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Ensuring the Quality of ISM Audits - The Role and Adequacy of the Legal Framework of Auditing

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Abstract

Maritime safety and thus ISM (International Safety Management Code)-audits are directly or indirectly regulated by a host of regulatory instruments. These regulations set the standards for verification, certification, and auditing mechanisms. Intrinsically, these legal regulations influence, or at least should influence, the quality and effectiveness of this auditing mechanism. The legal regulatory framework of the auditing mechanism of maritime safety management has been sparsely researched. Therefore, the understanding and adequacy of the legal framework may not be optimal.

The aim of this paper is thus to identify, clarify and discuss the current legal framework of ISM audits. The intended outcome will be an enhanced and clarified understanding of the underlying legal framework governing flag state audits as well as Port State Control in the context of maritime safety management. We also examine if the current legal framework of ISM audits is adequate to ensure quality and effectiveness of auditing mechanisms in meeting the objectives. The regulatory framework of safety management of other domains will also be compared with the maritime domain to identify and discuss best practices.

Keywords: maritime safety, safety management, ISM code, auditing, audit quality, maritime law

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1. Introduction

The international legal framework concerning safety at sea is extensive and consists of multiple legal instruments and requirements. The ship, shipping company and the crew onboard must comply with applicable rules and regulations. The shipping company is required to develop and implement a Safety Management System (SMS) within the company's shore organization and onboard each ship in order to identify, control and mitigate risks, and to ensure compliance with legal requirements and the SMS itself.

Maritime safety systems, consisting of regulations and requirements to ensure a proper level of safety and an acceptable risk at sea, commenced with the adoption of the Convention on Safety of Life at Sea (SOLAS) in 1914 following the *Titanic* disaster[1]. Mr William O'Neil, the then Secretary General of the International Maritime Organization (IMO) highlighted that initial attempts to improve shipping safety had been directed at improving the hardware of shipping – the construction of ships and equipment and that, subsequently, focus shifted to the way shipping companies were managed with the introduction of the International Safety Management (ISM) Code[2].

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1 Zdzisław Kopacz, Wacław Morgaś and Józef Urbański, 'The Maritime Safety System, its Main Components and Elements' (2001) 54 Journal of Navigation, 199.

2 Phil Anderson, *ISM Code: A Practical Guide to the Legal and Insurance Implications* (Informa Law from Routledge 2015).

The SMS encompasses all relevant maritime rules and regulations. The SMS is thus an essential and powerful tool for the shipping company and the crew on board in ensuring safety at sea. It provides a holistic mechanism for ensuring, verifying and certifying compliance of all existing safety regulations by the ship's crew and the shore-based companies operating these ships. There is a lack of consensus among scholars about the effectiveness of the ISM Code in achieving the intended objectives[3]. However, it is generally accepted that the implementation of the Code enhanced the levels of maritime safety by plugging a gap in regulatory framework and addressing organizational and human factors through safety management principles by introducing a systemic approach towards risks and safety at sea[4].

Verification of compliance of all regulations on all the ships, and the issuance of necessary certifications then became an important component of the regulatory framework. Flag states are obliged to ensure that companies and crews implement an SMS through auditing, inspections, certification etc., on ships flying their flags. International regulations set the standards for flag states verification, certification and auditing mechanisms. Intrinsically, these legal regulations influence, or at least should influence, the quality and effectiveness of this auditing mechanism.

Clear rules and regulations, as well as clarity and consensus in interpretation of these rules, are therefore an important factor in ensuring effective audits of good quality in practice, in addition to ensuring global harmonization of the international framework and a level playing field. However, the standards are vague, and the open-ended nature of the rules and regulations may lead to differences in practice. Differences in procedures adopted by various national maritime administrations may also lead to variation in the quality of the outcome of such auditing mechanisms. Moreover, the legal regulatory framework of the auditing mechanism of maritime safety management has not been extensively researched. Therefore, the knowledge and understanding of the role and adequacy of the legal framework governing ISM audits may require improvement.

The aim of this paper is thus to identify, clarify and discuss the current legal framework of ISM audits, it's content, role and adequacy. The intended outcome is an enhanced and clearer understanding of the underlying legal framework governing flag state audits, as well as Port State Control in the context of maritime safety management. We also ask if the current legal framework of ISM-audits is adequate to ensure quality and effectiveness of auditing mechanisms. Identified challenges are also discussed.

The legal framework of ISM-audits is analysed in line with international legal methods, where the most prominent sources of law are international conventions, codes and other documents, as well as literature. There is no international case law addressing the issue. The role, rules and practices of authorization of Recognised Organisations (ROs) for auditing are also investigated.

First, we provide a brief overview of the legal framework concerning safety at sea, and some jurisdictional issues. Then, we identify and describe the legal framework of ISM-audits using various legal instruments. This is followed by a comprehensive discussion about the role and adequacy of these auditing-rules. Finally, the safety management regulatory framework of other domains is compared with the maritime domain in order to further identify and discuss best practices.

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3 Syamantak Bhattacharya, 'The Effectiveness of the ISM Code: A Qualitative Enquiry' (2012) 36 Marine Policy, 528.

4 Bjørn-Morten Batalden and Are Kristoffer Sydnes, 'Maritime Safety and the ISM Code: A Study of Investigated Casualties and Incidents' (2014) 13 WMU Journal of Maritime Affairs, 3.

2. The Legal Framework of Maritime Safety

2.1 Public International Maritime Law

Maritime safety and thus ISM audits are directly or indirectly regulated by a host of regulatory instruments. The international legal framework for all marine and maritime activities is based on the United Nations Convention on the Law of the Sea (UNCLOS). The rules and principles of UNCLOS are then spelled out in greater detail in other conventions. The SOLAS, MARPOL, STCW and Maritime Labor Convention (MLC) are commonly regarded as the four main pillars of public international maritime law[5]. The four conventions lay out requirements and standards surrounding safety procedures, pollution prevention practices, seafarer training and qualification, and labour laws of the maritime industry. Other conventions, like COLREG, the Load Line Convention and the Ballast Water Management Convention, to name a few, add to this vast legal framework. These legally binding conventions are then supplemented by rules and regulations that fall into one or more of the following categories: protocols, codes, annexes, directives, instructions, memoranda of understanding (MOUs), resolutions, guidelines, standards, recommendations, practices, or generally any other measure that specifies, prescribes, encourages, mandates, recommends or enforces practices that may impact on maritime safety[6]. Some of these instruments are legally binding per se (hard law), while others are recommendary and guiding (soft law).

2.2 UNCLOS and the Responsibilities and Obligations of Flag States for Maritime Safety

The regulatory framework of maritime safety is, as has been mentioned, founded on UNCLOS. UNCLOS is considered as 'the constitution' of the world's oceans and described as an 'umbrella' convention because it sets out the basic framework for states to exercise jurisdiction over most activities at sea[7].

