential to be adjusted, pointing out a number of records that are susceptible to adjustment practices. They include records of planned maintenance, drills, oil record book entries, checklists and risk assessments, and even, official logbook entries.

Various factors are raised as contributing to seafarers adjusting their work/rest hour records. Eighty-five percent (n=17) of seafarers interviewed attribute adjustments to insufficient manning levels, particularly during activities in ports, quick succession of ports (in particular for short-sea shipping), and when their vessel operates (in port or at sea) on the 6 hours on/6 hours off watch system. Other factors indicated as encouraging

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recording malpractices include fear of sanctions from shore management, especially considering employment insecurities, and consequences of failing third-party inspections. Financial incentives such as bonuses or overtime, meeting key performance indicators, and the nature of recording software were also mentioned as contributing factors resulting in recording malpractices.

For seafarers, the sole objective of recording work/rest hours is to confirm compliance to avoid disruptions to vessel operations and not to confirm actual working time onboard. They seem unable to

prioritise their allegiance: ship interests or regulations. They are trapped in cognitive dissonance, where deviance is normalised.

Most companies seem to neglect seafarers’ feedback about work/rest hours, which signifies that they operate with deficient safety management systems unable to allow circulation of information and proper response to shipboard difficulties.

Systematic adjustment of records indicate that flag States’ surveys and audits are ineffective in verifying the implementation of regulations beyond paperwork, which questions the overall effectiveness of the International Safety Management Code.

Participants also mentioned that the safety management systems often give rise to the bureaucratisation of safety and ship operation, which widens the disconnect between the sharp (ship) and blunt (company) ends.

Although port State control seems to be carried out according to the guidelines on harmonisation of activities and procedures in most instances, the fact is that only two

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items are systematically checked - the watch schedule and the records of work/rest. This reduced scope of initial inspection has been found to be a limitation to effective compliance monitoring and enforcement. Indeed, inspectors reported that they rarely assess the accuracy of records. The extent of the items to be checked on ships, the lack of resources (in time and personnel) and difficulties to find incontrovertibly clear grounds justifying detailed inspections, have been highlighted as the main obstacles.

The participants suggested that inconsistencies in implementation and non-dissuasive enforcement measures of flag and port States create an environment for the normalization

of deviance. This results in widespread recording malpractices and failure by all stakeholders – seafarers, companies, flag and port States - to address the issue despite being recognized by all of them.

Consequently, there is an apparent inability to enforce existing work/rest hour rules which may seriously affect ship safety as well as seafarers' health and safety, cognitive performance, and their retention in shipping.

Finally, the failure to address violations and recording malpractices indicates systemic failures, which may, in the absence of significant reform in both industry and administrative practices, perpetuate, creating a cultural context and practices that will be increasingly detrimental to the shipping industry and international maritime governance.

Recommendations



The way forward: Three core directions

The study reveals three significant shortcomings in the extant situation.

First, the study confirms previous research that insufficient manning levels facilitate non-compliance with rest hours requirements. Subsequently, the adequacy of the current legal framework and associated practices may need to be reviewed to balance workload with manning, safe operations and safety culture on board, including accurate record-keeping. Therefore, it is suggested that:

- Maritime administrations should seek to collaborate on developing a stringent, objective, and research-based model for determining safe manning, allowing full compliance at all times and in all operational conditions.
- The safe manning level for each ship should integrate the diversity of ship operation and be thoroughly justified and documented to establish sufficient manning.
- ILO and IMO should start considering how manning provisions for the safe operation of ships could be developed in order to make them binding in nature.
- ILO and IMO should review the current work/rest hours regulations to align them with the evidence-based research on fatigue.

Second, fully in line with previous research, the study suggests that the ISM Code faces challenges in achieving some of its fundamental objectives, such as full compliance with regulations and effective feedback mechanisms. Therefore, it is advocated that maritime administrations should engage in assessing the effectiveness of, and considering amending, the ISM Code accordingly, as appropriate.

Third, also confirming previous research on ship/shore relationships, the study considers the negative impact of chronic mistrust between shore and ships combined with the job insecurity characteristic of numerous seafarers' working contracts, as triggers of a culture of adjustments to, in particular, records of work/rest hours. Maritime administrations should prevent such a culture by putting in place protection mechanisms that secure seafarers' employment and to promote the concept of just culture.

To a certain extent, all maritime stakeholders seem aware of the existence of a culture of adjustment. This de facto connivance needs to be unlocked to avoid the culture of adjustment becoming uncontrollable and irreversible. Therefore, in the context of work/rest hours, maritime stakeholders should engage in high-level discussions to review comprehensively the existing safety culture and applicable legal framework and identify potential gaps and areas for improvement.

