The International Safety Management Code (ISM), Is it Just a Licence to Trade?

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Abstract

The International shipping industry has in the past been very private and has tended to avoid publicity. Under current trading conditions and with the rapidity of technological change and increased awareness of the fragility of the environment, shipping organizations have had to rethink their attitude towards formal standards, and have ventured into Quality assessments under the terms of BS. 5750 and the ISO 9000 series. These standards were found to be not wholly suited for ship operation and management. This also resulted in the third party management sector, in particular, developing their own standards in the International Ship Management Association code (ISMA).

Now, at long last, the International Maritime Organization, IMO, has picked up the gauntlet and has rushed through regulations which, officially commencing in 1998, but actually starting for many ship owners in 1996, will require ship owners, operators and managers to comply with the ISM code and to institute into their operations a Safety Management System. Compliance with the ISM code will be mandatory. It is proposed that the code be administered by the flag states with the assistance of the three major classification societies. Unfortunately the records of certain flag states and their maritime administrations have exhibited deficiencies in control and in general compliance with international conventions. The number of classification societies world-wide have multiplied and there is suspicion that standards are not applied in a uniform manner. The result is now a "confusion of standards" with organizations claiming accreditation under BS or ISO or indeed under the ISMA codes requiring clarification of their position and their new obligation for mandatory audit under the ISM code.

The questions have to be asked, Does the industry need such a code?, Will it indeed achieve its objectives of making the shipping industry safer?, Will the application of the code and its Safety Management Systems actually reduce the number and severity of marine accidents and reduce marine pollution, Can the ISM code be used a risk assessment tool and as an instrument for hazard identification?, and finally, Will the code, with its flexible attitudes towards specific quality requirements actually increase levels of quality or simply create a new low level, which anyone can achieve but which will add another level of bureaucracy in an already heavily regulated industry

The declared purpose of the ISM code is to provide an international standard for the safe management and operation of ships and for pollution prevention. This has brought together into one convention a series of previous IMO resolutions having similar objectives.

The urgency in its adoption can be gauged by the briefest of intervals between the enacting resolutions:

> A 647 (16) Guidelines on Management for the Safe Operation of Ships and for Pollution Prevention, dated 19 October 1989, this was followed only two years later by A 680 (17) with the same title, dated 6 November 1991, and finally, in November 1993 by resolution A 741 (18), The International Management Code for the safe Operation of Ships and for Pollution Prevention.

The resolution was adopted in May of the following year (1994) by the IMO Maritime Safety Committee MSC 63 and by the 1994 SOLAS conference. This resulted in new chapters being incorporated into SOLAS which are designed to implement the ISM code.

Once again the maritime world has been shown to **react** to the after effects of a maritime disaster, rather than being **proactive** and seeking to improve standards as part of a general improvement in conditions and methods. The IMO and the shipping world in general have thus been shown to be less than caring about the safety of seafarers and accident prevention, rather being pushed by media and

public pressure into doing something to demonstrate their control of the industry.

The **"Titanic"** disaster, in 1912, and other major shipping losses after the first world war resulted in the development of the first SOLAS convention in 1929, to be followed by a further conference in 1948.

The loss of the **"Torrey Canyon"** on the Seven Stones Reef in 1967 resulted in the introduction of the first MARPOL convention and the beginnings of the STCW conventions.

The loss of the **"Amoco Cadiz"** off Brittany gave rise to serious considerations of the Salvage conventions.

In 1987 the capsize of the **"Herald of Free Enterprise"** and the consequent loss of life under the glare of television cameras, brought the formation of the British Marine Safety Agency and the first resolutions in IMO (A647) for the Safe Management of Ships.

The **"Exxon Valdez"** in Prince William Sound, with the loss of oil and pollution of the area, resulted directly in the unilateral implementation by the United States of the Oil Pollution Act 1990 (OPA '90). Yet virtually no action was taken by international maritime authorities as a result of the stranding of the BP tanker in the Straits of Magellan and the resulting pollution which occurred.

