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SEAFARERS' PARTICIPATION IN SAFETY MANAGEMENT ON BOARD CARGO SHIPS

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Abstract

The paper considers the importance of *seafarers' participation* in the management of self-regulated Occupational Health and Safety (OHS) in the shipping industry. It points to the ways in which the concept of participation is understood differently within the industry and highlights the potential contribution that full employee participation makes to effective safety management at sea. Using qualitative research, including document analysis, interviews, and observations, both with shore based management and seafarers in the course of research voyages aboard cargo ships, the paper demonstrates what happens in practice when participation is attempted in the shipping industry. Seafarers' employment patterns, fear of accountability, and shipboard hierarchy are identified as hindrances to participation. The paper concludes that the effects of these hindrances are compounded by a deeper and underlying problem of a lack of appreciation of the principles of self-regulated OHS management system in the shipping industry.

Locating seafarers in the ISM Code

The introduction of the ISM Code represents one of the major changes to have occurred in the shipping industry in recent times. This piece of legislation was brought in between 1998 and 2002 to provide a framework for the self-management of seafarers' Occupational Health and Safety (OHS) and vessel pollution prevention. In the process it highlighted the importance of effective ship management and identified ship operators¹ as independent and accountable entities.

The ISM Code for the first time provides a framework for ship operators to "self-regulate" with regard to the protection of health and safety for their employees. Given the marginal involvement of regulatory authorities (i.e. flag states) the onus for providing an appropriate measure for the regulation of health and safety at sea was transferred, via the introduction of

¹ Ship Operator: The ISM Code (3.1) requires that if the entity, who is responsible for the operation of the ship is other than the owner, the owner must report full name and details of such entity to the administration (Flag State) (IMO, 2002: 8).

the Code, almost entirely, to ship operators. This necessitated ship operators' active engagement with the development of Safety Management System (SMS) policies and procedures for their ships (Bailey, 2006). The ISM Code unequivocally demands direct and close involvement in SMS implementation and monitoring in its preamble where it states 'the cornerstone of good management is commitment from the top' (IMO, 2002: 5).

Similar forms of self-regulated Occupational Health and Safety (OHS) management systems are also widely found in shore-based industries. Along with the importance of the commitment from the top management, shore-based research into such systems has, among other influences, identified the benefit of employee participation in contributing to the development of safe and healthy workplaces. Statistics as well as academic research demonstrate that in self-regulated OHS management systems a top-down approach alone has limitations. However, when combined with effective employee participation OHS management systems bring overall tangible benefits, such as less employee turnover, fewer incidents and an increased level of communication from employees (Dawson et al., 1988; Bohle and Quinlan, 2000; Gallagher et al., 2003).

It is important to note however that the ISM Code nowhere contains an explicit provision concerning the requirement for seafarers' participation. It does, however, state a number of important operational elements that imply seafarers' participation in the development, maintenance and continuous improvement of the SMS. For instance, risk assessment, incident reporting and review of the SMS are all mentioned in the ISM Code (IMO, 2002: 10).

The purpose of this paper, then, is to explore how the shipping industry has risen to the challenges of the ISM Code and, in particular, if and how seafarers' participation has become an integral part of the implementation of safety management.