Aware of the obstacles and time necessary to achieve such a significant revision of major IMO and ILO instruments, the report proposes a number of short-term and follow-up recommendations to pave the way forward and set the stage for the necessary paradigmatic shifts.

Short-term recommendations for national regulators and regional organizations²

1. Flag States and port State control (PSC) regimes should recognize the importance of the human element and the detrimental impacts of insufficient rest on ship safety, work performance, and occupational safety and health. Therefore, flag State surveyors and PSCOs should be trained accordingly. Furthermore, inspections should target work/rest hour and ensure records' accuracy.
2. Flag States should review the guidance given to their surveyors and those authorized to act on their behalf, as appropriate, to include systematic verification of work/rest hours records' accuracy. In addition, flag States should ascertain that all relevant personnel are fully cognizant of the appropriate guidance and strictly apply it. Furthermore, national PSC organizations and PSC regimes should amend their guidance and instructions to include systematic verification of the accuracy of records during the initial inspection. The Procedures for PSC (Resolution A.1138(31)) should be amended accordingly.
3. Tailor-made tools to facilitate detection of violations and malpractices in recording work/rest hours are recommended for flag State and port State inspectors. Such tools should be supported by training such as those developed in association with MARPOL Annex I inspections.
4. National PSC organizations and PSC regimes should initiate Concentrated Inspection Campaigns (CICs) focusing on work/rest hour regulations with emphasis on assessing records' accuracy. Before launching such CICs, the PSCOs should be instructed on cross-checking methods.
5. General PSC inspections should be complemented with focused inspections outside CICs. Such focused inspections allowing cross-checking should be randomly launched or determined via targeting using risk assessment frameworks. For example, PSC regimes should modify their targeting system to enhance inspection of work/rest hours on ships operating a two-watch system.
6. Relaying the concerns expressed in Annex 3 of the Resolution A.1047(27) on Principles of Minimum Safe Manning, flag State authorities, national PSC organizations and PSC regimes should amend their guidance to include the presence of a two-watch system as clear grounds immediately prompting detailed inspections, since this watch system is, in practice, incompatible with the provisions on hours of rest set out in the STCW Convention, 1978, as amended, and the MLC, 2006.

2 It is important to recall some practical differences between flag State inspection and port State control. Flag State or Recognized Organization acting on their behalf, carry out surveys and audit ships to certify them. Their inspectors are mandated to thoroughly monitor ships' compliance levels with respect to every instrument ratified/enacted by the flag State. Therefore, flag State inspectors are positioned to conduct multiple and in-depth inspections.

On the other hand, port State control regimes emerged to protect national waters from substandard ships and to compensate for the failures of certain flag States as well as to organize the conduct of inspections regionally. In this context, the PSCO does not certify the ship but verifies its compliance with the international conventions. Usually, a PSCO verifies at once all conventions but do not have time for in-depth verification during the initial inspections. Therefore, in principle, the flag State inspector/surveyor is expected to complete the bulk of inspection tasks with port States simply carrying out verifications of compliance.

7. Flag State surveyors and PSCOs should register adjustments of records as a major non-compliance to specific instruments and evidence of ISM Code non-conformity.
8. At present, PSC inspections' outcomes consider, inter alia: no deficiency, deficiency(ies), requiring inspection in the following port, detention in port, or inspection suspended. In the context of violations of work/rest hours or adjustment of records, PSC regimes should develop innovative responses such as delaying the ship to allow the crew to rest without recording it as a detention. Additionally, PSC regimes should strengthen co-operation with the flag States of ships with related deficiencies, for them to take relevant actions on the safety management system. The relevant flag State could be invited to expand the current reporting mechanism regarding "flag comments" following detention for all deficiencies related to adjustments of records.
9. When conducting ISM external audits, flag State surveyors should not exclusively rely on paperwork. Other forms of data collection, such as confidential interviews with seafarers, should be promoted.
10. During the renewal of the Document of Compliance (in respect of the ISM Code), surveyors should cross-check the information provided in ISM records and investigate the effectiveness of feedback mechanisms.