The loss of the **"Scandinavian Star"** and the **"Estonia"** increased the demands by the public, encouraged by the media, for improved management systems and international standards for the Safe Management of ships, particularly passenger vessels and ferries. Partly as a result of the adverse publicity surrounding these events, and by the imminent entry into the European ferry routes of new designs of high speed craft, plus the desire by the European shipping administrations to be proactive in the area of safety and pollution prevention, the European Commission brought forward, to July 1996, the date for compliance with the ISM code for passenger ferries and high speed craft. Thus now, in November 1996, the conditions set out in the ISM code are being applied to one sector of the world's merchant fleet.

The latest loss, in the winter of 1994/95, once again the focus of public and media attention, of the **"Braer"** resulted in the publication of the Donaldson Report, " Safer Ships, Cleaner Seas". and even more pressure for the international maritime community to be seen to be getting their act in order.

Unfortunately, only this year, 1996, saw the stranding of the **"Sea Empress"** on the rocks at Milford Haven in Wales and the apparent disregard of the key recommendations from the Donaldson Report and even worse the, to the general public, obvious lack of co-coordinated control and response to a seemingly simple grounding and relatively minor loss of oil.

The maritime industry was facing total lack of confidence in its ability to provide a safe operational environment for the crews, passengers and ships and was increasingly being seen as the scapegoat for all forms of marine pollution.

So now the world of international maritime transport was forced to react and the IMO, which has been referred to as a "Toothless Tiger" has at last produced a recognized and globally adopted standard to measure the safe management and operation of ships and the prevention of marine pollution.

The accepted and published dates for the application of the code, and thus the deadline for the obtaining the required certification, are set at July 1, 1998 for passenger vessels, tankers and bulk carriers, those vessels which statistically have been shown to be more at risk and likely to be involved in pollution incidents, and July 1, 2002 for all other cargo ships.

Perhaps even now there is some reluctance to enforce the "safety" regulations in totality as the new rules only apply to vessels over 500 gross tons, and these smaller vessels should be recognized as forming just as severe a risk to the seafarer, maybe an even greater risk because of their small size, but probably a smaller financial risk and less catastrophic pollution in the event of an accident.

A cynic could be excused for adversely comparing the requirements for office safety, or for motoring safety, which apply to even the smallest of units, to the removal of vessels under 500 gross tons from the safety equation.

Surely, if the aim of the convention is to ensure the **safety of operation of ships** which requires the positive compliance of company management and more importantly seafarers, then **all** seafarers should be covered by the conditions of the code and not just those sailing on vessels of over 500 gross tons.

So, what does the new ISM code actually do to improve the safety of management and operation and to prevent pollution which is not covered by the previous conventions and regulations.

The technical details of the new code should be well known, but basically the IMO have produced a flexible set of objectives which essentially result in **"Say what you do, and do what you say."** In other words each company, and each ship, and therefore each crew, are required to develop a Safety Management System which lists all tasks and situations which normally arise on a ship and set out detailed guidelines on the response and responsibilities of all of the parties. A detailed set of working (operating)

manuals have to be produced which cover all foreseen eventualities.

These manuals form the basis of the system for the prevention of accidents through the misuse or failure of equipment, or personnel, from the simplest of eventualities such as slipping on a wet deck, to a major stranding, or collision, involving loss of life and of course the financial implications of pollution of the environment.

The hub of the system is the ship and its routine and emergency operating procedures, but the published assessment programs as set out by the IMO and the authorized assessment organizations also put the emphasis and responsibility for safety firmly on the company and its shore side organization.

It is clear that the shore management of a shipping company has to be seen to be in charge and share part of the overall responsibility for failures at the "sharp end," but I have not heard of many companies going aground in thick fog, or of clerks in administration being killed by falling cargo, or drowned by the collapse of the company.

The ISM code, as set out by the IMO, satisfies part of this need as it clearly recognizes that safety, and thus the prevention of accidents, is a shared responsibility between the shore and the shipboard organizations. The ISM code extends the responsibility for the safety of the ship beyond its Master and crew and into the management hierarchy of the company, even going so far as to stipulate that there shall be a **"designated person"** on shore who is responsible for the vessel in question and the provisions made for her safety. Safety management certificates can only be issued to individual ships if the vessel's shore based office has a valid ISM certificate. This must help to focus the minds of management who are now more likely to introduce a more safety oriented culture if the ultimate responsibility for safety failures lies closer to home.

