

# The Production of Evidence within the ISM Code - A Conflict of Public Policies

## Introduction - Overview of the Research

The intention of the research was to consider the perceived conflict between the requirements under the ISM Code to produce a wide range of documents and reports as a part of its SMS (Safety Management System) to make ships safer and seas cleaner, on the one hand, and the consequential production of potentially self incriminating evidence which could be used against those who produced that evidence: the ships master, or other seafarer, whose very livelihood and freedom are at stake, and the ship operator who will stand exposed to civil or criminal liabilities on the other hand.

The research involved a detailed survey across the shipping and other relevant industries to establish:

- to what extent the documentation and reports required under the ISM Code were, or were not being produced;
- if, as was suspected, the documentation and reports were not being produced as required under then ISM Code - then to establish why there might be reluctance
- whether, if the previous presupposition proved to be correct, the perceptions of the different parties involved actually coincide
- what the perceived consequences might be of *not complying v. complying*

Consideration was given to the actual, and likely, consequences of *not complying v. complying*

Consideration of whether the problem existed in other, high risk, industries such as aircraft, nuclear, offshore, petrochemicals etc. and if so to consider what methods those industries utilise to encourage compliance. This involved not only consultation with the relevant industry bodies but also with the HSE and RoSPA.

A consideration of what, if anything, should be done to encourage compliance with the requirements of the ISM Code - from various perspectives - including that of :

- the legislators
- the administrators
- the implimentors
- the enforcers

This involved extensive consultation with the legal profession, industrial psychologists and human resource experts both in the UK and in other jurisdictions.

A conclusion to consider not only what should be done but, more importantly, what realistically could be done and to consider how a solution might be achieved.

## Summary of Background

In July 1998 almost all maritime nations around the world implemented a major change in their domestic law, with the intention of making ships safer and seas cleaner. Through a process of tacit acceptance, all members of the maritime section of the United Nations – the International Maritime Organisation (IMO) - had agreed to amend the Safety of Life at Sea Convention 1974 (SOLAS '74) to incorporate a new chapter IX - the 'International Management Code for the Safety of Ships and for Pollution Prevention' – the ISM Code. Most people involved in shipping, maritime law and marine insurance consider the ISM Code to be amongst the most significant and important pieces of international maritime legislation ever promulgated.

The ISM Code is a brief set of general guidelines describing what shipowners must undertake in order to implement a safety management system both on board their ships and in their organisations ashore. The need to legislate had arisen as a result of a general decline in safety standards on board ships during the late 1980's and early 1990's as well as a reaction to a number of major incidents such as the capsizing and loss of life of the passenger ferry *Herald of Free Enterprise* in 1987, the catastrophic oil pollution from the super tanker *Exxon Valdez* off the coast of Alaska in 1989 spilling 37,000 tonnes of oil, the fire which swept through the cruise ship *Scandinavian Star* in 1990 with extensive loss of life, the laden tanker *Braer* which was driven onto Shetland Islands in 1993 with widespread pollution, the sinking of another passenger ferry *Estonia* in the Baltic Sea in 1994 with enormous loss of life and yet a further major oil spill from the *Sea Empress* in Milford Haven in 1996 - indeed there were many more which could be added to this catalogue of disasters.

Various investigations had been undertaken and reports issued attempting to explain the reasons behind the problems. Each report concluded that the main, underlying reason, for all the accidents and incidents was 'human error' in one form or another. Led by the British delegation, representatives of the world maritime

nations met at the IMO and decided that if the maritime industry had lost the ability to self regulate on issues of safety and pollution prevention then legislation would be necessary to regulate the industry. The approach taken was to promote the idea of developing safety management systems (SMS) which would address directly the human element problems. The legislation would also require the flag state of each vessel to officially approve the SMS of each ship operator and the system on board each vessel and issue certificates confirming compliance. Without those certificates the vessels would not be allowed to trade, the shipowners would not be allowed to operate and would lose also lose their insurances.