The concept of the flag state is a significant aspect in maritime law. Article 94 of UNCLOS defines duties of the flag state, which include general obligations and supervision of ships flying its flag. It specifically mentions their responsibilities regarding maritime safety. While paragraphs 3 and 4 specify various technical and operational measures including construction and seaworthiness of ships, manning and competence of crew, and provisioning of necessary navigational equipment and publications, paragraph 5 obliges conformance to generally accepted international regulations, procedures, and practices in this regard.[8] The generally accepted international regulations are first and foremost the IMO conventions, like SOLAS, MARPOL, STCW and so on.

The auditing or verification for ensuring compliance of regulations is not mentioned specifically in Article 94 of UNCLOS. However, paragraph 1 requires the flag state to

> '… *effectively exercise its jurisdiction and control in administrative, technical, and social matters over ships flying its flag.*'

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5 For more information: <www.ilo.org/wcmsp5/groups/public/---ed_norm/---normes/documents/presentation/wcms_229914.pdf> accessed 17 February 2023.

6 Harilaos N. Psaraftis, 'Maritime safety: To be or not to be proactive' (2002) 1 WMU Journal of Maritime Affairs, 3.

7 UK International Relations and Defence Committee, *2nd Report of Session 2021-22* '*UNCLOS: The law of the sea in the 21st century*' (HL Paper 159, published 1 March 2022).

8 United Nations Convention on Law of the Sea: Article United Nations Convention on the Law of the Sea [1982] 1833 UNTS 3 [UNCLOS], art 94.

This clause caters for flag state's periodic supervision or verification of maritime safety measures on ships including their SMS. The mechanisms of surveys, inspections and audits related to maritime safety could then be derived from here, as it might be argued that for the flag state to effectively control their ships, an adequate regime of control and auditing must be in place.

The ISM code not only places significant obligations on the shipping companies, the owner or a managing company, but also subjects them to audits by the flag states. The jurisdiction over ensuring compliance on ships also inherently includes jurisdiction of the flag state over managing companies that control and operate these ships. Thus, in order to effectively exercise their jurisdiction on ships flying their flags as envisaged in Article 94 of UNCLOS, the flag states can also exercise their jurisdiction on companies managing ships for the purposes of certification and ensuring compliance of regulations on their ships. This is the case even if these companies are not located on the flag state of the ship.

Interestingly, prevention of pollution or environment protection is not explicitly included in Article 94, which only refers to traditional safety at sea measures. However, Article 94 is clearly not intended to be exhaustive. Rather, it should be interpreted dynamically, sensitive to the development of international maritime law. Today, it is commonly agreed that safety at sea is composed of two main components: safety of human life and property at sea, and prevention of pollution of the maritime environment by ships[9]. Therefore, maritime safety and marine environment protection are inextricably linked, as envisaged in the holistic approach of the ISM-code[10].

Interestingly, Article 217 brings into focus duties of the flag state related to the prevention, reduction and control of pollution of the marine environment from vessels[11]. It is specifically relevant in subsequent discussions on maritime safety management under the ISM-code which inherently encompasses environmental protection.

2.3 UNCLOS and the Responsibilities and Obligations of the Port State for Maritime Safety

The jurisdiction of the port state on foreign ships within the coastal state's waters and their ports has been another important development in international maritime law and supplements flag state control. Port state jurisdiction has been utilized in various IMO Conventions to develop a framework of enforcing maritime safety through Port State Control (PSC), especially when confronted with the failures of flag states to adequately regulate and control their ships[12].

UNCLOS provides extensive territorial and extra-territorial jurisdiction to port states, especially related to pollution from ships. However, the discussion in this paper will be limited to the PSC regime acting as a safety net to complement effective maritime safety administration by flag states[13].

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9 Kopacz et al, 'The Maritime Safety System, its Main Components and Elements' (n 1).

10 Ronald Amanyire, 'Safety management in shipping- an historical comparison to the state of art' (Masters Thesis 2007).

11 Nivedita M. Hosanee, *A critical analysis of flag state duties as laid down under article 94 of the 1982 United Nations convention on the law of the sea, Division for ocean affairs and the law of the sea office legal affairs. The United Nations* (New York, 2009).

12 Cedric Ryngaert and Henrik Ringbom, 'Introduction: Port State Jurisdiction: Challenges and Potential' (2016) 31 The International Journal of Marine and Coastal Law 379.

13 Maximo Q Mejia 'Evaluating the ISM Code Using Port State Control Statistics' (PhD Thesis, Lund University 2005).

Article 94, Para 6 provides for

> *'A State which has clear grounds to believe that proper jurisdiction and control with respect to a ship have not been exercised may report the facts to the flag State.'*

This enables all states including coastal and port states to report any deficiencies in the exercise of jurisdiction and control by the flag states over their ships.

Article 219 mandates, as quoted below, a port state to take administrative measures to prevent a vessel from sailing if it threatens the environment:

> *'…a vessel within one of their ports or at one of their offshore terminals is in violation of applicable international rules and standards relating to seaworthiness of vessels and thereby threatens damage to the marine environment shall, as far as practicable, take administrative measures to prevent the vessel from sailing.'*

This is the core component of the maritime safety regime beyond the conventional flag state jurisdiction. Compliance checks under the PSC regime could be considered as an additional verification mechanism for maritime safety management under the ISM Code, though it forms a broader part of such checks for the compliance of various regulations. However, they are primarily focused on checking the validity of statutory ISM certificates of ships.

Since the PSC Officer is not carrying out a safety management audit of the SMS during a PSC inspection, the term 'clear grounds' is not applicable in the context of the ISM Code[14]. The term 'clear grounds' means that the ship's condition or its equipment substantially deviates from the certificates and from generally accepted standards. A detailed inspection should then be carried out. However, this only applies for technical or operational related deficiencies. Any technical and/or operational related deficiencies found during this inspection, individually or collectively considered by the PSCO to indicate a failure, or a lack of effectiveness, in the implementation of the ISM Code, could still result in recommendations for an additional ISM audit by the flag state.

Incidentally, evolution of regional cooperation agreements for exercising PSC through Memorandum of Understandings (MoUs) has been found to be a very effective tool in reducing the number of substandard ships, as well as improving maritime safety and pollution prevention[15].

2.4 SOLAS

The obligations of flag states entailed in UNCLOS are then specified in several international instruments, most notably the SOLAS. Chapter IX of SOLAS regulates Management for the safe operations of ships through safety management requirements imposed on the company and the ships, rendering compliance of the ISM Code mandatory. The details of the Code are described in a separate paragraph, arguably being one of the most significant regulatory instruments regarding the ensuring and auditing of maritime safety management.

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14 Paris Memorandum of Understanding on Port State Control (Paris mou), 'Guidelines for the port state control officer on the ism code' Port State Control Committee instruction 56/2023/05.

15 Jaime Rodrigo De Larrucea and Cristina Steliana Mihailovici, *The Port State Control Inspections and their Role in Maritime Safety: Specific Case – Romanian Naval Authority* (2010).

