

CHAPTER 5

RECENT DEVELOPMENTS

5.1 During the course of the inquiry there have been developments in the international shipping industry intended to address ship safety issues. In particular, the marine insurance industry, research into ship structures, improvement in classification society operations, and the development of a code of safe ship management are areas where developments have occurred (See Appendix 8).

Marine Insurance

5.2 The Committee welcomes the increasing occurrence of insurance companies vetting ships that are to be insured. For example, in response to a dramatic rise in claims against it, the UK P&I Club has established an inspection system for ships insured by the club in an attempt to reduce the level of risk (UK P&I Club:A).

5.3 The inspections take into account:

- cargo worthiness - the most common defects noted under this category are the hatch covers and hatch coamings; from a sample of 53 ships visited more than 30 were found to be defective in this area
- manning - crew numbers, length of service with same owner, nationality and language, level of experience and lack of proper crew qualification certificates are common manning problems

service and maintenance - often ship's charts and nautical publications are not corrected and up to date, other problems encountered are lack of a bridge procedures manual, manuals in a language not understood by the crew, failure to provide Company ship operation policy, no P&I information supplied to the Master and a failure to maintain ladders and walkways

safety - most commonly there is a failure to maintain fire fighting and life saving appliances, amazingly, out of 59 ships visited 22 were found to have inadequately maintained life saving appliances and fire fighting equipment

operational performance - problems with the operation of the ship are often concerns raised in the other areas, common problems are, port control detention, design or mechanical deficiencies and failure to comply with conditions of class

pollution - oil cargo or bunkers handling procedures are carefully scrutinised, many technical defects were noted.

(Submission;67:4,5).

5.4 To date only 7.5% of vessels have been found to be unsatisfactory with a further 40% having some defect (Submission;67:4,5).

5.5 The inspection program is to be extended to include:

inspecting those vessels which are perceived to be at greater risk (ie by age, type or size)

inspecting fleets where one or more ships have been surveyed under Rule 5Q (where a vessel is found in an unsatisfactory state)

inspecting ships where a member reports a change in classification society

greater emphasis being placed on inspecting ships in remote areas where PSC inspections are less frequent (pp 5,6).

5.6 Information gathered during the inspection program is to be distributed to Club members, helping to raise the standard of ships within the Club and reduce its exposure to claims.

5.7 In association with increased vetting of ships by insurance companies, underwriting premiums are increasing and more detailed risk assessment is taking place in response to recent losses (McDermott;1991:46, Ion;1992:15,34,35,36). In some cases owners have been faced by premium increases of up to 400%, in addition to policy wording being tightened, deductibles increased, and 'loyalty' bonuses being scrapped (Ion;1992:15,34).

5.8 A further example of the increasing concern of insurance companies over the cost of increasing losses is the move by the London Market Joint Hull Committee to introduce a Structural Condition Warranty (SCW) applying to selected hull insurance policies (Ion;1992:15). The Structural Condition Warranty gives underwriters the right to demand that a ship undergo a structural survey, carried out by the Salvage Association, before offering cover.

5.9 SCW surveys being carried out by the Salvage Association are highlighting the questionable quality of surveys by some classification societies. Of approximately 100 ships which have undergone the survey only 18 have been found to fully comply with class rules (DCN;20 October 1992:6). It is significant for ship safety levels that the Joint Hull Committee will only drop its requirement for SCW surveys if classification societies continue to raise their standards (DCN;20 October 1992).

5.10 While the Committee welcomes these developments, it is concerned that good and bad quality tonnage alike may be penalised. The real benefit lies in rewarding good quality tonnage at the expense of bad, helping responsible owners gain a commercial advantage over operators of substandard shipping.

Research

5.11 The Committee is aware of several major research projects into the characteristics of ship structures, particularly bulk carriers, which are currently being undertaken by classification societies.

5.12 Lloyd's Register of Shipping instituted a major research project into bulk carrier casualties following the unusually high loss rates of these vessels in the late 1980s, early 1990s (Submission 5;Attachment A;Part 4). In May 1991 Lloyd's released the interim conclusions of its study, which showed:

that a percentage of ship casualties were the result of the inability of the side structure to withstand the combination of localised corrosion, fatigue cracking and physical damage sustained during operation

- . immediate changes to survey procedures should be introduced to identify ships at risk
- . consideration is being given to the installation of hull stress monitoring systems
- . operational procedures such as loading, hold cleaning, periodic maintenance and even ship handling can have a considerable influence on the frequency of damage (Submission 5;Part 8).

5.13 The project is an ongoing process and Lloyd's are seeking feedback from the industry on the adequacy of the project and it is hoped that a lasting solution to bulk carrier structural problems can be found.

5.14 Another important research project has been initiated by Det Norske Veritas. The project, Structural Performance of Bulk Carriers - Project A: Damage Scenario Evaluations, is designed to improve the knowledge and understanding of the structural performance of bulk carriers.

5.15 The project has several objectives which are:

- . to explore the reasons for frequent bulk carrier losses
- . to improve design and operational procedures
- . to avoid the loss of life, cargo and ships and to avoid oil spills from foundering vessels (DNV;1992:1).

5.16 In conjunction with Project A, Project B1: Full Scale Measurements has been operating since February 1992. Project B1, a joint project between DNV and Hong Kong based ship management company Angle Eastern, is a full scale measurement exercise being carried out on a cape size bulk carrier (DNV;1992:C.2). When results are available industry sponsors will be invited to participate in Project B2: Analysis and Comparisons (DNV;1992:C.2). In effect Project B1 is an information gathering exercise and B2 is the analysis of the information gathered. Initial results are expected by mid 1993.

5.17 Recently, AMSA conducted a three month pilot study into loading of bulk carriers in Dampier and Port Hedland. The study found that procedures at the loading terminals did not contribute to the structural failure of vessels, but did find grounds for concern about the control exercised by some ship's personnel over the loading process (AMSA Annual Report; 1991/92:18).

International Association of Classification Societies

5.18 IACS is currently implementing a quality assurance program with which members will have to comply if they are to remain members of the Association. IACS describes the Quality System Certification Scheme (QSCS) as:

...an arrangement of organisational structure, responsibilities, and procedures to verify and certify the conformity of IACS members internal quality systems with the requirements of IACS (Submission 62;Annex 2:4).

5.19 The central objectives of QSCS are to ensure that IACS members have their own internal quality systems, that the members conform with standards laid down by the IACS including the 'Code of Ethics' and that member societies operate in accordance with procedures laid down by the IACS (Submission;62,Annex 2:4).

5.20 The QSCS covers both the classification of ships and offshore installations in both new building and in service as well as in statutory work carried out on behalf of flag states (Submission;62,Annex 2:4). The System as described is based on ISO Standard 9004 (Submission;62,Annex 2:3).

5.21 The QSCS is administered by a permanent IACS Quality Secretary under the control of the IACS Quality Committee which consists of one representative from each member society. Member societies will be audited under the QSCS by the Quality Secretary (Submission 62;Annex 2:5,6).

5.22 The Committee notes as a worthwhile initiative that the IMO and insurance interests have been invited to participate in the IACS audit program to satisfy themselves that audits are being carried out as intended (Submission;41:6).

5.23 The Committee views the move to standardise quality levels required of IACS members as a necessary step in the right direction to improving services provided by classification societies. However, conceding that the vast majority of ships are classed with the major societies, the Committee remains concerned that non IACS members remain outside any effective regulatory body. Until non IACS members are required to conform

with IACS quality standards, the option for irresponsible owners to change class to avoid their responsibilities remains and the general level of ship safety suffers.

Classification Societies

5.24 The IACS has submitted a 'Proposal for Guidelines for Enhanced Survey Program for Bulk Carriers' to the Maritime Safety Committee of the IMO (Submission 62:Part 5). Under the proposal, survey frequency would be increased and surveys would become more detailed.

5.25 Major features of the scheme include (See Appendix 9):

- . the introduction of intermediate surveys between special surveys
- . thickness measurement of all areas subject to cracking, corrosion and buckling, this includes salt water ballast tanks
- . inspection of cargo holds at annual survey for tankers over 10 years old with an increased level of survey for tankers over 15
- . an examination of salt water ballast tanks which are not coated or where coating has deteriorated
- . preparation of a Survey Report File.

5.26 The program was developed along the lines of the Guidelines for Enhanced Inspections of Oil Tankers (MEPC 33/6/2). It anticipated that

the new conditions would be in operation by July 1993. The Committee welcomes the changes and views an improvement in the effectiveness of classification society surveys as vital to raising the general level of ship safety.

5.27 In the meantime classification societies have been refusing to class substandard ships. The Chairman of Intertanko points out that Lloyd's Register, Det Norske Veritas and American Bureau of Shipping have refused class to 600-700 ships because they were substandard or were unprepared to upgrade (DCN;21 October 1992).

Flag States

5.28 In response to the continuing loss of bulk carriers some flag states have acted to increase the level of inspection of bulk carriers within their PSC inspection systems.

5.29 In January 1992 the Norwegian Maritime Directorate commenced compulsory inspections of Panamanian and Maltese flag bulk carriers and older bulk carriers of various other flags (Hill;1992). The Canadian Government has also instituted an inspection regime aimed at specific types of vessels from particular flags (Paragraph:4.4).

5.30 The initiatives of the Norwegian and Canadian Governments are acceptable under IMO conventions on port state control and as such would not be considered unilateral action and consequently not a matter of dispute. Unlike the recent action of the US in decreeing that oil tankers visiting the US will have to meet certain requirements by certain dates or face being prevented from operating in US waters (Paragraph:3.65).

Port States

5.31 It became evident during the inquiry that regional PSC inspection systems such as the Paris Memorandum Of Understanding agreement in Europe achieve a much higher effective rate of inspection than does a single nation on its own. The Committee welcomes the decision to establish an Asia/Pacific regional PSC inspection scheme.

5.32 On 6 November 1992 fifteen Asia/Pacific nations agreed to establish a regional PSC inspection scheme (AMSA Media Release; 6 November 1992). Initially, the scheme will be established and funded by more developed countries such as Australia, Canada and Japan. It has also been reported that a similar arrangement has been recently established in Latin America (DCN; 27 November 1992:6). There is an important role for the developed countries in assisting others to establish effective PSC inspection systems.

5.33 It is anticipated that the Asia/Pacific scheme will be operational by 1994. Under the scheme marine surveyors from all members states will be able to access information on ships from a central data base and receive information by satellite link if information is not available locally. Importantly, information in relation to substandard ships can be forwarded to that ships next port of call (AMSA Media Release; 6 November 1992). It is hoped that information held by other regional groupings will also be available for access. The sharing of information between the European and Asia/Pacific regions would be of considerable benefit in identifying substandard vessels and removing them from international trade.

Training

5.34 DNV has developed a training and certification scheme for its ship surveyors (DNV;Qualification Scheme - Class). Under the scheme surveyors are required to undergo both practical and theoretical training in a particular field of competence. Upon satisfactory completion of the requirements a surveyor is issued with a Record of Competence. These Records of Competence are to be renewed each year (DNV;Qualification Scheme - Class:3,4,5). It is envisaged that when a DNV surveyor boards a ship the Master will be able to ask to see the surveyors qualifications which will outline the vessels the surveyor is competent to survey and that the surveyor has successfully completed the necessary training courses.

International Safety Management Code

5.35 The International Chamber of Shipping (ICS) has proposed that an International Safety Management Code (ISM) be adopted by the IMO (Submission;41:9). The ISM is based on principles of quality and safety management.

5.36 The objectives of the Code are to ensure:

- . safety at sea and the prevention of loss of human life and damage to the environment and property
- . compliance with mandatory rules and regulations
- . compliance with internationally agreed guidelines, codes and standards

- . that adequate safeguards are established against all identified risks
- . the continual improvement of safety management skills of personnel and the preparation of procedures for handling emergencies
- . safe practices in ship operations and the maintenance of a safe working environment (Submission;41:9,10).

5.37 It is intended for the Code to eventually become mandatory. Until that time flag states have been encouraged to immediately implement the Code for passenger ships, tankers and chemical tankers on a national basis and for other vessels by June 1998 (Submission;41:10).

5.38 The Committee views the introduction of the Code a matter of priority and along with the ICS suggests that flag states implement the Code as soon as possible.

Charterer and Loading Terminal Ship Vetting

5.39 The Committee was told of instances where bulk loading terminals and charterers have begun to vet the ships which they load and charter. Examples of this development are Port Waratah Coal Services (PWCS) and the Queensland Sugar Corporation (QSC).

5.40 PWCS has established a scheme in which each ship is inspected by a marine inspector to assess vessel condition and crew competence during

the loading process (Submission;29:3). The marine inspectors have three functions:

- (i) to complement the role of AMSA in assessing vessel condition and its suitability for loading
- (ii) to assist both PWCS and the Master to ensure that the loading operation is conducted safely and efficiently
- (iii) to assist the Master in ensuring that the loading plan is correct and meets loading and discharge port requirements (Submission;29:3).

5.41 Information gathered during these inspections is made available to other Australian coal terminals and other coal terminals also provide PWCS with information on vessels (Submission;29:3). Sharing information in this way allows coal terminals to become familiar with substandard vessels and weed them out of the trade. The Committee considers this type of information sharing as being an important development in preventing substandard shipping calling at Australian ports.

5.42 QSC have introduced a ship vetting program which takes into account, the vessel's P&I Club, classification society, date when the vessel last passed special survey and when the vessel last dry docked (Exhibit:5).

5.43 With regard to P&I Clubs and classification societies, QSC has approved certain clubs and societies which vessels are to use if they are to be chartered by QSC. Additionally, QSC has established regular business with reputable owners and where possible charters ships from those owners (Exhibit:5).

5.44 The Committee considers the vetting programs undertaken by PWCS and QSC to be positive moves toward improving the standard of shipping operating in Australian waters. Ship standards would further improve if other organisations adopted similar programs.