Concurrently with the work being undertaken at IMO, developing the structure of the ISM Code, I was involved in the shipping and marine insurance industries in also looking at ways of overcoming the human error problem. This took the form of developing a whole range of education and training courses, books, videos, posters and a range of other tools which ship operators could use in their own accident and loss prevention programs. At that time the work I was doing was unique within the marine insurance industries and attracted considerable attention from the editors and journalists of shipping newspapers and magazines who were eager to promote and encourage that initiative. I was subsequently commissioned by Lloyds of London Press to write an authoritative, but practical guide on the legal and insurance implications of the ISM Code. My book *'ISM Code - A Practical Guide to the Legal and Insurance Implications'* (ISBN 1-85978-621-9) was published by LLP in December 1998. The book remains the only authoritative work on this subject in print. This book therefore, to a significant extent, defines the current limit of theoretical knowledge on this subject.

### **The Unanswered Questions**

At the time the research commenced it had been over two years since the implementation of the first phase of the ISM Code - which applied to Passenger Ships, Ferries, Bulk Carriers, Oil Tankers and Gas Tankers. The final deadline for the second phase of implementation, making the requirements of the Code mandatory for all other merchant vessels had been set at 1st July 2002. Opinions on the success, or otherwise, of the first phase were mixed. Some companies were claiming that they had experienced significant reductions in accidents and claims, many more claim that the ISM Code was a failure and nothing more than an additional burden. Incidents such as the sinking and major pollution from the tanker *Erika* which had recently occurred may have appeared self evident. Having discussed the matter with individuals both seagoing and shore based it appeared that few were even prepared to try and implement the SMS because of fear of the types of problematic issues I had highlighted in my book - in particular the creation of documents and reports which people feared would be used as evidence against them personally or against the company. There were a number of unanswered questions identified in my book although most were linked to this issue of producing potentially self-incriminating evidence.

The time had come to establish to what extent that fear really did exist. If it did exist then there was a need to evaluate the implications on the working of the SMS. If it did go to the root of the SMS then there would be a need to analyse the industry, the people working in the industry and the culture within which those people were working and consider why the fear exists and whether the ISM Code can survive. If radical changes were necessary for the survival of the Code - we would need to synthesise the information and ideas and consider what form these changes need to take. They may require changes in the law or changes in the working culture or both.

### **Relevant sections of the ISM Code**

Of course the whole of the Code was of relevance to the issues being identified in the proposed area of research but there were a number of the sections which did have very specific and direct relevance. In order to put the most relevant sections into context the functional requirements for a safety management system as laid down at section 1.4 of the Code are set out below:

## 1.4 Functional requirements for a safety-management system

- 1 a safety and environmental-protection policy;
- 2 instructions and procedures to ensure safe operation of ships and protection of the environment in compliance with the relevant international and flag state legislation;
- 3 defined levels of authority and lines of communication between, and amongst, shore and shipboard personnel;
- 4 procedures for reporting accidents and non-conformities with the provisions of this Code;
- 5 procedures to prepare for and respond to emergency situations;
- 6 procedures for internal audits and management reviews.

From this statement of the functional requirements it is made very clear that not only are there to be documented procedures underpinning almost every activity on board but also that procedures must be in place to allow for checking, by auditing and reporting, that all the other procedures are working as intended.

The more specific requirements of the reporting and auditing are set out in Sections 9 and 12: Section 9 of the Code requires:

### 9. Reports And Analysis of Non-Conformities, Accidents And Hazardous Occurrences

- 9.1 The SMS should include procedures ensuring that non-conformities, accidents and hazardous situations are reported to the Company, investigated and analysed with the objective of improving safety and pollution prevention.
- 9.2 Procedures should be established for the implementation of corrective action.

Section 12 of the Code requires, in part

### 12. Company Verification, Review and Evaluation

- 12.1 The Company should carry out internal audits to verify whether safety and pollution prevention activities comply with the SMS.
- 12.2 The Company should periodically evaluate the efficiency of and, when needed, review the safety management system in accordance with procedures established by the Company.
- 12.3 The audits and possible corrective actions should be carried out in accordance with documented procedures...

Compliance with Section 9 of the Code should be seen as a fundamental ingredient towards a process of continual improvement to make ships safer and seas cleaner. The process is 'reactive' in nature, by learning from ones own mistakes and the mistakes of others. As a risk assessment exercise it can also provide an opportunity of introducing 'proactive' steps to prevent other, similar, events arising.

The Code anticipates, for example under section 12, that the 'Company' will monitor and check that the relevant requirements of section 9 are being complied with.