In this respect the provisions and implications of the ISM code are rather like the criminal law and charges of **"conspiracy"** and **"accessory"** whereby an individual, who may not have actually committed a crime, can be charged, if for example he can be shown to have contributed to the organization, failed to stop a crime being committed, or simply having the knowledge available to him, failed to do anything to stop the crime from being committed.

Although the code extends responsibility for ship safety to the shore management it does not remove any power from the Master, whose overriding responsibility (and therefore the ultimate veto on company orders) is reaffirmed in the code. This is important as with the shared responsibility for the ship, and the good communications between the ship and the shore demanded by the code, management might insist on potentially dangerous levels of control over her activities, but judgments which have safety implications must be left to the Master, as the qualified and experienced man on the spot.

At present three definite cultures appear to have established themselves in relation to attitudes towards safety. The **"Evasion"** culture, covers those people who are willing to establish minimum standards, but do not have any desire to extend their care to higher levels. This type of operator has had his day, as relying on maintaining a minimum standard has been proved to represent false economy and the spate of detentions of vessels under Port State Controls has illustrated the immediate costs to a company of detention as a result of non compliance with one or more mandatory rules or technical conditions. For a container vessel with a daily time charter rate of $30,000 per day the loss of time and the potential loss of cargo and customers, represents real money in a sector where the price of safety is always difficult to quantify.

The lessons learnt since the introduction of Port State Controls and the increased media attention given to shipping have created a second safety culture, which may be referred to as the **"Compliance"** culture. Operators in this category recognize the financial and commercial implications of failure and make positive efforts to exceed the minimum standards which are required, but always with a keen eye towards the costs. This type of culture appears to be prevalent in the shipping community and is encouraged in the paternalistic styles of companies where care and attention to matters of safety are seen to be good for crew/management relations, but also good business and marketing sense as well.

The ultimate safety culture, which must be the objective of the ISM code, is that of a **"Total safety,"** which is a condition that can only be achieved by the full commitment of all the personnel involved in the shipping operation, from the boardroom to the messroom.

In this respect the ISM code offers quite a radical change in the style of regulations concerning shipping. In the past the regulations and international conventions which have been produced have been "prescriptive". In other words they have set out the details of the type, size and numbers of items of equipment which have to be provided to comply with the rules. Never before has any set of maritime rules actually specified exactly how an individual piece of equipment was to be used. This was left to the training establishments and to the national authorities who had the power to issue certificates of competency, after a theoretical or practical examination.

The difficulty of this of course was trying to introduce a sense of reality to the training which would at least demonstrate to the trainee the "feel" of the conditions which might exist on a ship during any emergency.

Shoreside, official, training and certification was also supposed to be supplemented by practical training on board by senior members of staff and by company training schemes.

Unfortunately it was just this contact and involvement of the senior staff on the ships and the commitment by company officials towards an effective training policy which was one of the first victims of the search for economies with reduced numbers of crew members and the mixing of nationalities, with little or no obvious concern for the benefits which accrued from continuity of employment and the experience gained from familiarity with the ship and her equipment.

The mixing of nationalities and the search for ever cheaper crews from the developing world led to the mushrooming of training establishments, sometimes with dubious training standards and with certificates which, it has been alleged, could be obtained simply by the passing of money rather than a formal examination. The validity and authenticity of some "qualifications" were suspect. However if the certficating authority was recognized as a valid national authority of a member maritime nation, then its certificates had to be taken at face value. Many national authorities have tried to clean up their act and to check the unbridled growth of the training and certificating industries, but this has come too late for the maritime world and the provisions of the ISM code when linked with the new STCW convention are now more than welcome.