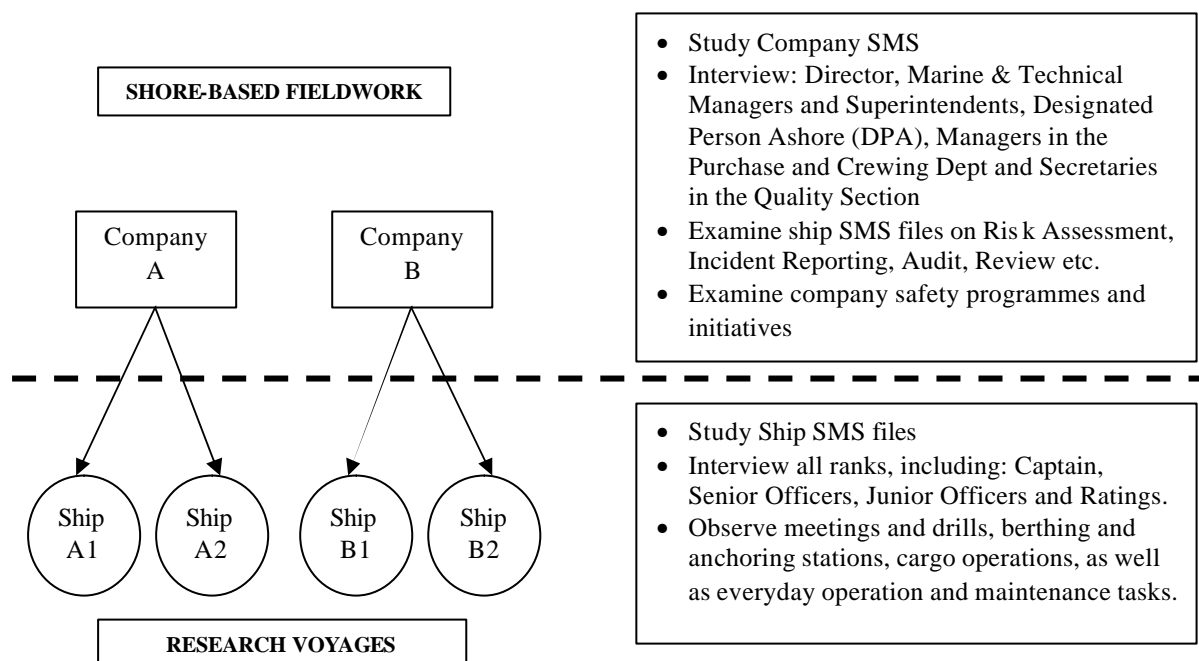
PhD Research design

Earlier studies into the effectiveness of the ISM Code exposed serious limitations concerning the use of widely varying statistical data on accidents and incidents on board ships on a

global scale. The need for in-depth, qualitative research into the ISM related performance of ships and company offices was also a major recommendation of the IMO group of independent experts that conducted a quantitative survey into the benefits of the ISM Code in 2005 (IMO, 2005; Anderson et al., 2003).

The PhD research project, which underpins this paper, uses qualitative means to study some of the influences affecting the practice of the Code. It examines, among other things, the extent and quality of seafarers' participation and management involvement, and the consequences of the withdrawal of regulatory bodies against the backdrop of the changing nature of the industry. It also explores the interplay between these different influences and how this complex interaction impacts on the practice of OHS. This paper however focuses specifically on seafarers' participation and the impact of such participation on the practice of OHS in the shipping industry.

Two companies were carefully selected for the empirical study based on their size, business focus and trading interest. The research was conducted in the companies' shore-based technical management offices as well as on board their ships. The company SMS and associated written procedures, SMS files and other relevant documentation were studied, all ranks of seafarers and management staff interviewed, and routine activities on board ship closely observed. The research was designed to investigate a range of issues related to five specific procedures in the SMS: (1) Ship safety meetings, (2) Accident and incident reporting, (3), Risk assessments for onboard tasks, (4) SMS Reviews and (5) SMS Audits.

Figure 1: Research locations and data collection sources

The shore-based research took four days for each of the two companies, while a total of four ship voyages (two from each company) lasted for a period of one to two weeks each and included international routes (India-Persian Gulf and USA) as well as coastal trades (Western Europe). The data collection took place in the second half of 2006.

Onboard ships seafarers from all ranks and departments were interviewed producing over 100 hours of recorded interview data from around 75 interviewees. In addition, copious notes were kept from documentary analysis and onboard observations. The views and experiences of employees at all levels in the hierarchy onboard and those of the managers in the shore-based office with different responsibilities were instrumental in gaining an in-depth picture of the practice of OHS.

The four ships were tankers, a ship type that is widely regarded as the safer type of cargo ship (Lloyd's List, 2005). Furthermore, the companies that offered access for the research held good safety and pollution prevention records judging from Port State Control (PSC)²

² PSC data: Port State Control (PSC) is a government body which has statutory rights and responsibilities to carry out inspections of foreign flagged ships when such ships call at ports. PSC produces statistical data on operational deficiencies relating to ships' safety, prevention and control of pollution, crew proficiencies and

data (Equasis, 2007; Paris MoU, 2004). Thus, any findings here which suggest that there may be scope for improvement may be even more pertinent for the wider industry. Aside from this stated bias there was nothing untypical about the individuals or company settings compared to the industry in general. While the study doesn't intend to be representative of the industry as a whole, it presents in-depth discussion of a number of issues related to seafarers' participation which gives it a wider relevance.

What kind of participation?