It is suggested that a failure to comply with section 9 will not only render the operation of the SMS ineffective but would also, in extreme cases, constitute a serious breach of the ISM Code itself. The consequences of a serious breach of the Code may involve a detention of the ship by Port State Control officers and / or withdrawal of the Safety Management Certificate (SMC) and possibly even the Document of Compliance by the Flag State Administration - which would have the effect of prohibiting the vessel and Company respectively, from trading. It would probably also mean that the Ship Operator would lose the benefits of its insurance's and also the right to limit their financial liability in the event of a major incident. Under English law at least, it could also involve criminal sanctions of fines and / or imprisonment for the Shipowner / operator, the Designated Person, the Master and anyone else involved in the failure to comply.

## Raising the Questions

The research was to consider a number of key questions linked to the compliance, or otherwise, by Ship Operators and their staff with the requirements of Section 9. The basic questions can be stated as follows:

- Is the ISM Code working?
- If yes – how has this been achieved?
- If no – why not?
- What are the perceived problems?
- Are these perceived problems justified?
- What needs to be done to alleviate the problem?

Whilst there was a preconceived idea that much of the industry was not, or was only partially, complying with the requirements of Section 9 - the research was to look for compliant companies in order to establish, through reflection on practice, what it was that they were doing which had achieved a successful compliance. It was also to establish the actual benefits, if any, from experience of actual compliance.

The research was to involve a number of questions which would be addressed and covered in a series of designed questionnaires which were to be sent out to a wide cross sections of different people and organisations across the shipping related industries and professions around the world. There was therefore to be a disciplined management of the survey but at the same time allowing extensive communication and dialogue to take place with 'critical communities' in order to form a clear idea of 'the big picture'. Different categories of intended respondents would be sent different questionnaires - structured towards their own specific involvement in the issues raised. However, many of the questions were to be 'common' across all questionnaires and all questions would be phrased such that the answers would be mutually compatible across all questionnaires. The questions would be structured such that the answers could be easily compiled and collated into a data-base although there would be provision within the questionnaire for the respondent to also include a narrative response. It was intended to use *Microsoft Access* software for the data-base as well as the extensive mailing lists.

In addition to the 'mail-shots' - other research methods were to be developed including, for example, utilising an Internet WebSite to help promote the research. Such a Website would provide copies of the questionnaires capable of being down loaded, and a 'chat-room' where individuals could exchange views on the issues raised. It was hoped that this would encourage additional professional and academic communication across related industries on an international level. Assistance with the Website development was to be provided by a suitably experienced Website designer.

## The Research – Questionnaire

The scope and influence of the ISM Code should not be underestimated – it would directly affect, in a significant way, most people involved in the operation of merchant ships whether on shore or on board. Those not directly affected would certainly be indirectly affected and influenced by implementation of the SMS. The research would need to canvas the views of as wide a range of stakeholders as possible in order to ensure that sufficiently adequate perspectives were taken into account as well as any subjective biases. The relative significance of each category of stakeholder and an explanation of how their views as 'critical communities' were to be solicited, are considered in the following section.

### - Seafarers

The key players amongst the category 'seafarers' are, of course, the Master, Officers and Crew – with the Master playing a particularly important role. The actual implementation of the SMS on board is placed in the hands of the Master and a whole section of the ISM Code is devoted to describing the '*Master's Responsibility and Authority*' (Section 5).

The sea-staff are at the sharp end of implementation of the SMS and their participation in the survey was crucial to the obtaining of meaningful data. It was considered absolutely crucial to the working of the SMS that the ships staff must know and understand the procedures and must implement those procedures.

It was necessary to contact as wide a cross section of seafarers as possible from as many different national groups as possible in order to ensure that a clear and global picture can be formed of the seafarers perception.

To some extent there was to be an ethical dilemma for it was anticipated that there would be a reluctance on the part of some sea staff to complete the questionnaire - mainly for fear of repercussions, perceived or real, from their employers. It was also very important that those same ship operators were not turned against the research for their input would be most important. A certain degree of anonymity would therefore be required. An assurance was given to all respondents that their answers would be dealt with in the strictest of confidence and would only be used for research and statistical purposes.