Over the latest "lean" years it has become apparent that accidents just do not happen, but are the result of a series of omissions or errors in routine operations which could perhaps have been avoided by improved attention or understanding of the correct methods which should be used. Accident statistics have consistently pointed to the figure of 80% as the magic number representing the responsibility of the human factor in all accidents. There are arguments that put the ultimate responsibility much higher, even up to the 100% mark, but the magnitude of the figure is immaterial, it is the fact that accidents, and loss of life and property, are mainly brought about through human intervention.

Some years ago the concept of the totally unmanned ship was popularly mooted. This would have removed the human element on the ship, but the technologies of control and the fact that such an unmanned ship would be operating in proximity to "uncontrolled" manned ships made the suggestion impracticable.

The facts are simple. The **size of crews** have been reduced to minimum levels consistent with regular operational practice. The **nationality** of crews has become an accountancy factor which has resulted in the employment of mixed crews, sometimes of totally different and alien cultures, with consequent difficulties of communication. The **status** of the Master and senior officers have been steadily downgraded until officers fear to give direct orders without first checking with their seniors, or the head office, on the suitability, or, the cost implications involved.

These trends are going to continue. Shipping and ship operations are going to continue to become more and more depersonalized, but unlike the airline industry which has accepted the necessity for absolute controls in the interests of safety, the shipping industry is not ready for the ultimate response of type certification, and still insists on the flexibility of providing different equipment in different types of vessels with individual designs of control stations.

We thus have a recipe for disaster. Huge vessels with valuable and dangerous cargoes, operating at high speed in congested waterways, often at the limits of hydrographic knowledge, with crews that at the best are only adequately trained and certificated, and in the ultimate have been found to hold false certificates,or,under the influence of alcohol or drugs.

Something had to be done. Certification levels were tweaked, adjustments made to make qualifications international, but the result was a general lowering of overall standards, the disillusionment of experienced and well qualified officers and the continued worsening of the situation in which major maritime disasters became statistically more likely.

The immediate response of shipping organizations who recognized the potential for financially damaging accidents was to try and demonstrate that they, at least, were operating responsibly and that it was that other section of the shipping industry, who were dubbed "sub-standard" who were at fault. The search was on for a standard, which for shore industries in the manufacturing and service industries, was provided by compliance with the terms of industry standards such as B.S. 5750 or the ISO 9000 series and the European version in the form of the CEN 27000.

The ISO standards addressed activities that had been identified as essential for the management of quality in the production of goods or services. It was a generic standard and had to be adapted to the particular conditions of each industry. Adapting the requirements of the ISO standard to a marine activity was done on a case-by-case basis which meant that the certification would not necessarily be internationally standardized, or, accepted.

The ISO 9000 series of quality audits and certification required the company involved to set its own quality objectives and targets, but contained very detailed requirements for the operation of the system.

Companies which applied for audit and certification were involved in detailed examination of their standard methods. The inescapable fact was that these industry standards were designed for shoreside industries and had to be adapted to fit the very special requirements of shipping. If anything, the very difficulty, and it could be said, failure, of these industry standards to provide the safety and operational guarantees for which shipping was searching is proof positive of the need for the introduction of the ISM code.

The IMO recognized the conceptual value of the quality codes and has incorporated many of the basic management control elements into the ISM code, however it would be wrong to suggest that there is any direct comparison or equivalence between the ISO quality codes and the ISM safety codes.

The important thing that had to be taken into account was that the ISM code would not replace any of the existing statutory conventions, such as SOLAS, MARPOL, STCW, or the ROR, but would provide an overall management environment that would ensure that not only the specific requirements of the conventions were obeyed but also the spirit of the application and use of the available technologies would be used to reduce the risk of accidents.

The first thing that the ISM code recognizes is the role of the national maritime administrations who have the ultimate responsibility for ensuring that ships flying the national flag conform to the specific prescriptive requirements of the primary conventions.

The fact that a maritime administration may choose to exercise that control through a recognized classification society is also accepted and the International Association of Classification Societies (IACS) have been working for some time in close cooperation with the IMO to develop systems for harmonizing audit and certification procedures and functions. To ensure the application of similar standards on a global basis the classification societies, through IACS, have themselves developed and introduced educational programs for auditors and inspectors.