CHAPTER 6

RECOMMENDATIONS

6.1 In formulating its recommendations the Committee has recognised that ship safety is an international problem which should ultimately be solved on an international basis. Also, the Committee recognises that while the IMO has proven an effective forum for the setting of standards, it has generally been ineffective in ensuring the observation of the standards.

6.2 In formulating its recommendations the Committee had two objectives. First, Australia needs to take a more active role at the IMO in promoting international solutions to ship safety issues. To be most effective Australia needs to influence nations similarly concerned with ship safety to present a united front in pushing ship safety initiatives through the IMO. In particular there needs to be improvement in flag state compliance with convention requirements, monitoring of classification society operations, auditing of crew competency certificates and the establishment and maintenance of a ship data base accessible on an international basis to those with a valid interest in ship safety.

6.3 Second, those areas over which the Australian Government has some control should be subject to immediate change. The level and the accuracy of targeting of port state inspections have to be increased, training levels need to be improved, ships which do not have P&I cover and do not maintain ILO employment conditions need to be prevented from entering

Australian ports and incident inspection procedures need to be standardised and upgraded.

6.4 The Committee has several aims in formulating both its international and domestic recommendations and conclusions, which are:

- to reduce the level of risk to which the lives of seafarers, the Australian marine environment and property are subject
- improve the level of compliance with international convention standards by flag states, classification societies and ship owners and managers
- improve the efficiency and effectiveness of the ship safety regulatory regime both internationally and in Australia.

The International Maritime Organisation

6.5 Australia has a voice at the IMO and the Committee considers that there are several international initiatives which Australian representatives at the IMO should promote and support. Enlisting the support of like minded nations will improve the effectiveness of Australian initiatives.

6.6 While the Committee has received considerable evidence on the ineffectiveness of the IMO, it was generally agreed that the standards set by the IMO are adequate, but that implementation of agreed standards was a problem (Paragraph:4.2,4.6). The Committee is of the view that Australian

representatives at the IMO should work to improve the effectiveness of the organisation and to ensure that the IMO retains and builds upon its role as the standard setter of international shipping. Australia should continue to strengthen its representation at the IMO by the inclusion of industry and trade union delegates with relevant experience and consult with industry on the appointment of a continuing delegate to IMO.

The Committee recommends that:

1. a) **Australia's representation at the International Maritime Organisation be strengthened by the inclusion of industry and trade delegates with relevant experience.**
- b) **The Australian Maritime Safety Authority meet the cost of the increased industry and trade union representation.**
- c) **The Australian Maritime Safety Authority consult with industry on the merit of appointing a permanent delegate to the International Maritime Organisation.**

6.7 It is evident that, with new leadership, the IMO is becoming more active. The recent initiative of the Secretary-General in having bulk carrier safety addressed is an indication of a refreshing change of attitude within the IMO. Indeed, the MSC has suggested that the IMO can not continue with 'business as usual' in light of the disasters which have occurred recently (Submission;40:16). It appears to be the case that the IMO is moving to more actively address ship safety issues. This attitude must be encouraged.

6.8 A further example of the new mood within the IMO is the establishment of a MSC working group on flag state compliance (MSC 60/WP.13). The working group is designed to assess what impediments to flag state compliance exist and what can be done to remove them. Significantly, the working group has proposed that a subcommittee be established to examine the issues associated with the implementation of IMO conventions and codes (MSC 60/WP.13). The work of the flag state compliance working group is of utmost importance and Australian representatives at the IMO should push vigorously for the working group to expeditiously complete its investigations.

6.9 While conceding that currently the IMO is addressing some ship safety issues the slowness of the IMO's reaction remains a concern. The Committee understands the problems associated with attaining agreement within a large organisation such as the IMO, however, the speed of IMO's response to safety issues could be increased. To this end the Committee believes that procedures for the introduction and consideration of issues at the IMO need to be streamlined.

6.10 The IMO Secretariat is in an advantageous position to assess the extent of current problems and to identify emerging problems. Consequently, the Secretariat is in a strategic position to prioritise safety issues and to redirect resources to address the most serious of problems. The Committee believes that speedier and more effective use could be made of the knowledge and experience of the IMO Secretariat.

The Committee recommends that:

2. **The Secretary General of the IMO be authorised to initiate action in relation to matters of significance which arise between Council meetings at the request of a member State.**

6.11 The Committee acknowledges the work of the International Association of Classification Societies. However, it is apparent that many of those classification societies outside IACS and even some members of IACS are not carrying out their functions adequately. The Committee considers tighter regulation of classification societies a matter of priority.

6.12 Australian representatives should take advantage of changing attitudes at the IMO to propose that a means of more tightly regulating the operations of classification societies be examined. There is a requirement for a clearly laid out set of performance standards for classification societies and those that do not meet the criteria should not be allowed to operate or have the scope of their operations restricted. Those classification societies which already maintain and offer a high quality service have nothing to fear, it is the less responsible classification societies which should face tougher controls.

6.13 The Committee welcomes the changing attitude within the IMO and encourages interests within the IMO concerned with ship safety to push for further improvements.

The Committee recommends that:

3. The Australian Government participate in and actively support at the International Maritime Organisation the following:
 - a) That the Maritime Safety Committee urgently complete its inquiry into flag state compliance.
 - b) That appropriate operating criteria for classification societies be devised and that only certificates from classification societies, including when a classification society acts as an agent for a flag state, which comply with those criteria be recognised as valid internationally.
 - c) That IMO approve a 'seal of approval' to those classification societies meeting its set criteria.
 - d) That an IMO representative participate in the International Association of Classification Societies Quality System Certification Scheme audit team.

Port State Control Inspections

6.14 An area where Australia can have a direct influence on the level of ship safety is through the management of its port state control inspection system. A most effective development would be the upgrading of Australia's PSC inspection system within the acceptable limits under IMO conventions. Essentially, what needs to be done is to improve the rate, quality and targeting of inspections.

6.15 Currently, AMSA is aiming at achieving a 25% across the board inspection rate. The Committee is of the opinion that the inspection rate should be increased, especially in those ports where cargoes have been a problem, such as iron ore, and where substandard ships are a problem.

6.16 The Committee believes that the primary role of AMSA is to ensure safe operation and safe passage of international and interstate shipping through Australian waters. Extraction of a dividend from these operations at the expense of reduced levels of safety supervision should cease. AMSA's revenues should be used to maximise its operational effectiveness.

The Committee recommends that:

4. a) **The Australian Maritime Safety Authority have access to sufficient funds to increase the rate and effectiveness of Port State Control inspections to the level where it ceases to be viable for substandard shipping to call at Australian ports.**
- b) **The Australian Maritime Safety Authority not be required to pay a dividend to Government and that these funds be used to improve the effectiveness of the port state control function.**
- c) **The Australian Maritime Safety Authority impose a penalty surcharge on substandard shipping to fund the increased level of operations generated by these vessels.**

6.17 In association with an increased level of inspections AMSA's ability to effectively target inspections at substandard ships should also be improved. AMSA has begun to address the problem of targeting those ships most at risk. This is being done through a points system rating scale for ships which concentrates on those areas which are most likely to identify a substandard ship, such as age, changes of class or changes of owner (See Appendix 10). A data base is maintained which enables AMSA to successfully employ its substandard ship targeting system.

6.18 AMSA has also redirected resources to those areas where substandard shipping has proven to be a problem. For example, surveyors have been transferred from Fremantle to the iron ore ports in north western West Australia as seven bulk carriers have sunk recently after loading at these ports. Surveyors have also been located in Mackay and in Geelong.

6.19 To further increase the effectiveness of AMSA's inspection program, it is considered that deficiencies reported by AMSA during PSC inspections should be made public. This could be done through a monthly newsletter which lists the ship, defects found with the ship, the ship's owner and or manager, charterer, classification society, the date of the ship's previous PSC inspection, the date of the ship's previous special survey and its cargo. A wider public knowledge of the defects of substandard ships and their operators and users will help focus attention on the dangers posed by these vessels.

The Committee recommends that:

5. a) The Australian Maritime Safety Authority publish each month the results of its port state control inspections at each port.
- b) This publication should include, the name of the ship on which defects are found, the nature of defects, the beneficial owner, the manager of the ship, classification society, flag state, the dates of the latest port state control and special survey inspections, type of charter, type of cargo, charterers and the relevant AMSA surveyor's name.
- c) The Australian Maritime Safety Authority ensure that information is made available promptly to parties as specified in existing Marine Orders.

6.20 The lack of documents relating to structural inspections carried by dry bulk carriers is an impediment to effective port state control inspections. The Committee believes that dry bulk carriers should carry a file similar to that which must be carried by oil tankers over 5 years of age, consisting of, periodic and special classification survey certificates, port state control certificates, results of scantling measurements and documentation relating to any major repairs or structural alterations (MARPOL, Annex 1, Regulation 13G, Section 3(b)). This Survey History File should be readily available to both port state control and classification society surveyors.

The Committee recommends that:

6. a) It be mandatory for dry bulk carriers entering Australian ports to carry a Survey History File consisting of all documents relating to a ship's structure which contains a history of port state control inspections, structural inspections and repairs or alterations.
- b) The Survey History File should be available to both port state control and classification society surveyors.
- c) Full information on the commercial chain from the beneficial owner to the cargo owner should be available to AMSA so that responsibility for pollution damage can be readily determined.

6.21 AMSA has also begun the process of introducing measures to assess crew competency in line with IMO Resolution A.681(17). While the Committee welcomes this development it has concerns in relation to how the competency of crews is to be assessed. As it would take several days on board ship to conduct a thorough assessment of crew competence, making an accurate assessment of the crew during a PSC inspection will obviously be difficult. A comprehensive set of assessment criteria will need to be clearly outlined to enable AMSA surveyors to properly assess crew competency in the short period of time available during a PSC inspection.

6.22 A problem with assessment of crew competency is the validity of crew certificates (Paragraph:3.24-3.26). Considering that crew qualification certificates do not often reflect the current questionable state of crew competence in much substandard shipping, crew certificates are not the ideal base for assessment of crew competence. There is an urgent need for crew qualification certificates to be given some validity. The Committee believes that an international accreditation system for crew training and the subsequent issuing of competency certificates is necessary.

The Committee recommends that:

7. a) **The International Maritime Organisation establish an international accreditation system for crew training and subsequent issuing of qualification certificates.**
- b) **AMSA obtain samples of crew qualification certificates from each flag state to assist in determining the authenticity of documents sighted by AMSA surveyors.**

6.23 In association with an increased level and improved targeting of PSC inspections, the quality of inspections can also be increased by improving the competency of ship inspectors. It became clear during the inquiry that no defined level of training, amount or type of experience, preferred background or training course for inspectors exists (Paragraph:4.26). The Committee is of the view that clearly set out training and experience requirements for inspectors would greatly improve the effectiveness and consistency of Australia's PSC inspection regime.

The Committee recommends that:

8. **The Australian Maritime Safety Authority, in conjunction with the Australian Maritime College, establish training courses and assessment criteria which will improve the consistency of inspection outcomes by ship surveyors.**

6.24 The success of the regional PSC inspection system in Europe suggests that a similar scheme should be established in the Asia/Pacific region. The European system which was established under a Memorandum of Understanding for Port State Inspections (MOU) and includes 14 member states. The system achieves an approximate 80% overall rate of inspection of ships calling at member's ports. The Committee welcomes the recent Asia and Pacific Regional port state control scheme which has been agreed to by fifteen nations in the area (Paragraph:5.32). The introduction of this scheme should improve the effectiveness of regional port state control inspections.

6.25 Importantly, the development of a regional port state inspections system should raise the expectation of substandard ship operators that substandard vessels will be detected and possibly detained.

Ship Management

6.26 It is undeniable that the prime responsibility for ship safety lies with the ship owner/manager. While a considerable amount of evidence has been presented concerning irresponsible ship owners and managers, the Committee considers that the majority of ship owners and managers are

concerned to maintain and operate their ships in a safe condition. What needs to be achieved is for irresponsible owners/managers to improve their overall operating practices or leave the industry.

6.27 To this end, the International Association of Ship Managers is promoting the introduction of quality management systems into the ship management process. Any development which improves the quality of ship operations is welcomed by the Committee. While acknowledging the work already undertaken by the IASM in promoting ship safety, the Committee considers that an international code of ship management should be introduced along the lines of IMO Resolution A647(16) 'Guidelines for Management of Safe Ship Operations and Pollution Prevention'. The obvious body to implement this code is the IMO.

6.28 To be effective the code would have to address the following issues:

- . *ship operators to have an approved safety and environment policy*
- . *proper accident reporting procedures to prevent recurrences*
- . *the authority and responsibility of the Master to be specifically addressed*
- . *provision for suitably qualified seafarers*
- . *routine ship board safety procedures need to be introduced.*

(Submission:40;31)

The Committee recommends that:

9. All international shipping organisations adopt IMO Resolution A647(16) as the base standard of operation for all members.

Crewing

6.29 Issues surrounding the crewing of ships have been a major concern during the inquiry. Indeed, the human factor has been identified as a principal cause of shipping incidents and accidents.

6.30 It is generally recognised that seafarers from non traditional maritime countries are often receiving little or no formal training. In fact, evidence was received which suggests that on many occasions men with absolutely no experience or training were employed as seamen (Paragraph 3.22). It was further suggested that crewing agencies were responsible for much of the employment of unsuitable labour (Paragraph: 3.31). The Committee was advised of cases where officers and ratings were unable to communicate because they did not share a common language (Paragraph: 3.29, 3.30).

6.31 Australia could help raise crew training levels by extending crew training facilities and programs to Australia's Pacific and Asian neighbours.

The Committee recommends that:

10. a) The Federal Government examine means by which the level of Australian assistance to Asian and Pacific neighbours relating to crew training can be extended.
- b) The Australian Maritime College explore opportunities to raise its profile as a maritime training institution to attract increased numbers of international students to the College and associated port based Technical and Further Education Colleges.