The identity of individuals would remain 'private and confidential' and, if requested, completely anonymous. From informal discussions which had already been held, it appeared that in many cases the managers in the office ashore insist that the SMS was working well but when talking to the sea staff of those same companies they say that the SMS was not working. Of course there may be a number of reasons why contradictory answers were being given. This was to require much self appraisal and reflection on practice in order to ensure that the assessment of apparently conflicting information could be analysed in as objective a manner as possible.

Questionnaires were distributed to Sea staff by various means - such as through their Ship Operating Companies, their professional bodies and trade associations it was anticipated that more than 30,000 seafarers could be contacted.

At any one time possibly 10% of all relevant seafarers would be attending a nautical training establishment in different centers around the world – it was intended therefore to access those seafarers through their colleges. Within the environment of the colleges, where individuals are likely to be removed from their more familiar 'company culture' into a 'peer culture' it was perceived to be interesting to establish whether this might influence their conceptual evaluation of the ISM Code.

### **- Ship Operators**

The other main stakeholder, and 'critical community', of course was the individual or company who is operating the ship from ashore. They not only need to maintain their side of the SMS but also need to ensure continuing compliance with the requirements for their DOC (Document of Compliance).

Ship Operators can take a number of guises:

- Private Shipowners,
- Corporate Shipowners,
- Ship Managers,
- Demise Charterers.

Time and voyage charterers were left off the list since they were unlikely to find themselves in a position whereby they were actually operating the ship in the full sense of that term and hence were unlikely to ever be considered as the 'Company' as far as ISM is concerned.

The ISM Code requires, under Section 3, each Ship Owner to identify and disclose who the Ship Operating Company will be for ISM purposes. If it is an organisation other than the Shipowner itself then details of that company will need to be provided to the flag state administration. Under Section 4 of the Code, a 'Designated Person(s)' (DP) will be identified by the Company who will be a link between the Company and those onboard. The DP will have direct access to the highest levels of management within the Company. It is not necessarily intended that the DP will actually be a line manager directly involved in the implementation of the SMS - such a line management role would normally fall upon superintendents, technical and operations managers and the like - but it is expected that the DP will monitor the working of the SMS and ensure that adequate resources are made available to ensure its proper functioning.

It was anticipated that for the research, for each Company approached, there would be at least three separate letters addressed - i.e.

1. The Managing Director / Senior Executive
2. The ISM Designated Person
3. The Senior Superintendent

In this way it was hoped that the chances of soliciting a reply to the Questionnaire would be increased significantly.

It was anticipated that distribution of the questionnaire to the Ship Operators would occur in a number of ways – certainly, it was possible for a direct mail-shot to be made to a number of individuals and companies. A wider distribution was possible through the relevant national shipowners' associations and similar bodies and through other contact sources.

#### **- Administrators (Flag State) – Legislators**

In compliance with Section 13 of the ISM Code, the Flag State Administration, or an organisation delegated by them, would have approved the documented procedures and structure of the SMS of each Company and ship flying its flag and would also have conducted various external audits to ensure that the SMS was working before issuing the DOC and SMC's. Additional, intermediate, external audits would also have been carried out to check continuing compliance.

The research endeavored to establish the findings of those external audits - particularly with regard to the level of reporting, analysing and implementing corrective actions.

With the exception of the United Kingdom, the United States of America, and a small number of other Flag States, the responsibilities for administering the various functions related to their obligations under ISM had been delegated to Classification Societies - mainly to those Societies who were members of the International Association of Classification Societies (IACS). Some Flag States had delegated to a small number of other organisations.

So-called 'Flags of Convenience' could become an issue and it was necessary to be fully aware of some sensitive political issues existing very close to the surface.

The focus of attention was however be primarily upon members of IACS.

- Copies of the questionnaire were to be sent to the relevant Government department of those Flag States who had retained the ISM administration e.g. the UK, the USA .
- Copies were also to be sent to each individual Classification Society member of IACS and other delegated Classification Societies.

#### **- Policing Authorities**

Most countries to which vessels trade have local Government appointed officials - Port State Control Inspectors, e.g. the Maritime and Coastguard Agency (MCA) in the UK and the United States Coast Guard (USCG) in the US, engaged to visit ships entering their ports. During these visits the officials may inspect the vessels in respect of safety issues and compliance with international conventions including compliance with the ISM Code. If the inspectors find serious non-compliances, or possibly a series of minor non-compliance's, they may detain the vessel until the situation is rectified. In one respect these inspectors could be considered 'policemen' of the system.