The ISM code now requires a company to:

- Establish a safety and environmental protection policy, stating how the objectives are to be achieved,

- Define levels of authority and lines of communications between and amongst, shore and ship personnel,

- Establish instructions and procedures to ensure safe operation of ships and the protection of the marine environment, in compliance with

flag state legislation and the requirements by the classification societies, as auditors,

- Establish procedures for preparedness and response to emergency situations,

- Ensure the Master's effective implementation of the procedures on board the ship,

- Ensure the Master's verification of compliance with company standards in day to day and routine operations,

- Ensure the Master's review of the system, as a means of updating and improving compliance,

- Ensure the reporting and analysis of accidents, incidents and non-conformities, however small, in order to avoid recurrence,

- To carry out internal audits and management reviews.

These relatively broad and simple requirements should have been all that are needed for responsible shipping organizations to analyze their operations and to begin to create a safety environment and culture.

The IMO published in 1995 resolution A 788 (19) **"Guidelines on the Implementation of the ISM code by Administrations"** which introduced formal conditions for statutory certification and the basic principles for assessing compliance with the code. One of the problems that may arise from the strict application of these guidelines is that the very essence of the ISM code which is the identification and reporting of "near misses" and minor accidents and incidents, in order that an analysis can be made of the underlying factors, may be lost in the fear of being accused of a "non-compliance".

It is a truism that "an individual learns through his mistakes", the concept of the ISM code is that "mistakes" will be reported, however trivial or seemingly unimportant so that, not only the concerned individual, but also his peers and colleagues, can learn the lessons of related experience, and then avoid such accidents in the future.

I am sure that if we are honest we can all recognize mistakes that we have made, which we subsequently have turned to our advantage, I certainly have. Sometime we have had to pay, in one way or another, for those mistakes, and that has simply acted to reinforce the lesson. In my time the lessons which I learnt were passed on to students as tips from experience, but unless the conditions of the "mistake" are related in a no-blame situation the valuable lesson of experience may be lost.

An important and vital feature of the ISM code should be the development of the standards of marine personnel and

thus it has to be seen to work in parallel to the new STCW '95 which introduces detailed training requirements to maritime administrations, to shipping companies and to individual seafarers. STCW '95 requires the following:

By the qualifying state:

> The IMO convention has to be adopted into national legislation and the state has to institute methods of approving, validating and controlling the educational system in the state, including the evaluation and control of the certification processes. Approve and control instructors' and assessors' training and competence and verify and document such control.

By the Flag state:

> They also have to implement the convention by incorporating it into national law, but also have to verify the compliance of qualifying states before accepting seafarers certificated by that state to serve on their flag ships. Additionally the flag state has to approve and verify the training and control mechanisms offered by shipping companies and to provide a central statistical and reporting data base for reported accidents and near misses.

By the Shipping company:

> To ensure that the appropriate manning and qualification scales are applied, to verify the competence of seafarers before accepting them for employment, and to provide in service training and assessment. Under the terms of the ISM code the shipping company is also responsible for the collection and initial assessment of accident and non-compliance reports.

By the individual seafarer:

> To specify what is necessary to be learned for each position or rank on the vessel, what is the level of expected performance, how to demonstrate that proficiency of performance and the specific criteria for evaluation.

Thus the STCW '95 provides for very similar levels of application as the ISM code and must be seen to be totally complementary.

One of the most important features of the ISM code is the full involvement of the shipping company and its shoreside organization. It is vital that the management of the company are fully committed to the application of the code

from the chief executive to filing clerks. The company has to set up a safety and environmental protection policy which describes exactly how the objectives of the safety rules are to be achieved.

This policy document has to be signed by the chief executive, or a senior decision maker, as an indication of top level commitment by management.

Once the commitment is made the company are required to ensure that a senior official is appointed as the **"designated person"** who has direct access to the highest levels of management and who has the responsibility of monitoring the safety and pollution aspects of each ship and ensuring that adequate shore based resources and support are continuously available. In a moderate sized company with more than one ship the position of "designated person" will probably need to be filled as a special appointment, which is evidenced by the spate of advertisements for individuals with experience in the application of quality codes and the ISM which are appearing in the shipping press.