6.32 An issue in regard to the employment of crew members from non traditional maritime nations which the Committee found particularly abhorrent was the exploitation of crews. The Committee consistently received evidence detailing the extent to which some crews are mistreated (Paragraphs:3.31,3.32). It is obvious that some ship owners, managers and charterers are profiting at the expense of the working and living conditions of crews. The Committee learnt of cases where crews have been under fed and under paid and where working conditions were outright dangerous. The mistreatment of crews can only serve to lower morale which adversely effects the safe operation of a ship. The Committee considers that the abuse of crews is inconsistent with the safe operation of a ship.

6.33 The effect on ship safety as a result of the reductions in the sizes of crews also needs to be more closely assessed. Evidence has been received which suggests that crew sizes approved by some flag states have been reduced on some ships to the level where crews may be unable to cope with

emergency situations and where routine maintenance is no longer carried out (Paragraph:3.28). As with new construction materials and design techniques, reductions in crew sizes need to be thoroughly researched before they are adopted as a standard ship practice. The Committee sees the reduction in crew sizes as having the potential to create a significant threat to ship safety, particularly if suitable maintenance regimes are not being implemented and adequate crew training is not being provided.

6.34 The Committee is gravely concerned about the detrimental effect a combination of a reduction in crew sizes, lack of training and experience and the exploitation of crews will have upon ship safety. The Committee considers all matters concerned with the crewing of ships to be of the utmost importance and advocates that crewing matters be given priority by all organisations involved in international shipping.

6.35 To assist in the fight against mistreatment and exploitation of crews the Committee is of the view that vessels trading to Australia should have to provide proof that crew employment conditions meet the criteria as laid down in ILO 147.

The Committee recommends that:

11. **The Federal Government deny entry to ships which do not meet ILO 147 standards in relation to crew employment conditions from trading in Australian waters.**

Market Information

6.36 Evidence collected during the inquiry suggests that access to a *central data bank of ship information would allow charterers and insurance companies to make more informed decisions with regard to the ships they choose to hire. This data bank would contain information on flag state, changes of flag state, survey reports, classification society, class, changes of classification society, owner, changes of owner, nationality of master and crew, incident record and age of ship. The major oil companies, in particular Shell, maintain extensive ship information systems for the purpose of ship vetting. The data base could be modelled along the lines of those data bases already in use.*

6.37 The Committee is concerned that *claims of commercial confidence prevent the open access to data bases on ships. It was suggested during the inquiry that the sharing of information between charterers may run foul of the United States Anti Trust legislation and possibly the Australian Trade Practices Act. However, the Committee received no definitive evidence suggesting that legal problems exist and it became evident that charterers were sharing information relating to dry bulk carriers and tankers on both a formal and informal basis.*

6.38 Considering that many organisations currently maintain their own ship registers and share information it is obvious to the Committee that *sufficient information to compile a central data base already exists and that this data is available on a restricted basis. This information should be internationally available to any party involved with ship safety.*

The Committee recommends that:

12. a) The Australian Maritime Safety Authority establish a comprehensive ship information data base.
- b) The data base be made available to any party with a valid interest in ship safety.
- c) The IMO establish a comprehensive international ship information data base which is available to any party with a valid interest in ship safety.

Marine Insurance

6.39 The Committee is convinced that further pressure from marine insurers on the operators of substandard ships will help to substantially improve ship safety. All premium levels should reflect the level of risk associated with the vessel and its cargo.

6.40 To achieve this marine insurers should make better use of the information available to assess the level of risk a particular vessel poses and set the premium accordingly. The Committee notes that recently marine insurers have responded to the risks associated with substandard shipping and premium rates are rising.

6.41 It is important that insurers in responding to increased bulk carrier losses do not overreact and penalise good and bad tonnage alike. The essential value in raising insurance premiums is that the greatest onus

is placed on substandard shipping so giving commercial recognition to those ship owners who operate good quality ships. There needs to be a differentiation between good and bad ships to the advantage of good standard ships to the extent that insurance companies should refuse to insure substandard ships. The Committee concludes that marine insurers should be more active in assessing risks. Also that they decline to insure substandard ships and that owners of good quality tonnage pressure insurers for reduced rates which take into account their lesser risk.

6.42 To prevent the situation arising where liability for a major shipping disaster off the Australian coast becomes a matter of contention the Committee believes that vessels trading to Australia should have to provide proof of P&I insurance cover prior to being allowed into Australian waters and ports.

6.43 The Oil Pollution Act 1990 requires that a vessel trading to the United States possess evidence of financial ability to meet its liability limits (ICS Annual Review;1991/1992:10). There have been problems with P&I Clubs issuing these certificates while there is the possibility that direct action may be taken against them in the event of an incident. The long term effects of this requirement are yet to be established.

The Committee recommends that:

13. The Australian Government require proof of possession of adequate Protection and Indemnity insurance cover as a prior condition of entry of any foreign vessel into Australian ports.

Marine Incident Investigation

6.44 The Committee is concerned that marine investigations undertaken by the Marine Investigation Unit do not address the fundamental problems of the commercial, regulatory and economic conditions or circumstances which underlie many marine incidents.

6.45 Accordingly, the Committee believes that a standard approach to marine incident investigation be adopted. There should be a set list of questions concerning commercial, regulatory and economic circumstances which must be asked in addition to inquiries related to establishing the immediate causes of a particular incident.

6.46 Answers to these questions would establish the owner of the vessel, which management company is responsible if the vessel is managed on behalf of an owner, the size, qualifications and level of experience of the crew, type of cargo carried and the terms of trade under which the cargo is carried. This will entail the allocation of additional resources to the Unit to ensure that the fundamental issues beyond the immediate causes of an incident are investigated.

6.47 The Committee also believes that more needs to be made of the information gathered during marine incident investigations. Marine incident investigations are an ideal method of collecting information and establishing patterns related to vessel losses. Considering that one of the stated purposes of marine incident investigations is to prevent similar incidents occurring, the Committee believes that conclusions of the Marine Incident Investigation Unit should be more widely publicised.

6.48 The availability of current practical industry knowledge is important to the conduct of an investigation. Consideration should be given to the establishment of an industry advisory panel from which a member would be drawn to advise on each investigation.

The Committee recommends that:

14. a) The Minister for Shipping and Aviation Support initiate an independent review of the structure and operating procedures of the Marine Incident Investigation Unit with a view to improving the breadth and consistency of its investigations and reports.
- b) The conclusions of the Marine Incident Investigation Unit investigations into marine incidents be more widely publicised throughout the shipping industry, including through industry and employee association publications similar to the practice followed by the Bureau of Air Safety Investigation.

Conclusion

6.49 In formulating its recommendations and conclusions the Committee has endeavoured to arrive at practical solutions which address ship safety issues in both the short and long term.

6.50 The Committee believes that an effective lasting solution to ship safety problems requires the cooperation of all participants in the international shipping industry. The IMO, flag states, port states, classification societies, ship owners and managers, crews, insurance underwriters, charterers and cargo owners all need to participate if both short and long term solutions are to bear positive results.

6.51 Recent attempts to improve the structural soundness of vessels and correct problems in the safety regulatory regime are encouraging. The Committee views these developments as merely the beginnings of a new attitude of concern for ship safety issues within the international shipping industry. The Committee anticipates that this new attitude will be translated into an identifiable improvement in ship safety standards.

Peter Morris MHR
Chairman

3 December 1992

REFERENCE LIST

Alvaray, Z., (1992), *Sinking Fast*, in, New York Times Magazine, 17 May 1992.

AMSA Annual Report, 1991/1992.

Daily Commercial News 11 August 1992.

Daily Commercial News 20 October 1992.

Daily Commercial News 21 October 1992.

Daily Commercial News 27 November 1992, p 6.

Det Norke Veritas, (1992), Invitation to Joint industry Project on Structural Performance of Bulk Carriers, Project A: Damage Scenario Evaluations, 1993.

Goss, R., Peltite, S., Nichols, L., (1991), *Seaman Accidental deaths and injuries Worldwide*, a methodology and some estimates, in, Journal of the Royal Institute of Navigation, Vol 44, No 2.

House of Lords, Select Committee on Science and Technology, (1992), Safety Aspects of Ship Design and Technology.

House of Lords (1992A), Select Committee on Science and Technology, 1992, Safety Aspects of Ship Design and Technology: Written Evidence.

Hill, M., (1991), *Catastrophe Risks of Dry Bulk Cargo*, Boston Conference of the International Union of Marine Insurance, September 1991.

Hill, M., (1992), *Catastrophe Risks of Dry Bulk Cargo*, Boston Conference of the International Union of Marine Insurance.

International Labour Organisation, International Labour Conference 77th Session 1990, *Labour Standards on Merchant Ships*, International Labour Office, Geneva.

International Shipping Federation, *The World Wide Demand for and Supply of Seafarers, Summary and Conclusions.*

Ion, E., (1992), *Hull Rates, Too Cheap for Too Long*, in, European Gateways, September 1992.

McDermott, K., (1991), *Rising rates for cargo insurance*, in, D&B Reports on Export Import, November/December 1991.

Rose, P., (1991), *Marine Oil Pollution Laws in Australia*, in, Australian Mining and Petroleum Law Association Yearbook, January 1991.

APPENDIX 1

DRY BULK CARGO VESSELS TOTALLY LOST WITH CARGO - 1988

Casualty Date	Vessel Name	Flag	Class	Age When Lost	Dead-weight Tonnage	Cargo	Lives Lost	Cause & Location of Total Loss	Cause of Loss Code
Feb 88	Philippine Roxas	Philippines	LR	20	76,559	Iron Ore	0	Grounded in River Orinoco. All double bottom tanks and seven of nine holds flooded. Refloated and sold for breaking up in June 88.	HE
Jul 88	Singa Sea	Philippines	LR	22	26,586	Mineral Sand and Copper Ore	19	Broke in two and sank in heavy seas off Western Australia. Six crew rescued after a month adrift in lifeboat.	SF
Dec 88	Mega Taurus	Panama	NK	9	30,413	Nickel Ore	20	Missing presumed sunk. Last reported in heavy weather North Pacific.	SF
Approximate Tonnage of Cargo Lost					<u>133,558</u>	Total Lives Lost		<u>39</u>	

CAUSE OF LOSS CODE

SF Structural Failure/Heavy Weather *
 HE Human Error (Collision, Grounding, Stranding)
 F Fire
 O Other

* Including "struck unknown object" as true cause of such losses believed to be structural failure of the vessel's hull.

DRY BULK CARGO VESSELS TOTALLY LOST WITH CARGO - 1989

Casualty Date	Vessel Name	Flag	Class	Age When Lost	Dead-weight Tonnage	Cargo	Lives Lost	Cause & Location of Total Loss	Cause of Loss Code
Jan 89	Kumanovo	Yugoslavia	LR	23	39,048	Coal	0	In collision with "Massira" off casablanca. Sank while being towed to Gibraltar.	HE
Feb 89	Kronos	Bahamas	AB	16	19,392	Steel	20	Missing presumed sank. Last reported North Atlantic.	SF
Apr 89	Koba	Mexico	None	24	4,084	Sorghum Grain	1	Sank during heavy weather in Gulf of Mexico.	SF
Apr 89	Star of Alexandria	British (Gibraltar)	BV	24	35,967	Cement	2	Broke up and sank in bad weather 400 miles South East of Cape Cod.	SF
Apr 89	Sevasti	Bahamas	NK	18	15,147	Timber	0	Vessel sank in heavy weather off Namibia.	SF
May 89	Huron (ex. 'Esperson')	Cyprus	NK	17	16,895	Steel and Timber	14	No. 1 hold flooded and vessel sank in heavy seas South East of Madagascar.	SF
Jul 89	Sifnos Star	Cyprus	AB	16	16,631	Unknown	0	Fire in engine room in Arabian Sea. Crew abandoned ship and were rescued. Later search unable to locate vessel. Presumed sank.	SF
Sep 89	Lung Hao	Panama	NV	23	20,372	Logs	5	Broke moorings during typhoon "Sarah" in Hualien Harbour, Taiwan. Grounded and broke in two.	O
Oct 89	Pan Dynasty	Korea	KR NV	11	36,650	Rock Phosphate	0	Sustained hull damage in heavy weather. Later sank off Aleutian Islands.	SF
Oct 89	Porn Udam (ex. 'Hanli m Master')	Thailand	KR (NK)	20	16,504	Tapioca	26	Hull fractured off Taiwan. Missing presumed sank.	SF
Oct 89	Mercantil Marica	Brazil	BV	7	38,847	Alumina	0	Had main engine trouble and ran aground near Sognefjord, Norway. Later broke in two.	O
Nov 89	Norsul Trombetas	Brazil	NV	5	28,243	Bauxite	0	Grounded off Itaquí, Brazil. Later broke in two and sank.	HE
Dec 89	Vulca	St. Vincents	NK (BV)	21	42,245	Scrap Iron	0	Took water in two holds and later sank 750 miles North East of Oahu, Hawaii.	SF

Approximate Tonnage of Cargo Lost

330,025 Total Lives Lost 68

CAUSE OF LOSS CODE

SF Structural Failure/Heavy Weather *
 HE Human Error (Collision, Grounding, Stranding)
 F Fire
 O Other

* Including "struck unknown object" as true cause of such losses believed to be structural failure of the vessel's hull.