Groups of countries have agreed to cooperate in the Port State Control (PSC) activities and have signed 'Memorandums of Agreement' (MOA's) - possibly the most influential being the Paris Memorandum which includes most European and Scandinavian countries as well as Canada. There is also cooperation between the different memorandum secretariats around the world to share information and in particular details of ships finding themselves on 'black lists'.

Again, there are potentially sensitive political issues not far below the surface where PSC are involved - particularly with regard to certain 'Flag of Convenience' ships in a number of jurisdictions. The questionnaire would endeavor to establish what had been the experience of the Port State Control Inspectors in auditing the SMS on board visiting vessels and particularly whether the level of reporting was in accordance with the requirements and expectation of the ISM Code.

Questionnaire were to be sent to:

- individual government departments around the world responsible for Port State Control Inspections within their own jurisdictions;
- the Secretariats of the different Memorandums .

## **- Insurers and others involved with claims**

Another potentially politically sensitive area involves the insurers. Most of the accidents and incidents which arise will, inevitably, form the basis of a claim against one or more marine underwriters or other insurance provider. Most of these claims, at the end of the day, will be funded by the shipowner - often through its mutual P&I Club. In addition to the mutual liability insurer there will also be the H&M Underwriter plus the cargo underwriter, the FD&D Insurance and others.

When an accident or incident arises which is likely to involve a claim against an insurer it is usual for a number of individuals to become involved in the handling and reporting of the matter.

P&I Clubs as well as Hull and Machinery and Cargo Underwriters have large networks of Representatives or Agents in all of the major ports and most of the minor ports around the world. Once an incident happens the P&I Representative (sometimes referred to as the Correspondent) or the Underwriters Agent (such as Lloyds Agent) will become actively involved as the 'on site adviser'. They may then instruct local surveyors or technical experts or consultants - depending upon the nature of the incident. Lawyers may also become involved either at that early stage or later in the handling of the claim or dispute.

All these people will have first hand knowledge and experience of the causes of the accidents and incidents and will therefore be in an ideal position to comment upon the working of the ISM Code and in particular the SMS. They should also have useful information with regard to the level of reporting on board the ships which they have been attending to investigate the incidents.

The questionnaire were to conduct a qualitative survey of the views of insurers, particularly claims handling staff, P&I Representatives / Correspondents, surveyors and lawyers, as to whether the ISM Code is having any measurable effect on accidents and claims and whether the degree of reporting is in accordance with ISM Code requirements.

Questionnaires were to be sent to:

- Marine Insurance Organisations
- P&I Clubs, Representatives and other related bodies
- Surveyors
- Solicitors
- Non UK Lawyers

## **- Judiciary**

If accidents or incident occur the party who has suffered the injury or loss is quite likely to bring a claim. The majority of claims are settled amicably but a small number are contentious or otherwise incapable of amicable resolution and may eventually have to be considered by the courts or by a panel of arbitrators.

To a large extent the claims and disputes will be considered and determined on the basis of documentary evidence. Some of this documentary evidence will have come into existence following the incident, such as survey reports, witness statements, photographs and other similar contemporaneous evidence. However, much of the important documentation will have been produced during the normal everyday routine running of the ship and, in particular, will involve documentation and reports produced as part of the working SMS.

Almost all of the documentation created within an SMS will be discoverable and discloseable - i.e. as the law presently stands, there will be no privileged or confidential status placed upon the documentation coming into existence as part of a properly functioning SMS.

There are various categories of lawyers and legal organisations who will be involved in the interpretation of the ISM Code and the documentation created as part of the functioning of a properly constituted SMS. The questionnaire would endeavour to obtain the qualitative views the lawyers and legal organisations as to how the documentation, or its absence, would be considered by the courts.

An initial list of possible recipients of the questionnaire are set out in Appendix XIV.

## **- Academic and Professional Institutions**

The issues being raised by this research should be of interest to both academic as well as professional bodies in the maritime field and some relevant work may already have been undertaken by some of the institutions or learned bodies. The intention was to canvas the views of a wide range of academic and professional institutions around the world on the issue of any failure to produce relevant documentary report as required by the ISM Code and other related issues.