There may be a number of different ways of understanding the concept of *participation* in the context of OHS management. Different managers may interpret its significance differently. To understand what kind of participation contributes to the successful management of OHS, it is important to differentiate the levels of seafarers' participation that might exist in the industry.

On one level such participation may be restricted to adherence to managements' directives and procedures as laid down in the SMS. This form of participation may include seafarers donning adequate Personal Protective Equipment (PPE) or meticulously complying with SMS procedures by filling in forms and checklists prescribed by the management. It may also include seafarers successfully playing their parts by simply being the recipients of new OHS information and decisions that are already taken by the management. Such a symbolic involvement may be located in examples where seafarers' participation is only limited to their presence in a safety meeting or their attendance in safety training programme.

A different level of participation might involve seafarers being consulted and contributing to management decisions on the practice of OHS. Such consultation may include genuine discussion between seafarers and management with regard to risk assessment where seafarers can share their concerns with the managers (Walters and Frick, 2000).

welfare and compliance to navigational rules. The industry, for regulatory compliance as well as commercial purposes, considers PSC-generated data, which is available in the public domain, as a valuable indicator for measuring the OHS performance of individual ships, and their owning, managing and/or operating company.

In the shipping industry this research demonstrated that seafarers' participation remains a highly variable element in the management of OHS. Although there seems to be a universal approval of seafarers' participation, there also seems to be a lack of true comprehension with regards to its potential and scope. Among managers alone there seems to be a wide variation in interpretation. While some managers remain oblivious to the potential for seafarers to play a role beyond their specific compliance with SMS, others see seafarers' participation in the running of SMS as an important step towards the improvement of shipboard OHS.

One shore-based manager, for example, remarked:

The sea-staff don't understand much, they are naive and as a result they should be told what to do – every step of it. I am happy with my crew as they are following our procedures and they are doing as per our requirements. In fact, our procedures are so good and so detailed that no one needs to butt in. And, of course, they send in their reports and pass the inspections. To run a ship safely you cannot ask for too much democracy... Democracy sometimes has the danger to lead to anarchy.

Quote: 1 (Ref: A-0-D)

On the other hand, one of his colleagues having similar responsibility had a completely different understanding of the benefits of participation. He was not content with the fact that some seafarers behaved passively within the system. The second manager thus said:

Some of the Masters and Senior Officers are very good, we learn a lot from them. I like to receive interesting suggestions and improvement notes. I hate when some of them write 'no comments' (in the Review) – it shows that we have failed somewhere... I would say that the downside of this company is the Ratings... the system fails there. If there is one weakest link in the whole system it's the Ratings, we get minimal participation from them. All they say is 'yes sir' and 'thank you sir'.

Quote: 2 (Ref: B-0-A)

Research shows that this second interpretation of employee participation (or certain variations of this interpretation) has the greatest potential to promote OHS in all types of workplace. By following such values employees and management jointly become responsible

for a common goal of a safer and healthier workplace. Such teamwork necessitates that management not only determine policies and procedures and provide channels for communication, but also decentralise decision-making on OHS matters in such a manner that employees' needs and concerns are incorporated in the running of the system (Walters, 2004; Harrison and Legendre, 2003).

The following section focuses on a range of concerns that seafarers have with regard to participation and in particular when attempting to operate at this higher level of participation.

Obstacles to Seafarers' Participation

The research highlighted a number of barriers to seafarers' participation in OHS management at sea. Three major concerns: *Job Insecurity*, *Fear of Accountability* and *Shipboard Hierarchy* are discussed below.

Job Insecurity

The most common theme identified when analysing seafarers' interviews was of the fear of job loss. Seafarers were concerned about job security as a result of the temporary and short-term nature of their employment. Ratings³ and Junior Officers⁴ were aware of the large pool of seafarers available from certain labour supplying countries and felt especially threatened that their jobs would be taken up by their compatriots who were waiting "in the wings" to be employed. Captains and other Senior Officers⁵, on the other hand, were concerned about changes in company employment programmes. Generally, this group of seafarers feared that, as a result of cost-cutting strategies, they would be replaced by seafarers from other nations drawing comparatively lower wages (Alderton et al., 2004).

³ Ratings: Seafarers who carry out more menial types of task and have limited independent responsibility. Generally they comprise the Bosun, all deck hands, such as Able Bodied Seaman (AB), Ordinary Seaman (OS), all Engine hands, such as the Fitter and Motorman, as well as Saloon staff, such as the Cook and the Messman.