DRY BULK CARGO VESSELS TOTALLY LOST WITH CARGO - 1990

Casualty Date	Vessel Name	Flag	Class	Age When Lost	Dead-weight Tonnage	Cargo	Lives Lost	Cause & Location of Total Loss	Cause of Loss Code
Jan 90	Orient Pioneer	Liberia	NV	19	108,504	Iron Ore	0	Took water via damaged duct keel. Crew abandoned ship and rescued. Vessel later sank. Indian Ocean.	SF
Jan 90	Charlie	Cyprus	NK	15	20,246	Grain	27	Missing. Presumed sank - North Atlantic. Air search failed to locate vessel.	SF
Feb 90	Walter Leonhardt	Cyprus	GL	24	42,805	Phosphate Rock	0	Internal frames broken, side plating collapsed, flooded and sank North Atlantic.	SF
Mar 90	Azalea	Korea	KR & NK	21	78,571	Iron Ore Pellets	4	Developed fracture in No. 1 ballast tank causing list. Capsized and sank whilst in tow of salvage tug. Four salvage crew lost. North Atlantic, off Norway.	SF
Mar 90	Alexandre-P (ex. 'Acacia')	Panama	KR & NK	23	94,532	Iron Ore	25	Missing presumed sank. Air search failed to locate vessel. Two dead crew later found in life raft. Indian Ocean, off Western Australia.	SF
May 90	Tao Yuan Hai	China	NII LR withdrawn 1.2.89	13	122,734	Iron Ore	0	Fracture in hull and four holds flooded. Vessel abandoned and presumed sank. Crew rescued. Indian Ocean.	SF
May 90	Silima	Liberia	NV	12	69,165	Iron Ore	0	Fractures in holds two and three during heavy weather and grounded. Salvors jettisoned part cargo. Sank on Aug 27 whilst under tow. Arabian sea, on voyage India to Italy.	SF
Jul 90	Petingo	Vanuatu	LR	23	80,580	Iron Ore	0	Sank off Richards Bay South Africa after sustaining heavy weather damage.	SF
Jul 90	Corazon	Malta	AB BV	18	28,757	Cement	6	Bow lost and keel fractured off Cape Cod during hurricane "Bertha" and later sank.	SF
Aug 90	Pasithea	Greece	AB	9	155,407	Iron Ore	31	Shifted from Kashima, Japan during typhoon "Vernon" and later reported missing. Presumed sank.	SF
Sep 90	Algarrobo	Liberia	AB	17	135,466	Iron Ore	32	Missing presumed sank. South Pacific off South America.	SF
Dec 90	Elounda Day (ex. 'Alinda')	Panama	GL	17	38,250	Potash	0	Fractures in No. 2 hold in heavy weather. Abandoned by crew and later sank. North Pacific.	SF

Approximate Tonnage of Cargo Lost

975,017 Total Lives Lost 125

CAUSE OF LOSS CODE

SF Structural Failure/Heavy Weather *
 HE Human Error (Collision, Grounding, Stranding)
 F Fire
 O Other

* Including "struck unknown object" as true cause of such losses believed to be structural failure of the vessel's hull.

DRY BULK CARGO VESSELS TOTALLY LOST WITH CARGO - 1991

Casualty Date	Vessel Name	Flag	Class	Age When Lost	Dead-weight Tonnage	Cargo	Lives Lost	Cause & Location of Total Loss	Cause of Loss Code
Jan 91	Continental Lotus	India	AB	24	53,346	Iron Ore	35	Fracture in shell plating. Sank East of Malta.	SF
Jan 91	Protektor	Singapore	GL	24	80,185	Iron Ore	33	Missing presumed sunk. Off South East Newfoundland.	SF
Feb 91	Gallant Dragon	Panama	BV	15	123,126	Iron Ore	0	Struck unknown object September 1990. Constructive total loss and scuttled off Brazil, Feb 91.	SF
Feb 91	C. Eregli	Turkey	LR	17	16,639	Iron Ore	1	In collision with "Mendana Spirit" and later sank. Off Yemen.	HE
Feb 91	Anja	Cyprus	GL	19	6,209	Fertiliser	0	Grounded and later sank. Off North West Spain.	HE
Feb 91	Sanko Harvest	Panama	NK	6	33,024	Fertiliser	0	Stranded and later sank. Approaching Esperence, Western Australia.	HE
Feb 91	Salvia	S. Korea	KR	21	153,256	Iron Ore	0	Fracture in shell plating. Sank South East of Japan.	SF
Feb 91	Fairwind	Malta	Nil	24	25,505	Pig Iron	0	Struck unknown object and sank in Gulf of Aden.	SF
Apr 91	Vasso	Bahamas	AB	24	57,181	Iron Ore	0	Fracture in No. 1 hold. Sank Indian Ocean.	SF
Apr 91	Starfish	Argentina	NK	21	56,277	Iron Ore	0	Fracture in No. 4 hold. Ordered to leave Port Louis, Mauritius. Sank Indian Ocean.	SF
Apr 91	Mineral Diamond	Hong Kong (British)	NV	9	141,028	Iron Ore	27	Missing presumed sunk. Indian Ocean, on voyage Western Australia to Europe.	SF
Jul 91	Manila Transporter	Philippines	NK	16	115,960	Iron Ore	0	Developed cracks in No. 3 hold. Crew rescued and vessel later sank. On voyage Dampier, Western Australia to Port Talbot, United Kingdom.	SF
Aug 91	Melete	Greece	LR	16	72,063	Iron Ore	25	Sank in Indian Ocean off Reunion. Two crew rescued. On voyage Dampier, Western Australia to Port Talbot, United Kingdom.	SF
Aug 91	Sunset	Cyprus	Nil	21	20,932	Steel & Zinc Beams & Plates	0	Encountered heavy weather, took on water and sank off Socotra Island, Gulf of Aden.	SF
Aug 91	Petchomphoo	Thailand	BV	22	17,241	Steel	22	Missing presumed sank. South China Sea.	SF
Oct 91	Erato	Malta	BV	23	29,098	Phosphate	6	Sank in Western Mediterranean.	SF
Nov 91	Sonata (ex Tsingtao)	Panama	RI	22	79,681	Iron Ore Pellets	0	Sprang leak and sank off Norway.	SF
Nov 91	Entrust Faith (ex. Istanbul Z)	Greece	AB	18	63,533	Iron Ore	0	Sustained shell plating damage and anchored off Ponta Delgado, Azores. Later towed out to sea and sank.	SF
Nov 91	Hanjin Karachi	Korea	KR	18	17,918	Unknown	0	Ingress of water into engine room. Later sank off Calayan Island, Philippines.	SF
Approximate Tonnage of Cargo Lost					1,162,202	Total Lives Lost		149	

CAUSE OF LOSS CODE

SF Structural Failure/Heavy Weather *
 HE Human Error (Collision, Grounding, Stranding)
 F Fire
 O Other

* Including "struck unknown object" as true cause of such losses believed to be structural failure of the vessel's hull.

CONDUCT OF THE INQUIRY, EVIDENCE AND WITNESSES

1. The House of Representatives Standing Committee on Transport, Communications and Infrastructure was appointed under Sessional Order 28B on 8 May 1990. The Committee is empowered to inquire into and report on any matter referred to it by either the House or a Minister.
2. On 10 December 1991 the Committee received a reference from the then Minister for Shipping and Aviation Support, the Hon Bob Collins, to inquire into the matter of ship safety.
3. The Committee appointed a subcommittee comprising the Hon P F Morris (Chairman), Mr J Anderson MP, Mr E Cameron MP, Mr G Campbell MP and Mr C Hollis MP on 19 December 1991 to inquire into and report on the reference.
4. The reference was advertised in the Weekend Australian on 21 December 1991. The advertisement asked for submissions to be lodged by 13 March 1992. The Committee also wrote a number of organisations in Australia and overseas associated with the international shipping industry inviting them to make submissions to the inquiry.

Public Hearings

5. The subcommittee carried out the following series of inspections and public hearings in the course of the inquiry:

16 July 1992	Sydney	public hearing
17 July 1992	Melbourne	public hearing
20 July 1992	Dampier	inspection of iron ore loading facilities at Dampier and public hearing
22 July 1992	Perth	public hearing
13 August 1992	Canberra	public hearing
1 September	Canberra	public hearing
4 September 1992	Newcastle	inspection of coal loading facilities at Port Waratah Coal Loader and public hearing
9 September 1992	Canberra	public hearing

28 September 1992	Launceston	inspection of the Australian Maritime College training facilities and public hearing
16 October 1992	Port Kembla	inspection of coal loading facilities at the Port Kembla Coal Terminal and public hearing
4 November 1992	Canberra	public hearing

Evidence

6. The evidence consists mostly of written submissions made to the Committee, oral evidence taken at public hearings and documents received in the course of the inquiry.

7. Sixty nine written submissions were received. The written submissions which have been authorised for publication along with the oral evidence will be bound and copies sent to the National Library and Parliamentary Library. A set will be retained in the committee secretariat.

8. The submissions authorised for publication are as follows:

SUBMISSION	PERSON/ORGANISATION
1	John C Chatwin Australian Maritime College
2	Stuart Noble
3	Hydrographic Service Royal Australian Navy
4	Keith Ralfs & Associates Maritime Engineers, Surveyors and Consultants
5	Lloyd's Register Ship Division
6	Maritime Consultants (Singapore) Pty Ltd
7	Queensland Sugar Corporation
8	The Company of Master Mariners of Australia
9	Port Committee of Combined Waterfront Unions Port Kembla

- 10 Mr J Fullerton
- 11 BP Australia Ltd
- 12 Mr Yee Weng Low
Australian Maritime College
- 13 Mr J Chapman
- 14 ANL Ltd
- 15 Australian Maritime College
- 16 Submission number not used
- 17 International Association of Dry
Cargo Shipowners (Intercargo)
- 18 Australian Maritime Safety
Authority
- 19 Save Our Signal Station
(SOSS) Committee
- 20 Nabalco Pty Ltd
- 21 Federation of Australian
Maritime Unions (FAMU)

- 22 The Institute of Marine Engineers
Australia/New Zealand Division
- 23 Shell Company of Australia Ltd
- 24 Australian Mining Industry
Council
- 25 Australian National Maritime
Association Ltd
- 26 The Missions to Seamen
Newcastle
- 27 Australian Coal Association
- 28 Australian Maritime Safety
Authority
- 29 Port Waratah Coal Services Ltd
- 30 CRA Limited
- 31 National Bulk Commodities
Group
- 32 Australian Chamber of Shipping
Ltd

- 44 Port Kembla Coal Terminal
Limited
- 45 The Inchcape Group
- 46 Department of Transport and
Communications
- 47 National Bulk Commodities
Group
- 48 Australian Institute of Petroleum
Ltd
- 49 Associated Marine Insurers
Agents Pty Ltd
- 50 Seamen's Union of Australia
- 51 Seamen's Union of Australia
- 52 Department of Transport and
Communications
- 53 Department of Marine and
Harbours - Western Australia

- 54 Waterside Workers' Federation of
Australia
- 55 Waterside Workers' Federation
- 56 Australian Maritime Safety
Authority
- 57 Insurance Council of Australia
Ltd
- 58 Australian Maritime Safety
Authority
- 59 United Salvage Pty Ltd
- 60 Department of Transport and
Communications
- 61 Australian National Maritime
Association Ltd
- 62 Bureau Veritas Australia
- 63 Fremantle Port Authority
- 64 Australian Maritime Safety
Authority

65	Port Kembla Coal Terminal
66	Greenpeace Australia Ltd
67	UK P&I Club
68	Australian Maritime Safety Authority
69	International Association of Dry Cargo Shipowners (Intercargo)

Exhibits

9. The following exhibits were received in the course of the inquiry:

EXHIBIT NO. DESCRIPTION

- | | |
|---|--|
| 1 | Coal Exporting Terminal Operator's Association CETOA Conference Richards Bay RSA 18-22 May 1992 - The <i>MV Afthros</i> Incident Friday 1 May 1992 RBCT. |
| 2 | Flag State Compliance - Report of the Working Group. |
| 3 | Ship Inspection Report on the <i>Kirki</i> carried out at Fujairah on 7 June 1990. |
| 4 | The Missions to the Seamen Port Kembla - The Annual Report. |

- 5 Document titled *Insurance*, received from Mr P Atkins outlining vessel screening procedures.
- 6 Australian Maritime Safety Authority report on the inspection of the vessel *Mineral Diamond*.
- 7 Document from Canadian High Commission detailing the Canadian port state control regime with regard to bulk carriers.
- 8 Analysis of eight marine incidents.