## **- The shipping press**

Whenever a major shipping incident happens, particularly within European waters or off the coast of the USA there tends to be extensive coverage by the shipping newspapers and journals. The journalists take a very keen interest and often their reporting tends to highlight any deficiencies in either the ships, their masters and crew or the Ship Operators. Indeed the press tend to exploit any political or other embarrassment they can against as many parties as they can following a major maritime disaster.

Since the first announcement of the intention to develop a mandatory Safety Management Code in the mid 1990's the ISM Code, and related issues, the whole idea has been extremely topical and ISM has featured regularly on the front pages of all the shipping press. I believed that some valuable, informed comment could be obtained from the editors and journalists. It was quite likely that editorial space would be offered as well as comment about the intended research which would, hopefully, help to stimulate interest and support for project.

## **- ISM Consultants**

During the lead-up to the first phase implementation date a number of individuals and organisations offered their services to Ship Operators to assist them with drafting their ISM procedures manuals and generally helping them prepare for implementation and then to obtain their Document of Compliance and Safety Management Certificates. Some of them also ran training courses for internal auditors.

The Classification Societies attempted to monopolise this consultancy work but a number of individuals did establish themselves in this field. The Societies and the individuals would have acquired considerable skills and knowledge of Safety Management Systems and problems associated with setting them up and actually running them. It was anticipated therefore that some very interesting and useful observations could be obtained from these ISM consultants.

## **- bMiscellaneous organisations within the shipping industry**

The various organisations within the shipping related industries who may be indirectly involved in ISM Code implementation is legion. Many of these organisations will have been contacted for other reasons linked to the research - for example to contact seafarers or ship operators. However, many of these organisations will have amongst their staff some of the leading figures in the industry. Their own views, therefore, on the topics under consideration would be most valuable and probably very enlightening.

A qualitative survey of the experiences and perceptions of ISM implementation, and specifically the level of reporting, across a wide range of these organisations within or linked to the Shipping Industry would form an important part of the research.

## **- Relevant Organisations and Individuals outside of the Shipping Related Industry**

The idea of Safety Management Systems in the shipping industry is a relatively new phenomena and to a large extent the industry tried to invent the wheel from new. However, Safety Management Systems have existed in other, mainly shore-based, industries for many years. Consequently it could be anticipated that a significant amount of information and experience could be obtained from these other industries. It would appear that very little contact had so far been made between the shipping industry and these other industries.

As a central Government controlling authority in the UK - the Health and Safety Executive (HSE) would also be consulted as would the Royal Society for Prevention of Accidents. The other industries were to be questioned particularly regarding their experience of accident and near accident reporting and what methods they use to encourage reporting. It was also thought that an interesting exercise to examine how the military, the Royal Navy for example, deal with safety management and reporting.

High risk industries in the United States probably led the way in the development of SMS's and therefore a search was to be made for experience from the US. It was anticipated that there would be Safety Management Consultants available who could also be approached.

Some relevant work seemed to have been carried out by certain industrial psychologists and it was thought useful to consider this perspective and solicit their views and establish a dialogue with them. It was anticipated that at some stage questions of reluctance and motivation would need to be fully explored and certainly this would involve input from Industrial Psychologists.

## **Analysis of the Questions**

### **- Assessing the scope of the research / Response**

From the previous section it will be clear that the sheer numbers involved in the initial survey were to be enormous. I originally anticipated that there would be five different questionnaires as follows:

- Seafarers
- Ship Operators
- Administrators (Flag State)/ Legislators, Policing Authorities, Insurers and others involved with claims, ISM Consultants, Miscellaneous organisations within the shipping industry, the shipping press, Academic and Professional Institutions
- Judiciary
- Relevant organisations and individuals outside of the shipping industry.

It may be that very slight differences may be needed in the questionnaires sent out to the different categories of respondents in the third group in the above list.

It was subsequently decided to reduce that list to three questionnaires.

At that time it is not possible to say with any degree of accuracy how many questionnaires would be distributed. For example it would be necessary to initially contact organisations such as the International Chamber of Shipping and the International Federation of Shipmasters Associations to establish whether they would assist with the distribution of questionnaires. However, the numbers would run into many thousands.