Chapter IX, Regulation 6 concerns the verification and control of the safety management system, and states that

> 'The Administration, another Contracting Government at the request of the Administration or an organization recognized by the Administration shall periodically verify the proper functioning of the ship's safety management system.'

Thus, it obliges the flag state, or an organization recognized by the flag state, to verify the proper functioning of the ship's safety management system.[16] The proper functioning is the essential legal requirement, which means that SMS should not only be formally in place on paper. The SMS must also be functional and working in practice. That means that the SMS must be adapted to the needs of the company, the ship and their activities, as well as meeting the objectives of the ISM Code.

The clause regarding 'an organization recognized by the Administration' is quite significant because it authorizes the delegation of the statutory responsibility of the flag state for verification to another entity – a Recognized Organization (RO).

Furthermore, Regulation 4 concerns certification. A company complying with the requirements of the ISM Code is issued a Document of Compliance (DOC). Without a valid DOC, a company cannot legally manage ships, and their ships can no longer sail. In addition, a Safety Management Certificate (SMC) is to be issued to every ship belonging to the company after verifying that the company and its shipboard management operate in accordance with the approved SMS. Without a valid SMC, the ship is not allowed to sail. Thus, the DOC and the SMC are arguably, as intended, among the most important certificates in maritime law/industry. Consequently, both shipping companies and ships must meet certain minimum standards, invoked to ensure compliance with all other safety standards.

2.5 ISM Code

Though the ISM Code was brought into force through incorporation in Chapter IX of SOLAS, the code is examined independently because the code is a separate legal instrument which elaborates SOLAS and entails more detailed requirements.

2.5.1 Structure and Requirements

The ISM Code recognizes that shipping companies and the conditions of the operation of the ships have a wide variance. The Code therefore include broad principles and objectives enabling the companies to formulate their own functioning SMS. Among other provisions, the Code requires the company to develop procedures for identifying and managing risk, maintenance of ship and equipment, emergency preparedness and the reporting of workplace incidents, as well as self-critical elements such as regular internal audits and reviews of the current system[17].

The flag state of each ship is also required to conduct periodical audits of the company, in addition to each ship operated by them, to ensure that the shipping company and the crew onboard have implemented a 'properly functioning' SMS and that they adhere to it.

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16 International Convention for the Safety of Life at Sea (adopted 1 November 1974, entered into force 25 May 1980) 1184 UNTS 278 (SOLAS Convention).

17 Bhattacharya S, 'The effectiveness of the ISM Code: A qualitative enquiry' (2012) 36 Marine Policy 528.

While Part A of the ISM Code deals with implementation, Part B specifies requirements for certification and verification[18].

Section 13 of the ISM Code regulates certification and periodical verification in detail and specifies procedures for validations and periodical checks. The validity of the DOC and the SMC is five years. Annual verifications are required for continued validity of the DOC. However, only one intermediate verification, preferably between the second and third years, is necessary for continued validity of the SMC.

Section 14 of the ISM Code addresses interim certification to facilitate initial implementation of the ISM Code. This could be when a company is newly established or new ship types are added to an existing DOC, or when a ship changes her flag. The procedures are like those mentioned in Section 13 with certain changes.

Section 15.1 of ISM Code states that

> 'All verifications required by the provisions of the Code should be carried out in accordance with procedures acceptable to the Administration, taking into account the guidelines developed by IMO'

The clause 'procedures acceptable to the Administration' provides for the flag state to design its own process, procedure and framework for the verification or auditing for compliance with the ISM Code. Respective flag states may, at their discretion, include certain additional provisions for the ships flying their flags.

However, a minimum requirement derived directly from SOLAS Chapter IX, Regulation 6, is that the audit should at least be effective and adequate to ensure the 'proper functioning' of the SMS.

Section 15.1 also requires the flag state to 'take into account' the guidelines promulgated by the IMO. The administration's procedures should thus be effective and adequate, and in conformity with relevant IMO guidelines on the subject. Thus, the flag state does not have complete discretion because audits must be of a certain quality.

2.6 IMO Guidelines on the ISM Auditing Framework

The latest version of IMO guidelines on the implementation of the ISM Code by administrations provides comprehensive information about the procedures, processes and practices for conducting audits for verification of compliance of the Code[19]. It also describes the process of preparation and execution of the audits.

Furthermore, a significant measure towards quality control of the auditing is included in the form of the Appendix to the Guidelines which includes standards on ISM Code certification arrangements. It describes the standards for competence and independence of the auditing organization and states that

> Para 2.1, 'Organizations managing verification of compliance with the ISM Code should have, in their own organization, competence in relation to…'

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18 IMO, 'International Management Code for the Safe Operation of Ships and for Pollution Prevention' (International Safety Management Code (ISM) Code) (amended by Resolution MSC.353(92), entered into force 1 January 2015).

19 IMO, 'Revised guidelines on the implementation of the international safety management (ISM) code by administrations' (10 January 2018) A 30/Res.1118.

Para 2.3, '…ensure personnel providing consultancy services and those involved in the certification procedure are independent of one another.'

In addition, standards for competence of the auditing team personnel conducting the verification are also mentioned with respect to their qualifications, experience and training, and it states that:

Para 3.2, '… personnel should have at least five years' experience in areas relevant to the technical or operational aspects of safety management and a minimum of formal education comprising the following….'

Para 3.3.1, '…a person authorized to carry out ISM audits must have completed at least four training audits under the supervision of suitably qualified and experienced auditors and in accordance with the following criteria…'

Thus, there has been significant focus by the IMO on the suitability of the auditing organization and the auditing team conducting ISM audits, in terms of expertise and neutrality.

Organizations conducting audits are also required to implement a system for ensuring the above requirements and a standardized system for the certification process.

IMO guidelines reiterate that the Administration is responsible for verifying the compliance with requirements of ISM Code and issuing DOC and SMC. However, it also highlights that administrations can authorize organizations to act on their behalf as per SOLAS Chapter 1, Regulation 6 entrusting these Recognized Organizations (ROs) to undertake verification[20].

It is interesting to note here that such a legal framework for authorizing the ROs is not limited to the ISM but also includes other provisions of SOLAS. Furthermore, it also exists in other IMO conventions including MARPOL, Load Lines, Tonnage and Anti Fouling[21].

2.7 Regional Legal Instruments of Maritime Safety Management

There are some additional regulatory arrangements at regional level which impose supplementary requirements over the international safety regulations. European Union (EU) action in the field of Maritime Safety regulation generates significant added value to the international framework by continuously improving and strengthening international standards within the EU and EEA[22]. EU regulation regarding maritime safety management is largely based on IMO regulations. The ISM Code is implemented by the EU in the EU Regulation No 336/2006 on the implementation of the ISM Code within the Community[23]. However, this regulation makes the requirements more stringent in several ways, for example by making them applicable to ships on domestic voyages. Furthermore, the standards of competence and independence of auditing organizations and competence of audit team personnel, mentioned in the non-mandatory IMO guidelines, have also been made mandatory within the EU/EEC. However, the provisions regarding verification and certification, as mentioned in the ISM Code, have been retained hitherto. Therefore, in this context, the EU regulations have

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20 ibid.