Witnesses

10. The following witnesses appeared before the Committee and were examined:

ORGANISATION/WITNESS	DATE(S) OF APPEARANCE(S)
Ampol Ltd	
Mr Kenneth Charles Williamson Shipping Manager	4 November 1992
Australian Chamber of Shipping	
Mr John Mark Bradbury Executive Officer	16 July 1992
Captain James Cochrane	16 July 1992

Australian Coal Association

Mr David Brookes 16 July 1992

Adviser

Mr John Crawford Hannan 16 July 1992

Captain James Denis Holden 16 July 1992

Adviser

Mr Charles Benedict Klaassen 16 July 1992

Australian Maritime College

Mr Rodney Francis Short 28 September 1992

Principal

Mr Richard Alfred Bray 28 September 1992

Lecturer

Mr John Chatwin 28 September 1992

Lecturer

School of Engineering

Captain Peter Muirhead 28 September 1992

Head

School of Nautical Studies

Dr Martin Robert Renilson
Director
Ship Hydrodynamics Centre

28 September 1992

Australian Maritime Safety Authority

Mr Paul Matthew McGrath
Chief Executive

13 August 1992
9 September 1992

Mr Michael Roger Balsdon
Senior Marine Surveyor

20 July 1992

Mr Michael Herbert Julian
Manager
Marine Environment Protection

13 August 1992
9 September 1992

Captain Reza Rezazadeh Vind
Marine Surveyor

20 July 1992

Mr Ian Mills Williams
Manager
Ship and Personnel Safety Services

13 August 1992
9 September 1992

Australian Mining Industry Council

Mr Ron Knapp
Assistant Director

13 August 1992

Australian National Maritime Association

Mr Lachlan Payne 17 July 1992
Chief Executive

Mr Robert Hartley 17 July 1992
Maritime Policy

BHP Transport

Dr James Edward Lewis 17 July 1992
General Manager

Captain John Van Paine 17 July 1992
Manager Fleet Operations

Company of Master Mariners of Australia

Captain Alan Hubert Irons 4 September 1992
Federal Master

Captain Eric John Atkinson 22 July 1992
Member

Captain Geoffrey Cleveland 16 July 1992
Federal Primer Warden and Acting Federal Master

Captain Patrick John Markham Evelegh 22 July 1992
Branch Master (Chairman)

Captain Jeffrey Warwick Fair 4 September 1992
Immediate Past Master

Captain Gordon MacDougall Lansley 22 July 1992
Member

Captain Norman James Mackie 16 July 1992
Past Sydney Branch Master

Captain Leslie George Packman 4 September 1992
Member

CSR Limited

Mr Philip Charles Atkins 4 November 1992
Operations Manager

Dampier Port Authority

Captain Garth Hammonds 20 July 1992
Harbour Master/Chief Executive Officer

Department of Transport and Communications

Captain Christopher William Filor
Inspector of Marine Accidents
Marine Incident Investigation Unit
13 August 1992

Captain John Keith Leverton
Investigator
Marine Incident Investigation Unit
13 August 1992

Det Norske Veritas

Mr Haakon Eriksen
Vice President/Head of Division Asia Pacific
16 October 1992

Mr Egil Olbjorn
Regional Manager for Australia and New Zealand
16 October 1992

FEDFA

Mr John Maxwell McMurdo
Shift Delegate
16 October 1992

Hammersley Iron

Mr George Benz
General Manager
Shipping
20 July 1992

Mr Paul Piercy 20 July 1992
General Manager-Dampier Operations

Captain Walker 20 July 1992

Institute of Marine Engineers

Mr Keith McCallum Murray 16 July 1992
Divisional Secretary
Australia-New Zealand Division

Mr Laurence James Prandolini 16 July 1992
Honorary Secretary
Sydney Branch

Jebsens International (Australia) Pty Ltd

Mr Anthony Robert Carter 22 July 1992
Managing Director

Lloyd's Register of Shipping

Mr John Ferguson 1 September 1992
Manager
Technical Planning and Development Department

Mr Stuart Ridland 1 September 1992
Senior Principal Surveyor for Australia

Merchant Service Guild of Australia

Mr Michael Fleming
Federal Secretary

16 July 1992

MSB Illawarra Ports Authority

Mr Michael Hedley Muston
Managing Director

16 October 1992

National Bulk Commodities Group

Mr Brian Hunt
Deputy Chairman

17 July 1992

Port Kembla Coal Terminal Ltd

Mr Graeme Peter Hunt
General Manager

16 October 1992

Mr Paul William Beale
Operations Manager

16 October 1992

Captain Brian George Edward Smith
Consultant

16 October 1992

Port Kembla Ports Committee of Maritime Unions

Mr Rodney James Paterson
Vice-President

16 October 1992

Port Waratah Coal Service Ltd

Mr Phillip Arthur Leslie Hughes
General Manager

4 September 1992

Queensland Sugar Corporation

Mr Warren Males
Principal Economist

4 November 1992

Seamens Union of Australia

Mr Anthony Papaconstuntinos
Federal Secretary

16 July 1992

Shell Company of Australia

Mr Michael John Hines
Marine Manager

17 July 1992

The Missions to Seamen

Reverend John Bernard Crane Chaplain Port of Newcastle	4 September 1992
Reverend Lance Puckeridge Chaplain	4 November 1992

United Salvage

Captain Kenneth Hugh Ross Managing Director	13 August 1992 1 September 1992
Mr Trevor Keith Cosh Chief Salvage Engineer	13 August 1992
Mr Ian John Hoskison Director and Salvage Manager	13 August 1992 1 September 1992

Individuals

Captain Michael Evans Mount Pleasant NSW	16 October 1992
Mr Warwick Hood Blackheath NSW	4 September 1992

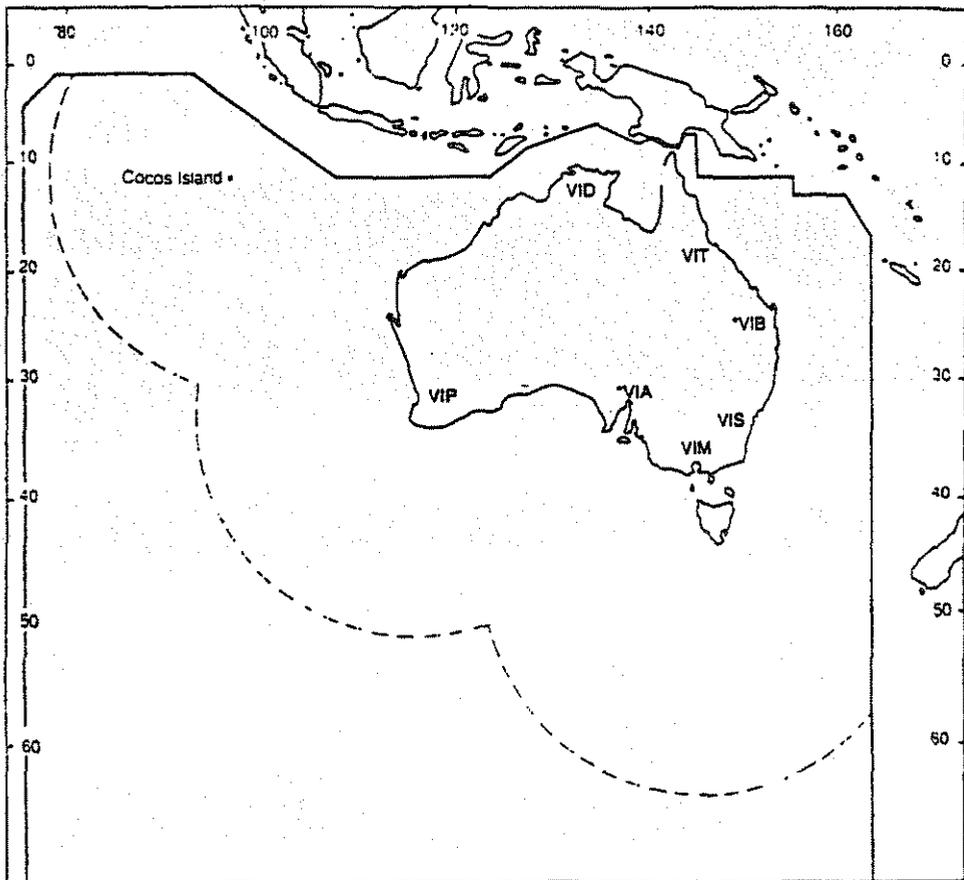
APPENDIX 3

AUSTRALIAN SHIP REPORTING AREA

Co-ordinates of Australian SAR and AUSREP area are:

The coast of the Antarctic continent in longitude 75° E thence

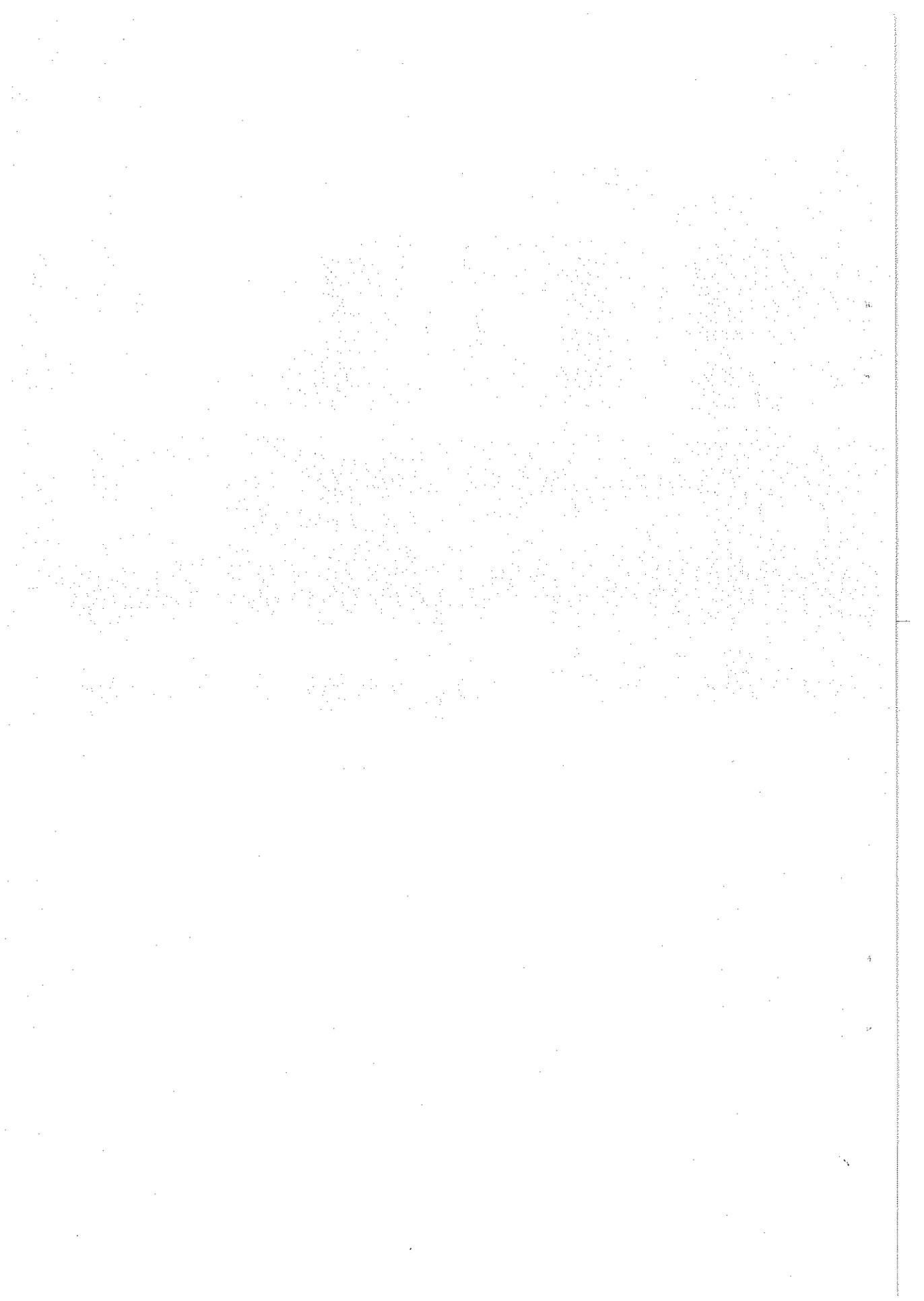
6°00'S	75°00'E	9°37'S	141°02'E
2°00'S	78°00'E	9°08'S	143°53'E
2°00'S	92°00'E	9°24'S	144°13'E
12°00'S	107°00'E	12°00'S	144°00'E
12°00'S	123°20'E	12°00'S	155°00'E
9°20'S	126°50'E	14°00'S	155°00'E
7°00'S	135°00'E	14°00'S	161°00'E
9°50'S	139°40'E	17°40'S	163°00'E
9°50'S	141°00'E	to the coast of the Antarctic continent in longitude 163°00'E	



--- Depicts approximate radius of action for Australian based long range search aircraft

* Note: VIA and VIB* available only until 31 January 1993

AUSTRALIAN SHIP REPORTING (AUSREP) AREA



PRINCIPAL INTERNATIONAL CONVENTIONS OF IMO

The International Convention for the Safety of Life at Sea 1974 (SOLAS)

The SOLAS Convention applies to cargo ships of 500 gross tons or more and to all passenger ships engaged on international voyages. The Convention does not apply to warships, troopships, cargo ships of less than 500 tons, ships not propelled by mechanical means, wooden ships of primitive build, pleasure craft and fishing vessels.

The Convention prescribes a wide range of standards and regulatory measures designed to ensure adequate safety provisions for ships and their passengers and crew. The Convention contains standards relating to stability, subdivision, machinery, electrical installations, fire protection, detection and extinction, life-saving appliances, radio (including satellite distress communications), safety of navigation and the carriage of cargoes. Provisions to enable governments to ensure standards are complied with and maintained are included in the Convention.

The International Convention on Load Lines 1966 (LL)

The LL Convention applies to vessels of 24 metres or more in length which make international voyages and which are required by the Convention to be assigned load lines. Warships, fishing vessels and pleasure craft are excluded from the provisions of the Convention.

Compliance with the Convention includes ensuring the watertight integrity of the ship, satisfactory hull strength when loaded to the draft corresponding to the freeboard assigned and sufficient stability for its intended service.

Convention on the International Regulations for Preventing Collisions at Sea 1972 (COLREGS)

This Convention contains rules for the navigation of vessels and the carriage and use of lights, shapes and sound-signalling equipment to be carried, together with their technical specifications. The Convention also defines traffic separation schemes to reduce the risk of collision between ships sailing in congested shipping areas.