It is now clearly the company's responsibility to define and document the Master's responsibilities, and also the particular responsibilities of each of the officer positions on board the vessel. In particular it should be clearly stated that the authority and responsibility of the Master for the operation of the ship is not in any way reduced by the appointment of a designated person ashore, but that the Master has overriding responsibility for the safety of the ship and her crew and for the prevention of pollution and can call for assistance from the shoreside organization of the company as required.

The ISM code in fact restates and reinforces the position of the Master regarding the operation of the ship and sets out clearly his position in relation to shore management.

The Master now must have full documentation on board the vessel which describes the safety and environmental protection policy of the company, and of the ship, which are to be contained in manuals which describe the procedures to be followed for both routine and emergency situations. These manuals are to be written in clear and unambiguous language and must include general procedures, detailed instructions, check lists, standard work permits and all other information relating to the particular task.

One of the prime responsibilities of the Master is to ensure that these manuals are kept up to date and that the procedures and conditions which are specified to be followed are in fact followed, and if any variation or deviation from the set procedures is made then the results, good or bad, of that deviation are to be noted, either for a reinforcing

of the applicability of the set procedures or for amendments to be made for improvements.

The procedural manuals form the basis of the ISM code. For the shore management the appropriate manual may be the "Company Safety Management Manual", and for the ship a "Shipboard Safety Management Manual". It is vital that these two manuals are complementary and to ensure that the recognized and accepted procedures are being followed the company are required to organize audits of procedures at least at annual intervals. The purpose of these internal audits is to ensure that all members of the crew are aware of their individual responsibilities and the methods to be used to ensure their personal safety, the safety of the ship and the protection of the environment.

Once all of these provisions are made, the company policy set and approved, the procedural manuals prepared and tested and the communication links formed the company and the ship are ready for inspection and certification by the external auditing body which is appointed by the flag state. In many cases this will be one of the recognized classification societies who are members of IACS, but any individual flag state may authorize a private company to undertake its role in inspecting and certificating companies and ships on behalf of the flag state.

The procedure is relatively simple. Once a company considers that it is ready for external audit and certification it can apply to the audit organization who will then make an appointment for inspectors to visit the company's head office to verify that the shore management conditions of the code are complied with. If this inspection is satisfactory and the company is shown to have a Safety Management System that complies with the terms of the ISM code, the company will be issued with a **Document of Compliance (DOC)**.

Subsequent to the receipt of this document each of the ships, owned or operated by the company will be individually inspected and if found their Safety Management System is found to be in compliance with the ISM code, the ship will be issued with a **"Safety Management Certificate" (SMC)**.

The certificates as issued by the external auditing body have a validity of three years (ABS) and five years (DNV), but is set at a maximum of five years. The period of the validity of the certification is at the discretion of the flag state, but during the validity period the ships and the office administration will be subjected to annual verification checks, which if found to be deficient will result in the loss of the certification.

Ships belonging to companies which hold the DOC and also have an SMC will be entitled to show on their class registration records the notation ISM.

Thus it is becoming clear that once the date set for compliance with the ISM code is reached all vessels belonging to all states which are party to the IMO conventions will be required to demonstrate that they hold a valid Safety Management Certificate. Without such a certificate it is likely that the vessel would be considered to be Unseaworthy, Uncargoworthy and in breach of the warranties contained in her insurance policies and probably also would be subject to detention by Port State Control officials.

The ISM notation and the Documents of Compliance and Safety Management Certificates will effectively be taken by inspecting bodies as evidence that the company and the ship are operating to approved standards and effectively will become a **license to trade.**

As stated by ABS in their ISM/ISO program, " With the International Community's focus on safety and pollution prevention, verifying compliance with the ISM code is no longer a choice, it is a responsibility. Furthermore it must be recognized that safety and quality are directly linked. An effective quality management system such as ISO 9002 may lead to an effective safety management system such as the ISM code. Since many of the elements in each have a common focus, this can be accomplished by combining both standards"

The questions now have to be asked;

> Does the shipping industry actually need such a code and will its application make shipping operations safer?