21 IMO, 'Legal Framework on Recognized Organizations (ROs) in IMO Conventions' <www.imo.org/en/OurWork/IIIS/Pages/Recognized-Organizations.aspx> accessed 3 November 2022.

22 Ljupco Sotiroski, 'The EU and International legal Framework in Maritime Safety' (2016) 25 International Journal of Sciences: Basic and Applied Research, 297.

23 Regulation (EC) n 336/2006 of the European Parliament and of the Council of 15 February 2006 on the implementation of the International Safety Management Code within the Community and repealing Council Regulation [2006] OJ L 64.

limited additional influence on the standards of auditing mechanism or its quality and effectiveness. No other regional framework of significance on the level of the EU is available to our knowledge.

2.8 Guidelines on Safety Management by National Maritime Administrations

The national administrations of the flag states have also issued their own guidelines for the guidance of auditors, usually based on IMO guidelines, and amplifying certain procedures and processes. For example, the Marine Survey Instructions for the Guidance of Surveyors (MSIS) No. 02 on ISM Code, issued by the UK Maritime and Coast Guard Agency (MCA), is modelled on the recommendations in the IMO guidelines.

These instructions also include comprehensive details for operational implementation for verification and certification, stipulating the UK policy of interpretation of all the provisions of the ISM Code[24]. Incidentally, Chapter 6 of these instructions addresses the reporting and quality control procedures. However, these are limited to reporting audit information and updating related databases. Further procedures for quality control or monitoring of these audits are not defined. Given that these instructions are intended for surveyors conducting the audits, they may not be involved in quality control procedures which may be handled by other personnel at MCA. Similar guidelines are usually issued by other flag states.

2.9 Guidelines by Other Organizations on Safety Management

A large number of classification societies have been authorized as ROs by various flag states to conduct verification and certification on their behalf. The International Association of Classification Societies (IACS), which is a non-governmental organization with observer status at the IMO, has 11 members out of more than 50 classification societies worldwide.

IACS has issued guidelines related to the certification for the ISM Code for compliance by their member organizations. However, these guidelines are not formally part of the legal framework for the ISM-auditing regime. IACS standards carry considerable weight as established and broadly accepted good practices. As such, they influence the interpretation of legal rules and RO practice, and thus have considerable impact on quality of the outcome of the verification mechanism or auditing. We therefore need to examine the content of these guidelines to study and clarify any such implications.

IACS Recommendation No. 41 about 'Guidance for Auditors to the ISM Code' is primarily intended to promote audits' consistency and uniformity among ISM Code auditors, which is usually modelled on the IMO guidelines[25].

However, it provides specific guidance regarding objective evidence to demonstrate compliance with each provision under ISM Code with examples for the purposes of verification. These guidelines describe practical operational activities to be undertaken by auditors while they conduct the verification.

Further, IACS Procedural Requirement No. 9 about 'ISM Code Certification' provide procedures and criteria for the conduct of audits to verify compliance with the requirements of the ISM Code[26]. Incidentally, it also provides the procedures governing the actions to be taken by classification so-

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24 UK Maritime and Coastguard Agency, 'Instructions for the Guidance of Surveyors on International Management Code for the Safe Operation of Ships and for Pollution Prevention (The ISM Code)' (2020).

25 IACS Recommendation No. 41 'Guidance for IACS Auditors to the ISM Code' (2019).

26 IACS, 'Procedural Requirements for ISM Code Certification*'* (2012).

cieties when deficiencies associated with the ISM Code are identified by Port State Control Officers (PSCOs). It includes the competence and independence requirements related to the auditing organization and the audit team envisaged in the IMO guidelines as referenced above in Para 2.6.

Thus, it is clear from the examination of these guidelines that in addition to conforming to the legal framework and the IMO guidelines on the subject, they specify good practice and describe the process of audit in great detail with practical and operational interpretations of the provisions of the ISM Code for conducting verification and certification. It surely encourages uniformity and consistency among the work undertaken by IACS members and thereby, to some extent, ensures a certain degree of quality assurance and equal application.

Guidelines issued by shipping industry organizations, such as the International Chamber of Shipping (ICS), are not relevant for discussion here because they usually describe procedures and guidance to be followed by shipping companies for internal control and implementation of the ISM Code. Thus, they do not have any direct role on the quality of verification and certification mechanisms, or auditing conducted by the flag state or RO[27].

2.10 Summary of the Regulatory Framework

To summarize, the described regulatory framework defines the overall structure for ISM audits. The loosely defined obligation of the flag state in UNCLOS, to ensure compliance of all safety regulations on its ships, is subsequently specified through IMO regulations in SOLAS and the ISM Code, describing in more detail the framework for ISM audits.

The regional and national legislative framework usually conforms to the IMO regulations. Furthermore, the operational practices and other nuances for interpretation of various provisions of ISM Code have been laid down in IMO guidelines and guidelines issued by IACS and respective national maritime administrations. Although these guidelines are non-mandatory, the recommendations identify good practice and should thus influence and guide the interpretation of binding rules, as well as the quality and effectiveness of auditing mechanisms because they are actual practices followed by the auditors or surveyors conducting ISM audits and verifications. Before we investigate the adequacy of this regulatory framework, we need to review its characteristics.

One significant feature of the regulatory framework is the flag state's delegation of ISM audits to ROs. Many flag states have delegated their responsibilities to ROs.

Secondly, the key elements impacting quality of audits regarding the competence of the auditing organization and audit team personnel have been included as guidelines instead of being part of binding law. Similarly, the principle of independence applicable to the auditing organization, more relevant in case of delegation to ROs by flag state, is also only a guideline. Interestingly, certain other IMO guidelines regarding the monitoring or supervision of the duties delegated to ROs acting on behalf of flag states could also be relevant with respect to the quality of auditing in maritime safety management because much of the ISM work is undertaken by the ROs[28].

Furthermore, the PSC regimes contribute to the robustness of the safety management framework by ensuring the flag states' compliance through monitoring and checks.

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27 International Chamber of Shipping, 'Guidelines on the Application of the IMO International Safety Management (ISM) Code' (2019) vol 5th edition.

28 IMO, 'Code for Recognized Organizations' (RO Code) (21 June 2013) Resolution MSC.349 (92).

3. Discussions about Elements in the Regulatory Framework Affecting Quality of ISM Audits

In this part, we will critically examine the influence of some aspects of the regulatory framework identified in the previous section on the quality of ISM audits.

3.1 Provisions for Quality Evaluation of Auditing Mechanisms

The audit for the verification of the implementation of the ISM Code is a significant component of the maritime safety management architecture. Audits not only ensure compliance of mandatory legal provisions, but also act as a safeguard to regularly scrutinize the shipping companies and ships' safety practices and procedures. Therefore, the quality and effectiveness of the audits are essential, and the procedures and methods adopted during the audit should be of the highest attainable standard.