International Convention on Standards of Training Certification and Watchkeeping for Seafarers 1978 (STCW)

This Convention is concerned with the competency and training of seafarers and identifies principles with the objective of ensuring that internationally acceptable minimum standards of training, certification and watchkeeping are attained. These principles concern:

- . the minimum knowledge to be acquired by engineer, deck and radio officers for certification purposes
- . continued proficiency of engineer, deck and radio officers' knowledge
- . the training of ratings

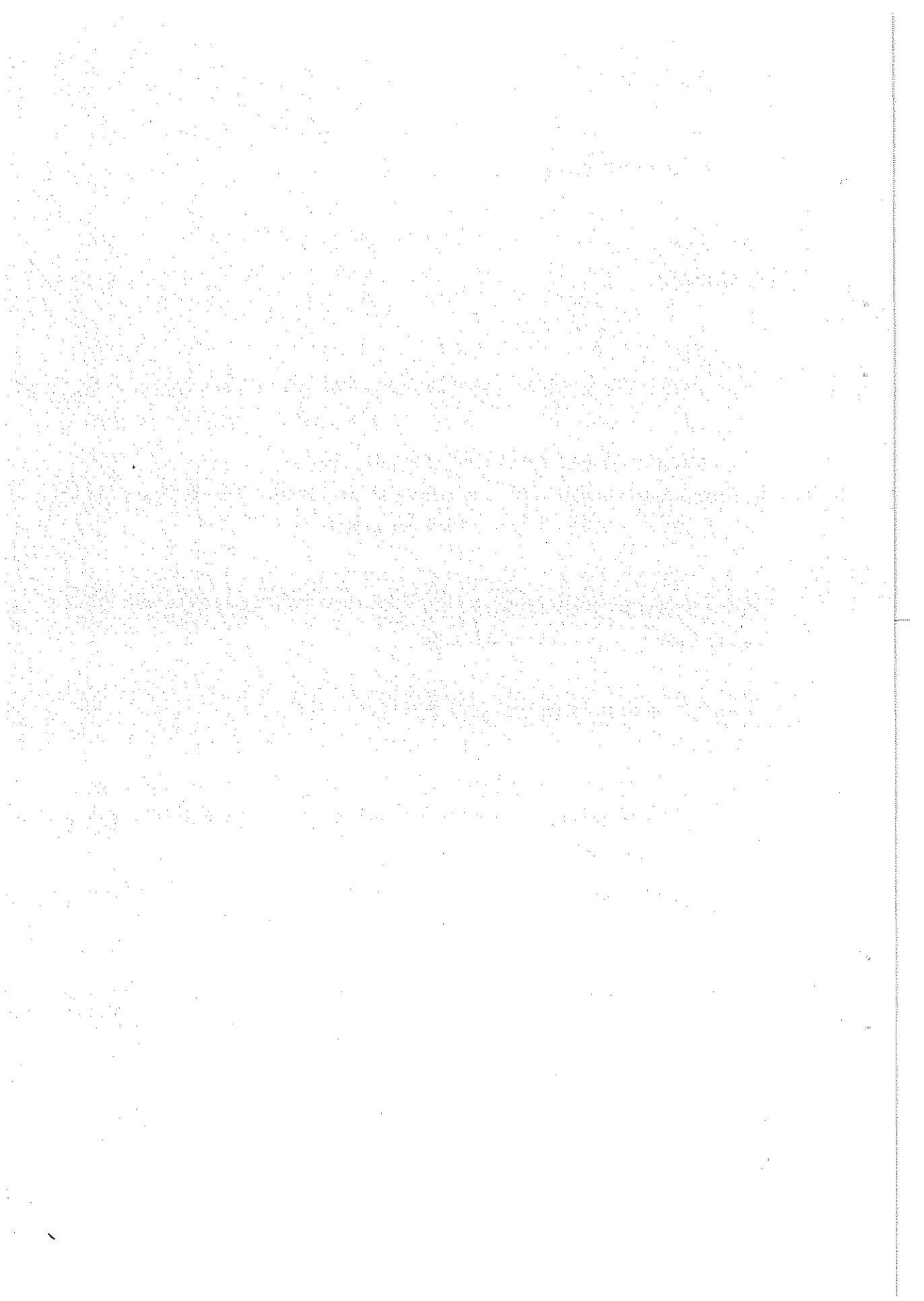
- training and qualifications for officers and ratings on oil, chemical and liquefied gas tankers.

International Convention for the Prevention for Pollution from Ships (MARPOL)

The prime objective of MARPOL is the protection of the marine environment. This is achieved by defining substances which are pollutants and regulating the quantities which can be discharged into the sea. Measures for ensuring discharge limitations. Measures for ensuring that discharge limitations are complied with and standards for containment and handling of pollutants are also included in the convention.

The Convention contains five annexes concerned with the control with the different types of pollution from ships.

- Annex 1** Prevention of Pollution by Oil
- Annex 2** Control of Pollution by Noxious Liquid Substances in Bulk
- Annex 3** Prevention of Pollution by Harmful Substances carried by Sea in Packaged Forms or in Freight Containers, Portable Tanks or Road and Rail Tank Wagons
- Annex 4** Prevention of Pollution by Sewage from Ships (is not expected to enter into force for several years)
- Annex 5** Prevention of Pollution by Garbage from Ships



Convention 147CONVENTION CONCERNING MINIMUM STANDARDS
IN MERCHANT SHIPS

The General Conference of the International Labour Organisation,
Having been convened at Geneva by the Governing Body of the International
Labour Office and having met in its Sixty-second Session on 13 October 1976,
and

Recalling the provisions of the Seafarers' Engagement (Foreign Vessels) Recom-
mendation, 1958, and of the Social Conditions and Safety (Seafarers) Recom-
mendation, 1958, and

Having decided upon the adoption of certain proposals with regard to substandard
vessels, particularly those registered under flags of convenience, which is
the fifth item on the agenda of the session, and

Having determined that these proposals shall take the form of an international
Convention,

adopts this twenty-ninth day of October of the year one thousand nine hundred and
seventy-six the following Convention, which may be cited as the Merchant Shipping
(Minimum Standards) Convention, 1976:

Article 1

1. Except as otherwise provided in this Article, this Convention applies to every sea-going ship, whether publicly or privately owned, which is engaged in the transport of cargo or passengers for the purpose of trade or is employed for any other commercial purpose.

2. National laws or regulations shall determine when ships are to be regarded as sea-going ships for the purpose of this Convention.

3. This Convention applies to sea-going tugs.

4. This Convention does not apply to—

- (a) ships primarily propelled by sail, whether or not they are fitted with auxiliary engines;
- (b) ships engaged in fishing or in whaling or in similar pursuits;
- (c) small vessels and vessels such as oil rigs and drilling platforms when not engaged in navigation, the decision as to which vessels are covered by this subparagraph to be taken by the competent authority in each country in consultation with the most representative organisations of shipowners and seafarers.

5. Nothing in this Convention shall be deemed to extend the scope of the Conventions referred to in the Appendix to this Convention or of the provisions contained therein.

Each Member which ratifies this Convention undertakes—

- (a) to have laws or regulations laying down, for ships registered in its territory—
 - (i) safety standards, including standards of competency, hours of work and manning, so as to ensure the safety of life on board ship;
 - (ii) appropriate social security measures; and
 - (iii) shipboard conditions of employment and shipboard living arrangements, in so far as these, in the opinion of the Member, are not covered by collective agreements or laid down by competent courts in a manner equally binding on the shipowners and seafarers concerned;and to satisfy itself that the provisions of such laws and regulations are substantially equivalent to the Conventions or Articles of Conventions referred to in the Appendix to this Convention, in so far as the Member is not otherwise bound to give effect to the Conventions in question;
- (b) to exercise effective jurisdiction or control over ships which are registered in its territory in respect of—
 - (i) safety standards, including standards of competency, hours of work and manning, prescribed by national laws or regulations;
 - (ii) social security measures prescribed by national laws or regulations;
 - (iii) shipboard conditions of employment and shipboard living arrangements prescribed by national laws or regulations, or laid down by competent courts in a manner equally binding on the shipowners and seafarers concerned;
- (c) to satisfy itself that measures for the effective control of other shipboard conditions of employment and living arrangements, where it has no effective jurisdiction, are agreed between shipowners or their organisations and seafarers' organisations constituted in accordance with the substantive provisions of the Freedom of Association and Protection of the Right to Organise Convention, 1948, and the Right to Organise and Collective Bargaining Convention, 1949;
- (d) to ensure that—
 - (i) adequate procedures—subject to over-all supervision by the competent authority, after tripartite consultation amongst that authority and the representative organisations of shipowners and seafarers where appropriate—exist for the engagement of seafarers on ships registered in its territory and for the investigation of complaints arising in that connection;
 - (ii) adequate procedures—subject to over-all supervision by the competent authority, after tripartite consultation amongst that authority and the representative organisations of shipowners and seafarers where appropriate—exist for the investigation of any complaint made in connection with and, if possible, at the time of the engagement in its territory of seafarers of its own nationality on ships registered in a foreign country, and that such complaint as well as any complaint made in connection with and, if possible, at the time of the engagement in its territory of foreign seafarers on ships registered in a foreign country, is promptly reported by its competent authority to the competent authority of the country in which the ship is registered, with a copy to the Director-General of the International Labour Office;
- (e) to ensure that seafarers employed on ships registered in its territory are properly qualified or trained for the duties for which they are engaged, due regard being had to the Vocational Training (Seafarers) Recommendation, 1970;

- (f) to verify by inspection or other appropriate means that ships registered in its territory comply with applicable international labour Conventions in force which it has ratified, with the laws and regulations required by subparagraph (a) of this Article and, as may be appropriate under national law, with applicable collective agreements;
- (g) to hold an official inquiry into any serious marine casualty involving ships registered in its territory, particularly those involving injury and/or loss of life, the final report of such inquiry normally to be made public.

Article 3

Any Member which has ratified this Convention shall, in so far as practicable, advise its nationals on the possible problems of signing on a ship registered in a State which has not ratified the Convention, until it is satisfied that standards equivalent to those fixed by this Convention are being applied. Measures taken by the ratifying State to this effect shall not be in contradiction with the principle of free movement of workers stipulated by the treaties to which the two States concerned may be parties.

Article 4

1. If a Member which has ratified this Convention and in whose port a ship calls in the normal course of its business or for operational reasons receives a complaint or obtains evidence that the ship does not conform to the standards of this Convention, after it has come into force, it may prepare a report addressed to the government of the country in which the ship is registered, with a copy to the Director-General of the International Labour Office, and may take measures necessary to rectify any conditions on board which are clearly hazardous to safety or health.

2. In taking such measures, the Member shall forthwith notify the nearest maritime, consular or diplomatic representative of the flag State and shall, if possible, have such representative present. It shall not unreasonably detain or delay the ship.

3. For the purpose of this Article, "complaint" means information submitted by a member of the crew, a professional body, an association, a trade union or, generally, any person with an interest in the safety of the ship, including an interest in safety or health hazards to its crew.

Article 5

1. This Convention is open to the ratification of Members which—
- (a) are parties to the International Convention for the Safety of Life at Sea, 1960, or the International Convention for the Safety of Life at Sea, 1974, or any Convention subsequently revising these Conventions; and
 - (b) are parties to the International Convention on Load Lines, 1966, or any Convention subsequently revising that Convention; and
 - (c) are parties to, or have implemented the provisions of, the Regulations for Preventing Collisions at Sea of 1960, or the Convention on the International Regulations for Preventing Collisions at Sea, 1972, or any Convention subsequently revising these international instruments.

2. This Convention is further open to the ratification of any Member which, on ratification, undertakes to fulfil the requirements to which ratification is made subject by paragraph 1 of this Article and which are not yet satisfied.

3. The formal ratifications of this Convention shall be communicated to the Director-General of the International Labour Office for registration.

Article 6

1. This Convention shall be binding only upon those Members of the International Labour Organisation whose ratifications have been registered with the Director-General.

2. It shall come into force twelve months after the date on which there have been registered ratifications by at least ten Members with a total share in world shipping gross tonnage of 25 per cent.

3. Thereafter, this Convention shall come into force for any Member twelve months after the date on which its ratification has been registered.

Article 7

1. A Member which has ratified this Convention may denounce it after the expiration of ten years from the date on which the Convention first comes into force, by an act communicated to the Director-General of the International Labour Office for registration. Such denunciation shall not take effect until one year after the date on which it is registered.

2. Each Member which has ratified this Convention and which does not, within the year following the expiration of the period of ten years mentioned in the preceding paragraph, exercise the right of denunciation provided for in this Article, will be bound for another period of ten years and, thereafter, may denounce this Convention at the expiration of each period of ten years under the terms provided for in this Article.

Article 8

1. The Director-General of the International Labour Office shall notify all Members of the International Labour Organisation of the registration of all ratifications and denunciations communicated to him by the Members of the Organisation.

2. When the conditions provided for in Article 6, paragraph 2, above have been fulfilled, the Director-General shall draw the attention of the Members of the Organisation to the date upon which the Convention will come into force.

Article 9

The Director-General of the International Labour Office shall communicate to the Secretary-General of the United Nations for registration in accordance with Article 102 of the Charter of the United Nations full particulars of all ratifications and acts of denunciation registered by him in accordance with the provisions of the preceding Articles.

Article 10

At such times as it may consider necessary the Governing Body of the International Labour Office shall present to the General Conference a report on the working of this Convention and shall examine the desirability of placing on the agenda of the Conference the question of its revision in whole or in part.

Article 11

1. Should the Conference adopt a new Convention revising this Convention in whole or in part, then, unless the new Convention otherwise provides—

- (a) the ratification by a Member of the new revising Convention shall *ipso jure* involve the immediate denunciation of this Convention, notwithstanding the provisions of Article 7 above, if and when the new revising Convention shall have come into force;
- (b) as from the date when the new revising Convention comes into force this Convention shall cease to be open to ratification by the Members.

2. This Convention shall in any case remain in force in its actual form and content for those Members which have ratified it but have not ratified the revising Convention.