⁴ Junior Officers: Seafarers who have certain independent responsibilities, such as watch keeping. They generally are 2nd Officer, 3rd Officer, 3rd Engineer, 4th Engineer and Electrical Officer.

⁵ Senior Officers: The group of seafarers who have the greatest responsibility in terms of the onboard management of the ships. They generally are the Captain, Chief Officer, Chief Engineer and 2nd Engineer.

Against the backdrop of job insecurity the implementation of a performance appraisal system became highly sensitive and undermined the willingness of ratings, in particular, to actively participate in the SMS. In both companies crew were appraised by seniors or the captain at regular intervals and reports were forwarded to crewing offices located in seafarers' home countries. As these ratings were employed on short-term and temporary contracts, their future re-employment heavily relied on appraisal reports making them acutely aware of the importance of maintaining a 'clean record' in their reports. In the course of the research it became apparent that the ratings feared that senior officers might use the appraisal system as a tool to report not only work performance but also behaviour, which, in their understanding, depended on how respectful they were towards the captain or senior officers. This deterred ratings from participating freely in the SMS or from engaging in a meaningful discussion with the senior officers or captains, particularly if such discussions had the potential to be construed as arguments or dissent.

For example one AB pointed out why he felt that engaging in a discussion with the captain might affect his re-employment chances. He said:

I don't talk during lifeboat drills, may be it becoming argument.

Q. So why is it not right to argue?

Some captain don't like argument, may be not good for report, may be (he will put) bad remark in confidential appraisal...

Q. So what happens if you get one bad appraisal?

Very difficult to get new job... There are a lot of people waiting for AB job... Before changing company one manager (of new company) talking to other manager (of previous company) on the phone asking details ... 'What about this man, how was he on your ship, did he make any trouble?' So, very important for me to get good report.

Quote: 3 (Ref: A-2-D)

Some senior officers, fearful of losing jobs to other nationalities, were similarly reticent. The declining number of compatriots onboard along with a steady influx of officers from comparatively new seafarer supply nations was a constant source of anxiety for them. This impacted upon senior officers' willingness to make suggestions relating to shipboard

operations or to put forward any creative or confident proposals. Thus their interaction with management was noticeably muted. For example, one captain told me:

Q. Can you ask for more hands?

Can we ask the management? No we can't. If I make hullabaloo may be tomorrow I will be replaced by two or three (cheap) masters, so I should rather keep quiet (he laughed).

Quote: 4 (Ref: B-2-A)

Another Chief Engineer articulated the same worry slightly differently. On asking him about his fears to retain employment, he said:

Yes, it's a worry for all of us. We are constantly worried as we keep seeing more and more Chief Engineers (from another nation) taking over. They will call it redundancy, although we have been promised that they (the management) would not kick us out or replace us with (other nationalities), but who knows...

Q. But aren't you employed on a permanent basis?

On paper we are permanent employees but every time we go home we become temporary again... They (the management) are the boss and we have to abide by their moves. But yes with regard to the first question, I guess I am always worried and thus psychologically it matters... I don't feel the urge in making an Improvement Note⁶. It's pointless you know – now the time has come for me to be safe and stay quietly and of course not draw any attention by having an accident or something.

Quote: 5 (Ref: B-1-E)

Fear of Accountability

Reporting near misses and different types of incident to the management can only be achieved through the active participation of seafarers and is considered a key element of OHS management. Procedures for these types of reporting are clearly identified in the ISM

⁶ Improvement Note: It is a mechanism used in the two companies for employees including the seafarers to comment on or suggest changes to the SMS as a means for continuous improvement to the SMS.