However, the ISM Code and various IMO guidelines do not prescribe any standards or procedures to evaluate the quality of the audit conducted. Hence, no formal mechanism exists in the maritime context for examining the quality and effectiveness of audits in achieving the desired objectives.

3.2 Delegation of Verification to Ros by Flag States

The delegation of responsibility to ROs for conducting verification of compliance and conduct of audits under the ISM has been a prominent aspect in implementing statutory requirements by a non-governmental entity. This is a unique arrangement prevalent in the maritime domain. The impact of this arrangement on quality can be investigated under following aspects:

3.2.1 Systemic Approach for Compliance and Verification

The ISM Code was introduced to address the human factors and organizational or management influences in safe management and operations of ships thereby focusing on a holistic and systemic approach aiming to integrate verification of compliance of all technical and safety regulations through the concept of safety management[29]. Therefore, the Code aims to support and encourage the development of a safety culture within the shipping industry whilst improving compliance with the requirements of international conventions[30].

However, the issue of authorization to ROs has been dealt with in accordance with the procedure in vogue for IMO instruments that are more focused on technical aspects. Due to this, there is a limitation in the regulatory framework regarding enabling an overall control mechanism under direct supervision of the flag state for the purposes of compliance with ISM regulations. Distinct delegation criteria and processes for integrated supervision of RO delegated tasks, suited specifically to ISM work, have neither been designed nor considered. This may be due to a lack of appropriate resources and expertise in the administrations because all major technical work and even day-to-day running of flag state responsibilities, like ship registries in some cases, are delegated to ROs[31]. Thus, the systemic approach in the ISM framework is missing from the compliance and verification mechanisms.

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29 IMO, 'Revised Guidelines on Implementation of The International Safety Management (ISM) Code by Administrations' (6 December 2018) Resolution A.1118 (30).

30 UK MCA (n 24).

31 N'Hoboutoun Santa, 'An analysis of the delegation of authority to the recognised organisations acting on behalf of the flag state: a case study on the Togolese flag' (Masters Thesis, World Maritime University 2018).

3.2.2 Principles of Conflict of Interest

The classification society is engaged and paid for by a shipowner to carry out inspections and certifications of ship conditions. Thus, this service is performed under a private contract with the shipowner[32]. However, while acting as ROs on behalf of the flag states for statutory inspections and certifications, they also act under public contract, i.e., a contract delegating public powers to a private company. This may be problematic as it implies an inherent conflict of interest in the two functions performed by these ROs.

The IMO has addressed this by providing specific provisions in the guidelines related to ROs work and independence. The IMO guidelines state that any organization performing verification of compliance with provisions of ISM Code should ensure that 'the personnel providing consultancy services and those involved in the certification procedure are independent of one another'[33]. Further, Part 2 of IMO Code for ROs specifies in Para 2.3 that the RO and its staff shall not engage in any activities that may conflict with their independence of judgement and integrity in relation to their statutory certification and services. Moreover, the RO and its staff responsible for carrying out the statutory certification and services shall not be the designer, manufacturer, supplier, installer, purchaser, owner, user, or maintainer of the item subject to the statutory certification and services, nor the authorized representative of any of these parties[34].

However, it is quite common in other domains that the entities engaged in statutory audits are refrained or discouraged from being involved in other services for the auditee as per principle of independence and ethics. The European directive on statutory audits of annual accounts and consolidated accounts in respect of financial auditing identifies the provision of additional non-audit services to the audited entity as one of the threats to the independence of a statutory auditor or audit firm[35].

3.2.3 Implied Safety and Quality Assurance by Administrations

The examination of data about the delegation or authorization of the ISM verification to ROs by administrations reveals some interesting information about their perception of safety and quality assurance of the auditing mechanism.

Preliminary research of the data available on the Global Integrated Shipping Information System (GISIS) of the IMO shows the biggest flag states, which are usually small countries with limited resources and expertise for monitoring large merchant fleets, have authorized many ROs. This ranges from 31 by Panama to 12 by Bahamas and Malta. Most other countries have also delegated the ISM audits to ROs. However, some countries like Poland and UK have not authorized any ROs for ISM-audits, some have specifically exempted passenger ships (Denmark, Norway), while others have only authorized ROs for SMC and not DOC related work (France, Belgium, India).

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32 Lia Carolina Barroso Rojas, 'Open registries and registries and recogniz ecognized organization: syner ganization: synergy or dysfunction' (Masters Thesis, World Maritime University 2019).

33 IMO, 'Revised Guidelines on the Implementation of the International Safety Management (ISM) Code by Administrations' (29 November 2001) Resolution A.913 (22), para 2,3 of Appendix.

34 IMO, RO Code (n 28), part 2 para 2.3.

35 Directive 2006/43/EC of the European Parliament and of the Council of 17 May 2006 on statutory audits of annual accounts and consolidated accounts, amending Council Directives 78/660/EEC and 83/349/EEC and repealing Council Directive 84/253/EEC [2006] OJ L 157, 9.6.2006, p. 87–107, Para 11.

Furthermore, the comparison of delegation of work to ROs for ISM and other regulations also reveals interesting findings. The table below provides examples of some selected flag states to illustrate the contrasting approaches:

Sl	Flag state	RO's authorized under various IMO regulations	RO's authorized for ISM audits	
			DOC	SMC
1	Japan	4	4	3
2	South Korea	3	1	1
3	France	5	2	3
4	USA	7	5	5

In some cases, a country has distinctively authorized ISM-audits to certain ROs only and denied them to others. Japan authorizes three out of four ROs for both DOC and SMC work but restricts one (DNV) to only DOC. The Republic of Korea limits authorization to one out of three ROs and France authorizes BV for limited work on SMC, full work to DNV and RINA but no work to KR and LR. USA also only authorizes five out of seven ROs for ISM audits.

There is no research study available on whether these variations have any impact on quality or safety. Thus, there is no direct evidence that there is a difference in the quality of audits undertaken by various ROs and the flag state administrations.

Assumingly, some of these decisions may have been motivated by practical considerations, in so far as the administration lacks auditing competence and capacity, while the ROs have better capacity and expertise. Furthermore, political backgrounds, reciprocal arrangements, and other considerations could also be possible causes.

However, exemption of passenger ships from audits by ROs indicates implied recognition of greater quality assurance by the administrations regarding their own ability rather than those of ROs because the administration presumably aims for greater safety for these passenger-carrying vessels. On the other hand, it may simply be a way to divide the work between the administration and the ROs. More research is needed to examine such implied safety and quality assurance considerations regarding the maritime administrations.

3.2.4 ROs as a Contributor to Unique Safety Regimes

The delegation to ROs may also have a positive influence on the quality of audits. The historical development of classification societies can be traced to the necessity of standards for evaluating the safety of ships for insurance purposes. This practice subsequently led to the development of standards for design, construction, and maintenance of ships[36]. Thus, the system for class certification for ships predates statutory regulations for safety, as well as most maritime administrations. Therefore, classification societies have inherent expertise and competence in these areas.