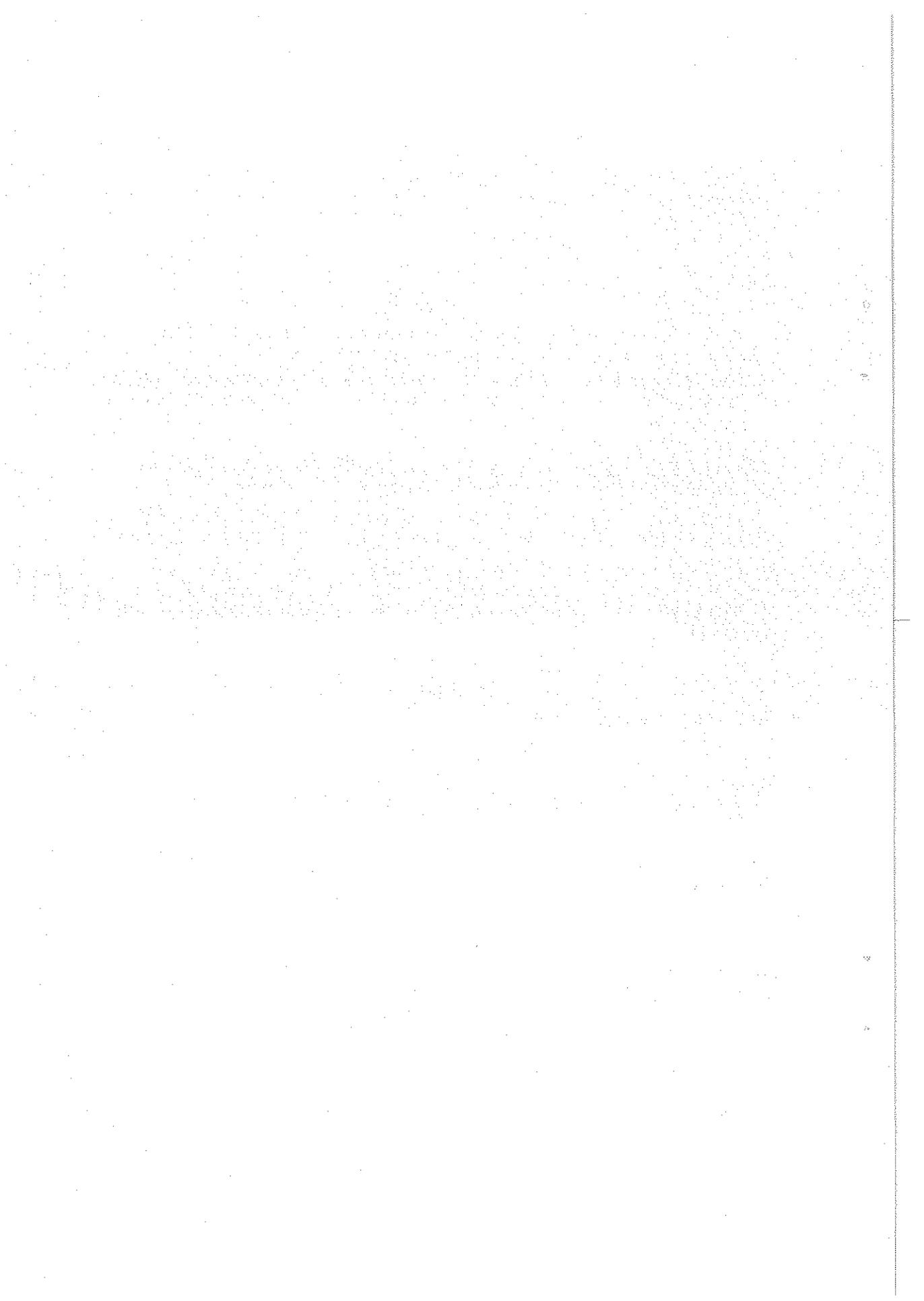
Article 12

The English and French versions of the text of this Convention are equally authoritative.

APPENDIX

Minimum Age Convention, 1973 (No. 138), or
Minimum Age (Sea) Convention (Revised), 1936 (No. 58), or
Minimum Age (Sea) Convention, 1920 (No. 7);
Shipowners' Liability (Sick and Injured Seamen) Convention, 1936 (No. 55), or
Sickness Insurance (Sea) Convention, 1936 (No. 56), or
Medical Care and Sickness Benefits Convention, 1969 (No. 130);
Medical Examination (Seafarers) Convention, 1946 (No. 73);
Prevention of Accidents (Seafarers) Convention, 1970 (No. 134) (Articles 4 and 7);
Accommodation of Crews Convention (Revised), 1949 (No. 92);
Food and Catering (Ships' Crews) Convention, 1946 (No. 68) (Article 5);
Officers' Competency Certificates Convention, 1936 (No. 53) (Articles 3 and 4)¹;
Seamen's Articles of Agreement Convention, 1926 (No. 22);
Repatriation of Seamen Convention, 1926 (No. 23);
Freedom of Association and Protection of the Right to Organise Convention, 1948 (No. 87);
Right to Organise and Collective Bargaining Convention, 1949 (No. 98).

¹ In cases where the established licensing system or certification structure of a State would be prejudiced by problems arising from strict adherence to the relevant standards of the Officers' Competency Certificates Convention, 1936, the principle of substantial equivalence shall be applied so that there will be no conflict with that State's established arrangements for certification.



**REGULATIONS AND ORDERS UNDER THE
NAVIGATION ACT 1912**

Regulations

Navigation (Compass) Regulations
 Navigation (Construction) Regulations
 Navigation (Deck Cargo) Regulations
 Navigation (Marine Casualty) Regulations
 Navigation (Master and Seamen) Regulations
 Navigation (Orders) Regulations
 Navigation (Ship Reporting) Regulations

Orders

Part	Title
1	General
3	Seagoing Qualifications
6	Marine Qualifications - Radio
8	Marine Qualifications - Special Categories
9	Health - Medical Fitness
10	Health - Medicines and Medical Stores
11	Substandard Ships
12	Ship Construction
13	Ship Stability and Subdivision
14	Accommodation
15	Ship Fire Protection, Fire Detection and Fire Extinction
16	Load Lines
17	Liquefied Gas Carriers and Chemical Tankers
19	Tonnage Measurement - 1969 Convention
20	Ship machinery
21	Equipment - Navigational
23	Equipment - Miscellaneous Safety Measures
25	Equipment - Life-saving
26	Equipment - Communication
28	Operations Standards and Procedures
29	Emergency Procedures and Safety of Navigation
30	Prevention of Collisions
31	Ship Surveys and Certification
32	Cargo and Cargo Handling - Equipment and Safety Measures
33	Cargo and Cargo Handling - Grain
34	Cargo and Cargo Handling - Solid Bulk Cargoes
41	Cargo and Cargo Handling - Dangerous Goods
43	Cargo and Cargo Handling - Livestock
44	Convention Containers
45	Non-Convention Containers

46	Off-shore Supply Vessels
47	Off-shore Industry Mobile Units
48	Nuclear Ships
49	Dynamically Supported Craft
50	Special Purpose Ships
51	Fishing Vessels
52	Sailing Ships
91	Marine Pollution Prevention - Oil
92	Powers of Intervention - Noxious Substances
93	Marine Pollution Prevention - Noxious Liquid Substances in Bulk

Memorandum of Understanding

between the

**Department of Transport and
Communications**

and

Lloyd's Register of Shipping



Canberra
7 May 1990

Memorandum of Understanding between the Department of Transport and Communications and Lloyd's Register of Shipping

1 APPLICATION

This Memorandum applies in relation to services provided by the Society in respect of Australian-registered ships which:

- (a) undertake voyages under Federal jurisdiction, and
- (b) are subject to classification arrangements between the owner and the Society.

Note: Functions entrusted to the Society in relation to the International Convention for Safe Containers are specifically excluded.

2 PURPOSE

- (a) To set out, to the satisfaction of both parties, their rights and obligations, and specifically to enable the Department to satisfy itself that the following obligations are met:
 - (i) Australia's obligations under international conventions, guidelines and codes in respect of statutory ship safety functions entrusted to the Society;
 - (ii) the Minister's obligations under the Act and its associated Regulations; and
 - (iii) the obligations of Departmental officers under Marine Orders.
- (b) To elucidate the criteria the Department sees as essential for the authority given to the Society to have continued effect.

3 DEFINITIONS

exclusive surveyor means a person:

- (a) whose services relating to ships and shipping are not available other than through a Classification Society to which an approval has been granted under section 187BA of the Act; and
- (b) who is fully accredited to represent, and act on behalf of, that Society;

Note: With the exception of the exclusive surveyor having control of the Society's survey activities in Australia (mentioned in 7), this definition does not preclude a person from being an exclusive surveyor to more than one approved Classification Society.

non-exclusive surveyor means a person, other than an exclusive surveyor, who is regularly employed to undertake ship survey work on behalf of the Society;

certificate means a statutory certificate issued by the Society under the authority of the Department as provided by the Act and the regulations and orders made pursuant thereto;

ship includes an 'off-shore industry mobile unit';

survey means a survey or inspection undertaken by the Society in relation to the issue or endorsement of a certificate, and includes survey or inspection for classification purposes where these inspections are relevant to statutory requirements, for example:

- (a) Load Line Convention reg. 1;
- (b) SOLAS Ch I and Ch II - 1 reg. 26;
- (c) MARPOL reg. 4;

the Act means the *Navigation Act 1912*;

the Department means the Australian Department of Transport and Communications; and

the Society means Lloyd's Register of Shipping.

4 PRINCIPLES

Survey, issue and endorsement of certificates and other functions performed by the Society under this Memorandum are to be in accordance with Australian instructions and with the Society's rules and instructions. In the case of inconsistency, Australian instructions shall prevail. Inconsistencies identified by one party shall be advised to the other party and resolved as provided in this Memorandum.

5 FUNCTIONS

The functions performed by the Society under the authority of the Federal Government are those provided for by law and no others. The functions are identified in Schedule A.

6 INFORMATION

The Department shall make available to the Society sufficient copies of all Acts, Regulations, Marine Orders and Instructions to Surveyors as are necessary for the Society to carry out its functions under this Memorandum.

The Society shall make available to the Department sufficient copies, in the English language wherever practicable, of its classification rules, guidance notes, interpretations and instructions to surveyors.

Other information to be made available, or to be available on request for the purposes of audit, inspection and assessment is identified in Schedule B.

The Department shall provide appropriate security for, and maintain confidentiality in respect of, all unpublished information provided by the Society under this Memorandum.

7 PERFORMANCE OF FUNCTIONS BY SOCIETY

The Society's survey activities in Australia shall be under the control of an exclusive surveyor who shall be resident in Australia. Surveys relating to the issue and endorsement of certificates and to major repairs and alterations to ships shall be carried out under the supervision of an exclusive surveyor who shall endorse a report of the survey.

A report of survey conducted by a non-exclusive surveyor shall not be accepted as the basis for issue or endorsement of a certificate unless it is endorsed by the supervising exclusive surveyor within a period of 30 days from the survey.

Where surveys are arranged to be carried out other than by physical inspection under the supervision of an exclusive surveyor, except as provided above, full details of the alternative procedure shall be provided in advance to the Department. In this respect, the Department may accept surveys conducted by accredited chief engineers or in-water surveys, where they are conducted in accordance with general requirements to which the Department has given prior agreement.

8 CONSULTATION

The Department and the Society shall consult on the Rules, Regulations, Instructions and interpretations and on any other matter covered by this Memorandum at the request of either party.

9 AUDIT

The Department has the right to audit functions performed under this Memorandum in order to satisfy itself that Australia is able to meet the relevant obligations under the Act and international conventions, guidelines and codes adopted into Australian law.

Agreed principles of audit programs are set out in Schedule C.

Agreed procedures will be developed between the parties and shall be appended to this Memorandum within 12 months of its commencement.

10 APPEALS

Application for review of administrative actions taken under this Memorandum should be directed to the First Assistant Secretary of the Department's Maritime Operations Division. Should the Society's authority be withdrawn, that decision may be the subject of an appeal to the Administrative Appeals Tribunal.

11 FEES

No fees shall be payable either by the Department to the Society or by the Society to the Department for any services rendered or information provided under this Memorandum.

Nothing in this Memorandum shall affect the normal contractual arrangements, including the payment of fees, entered into between the Society and any client, including the Department.

12 LEGAL LIABILITY

Nothing in this Memorandum shall be taken as an indemnification by the Department for actions against the Society in relation to anything done or not done under the authority of the Act.

While performing its functions under this Memorandum, the Society shall be free to create contracts direct with its clients, and such contracts may contain the Society's normal contractual conditions for limiting its liability.

13 COMMENCEMENT

This Memorandum and Schedules appended thereto shall be effective from the date of signature by both parties. Any amendment shall be effective from the date of signature by both parties or from such other date as shall be incorporated into the Memorandum.

14 AMENDMENT

This memorandum may be amended following consultation, agreement and signature by both parties.

Schedules to this Memorandum may be amended following consultation and agreement and shall be suitably amended to reflect any relevant changes to Australian law.

15 TERMINATION

This agreement shall continue in effect unless the Society's approval under section 187BA of the Act is terminated.

16 ENACTMENT

Made at Canberra, Australian Capital Territory, this seventh day of May 1990.

Stuart Ridland
*Senior Principal Surveyor
for Australia
for and on behalf of
Lloyd's Register of Shipping*

W P Crone
*First Assistant Secretary
Maritime Operations Division
for and on behalf of
Department of Transport and Communications*

SCHEDULE A—FUNCTIONS IN RELATION TO AUSTRALIAN REGISTERED SHIPS WHICH MAY BE PERFORMED BY THE SOCIETY UNDER THE ACT

<i>Function</i>	<i>Legislation Reference</i>
Survey for issue or endorsement of a cargo ship safety construction certificate	Act s. 193
Issue of a cargo ship safety construction certificate	Act s. 206E
Survey for issue or endorsement of an International or Australian load line certificate	MO Part 16, provisions 13,14,15
Issue of an International or Australian load line Certificate	Act s. 222
Survey for issue or endorsement of a ship construction certificate (oil tanker only – International Oil Pollution Prevention Certificate for an oil tanker)	Act s. 267E
Issue of a ship construction certificate (oil tanker only – International Oil Pollution Prevention Certificate for an oil tanker)	Act s. 267B
Survey for issue or endorsement of a chemical tanker construction certificate (chemical tanker only – International Pollution Prevention Certificate for the Carriage of Noxious Liquid Substances in Bulk)	Act, s. 267T
Issue of a chemical tanker construction certificate (chemical tanker only – International Pollution Prevention Certificate for the Carriage of Noxious Liquid Substances in Bulk)	Act, s. 267Q
Approval of materials, fittings, appliances or apparatus	MO Part 15, provision 1.4
Survey for issue or endorsement of a certificate of fitness for a gas carrier	MO Part 17, provision 5
Issue of a certificate of fitness for a gas carrier	MO Part 17, provision 5
Survey for issue or endorsement of a certificate of fitness for a chemical tanker	MO Part 17, provision 5
Issue of a certificate of fitness for a chemical tanker	MO Part 17, provision 5
Survey of ship machinery, fittings, arrangements and installations	MO Part 20

<i>Function</i>	<i>Legislation Reference</i>
Certification testing and examination of cargo handling equipment	MO Part 32
Survey of a mobile off-shore drilling unit	MO Part 47, provisions 5, 6 and 9
Design assessment and approval of construction, strength, machinery, installation and materials of a MODU	MO Part 47, provisions 4,8,10,11,12,13 and 15
The functions related to sub-regulations 13(5), 13(6), 13D(1)(a), 15(2), 15(3), 23(5), 25(1)(c),25(3)(d) and 25(4)(d) of Annex I of MARPOL 73/78	MO Part 91, provision 9

Note A: Australian law provides for the withdrawal of statutory certificates by the Minister or by specified departmental officers. Where the Society is of the opinion that a certificate issued by the Society on the Government's authorisation should be withdrawn the Society shall either

- (a) withdraw the certificate and advise the Department of its actions, or
- (b) request the Department to withdraw the certificate and provide appropriate documentation and information to support the request.