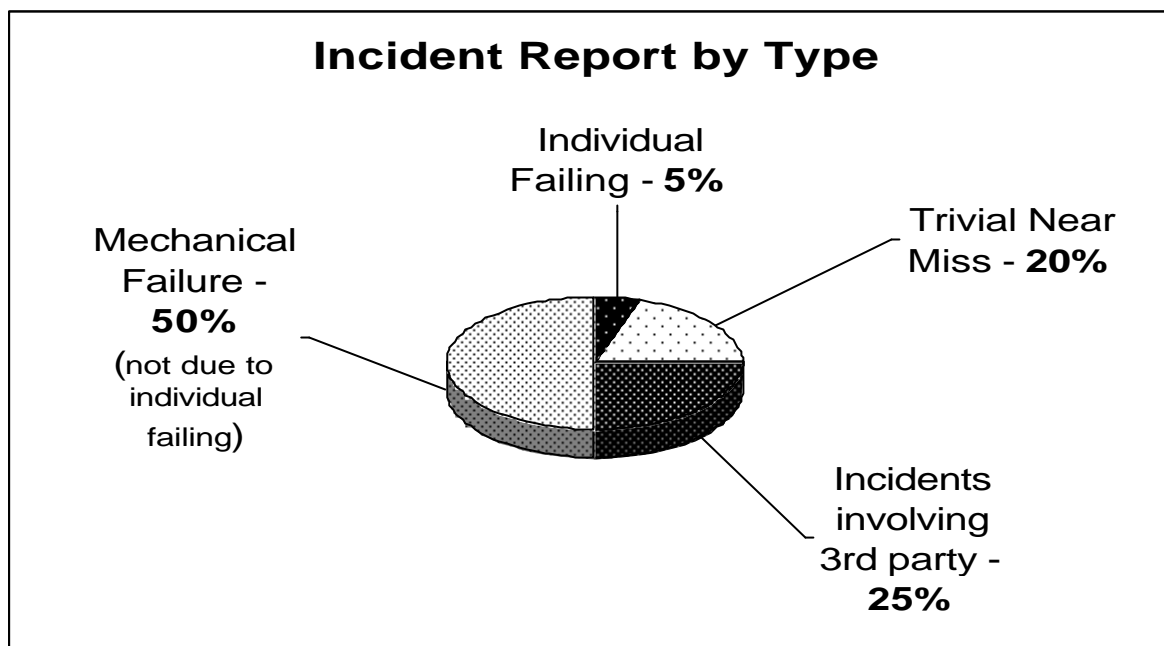
Code and feature in the SMS of the two companies. However, the research showed that, in practice, the seafarers were reluctant to use these systems because of the additional paperwork involved and importantly because they were concerned about the possible consequences of complying with such procedures. They feared that such reporting could damage their own and/or their colleagues' reputations in the company.

One of the two companies encouraged an anonymous incident reporting system, but the report form required so much detailed information that the identity of the seafarers involved could barely be obscured. Given the limited number of officers and ratings on board, such identification was even more straightforward. This prompted seafarers to report only serious incidents, such as personal injury, requiring considerable medical assistance, obvious mechanical or structural damage and incidents involving third-parties (e.g. cargo receivers and port personnel). Alongside these, there were a considerable number of reports of near-miss cases that were conspicuously trivial. These included instances of an OS not wearing a hard hat on deck, a Chief Cook who twisted his ankle in the galley and a Fitter observed wearing an inappropriate pair of gloves during gas-cutting. Although these types of reporting are indeed important, it appeared that a substantial number of cases of intermediate seriousness were omitted as a result of reporting practice. After checking the records in the incident reporting file on one ship I wrote in my field notes:

In the last five years this ship reported forty incidents... what interests me is the content of the reports. Almost 50% of the cases were mechanical failure (such as main engine breakdown and not due to individual failing) while 25% of the cases consisted of a serious personal injury (such as one that required hospitalisation), ship's structural damage (on contacting the jetty) and all such events involving third parties (including oil pollutions in port while loading, which were reported to authorities)... Almost all of the remaining cases reported uncomplicated near-miss incidents (such as not wearing proper Personal Protective Equipment (PPE))... There were only two cases that showed operational misjudgements or individual failings (close quarter in a Traffic Separation Scheme).

Quote: 6 (Ref: B-1-C)

Figure 2: Nature of incident reports on one research ship over a 5 year period



From the interviews with seafarers who served on the same ship for a considerable period of time over the last five years, it was apparent that significant errors which did not result in a major incident, such as minor oil pollution due to spray through PV valve⁷, ship dragging anchor as a result of using insufficient scope of chain, and experiencing minor irritation after handling chemicals without wearing appropriate gloves, did occur, but from the Incident Report File on the ship they appeared to be absent. It seemed that these ‘intermediate’ cases were regarded as having the potential to ‘get people into trouble’. There seemed to be a concern that reporting such incidents would allow for the identification of the people involved and that the reports of such incidents might be interpreted by management as a lack of professional ability. This impression was further substantiated during an interview with one captain who explained to me why he did not report an obvious case of a near miss incident to the management. He said:

I did not report, I was furious with the engineers. But you see I did not report (to the management).