The unique safety regime of ROs still supplement statutory regulations on hull strength and machinery reliability, which are usually addressed by the class certification[37]. Further, due to their in-

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36 Jurgen Basedow and Wolfgang Wurmnest, 'The Role of Classification Societies in the Shipping Industry', *Third party liability of classification societies - A comparative perspective* (Springer-Verlag 2005).

37 Hartmut Hormann, 'Classification societies-What is Their Role, What is Their Future?' (2006) 5 WMU Journal of Maritime Affairs 5.

volvement as ROs for statutory work about most of the technical aspects related to the ship regarding safety and environment protection, ROs may in some cases be better suited to perform ISM audits.

ROs knowledge about technical aspects of the ship and involvement with shipowners on classification issues may enable ROs to have better oversight on systemic deficiencies or limitations in the context of safety management. Therefore, the maritime domain arguably benefits from the expertise from organizations such as classification societies. Their work as ROs may enhance the overall quality of safety management auditing.

3.3 Integration of Auditing Principles Ensuring Quality in the Regulatory Framework

The quality and effectiveness of audits in various domains including the management systems also draw on basic auditing principles. While objectivity and independence were identified as fundamental principles of quality audits[38], a larger review of literature on auditing revealed integrity, impartiality, independence and competence as common principles, sometimes referred to as a code of ethics, among a host of other names[39].

The regulatory framework of maritime safety management does incorporate principles of competence and independence from auditors, though as a guideline rather than a legal requirement. However, these principles are assumingly usually taken seriously by the national maritime administrations and the ROs. Despite a lack of harmonized standards of qualification, knowledge and training, there is an attempt to achieve a certain level of competence and independence. Furthermore, in some cases, as in EU member states, these guidelines are part of legal instruments and are, therefore, mandatory.

Therefore, in practice, the regulatory framework conforms to the fundamental principles of quality in auditing mechanisms.

Interestingly, the general requirements for ROs as per the RO Code, referred to under SOLAS Chapter XI-1, Regulation 1, includes independence, impartiality, integrity, competence, responsibility, and transparency in the mandatory Part-2 of the Code about 'Recognition and Authorization Requirements for Organizations'. However, no such provisions are applicable for flag state administrations when they act as auditing organizations. Moreover, being the governmental administration, these principles are presumably followed in practice and included in other national regulations.

Therefore, the auditing principles can be considered to be an integrated part of the legal framework in respect of ROs and in practice for administrations[40].

3.4 Internal and External Quality Control of Auditing Organizations

3.4.1 Oversight of Ros ISM Work by Flag States

Globally, a large proportion of the ISM auditing is undertaken by ROs authorized by the flag states on their behalf. Thus, regular, and effective monitoring or oversight of the work done by ROs by flag states is necessary to ensure auditing quality. However, the regulations in Part-3 of the RO Code regarding

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38 Stanislav Karapetrovic and Walter Willborn, 'Quality assurance and effectiveness of audit systems' (2000) 17 International Journal of Quality and Reliability Management 679.

39 Costel Mironeasa and Georgiana Gabriela Codina, 'A new approach of audit functions and principles' (2013) 43 Journal of Cleaner Production 27.

40 IMO, RO Code (n 28).

oversight of ROs are not mandatory under SOLAS Chapter XI-1, Regulation 1 and are only provided as a recommendation to the flag states. These provisions include supervision of duties delegated through additional ship inspections, audits, inspections and audit observations by the flag state.

The implementation of an effective quality management system by ROs has been made mandatory in Part-2 of the RO Code. However, the EU has incorporated the requirements for independent quality assessment and certification to be undertaken by ROs and their assessment every two years by the EU and the member state in the legal framework[41].

Furthermore, and importantly, the national administrations usually incorporate the supervision of the ROs in the class agreement while delegating the duties to them[42]. However, in most large flag states, the limitations in expertise available make it challenging to implement an effective oversight program of work delegated to ROs.

3.4.2 Quality Control by IACS

According to the RO Code, the ROs are required to have a quality management system with regular certification by an accredited organization. Incidentally, IACS members have implemented a Quality System Certification Scheme (QSCS) which is audited by independent Accredited Certification Bodies (ACBs)[43].

Recently, the International Quality Assessment Review Body (IQARB) has commenced offering to the IACS members the service of reviewing the certification process of the quality management systems as an independent body under a trial stage[44]. These internal quality control measures not only address their work as classification societies but also the statutory work undertaken on behalf of the flag states.

IACS's endeavour on quality, though not required under any legal obligation, certainly contributes to enhancing the overall quality in the auditing mechanism in maritime safety management. Nevertheless, the widespread impact of such quality assurance is limited because many ROs are not IACS members.

3.4.3 Quality Control by National Maritime Administrations

The legal framework and guidelines related to maritime safety management do not prescribe any requirements for performance measurement, monitoring or quality management on audits conducted by the national maritime administrations. Incidentally, the IMO Member State Audit Scheme, which aims to promote effective implementation of IMO instruments, also focuses on the compliance with the requirements in applicable international instruments. Therefore, it only concentrates on flag states' oversight programme for monitoring ROs[45] [46] It does not include the quality of audits

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41 Regulation (EC) No 391/2009 of the European Parliament and of the Council of 23 April 2009 on common rules and standards for ship inspection and survey organizations [2009] OJ L 131, 28.5.2009, pp. 11-23.

42 Norwegian Maritime Authority, 'The Class agreement' (2002) Para 5.

43 IACS, 'Quality System Certification Scheme (QSCS)' (2022) <https://iacs.org.uk/quality/quality-system-certification-scheme-qscs/> accessed 13 November 2022.

44 IMO, 'International Quality Assessment Review Body (IQARB)' (2022) <www.imo.org/en/OurWork/IIIS/Pages/IQARB.aspx> accessed 13 November 2022.

45 IMO, 'Framework and Procedures For the IMO Member State Audit Scheme' (4 December 2013) Resolution A.1067 (28).

46 IMO, 'IMO Instruments Implementation Code (III Code)' (4 December 2013) Resolution A.1070 (28).

conducted by national administrations.

Since international instruments do not require any internal oversight or monitoring programme to be adopted by the flag state administration for the work undertaken by them, no such initiative is necessary for them. The national administrations must therefore institute such quality control initiatives of their own accord.

3.5 Recent Developments in Auditing Process – Digitalization and Remote Audits

Though the intention of expressing the ISM Code in broad terms to encourage widespread application was appropriate when it was introduced, recent developments in technology and auditing process have highlighted the challenges of this goal-based and inherently vague legal framework.