The questions were to be carefully phrased to avoid any possible ambiguity - particularly bearing in mind that for many of the respondents their first language would not be English. Wherever possible the answers to the questions would be multiple choice format - requiring the respondent to merely tick the most appropriate box. The questionnaires would be kept as concise as possible avoiding any unnecessary or superfluous questions - thus making the questionnaires as 'user friendly' as possible. Wherever possible identical questions were to be used across all questionnaires and similar questions would be avoided. An opportunity would be provided for the respondent to provide as much additional narrative comment as they may wish to contribute on the issues raised.

The different categories of questionnaires were to be printed on different coloured paper to assist with identification when downloading information and filing.

A personal assurance was to be given to all respondents that the questionnaires and the information they provide would remain 'Private and Confidential' and would only be used for analysis and statistical purposes. The respondents were to be invited to provide their personal details but with the option of remaining anonymous if they so wished.

### **- Analysing answers**

A series of relational databases were to be set up using Microsoft Access software. The answers to the multiple choice questions would be designed such that they could be 'mechanically' entered into the appropriate field of the data base. Clearly any narrative would have to be given careful personal attention and analysis - including dialogue which has taken place on the dedicated WebSite.

The relational database would need to allow detailed interrogation of the answers and to identify any common patterns which may be developing. Assistance and guidance in the setting up of the relational database was to be obtained from a suitable expert. The 'Access' software would also allow reports and graphical representations to be produced.

The analysis of the answers would not only need to identify the categories of the respondents being considered but also, for example, the types of vessels involved or the type of management of the Ship Operator. It was anticipated that the databases would be set up ahead of the questionnaires being distributed in order to test that the answers to the questions as phrased would be capable of being put in to the database and interrogated. It was thought that at that stage the questions, or indeed the database might need some adjustment.

## **Anticipating Possible Results**

Clearly it is undesirable to enter into any research with preconceived ideas of the outcome but in this case it probably could be predicted that for most of the industry the level of reporting as required by the ISM Code would be minimal. However, it is also anticipated that some respondents will claim full compliance. The questions will be structured such that checks will be built in to verify whether indeed all the information provided would indicate a fully compliant company.

It was anticipated that hazardous occurrences, near misses and other non-conformities within the SMS were not being reported adequately. It was further anticipated that the main reason which would be given for not reporting was fear of the consequences of bringing into existence possibly self incriminating evidence. If this did prove to be the case then the issues to consider would be the following:

- The fear culture
- The safety culture
- Personal fear
- Corporate fear
- Legal solutions
- Management solutions
- Psychological solutions.

Depending upon the actual outcome of the full analysis - it was felt that it may prove necessary to carry out further consultation with legislators, management / personnel consultants, industrial psychologists and similar bodies. This would be to consider what further steps could realistically be taken to try and provide some solutions to the problems.

It was also anticipated that I would be involved in presenting papers on this subject both in the UK and in a number of other overseas venues. I would also be involved in face-to-face dialogue, and correspondence, with individuals who have perhaps established a reputation as being authorities on related subjects within the industry. Detailed notes would be maintained and fed into the research database.

## **Conclusion**

The work involved in carrying out the intended research would probably be broken down into the following activities - in chronological order:

- Draft questionnaires
- Design relational data base
- Test questionnaires against database - adjust as necessary
- Compile detailed mailing lists on Microsoft Access
- Contact organisations to establish if they will be prepared to distribute questionnaires
- Distribute questionnaires with a covering letter and / or editorial
- Analyse completed questionnaires and responses and input answers into data base
- Analyse and interrogate all data and formulate initial conclusions
- Consult appropriate experts or authorities for further advice or clarification on issues identified in the analysis
- Prepare final conclusions and recommendations into a detailed report for submission to the University.

I had hoped to conclude the research and submit the report of my findings to the University by the Spring of 2002.

It was hoped that this would be sufficient and adequate to allow my submission to go forward for the next stages in the D.Prof. application. However, subject to the results of the analysis, it may be appropriate to proceed further and publish the results and / or endeavour to influence any changes which may be considered necessary, including radical changes to the law, to allow the ISM Code to be properly implemented as it was intended to make ships safer and seas cleaner.