Short-term recommendations for companies

1. Companies should acknowledge and address any feedback from ships which may be of concern and respond to violations of working time standards or any justified request for additional crew. Besides, companies should regularly assess their ships' manning levels with the crew's input. Finally, non-routine events or situations such as canal/channel crossing or heavy maintenance should immediately trigger pro-active company's response with a manning level increment.
2. Companies should train their shore managers and decision-makers to recognize the importance of human factors and the detrimental effects of fatigue on ship safety and occupational safety and health and show evidence of such training (such as the shore-based training records required by the IMDG Code).
3. Companies should initiate fatigue management programmes incorporating work/rest hours data verification.
4. Companies should establish a genuine link with their crews and strive to incorporate stable employment conditions in seafarer contracts.
5. Companies should promote the concept of a just culture to strengthen their reporting systems.
6. Companies should empower DPAs to, inter alia, initiate substantial change enabling trustful feedback and initiate/support research on the bureaucratization of ship operation and its impacts on safety and working conditions. Internal audit guidance should be adjusted to become an opportunity to assess safety beyond mere paper exercises.
7. Companies should test and implement innovative methods for record-keeping as long as they are ethically acceptable. Good practice in record-keeping should be reported to international trade organizations and other industry stakeholders.

Short-term recommendations for seafarers

1. Campaigns targeting seafarers should urge accurate record-keeping and the reporting of violations of the work/rest hours to companies.
2. Seafarers should be encouraged to use existing reporting procedures such as per ISM Code and the MLC, 2006 complaint procedures to report any violations and malpractices. Where there is a fear of victimization, seafarers should report to any framework allowing sufficient confidentiality and protection such as CHIRP maritime.

Short-term recommendations for international organizations on implementation and enforcement

1. ILO and IMO should initiate discussions on the implementation and enforcement of work/rest hours regulations and related instruments.
2. Considering the concerns about the two-watch system expressed in Annex 3 of the IMO Resolution A.1047(27) and the research on fatigue, IMO member States should consider amending the provision 6.3.2 of Appendix 11 to resolution A.1138(31) on Procedures for Port State Control, 2019 to include the two-watch system as clear grounds prompting detailed inspections.
3. IMO should amend Appendix 11 chapter 6.2 of Resolution A.1138(31) to expand the scope of the initial inspection and allow systematic cross-checking of records.
4. The ILO Guidelines for Flag State Inspections and Port State Control Officers should be revised to include systematic verification of records' accuracy during initial inspections.
5. Resolutions MSC.255(84) and A.1075(28) related to the Casualty Investigation Code should require the systematic assessment of manning levels and report the adjustments of records and particularly those related to work/rest hours. Furthermore, the resolutions should require the evaluation of the effectiveness of the ISM Code beyond its paperwork.
6. ILO and IMO should review tamper-proof monitoring technologies limiting manual input and forging attempts. Ethically acceptable technology guaranteeing seafarers' dignity, and data confidentiality should be identified.

Other short-term recommendations for international organizations

1. Considering that the current 14-hour workday and 10-hour rest (split into two periods) in maritime employment do not align with fatigue research, ILO social partners and IMO member States should re-examine the thresholds included in MLC, 2006 Regulation A2.3 and STCW Section A-VIII/1. Additionally, ILO social partners and IMO member States should discontinue the two-watch system as an acceptable arrangement.

2. The MLC, 2006 Guideline B2.3 should include an explanation of “compensatory rest” as used in Standard 2.3 paragraph 8, and STCW Section A-VIII/1.4 should establish limits to “overriding operational conditions”.
3. The requirement of ILO and IMO instruments related to working time should be strictly aligned.

Further recommendations

1. Regulators, maritime education and training institutions, professional organizations, trade unions, and shipping industry organizations (including P&I Clubs and insurance entities) should initiate and strengthen programmes on human factors for seafarers and shore managers (including DPAs). Among other things, such programmes should create substantive awareness of the importance of maintaining accurate work/rest hour records and seeking, ascertaining and using feedback.
2. The maritime and labour communities should debate using ethical, fair and efficient sanctions or other measures as a last resort to address systematic violations and recording malpractices. Any form of sanctions should additionally focus on those who hold power to determine manning quantity and quality.
3. Further research to assess and identify options to overcome the detrimental impacts of adverse working conditions and victimisation for accurate recording and feedback should be initiated. The mechanisms and practices that engender fear and hinder trustworthy recording as well as impact seafarers’ mental health should be researched and counter-measures proposed and implemented.
4. Long-term contractual agreements and protection of seafarers should become a primary objective and norm in shipping. Mutual engagement is a necessary condition for implementing a just culture and building confidence between seafarers and their companies. Flag States should promote social security measures enabling confidence.
5. Legal practitioners should be encouraged to research the impact of work/rest hour violations and adjustment of records on the concept of seaworthiness.

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