The introduction of remote audits due to the COVID pandemic has increasingly become a norm due to simplicity in terms of procedure and financial considerations. The digitalization of records and processes has also facilitated auditors in general to prepare and plan the audits efficiently. Thus, they can focus on utilizing their time effectively during the audit on identified critical areas to be addressed. However, the difference in the quality of audits conducted remotely compared to those conducted physically is apparent.

The IMO has recognized that remote audits are not foreseen in the ISM Code and the guidelines. Therefore, it has agreed to 'Development of guidance on assessments and applications of remote surveys, ISM Code audits and ISPS Code verifications' with a target completion year of 2024[47] . The EU has proposed to achieve the same level of assurance and equivalence when compared to in-person audits[48]. For ISM audits, the EU has recommended a hybrid approach using remote auditing methods for specified SMS activities in concert with periodical audits on board ship, rather than the sole use of remote audit.

3.6 Summary of Discussions on Quality of Auditing Mechanism in Regulatory Frameworks

Thus, we found that the existing legal framework does not have any formal mechanism for evaluating quality in maritime auditing mechanisms. Furthermore, the primary responsibility of the auditing seems to rest on the delegation of the verification and auditing by the flag states to the ROs. Though this concept is already prevalent in many other IMO regulations, this may be a mismatch given the systemic and *holistic* approach towards ensuring maritime safety entailed in the ISM Code. There is presumably a reason why leading maritime states, like the UK, which is also a pioneer for the introduction of ISM Code, has not delegated ISM auditing to ROs. Retaining ISM auditing by flag states may be a sensible way to ensure overall governmental control of maritime safety.

The regime of delegation of the flag state work to ROs also has inherent challenges in respect of conflict of interest of ROs due to their services under private contract to the shipowners for classification and public contract while working on behalf of the flag states for statutory auditing.

The variance in practices regarding delegation to different ROs and the exemption of passenger ships from auditing by ROs indicate that administrations have an apparent implied recognition of higher quality or trust in their own auditing than those conducted by ROs. On the other hand, the

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47 IMO, 'Report of the Maritime Safety Committee on its 104th Session' (19 October 2021) IMO Doc. MSC 104/18.

48 European Union, *Development of guidance on assessments and applications of remote surveys, ISM code audits and ISPS code verifications and inspections* (2022).

historical role of the classification societies in shipping safety and their large capacity as professional expertise in technical standards in design, construction and maintenance of ships also provides an opportunity to improve auditing of maritime safety management by collaboration through the delegation regime.

The auditing framework conforms to basic principles for ensuring quality and thus offers a robust legal basis. However, the mechanism for internal and external quality control of auditing organizations has certain deficiencies. The regulations regarding oversight of ROs' work by flag states are non-mandatory, though the internal quality management requirements for ROs are incorporated as mandatory requirements. Furthermore, the focus of these quality provisions is only on ROs, while the work undertaken by flag states themselves is not included in this framework.

The impact of remote audits on audit quality is still to be assessed and is a work in progress.

4. Comparison of Safety Management Regulations in Other Domains

In order to identify the best practices and an effective safety management framework, regulations in other relevant domains will be briefly explored and discussed in succeeding paragraphs.

4.1 Civil Aviation

The International Civil Aviation Organization (ICAO) provided impetus to the safety management processes for achieving civil aviation safety by consolidating all existing provisions contained in various instruments into a new instrument dedicated to safety management[49]. Annex 19 to the Convention on International Civil Aviation aims for a proactive safety strategy based on the implementation of a State Safety Programme (SSP) that systematically addresses safety risks. The safety management system obligations for a state in Regulation 3.3.2.1 require,

> '…the following service providers under their authority implement a Safety Management System (SMS):
>
> (a) ...training organizations…
>
> (b) Operators of aeroplanes or helicopters…
>
> (c) …maintenance organizations...
>
> (d) Organizations responsible for type design or manufacture of aircraft, engines, and propellers...
>
> (e) Air traffic services providers…
>
> (f) Operators of certified aerodromes…

Therefore, the regulatory framework for safety management in aviation appears more robust as it comprehensively covers a larger scope with the inclusion of organizations and activities related to training, aircraft operation, manufacturing and maintenance of aircraft and equipment, air traffic services and the operation of aerodromes.

In contrast, maritime regulation is limited to shipping companies and ships operated by them and does not include marine training institutions, shipyards, equipment manufacturers, vessel traffic services and ports.

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49 ICAO, 'Annex 19 to the Convention on International Civil Aviation - Safety Management' (2016).

Furthermore, the state has been mandated a larger role in risk assessment and management as defined in

Regulation 3.3.4.1: 'States shall establish and maintain a process to identify hazards….'

Regulation 3.3.4.2: 'States shall develop and maintain a process that ensures the assessment of safety risks associated with identified hazards.'

Regulation 3.3.5.1: 'States shall establish mechanisms for resolution of safety issues …'

Interestingly, Regulation 3.4.2 mandates that

'States shall establish the acceptable level of safety performance to be achieved through their SSP.'

Therefore, these provisions go beyond merely imposing responsibility for the organizations mandated to implement SMS. It aims for a systemic approach to improving safety by encouraging evaluation of safety effectiveness by the state themselves at a national level. Such overarching safety provisions are not as prevalent in the maritime domain where the responsibility for risk identification, and management to a greater extent, is entrusted to the shipping companies.

The provisions regarding the qualification, training and competence for personnel performing safety related functions and the adherence to basic audit principles of ethics and conflict of interests are also included as statutory provisions in Appendix 1. However, these provisions are only guidelines and are not statutory in the maritime domain. Therefore, civil aviation has a more robust legal framework in this respect.

Regulation 3.1 says that states

'…may delegate safety management-related functions and activities to another State, Regional Safety Oversight Organization (RSOO) or…'

This provision is similar to the authorization of ROs by flag states on their behalf in the maritime context, however, the RSOOs in aviation are established by a group of member states to collaborate and share resources to improve their safety oversight capabilities. They are not private entities. Therefore, there is no conflict in discharge of duties by RSOOs in the context of private and public functions of classification societies.

However, the provisions regarding verification and certification to be conducted by the states are not specified in the civil aviation regulations. Therefore, arguably the most significant aspect for ensuring compliance of the safety management objectives is missing, and that may have a negative impact on overall safety system compared to the maritime domain.

4.2 Railways

Rail transport is not regulated by a global intergovernmental cooperative body and is usually regulated by national authorities. However, the regional regulatory framework in EU could provide a glimpse of the safety management structure in rail transportation rather than examining a host of national regulations. The EU directive concerning railway safety[50] aims for a systemic approach and Article 4, Regulation 1 (c), requires states to,

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50 Directive (EU) 2016/798 of the European Parliament and of the Council of 11 May 2016 on railway safety (recast) [2016] OJ L 138.

'ensure that measures to develop and improve railway safety take account of the need for a system-based approach.'

and obliges States to also ensure implementation of safety management systems in Article 4, Regulation 1 (d),

'…infrastructure managers and railway undertakings, each for its part of the system, …to establish safety management systems…'.