Shipping has traditionally been a very private business and operated under paternalistic rules which relied on the integrity of the company and the fidelity of their crews. Those days are well and truly past, except in the case of some minor and usually specialist organizations. Seafarers used to obtain their qualifications by attending schools and colleges and then obtain their experience and skills by practice and observation under the general tutelage of their superiors and peers. The economics of international shipping now mean that ships are operated far more intensively, with less time for learning on the job and with crews and officers working in the certificate of rank. The opportunity for learning shipboard skills and achieving that level of understanding which comes from experience and mutual trust is gone. Therefore systems have to be formalized. Detailed rules of procedure have to be created, which provide guidance and instruction for all types of eventualities which can be foreseen to occur during a voyage.

The systems outlined by the various quality codes went some way towards providing that information by the introduction of standardized performance manuals and norms. However these quality systems were simply adap-

tations of systems found suitable for shoreside manufacturing and service industries and were not tailor made for the shipping industry. Now at last we have systems that are designed by seafarers who can bring their years of experience to bear on the subject to produce meaningful manuals and instructions which have been proved to be applicable for the shipboard conditions.

With reasonable and acceptable plans and procedures it is to be expected that if the management of the company meet their responsibilities to actively support the concept of safety, and the Masters' of the ships meet their responsibilities in monitoring and instructing, then there should be an appreciable reduction in the occurrence and severity of the unnecessary accidents which arise due to a non-compliance which can occur due to ignorance or lack of care.

The whole point of the application of the Safety Management Systems should be the identification of hazardous or dangerous situations, whether they be as a result of a compliance, or non-compliance, with the set procedures, the analysis of the occurrence and amendment of the procedures and rules to ensure that the experience which has been gained, hopefully without a physical loss, can be taken into account and procedures continually improved.

In this way the ISM code will achieve its objectives, but if the will for self reporting of minor incidents, or near misses, is stifled then the ISM code and its Safety Management Systems, will simply fade away to become a paper filling exercise made necessary by the knowledge that an inspection is due.

What is going to be needed is a shift of attitude by management and seafarers to recognize that the best instruction and experience comes from practice under safe conditions and in the relevant environment. Ship management's and ship operators are going to have to think carefully about the implications of the requirement for dedicated shipboard instruction, and for the need for adequate communication between all members of the crew. This will involve expense and a revision of current methods and policies, but if the ideals of the ISM code are followed the rewards should be discernible in terms of improved operations, reduction in minor accidents and improved retention of crews.

Will the application of the ISM code actually reduce the number and severity of marine accidents?

What is an accident? The final accident is usually an accumulation of minor incidents or non-compliances, which together add up to the ultimate reported accident.

The ISM code is designed to allow seafarers to avoid those minor incidents by the application of proved and tested methods which are set out clearly, and without allocation of blame, for them to follow. If the minor factors are reduced then the cumulative impact of the accident must also be removed or at least reduced. It is suggested that over 80% of all accidents are attributable to human error, then the correct application of the ISM code and the sensible use of its systems by management and seafarers must result in an overall reduction of serious accidents.

Confirmation of the responsibility and power of the Master in ensuring the safety of the ship and her crew, must also be seen as a positive step in ensuring that the right decisions are taken by the man in charge who has the full situation in view and can rely on the full support and backing of his shore management.

Of course, major accidents and losses will continue to occur, but the creation of company data bases, which can be incorporated into global data bases, through which the "proximate" cases of accidents can be identified and analyzed in a "no blame" environment can go a long way towards creating a system in which the unexpected is expected and plans have been formulated to deal with all eventualities.

Finally, will the flexible nature of the terms of the code increase quality, or simply set a new low standard capable of being met by anyone?

The ISM code represents a radical shift in policy concerning the application of rules and standards. It is the first international convention in the maritime field which is not prescriptive but permits companies to set standards which are suitable for their particular operations. It recognizes the essential individuality of the international shipping industry, but provides controls in the form of supervision by the recognized and approved classification societies.

The main burden of responsibility for the maintenance of standards is on these auditing authorities who have the task of interpreting the general guidelines while ensuring that the particular systems proposed by the shipping companies actually meet the required international and professional standards.