⁷ (PV) Pressure Vacuum valve: It is a safety device commonly found in tankers which allows excess pressure from the cargo tanks to be released and also air to be drawn in when excess vacuum develops inside the cargo tanks.

Q. Why?

I think it's mostly because by making such report I will end up talking about a colleague of mine... the 2nd (engineer) probably will get a bad name in the office or may even lose job

Quote: 7 (Ref: A-2-F)

Seafarers' fear of being identified through reporting was further aggravated by the possible consequences of the analysis of incident reports. From the research it was apparent that they remained in doubt regarding the apportioning of blame for each of the reported incidents. Despite a number of campaigns, such as encouraging anonymous reporting systems and advocating a no-blame culture, it seemed that in practice the apportioning of blame was not entirely eradicated. As a result, seafarers were sceptical about initiating any such reporting. They feared spoiling their own as well as their colleagues' reputation within the company. They also did not want to risk getting into legal complications as they feared criminalisation. For example, one engineer explained why he would rather avoid reporting. He said:

There is always a tendency to find out who is guilty and that is always there with this office. On this ship I had a problem, I had a near accident and near death but this was not my fault. But they (management) are asking for the guilty person, they ask for many explanations. If I have an accident they keep asking why this, why that, why like that. I find there is a tendency to find who is guilty through this accident reports. There is neither any comforting email nor any room in the incident report for entering the circumstances of the work. In their report they are only blaming us and gunning for our heads for our faults in relation to their 'lovely' management procedures... given a chance I wouldn't report the next time.

Quote: 8 (Ref: B-2-C)

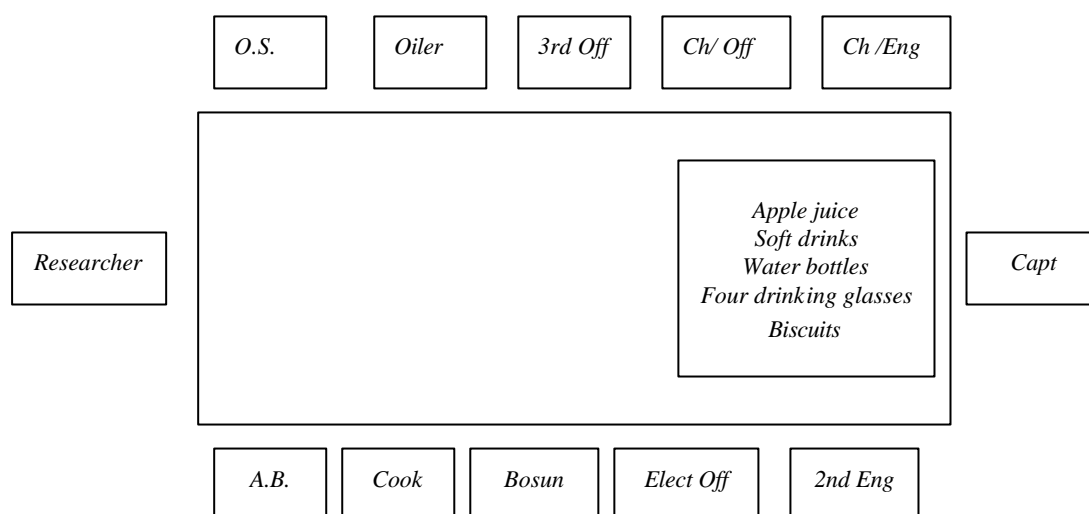
Shipboard Hierarchy

During the shipboard research a sense of a formal and regimented atmosphere surfaced on a number of occasions and was tangible during interviews as well as observations. It was shaped by a rigid hierarchical structure where a command and control model of operation prevailed over a teamwork-based working environment. The level of crew eagerness to

participate in OHS matters was visibly inadequate, not because of any procedural lapses but because the atmosphere for eliciting meaningful communication was absent.

Meetings and other occasions involving seafarers from across the shipboard hierarchy took a very formal route where management's decisions as well as the captain's and senior officer's interpretations of such decisions were merely distributed to the remainder of the crew. The communication seemed unidirectional leaving very little room for any forum type of discussion. Although these meetings may also be construed as one level of participation, the outcome of such meetings did not contribute to any decision-making or provide any input into the running of the OHS management system. On one ship, for example, I recorded the following seating arrangement during a safety meeting in my diary:

The seating arrangement during the meeting was as per the hierarchy on the ship (see the sketch). The Captain and the Senior Officers sat at one end with the Captain at the head of the table. Towards the middle of the table sat the Junior Officers and Senior Ratings, like the Cook and the Bosun leaving the most junior crew members, such as the OS to sit at the far end. There were insufficient chairs in the room to accommodate all 12 of us, so the crew had to get their own chairs from the adjacent smoking room and the cargo control room. Other than the Captain, who had the last month's safety meeting minutes and the 3rd Officer, who had a diary, no other crew members carried even any pen, pencil, paper or notebook. Refreshments were organised by the Cook before the meeting started and were provided only for the Captain and the Senior Officers.