Article 9 provides details about the safety management systems which usually incorporate provisions similar to those in maritime or aviation sectors, however, the provisions are more prescriptive with comprehensive details about its components. Interestingly, the competence of staff covered in Article 9, Regulation 3 (f), also includes fitness separately from training,

'… the training of staff and systems to ensure that the staff's competence is maintained and that tasks are carried out accordingly, including arrangements with regard to physical and psychological fitness'

Furthermore, the internal auditing is also explicitly mentioned as an element of SMS in the statutory provisions in Article 9, Regulation 3 (k),

'provisions for recurrent internal auditing of the safety management system'

The details regarding measurement of safety through safety indicators and safety targets to be achieved is also included in the statutory provisions, while such issues are not prescribed in maritime safety management frameworks and are left for each shipping company to adopt a design and implementation best suited to them.

The verification and certification mechanism by the states of the safety management systems of the infrastructure managers and railway undertakings are prescribed in this legislation in Article 10,

'… access to the railway infrastructure shall be granted only to railway undertakings which hold the single safety certificate issued by the Agency … or by a national safety authority...'

and these are similar to the provisions in ISM Code. Therefore, the compliance measurement framework is considered to be as effective as in the maritime domain.

The adherence to the basic principles of auditing is also intended in Article 16, Regulation 1,

'… authority shall be independent in its organization, legal structure and decision-making from any railway undertaking, infrastructure manager, applicant or contracting entity and from any entity awarding public service contracts.'

Incidentally, these provisions are statutory in the railway framework, the aviation framework and are applicable to national authorities. In the maritime context, it is only statutory for ROs authorized by the flag states and only recommendatory for national maritime administrations.

We underscore that the above discussion provides an insight into the railways' regulatory framework, although it may not be representative of such regulations in all countries.

4.3 Chemical Industry

Safety management in chemical industry is also not regulated at an international level by any single regulation, though a high level of safety is ensured through national regulatory frameworks. However, the EU framework could again be used for looking at the regulatory structure as a model for national frameworks. The EU directive on control of major accident hazards involving dangerous substances has a high focus on preventing major accidents and limiting their consequences[51]. Therefore, Article 8, Regulation 1 obliges,

> '… the operator to draw up a document in writing setting out the major-accident prevention policy (MAPP) and to ensure that it is properly implemented. The MAPP shall be designed to ensure a high level of protection of human health and the environment'

It also obliges the operator to produce and send a safety report in accordance with Article 10, Regulation 1 (a),

> 'demonstrating that a MAPP and a safety management system for implementing it have been put into effect…'

and other requirements related to risk management, emergency preparedness, etc. Furthermore, it needs to be periodically reviewed and updated at least every five years and after a major accident. This compliance requirement, of a periodic self-assessed report on safety over and above the verification or inspection regime, is unique in this framework when compared to the three discussed above.

The verification or inspection mechanism is part of the statutory provisions in Article 20 and focuses on systemic examination in Regulation 2,

> '… sufficient for a planned and systematic examination of the systems being employed at the establishment, whether of a technical, organizational or managerial nature…'

The elements of SMS are also prescribed in comprehensive detail in statutory regulations in Annex III, which obliges the consideration of all hazards, however, specifically highlights determination and implementation of MAPP. The provisions for internal audits and review are also specified.

Therefore, the framework is similar to the maritime structure except with a special focus on major accidents, for obvious reasons.

4.4 Summary of Discussion about Comparison of Regulations of other Domains

To summarize, the structure of the regulatory framework of the maritime safety management systems compares well with other domains and incorporates the important elements necessary for a robust and effective implementation to achieve its objectives.

However, the systemic approach in aviation, which adopts a more comprehensive framework covering all areas having a direct impact on safety rather than only the operators of transportation, appears more robust in design than maritime structure. Furthermore, the obligation on states to evaluate effectiveness of safety at a national level also seems to go beyond the maritime context where they largely have only an enforcement role rather than a direct participant in safety endeavours.

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51 Directive 2012/18/EU of the European Parliament and of the Council of 4 July 2012 on the control of major-accident hazards involving dangerous substances, amending and subsequently repealing Council Directive 96/82/EC Text with EEA relevance [2012] OJ L 197.

Similar systemic approaches to safety are used in railway and chemical industries. The statutory provisions are more comprehensive and prescriptive in other domains on basic audit principles, elements of SMS, internal auditing, and reporting. However, explicit statutory provisions about verification and certification by states are missing in aviation, although they are part of railway and chemical industry safety.

5. Conclusion

The legal framework governing ISM audits has a pivotal, although maybe not a prominent, role in international maritime law in ensuring safety at sea. It obliges flag states to verify and ensure that shipping companies identify, control and mitigate risks, and comply with requirements of the ISM code and the SMS itself. The role of this legal requirement is critical as it addresses and brings together fundamental aspects of shipping companies' role in safety. Indeed, the SMS encompasses all relevant maritime rules and regulations, and thus employs a holistic approach towards identifying and mitigating risks and ensuring compliance and safety on board. The framework also encompasses a variety of instruments other than the ISM code. Audits, verification and certification mechanisms significantly contribute to ensuring implementation of and adherence to the vast legal framework. ISM-audits periodically monitor implementation by shipping companies, as well as crews and the proper functioning of the SMS, and through that, contributing towards the safe management and operations of ships.

The examination of prominent features of the framework reveals that although the overall aim was the systemic and holistic approach towards risks and safety at sea, with a focus on organizational and human factors and the companies' responsibilities, the design of the framework and the way the framework has been implemented in maritime law may not be optimal and fully adequate. That may in turn pose challenges to the effectiveness and quality of ISM audits, and thus safety at sea.

First, ISM has been considered and implemented in the same manner as other technical IMO regulations. In other selected domains, a systemic approach, as well as a much larger and comprehensive role of states, is envisaged, with safety management principles applied to all parts of the system rather than only operating companies.

We also found that the regime of authorization or delegation of statutory work for verification and certification to ROs as private entities is unique to the maritime domain. This is due to the traditional role of classification societies. Although delegation to ROs enables flag states to utilize existing expertise in the private sector, it brings with itself inherent challenges with respect to quality considerations, governmental control and potential conflict of interests.

In view of the analysis of the maritime safety management regulatory framework and its comparison with other domains, the following aspects in the governing legal framework might enhance the overall quality of ISM audits:

(a) Inclusion of a systemic approach to safety management by committing, to a greater extent, that all relevant stakeholders have direct impact on safety apart from shipping companies.

(b) Implement more direct responsibilities for flag states in conducting auditing.

(c) Consider establishing more stringent statutory internal and external oversight mechanisms for all auditing organizations, including flag states themselves.

(d) Establish a statutory periodic evaluation scheme for the monitoring by flag state about quality and effectiveness of auditing.

However, further research is needed to examine the impact of delegation of ISM work to ROs on quality and effectiveness, which is critical in analysing the adequacy and practical implementation of the legal framework governing ISM audits.