It has been shown by many companies who have ventured into the realms of Quality Assurance through the ISO standards, or even through the commercial shipping standards set by the International Ship Management Association (ISMA) that there are commercial and operational gains to be made from adopting and applying sensible reporting procedures and identifying the areas in which losses are often made. Once shipping companies overcome the initial fear of the mandatory requirement for compliance, and realize the positive potential of this new system, then hopefully the specter of sub-standard shipping can be banished as a relic of the past and international

shipping take up its actual position as the safest, most economical, most efficient and most environmentally friendly of all the transport modes and rid itself, once and for all, of the tarnished image derived from the lean years of depression and transition from a traditional transport service to a modern and responsive transport system.

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Discussion
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There is an ancient Chinese proverb which goes

> Big things of the world can
> Only be achieved
> Thru small beginnings....

If we look at safety in marine transportation as the "big thing of the world" then there have been a series of "small beginnings". Many of them were considered revolutionary at their initiation. Can you imagine the consternation at adopting a hydrographic chart created by some unknown draftsman, instead of relying on the accumulated knowledge of Pilot Smith? That new-fanged contraption called RADAR was not immediately embraced by the maritime community either. And boiler safety valves, were they really dependable each time pressure built up? Of course, it took time to realize that none of these safety improvements GUARANTEED safety, but they did add to the PROBABILITY that a vessel would be safe. ISM too is a system to achieve the goal, not the goal itself. Another "small beginning..."

My observations are based upon the questions cited in *Is It Just A License To Trade?* by John Joint.

1.   Does the industry need such a code?

Two additional points to consider: First, for a company which considers itself a proponent of safety, as most US companies do, compliance with ISM will be less costly in terms of time, resources, and funding than for a company which has never addressed safety in any systematic way (companies under several foreign flag registers come to mind.)

Second, is the public's conception of the industry. Fewer and fewer people in this world have first hand knowledge of ocean going ships, and fewer still with cargo ships. What they have seen of the industry in the past ten years does not instill confidence...

- Mates that have highly technical vessels with very sophisticated equipment and still cause major oil spills

- Needles and medical waste which washes ashore, endangering children and adults as they play and walk along

Even when technology works (shut-off valves retaining 100,000 gallons of oil aboard a vessel) the public's outcry is over the 2,000 gallons that spilled, not praise for quick response to contain the remaining 98,000 gallons.

If you rode the subway to get to the symposium, you may have seen a Greenpeace ad with a center frame depicting a rusting hull steaming towards several people in a raft. The non-verbal implication is that this poorly painted vessel is somehow polluting the environment. It is a good visual ad. The rust appears threatening.

From the public's perspective, the ISM Code is good for the industry. It is being touted as the first globally coordinated effort to achieve a common good.

2. Will it make the shipping industry safer? Not in itself. ISM is similar to the 10 Commandments. You don't have to have a religious belief in them to appreciate their usefulness as standards for a society. ISM safety procedures, as your mother might say, "couldn't hurt!" Ten years from now, no one will remember why there was such a fuss in implementing them.

3. Can the ISM code be used as a risk assessment tool and as an instrument for hazard identification? This may be the trick of the century! Suppose you buy into risk assessment, and report yourself for the seven wonderful times that you "saved the day" by correcting a near accident at the last second. Eventually someone is going to think, "whoa, is this person really qualified for this job, why so many near misses" instead of focusing on the safety issue or better yet, getting additional training for the "savior." Learning from mistakes is one thing, advertising them is another. Yet this is what the ISM code asks people to do — for the greater good. When a near miss is reported, the focus must be on the root cause of the near miss. If it was a human, would it happen to all humans involved in a similar situation, or just a particular human who requires additional training?

As the title of the article "ISM, Is It Just A License To Trade" implies, ISM may actually affect a company's ability to have its vessels enter a port. The consequences of failing to comply and implement ISM could have both immediate and far reaching effects depending upon the vigor with which they are enforced. As with all improvements to the industry, time is the greatest teacher...but the "big thing to accomplish" is safety.