Figure 3: Safety meeting seating arrangement

The safety committee meeting was a formal occasion, which was convened in the ship's office. It was chaired by the Captain, who controlled the entire proceedings under the strict rules of 'speak when spoken to'. At the start of the meeting the Captain asked the 3^d Officer to note down the minutes. The meeting lasted for 15 minutes, out of which the Captain spoke for over 13 minutes. While the Chief Officer and the Chief Engineer contributed for a minute or two, the others, particularly the Ratings, did not speak at all.

Quote: 9 (Ref: A-1-C)

Examples of this hierarchical atmosphere were not just exhibited in meetings and drills but also in everyday activities. The control of the health and safety of the workplace appeared to be firmly in the hands of very few senior officers. Even in cases when ratings carried out actual hands-on tasks it appeared that they did not openly express any concerns about safety for fear of breaching the shipboard hierarchical order. Although this lack of openness did not necessarily mean that seafarers were any less safe, it did restrict the opportunity for a wider participation from ratings who could have usefully shared their concerns backed up with their knowledge and experience of risk posed in the workplace. This was exemplified in the following interview with an AB regarding entry into an enclosed space⁸:

⁸ Enclosed Space is a potentially oxygen-deficient compartment which is not entered regularly and the one which does not have a fixed means of suitable ventilation. On board ships it typically includes water ballast tanks, cargo tanks, void spaces, cofferdams etc.

I can't check meter (oxygen analyser)... if you follow the Chief Mate (Officer) you are OK. If chief mate say its OK then how can you argue... it is his responsibility to our safety. Mostly chief mate is the one who is doing it, but sometime he also send the cadet. If cadet is checking we can then going checking with him.

Q. So can you check the oxygen reading if you are not sure, can you request the chief mate?

No, because (on this ship) only the Chief is the one who is checking the meter. But if we smell gas we can go up (from the cargo tank) and then tell chief. I don't know if I can check, sometime he (Chief Officer) may agree, depend on the man, but I will not ask this chief, may be he get annoyed with me.

Quote: 10 (Ref: A-2-E)

However, the research also demonstrated that despite being in a hierarchical environment some individuals were able to make a significant difference in eliciting wider participation through their own efforts. Some senior officers were not prepared to accept ratings' silence and skilfully devised innovative ways to encourage them to speak up. These officers appeared to be sensitive to the range of reasons underpinning the lack of communication, were innovative in their ways to motivate their juniors, and created an approachable atmosphere that brought them comparative success. Not surprisingly, they were also the officers who were most popular on the ships. One Chief Officer, for example, said:

You need to know what works for them and what does not work for them. Sometimes it is better to play karaoke with them than trying safety meeting... well, that is only if you are that type. Otherwise you may set up 25 safety meetings and I wish you luck.

Quote: 11 (Ref: B-2-B)

These Senior Officers developed their own ways of encouraging other officers and Ratings to share opinions and ideas. In another example, on another ship, I noted how the 2nd Engineer successfully intervened through an informal discussion. My field notes taken onboard read:

During this morning's coffee break at 10 o'clock I saw the 2nd Engineer coming to the crew smoke room to talk to the deck and the engine room crew before the work on the

hydraulic motor of the crane began. He made it a point to chat with them about the work schedule, safety precautions as well as the time scale of the work. He spent 20 minutes with the crew drinking coffee and clarifying a number of issues raised by them. The Fitter, Bosun and the OS raised a lot of questions, including the sequence of dismantling and reconnecting the hydraulic pipes and wearing PPE. Interestingly, the 'permit-to-work' checklist for this job was (already) filled in and signed by the Chief Officer and the Captain at quarter-to-eight this morning. I felt that these 20 minutes in the smoke room were much more valuable than the company's 'permit to work' form filled in earlier in the day... In this occasion the formal checklist seemed to have served the official purpose whereas the initiative taken by the 2nd Engineer proved to be effective for the OHS of the seafarers.

Quote: 12 (Ref: A-1-C)

Such informal procedures clearly ran in parallel with the more formalised and bureaucratic procedures embodied in the SMS. At the very least they complemented the SMS-based procedures but at times they also stood alone in contributing to the real work of day-to-day safety. In other words, these extra efforts from the senior officers yielded tangible and significant benefits to the management of the SMS which, at many times, were not achieved by literal application of the SMS based policies and procedures.

Summary and Conclusion

The research findings suggest that the extent and quality of seafarers' participation in the safety management system on board was affected by three main factors. These were: Nature of Employment, Fear of Accountability, and issues related to Shipboard Hierarchy.

With increasing globalisation across the shipping sector, and associated changes in the terms and conditions of labour, seafarers face changing employment patterns, such as the increased use of short-term, temporary, contracts. The research found that this type of employment contract promotes an unorganised and vulnerable labour force. The globalised nature of the industry also allows employers to choose and switch nationalities of seafarers with relative ease (Kahveci and Nichols, 2006). As a result, it generates fear in the minds of seafarers, and

in particular senior officers, about losing jobs to other nationals. Such labour market conditions cause seafarers to feel disempowered. Consequently, they hold back from actively volunteering their opinions, ideas and observations in relation to OHS issues for fear of losing their jobs. This feeling was very bluntly expressed by an OS:

First we need job and then we think safety... but if no job then where is safety?

Quote: 13 (Ref: A-1-F)

The research also shows that a vast majority of seafarers remain apprehensive about complying with SMS feedback mechanisms. Before reporting incidents to management they worry about the consequences in terms of their own accountability. Furthermore, they are aware that any written communication and especially written incident reports invariably go on record, which is bound to make it easier for the administrative or legal authorities to “point a finger at them” (Jeffcoat et al., 2006). With the increase in seafarers’ criminalisation such fear runs very deep in their minds. As a result of all these pressures seafarers engage in selective reporting, leaving a substantial number of important incidents undiscussed when they might otherwise have made a positive contribution to the management of the company’s OHS.

The research further demonstrates that a rigid onboard hierarchical setup merely limits seafarers’ input to the management of onboard OHS and facilitates seafarers’ adherence to OHS-related procedures and decisions that are taken by management. Such a setup fosters a lower level of participation and fails to promote the philosophy of involving seafarers in the decision-making process of OHS management. For a higher level participation to succeed, seafarers require a favourable and non-threatening atmosphere in which they may exchange ideas and experiences without fear of being reprimanded. However, the research also shows that the hierarchical setup varies from ship to ship and largely depends on senior officers who may resort to different and more informal means to enable the ratings to share their work experience and voice their concerns more freely.

Recommendations

From the data presented in this paper serious concerns emerge with respect to both the extent and quality of seafarers' participation in the management of their own OHS. Although it is true that seafarers themselves can deal with some of the issues that influence their participation, a substantial share of the responsibility lies in the hands of management. If ship-operators wish to utilise their SMS genuinely to improve safety, as opposed to simply operating a system as a bureaucratic exercise, then the extent and quality of seafarers' participation needs to be pondered. The very concept of OHS management is associated with giving employees legitimate and systematic opportunities to address their own health and safety concerns as well as taking the responsibility which underpins the philosophy of self-regulation. Although it is imperative that management addresses each of the concerns raised in this paper, there is a deeper issue that we must attend to first.

This deeper issue concerns the fact that seafarers' *participation* in SMS continues to remain a contested concept. While some expect seafarers to be creative and forthcoming and to do more than just follow management-led procedures, others remain contented as long as seafarers follow the prescribed SMS onboard and adhere to new OHS information and decisions that are already taken by management.

The evident need, therefore, is to bring about a common understanding of the term *seafarers' participation*, within the industry, and ship-operators in particular, who hold the prime responsibility for the development, maintenance and continuous improvements of the SMS. It is proposed that operators involved in the running of SMS undergo training that addresses the underlying principles of self-regulated OHS management system of which seafarers' participation is one of the key components. Particular concerns identified in this paper, i.e. employment patterns, alienation of the workforce, seafarers' fear of accountability and shipboard hierarchical problems, may be easier to deal with once this deeper issue is addressed first.

Further research is essential in order to understand this important subject within an industry which continues to be widely recognised as having one of the most dangerous workplaces.

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