Note B: Australian law provides for means of preventing unseaworthy ships from proceeding to sea. Where a Society is of the opinion that a ship is unseaworthy the Society shall immediately inform the Department in writing and provide appropriate documentation and information to support the opinion.

SCHEDULE B—INFORMATION TO BE EXCHANGED

B.1 INFORMATION TO BE PROVIDED BY THE DEPARTMENT TO THE SOCIETY

Advice of new and amended requirements relating to the functions performed by the Society under this Memorandum to be provided as early as possible and not later than the date of entry into force of the requirements.

Copies of instruments of exemption or equivalence relating to matters covered by certificates issued by the Society under this Memorandum.

B.2 INFORMATION TO BE MADE AVAILABLE BY THE DEPARTMENT AT THE SOCIETY'S REQUEST

Any documentation or data held by the Department relating to the Society's functions under this Memorandum.

B.3 INFORMATION TO BE PROVIDED BY THE SOCIETY TO THE DEPARTMENT

B3.1 In respect of each ship

A copy of each certificate issued on behalf of the Federal Government.

Copies of load line conditions of assignment and computation. Copies of any damage stability analysis related to certification issued under this Memorandum.

Class notation of ships. Any change to class notation, conditions placed on the class or suspension or withdrawal of class affecting a certificate issued under this Memorandum, when the condition of the ship clearly breaches the terms under which the certificate was issued.

Advice of any relaxation to or interpretation of the Society's Rules not covered by any general exemption or interpretation previously notified to the Department affecting matters covered by any certificate issued or survey carried out under this Memorandum.

Advice of any accident, breakdown or defect relating to functions carried out under this Memorandum, where the condition of the ship clearly breaches the terms under which a certificate was issued.

B3.2 General

Advice of the Society's administrative arrangements in Australia, including:

- (a) minimum requirements for educational qualifications, experience and training for appointment as:
 - (i) exclusive surveyor;
 - (ii) non-exclusive surveyor; and
 - (iii) any other position, other than a clerical position related to the issue of certificates, whether permanent or temporary, involving surveys or certification under this Memorandum
- (b) names of exclusive surveyors and non-exclusive surveyors who may be engaged in survey of Australian ships, whether in Australian or foreign ports.

The information mentioned in (b) shall be submitted annually. Advice of other administrative arrangements shall be updated whenever those arrangements are changed.

Advice of changes of Rules accepted by the Committee(s) of the Society.

General exemptions from the Rules authorised in respect of particular classes or sizes of ships.

Amendments to guidance notes, instructions to surveyors and interpretations of Rules adopted from time to time. This information is to be provided as early as possible and not later than the date of entry into force of new or amended requirements.

Interpretations of international instruments adopted by the Society other than those adopted and circulated by the Committees of the International Maritime Organization.

Instructions to Surveyors issued by the Society in respect of matters covered by certificates or reports of survey issued under this Memorandum.

B.4 INFORMATION TO BE MADE AVAILABLE BY THE SOCIETY AT THE DEPARTMENT'S REQUEST

B4.1 In respect of each ship

Survey declarations and reports, and assessments of structure, equipment and arrangements required for the issue or endorsement of certificates or reports of survey under this Memorandum, including approved plans, manuals, drawings and calculations where appropriate.

Similar information relating to alterations to, or conversion of, a ship.

Survey declarations and reports following any accident, breakdown or defect relating to matters covered by certificates issued under this Memorandum, where the Department considers that the condition of the ship may have substantially departed from that at the time of the survey upon which the certificate was issued.

B4.2 General

Any technical memorandum or similar publication pertinent to the Society's functions under this Memorandum.

Test reports and other supporting documentation relating to approval by the Society of materials, equipment and instruments relating to functions covered by this Memorandum.

SCHEDULE C REVISION 1 - 21ST FEBRUARY 1991

AGREED PRINCIPLES FOR THE AUDIT OF THE SOCIETY'S FUNCTIONS

DEFINITIONS:-

Where the undernoted terms are used within this schedule, they shall have the following meaning in respect of this memorandum.

Quality System -

The organisational structure, responsibilities, procedures, processes and resources of the society, which when implemented, ensure that the Authority's requirements are consistently met for all work carried out on their behalf.

System Documentation -

Quality manuals, procedures and instructions which define how the operations and activities within the quality system are to be carried out.

Audit -

A systematic examination of the Society's quality system and practices in order to ensure that the requirements of this memorandum are complied with.

Non-Standard Event -

Failure of a ship to comply with a requirement of the Act or an international convention, guideline or code, where the establishment and maintenance of compliance is certified by the Society.

Non-compliance -

Failure by the society to

- (a) meet the requirements of this memorandum
- (b) comply with their own quality system

1. The role of the society is

- (a) to organise and carry out the functions detailed in Schedule B of this memorandum using appropriately qualified personnel
- (b) to identify where ships do not comply with the legislation detailed in Schedule A and ensure they are brought up to the required standard before

issuing or endorsing a certificate. Notes A and B of Schedule A to be complied with.

(c) to comply with all requirements of this memorandum

2. The purpose of the society's quality system is to ensure that the above requirements are consistently achieved regardless of which of the society's offices is responsible for carrying out the functions on behalf of the Authority.
3. The purpose of the audit is to ensure that the society's quality assurance system satisfactorily achieves the requirements of paragraphs 1(a) - 1(c) above.
4. Audits shall be carried out in accordance with documented procedures. These procedures shall ensure that non-compliances are identified, their cause determined, action taken to correct the non-compliance and the action verified as effective.
5. Audits shall be planned and carried out in a manner which ensures minimum disruption to all those involved in the audit process.
6. Every effort shall be made to maximise the efficient use of the Authority's technical resources. Repetition of work performed by the society shall be avoided as far as possible.
7. In order to ensure that the Authority's requirements are being achieved during plan approval and survey work, the Authority's officers may, as a part of the audit, participate in the society's activities. Such arrangements will be agreed by both parties.
8. Procedures shall be documented and agreed by both parties for rectifying non-compliances found during an audit.
9. The Authority's audit procedures shall take into account the extent of the quality system operated by the society. Where the society operates an internal audit program, as part of their quality system, the Authority's officers may reduce the extent of their audits, provided they are satisfied that:-
 - (a) the society makes use of qualified auditors for their internal audit
 - (b) the society's internal audit procedures achieve their objective

(c) the society makes available audit records which relate to the work carried out on behalf of the Authority.

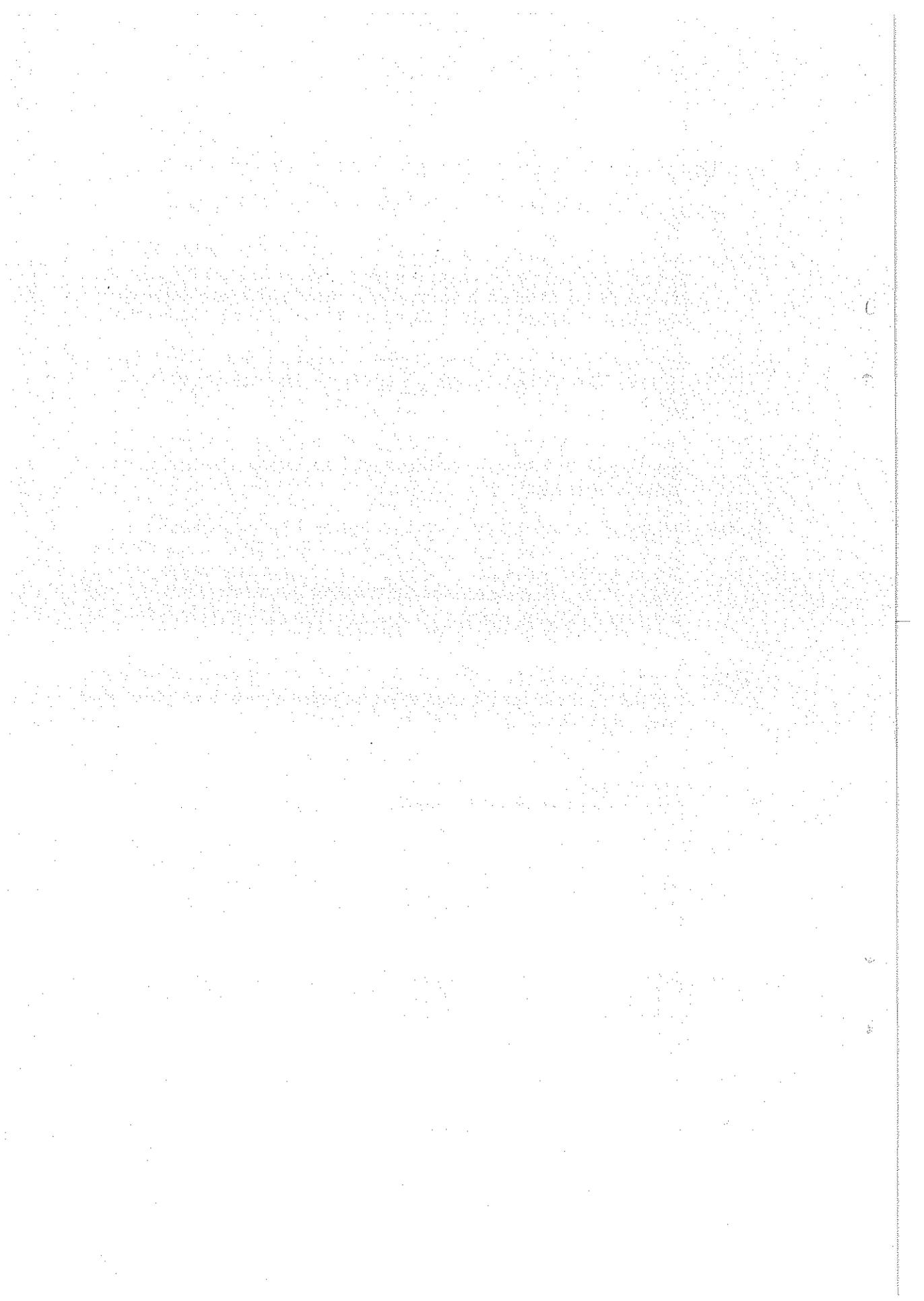
10. Audit procedures shall be devised and implemented in a spirit of co-operation and not confrontation.
11. The Authority shall use audit personnel who are qualified for the task by virtue of their qualifications, education and experience.

APPENDIX 8

MEASURES DESIGNED TO IMPROVE BULK CARRIER SAFETY

Appendix to September 1992 paper on Catastrophe Risks of Dry Bulk Cargo.

- Jan 1992 LONDON MARKET JOINT HULL COMMITTEE - Structural Condition Warranty applying to selected hull insurance policies requiring a structural condition survey to be carried out by The Salvage Association or surveyors appointed by them. Also increased insurance rates and higher deductibles applied by underwriters.
- Jan 1992 LLOYDS REGISTER OF SHIPPING - Tightened inspection rules for bulkers and published "Bulk Carriers - guidance to operators on the inspection of the cargo holds".
- Jan 1992 NORWEGIAN MARITIME DIRECTORATE - Commenced compulsory port inspections of Panamanian and Maltese flag bulk carriers and of some older vessels of other flags.
- Feb 1992 UNITED STATES GOVERNMENT - Urges signatories to the Paris Memorandum of Understanding on Port State Control to increase their efforts to inspect at least 25% of the ships visiting their ports each year with particular attention to bulk carriers and to give renewed attention to operational response monitors as a tool to prevent bulk carrier losses by placing stress levels during loading/unloading and while at sea in the hands of the ships crew.
- Feb 1992 INTERCARGO (INTERNATIONAL ASSOCIATION OF DRY CARGO SHIPOWNERS) - Published recommendations based on an evaluation of two seminars on bulk carrier casualties held in Oslo and Hong Kong in 1991.
- Mar 1992 DET NORSKE VERITAS - Research programme of full-scale monitoring of the actual stresses thrown on a typical serving vessel when loading, discharging and at sea, including in bad weather conditions.
- Mar 1992 LLOYDS REGISTER OF SHIPPING - Issue of first Lloyds Register Hull Renovation Certificate under Condition Assessment Scheme (Hull Renovation) which applies to vessels having had hull scantlings reassessed to the current rules and renewals and repairs carried out concurrently with the Hull Special Survey. The certificate recognises that a vessels condition is comparable to that of a five year-old vessel.
- Mar 1992 NIPPON KAJI KYOKAI - Publication of detailed recommendations to improve strength and safety of both new and existing vessels after intensive research concentrated upon the side shell structure of bulk carriers and effects of corrosion by cargo, especially coal.
- Apr 1992 AUSTRALIAN FEDERAL GOVERNMENT - Commenced enquiry into ship safety.
- Jun 1992 CANADIAN GOVERNMENT - Announced ships under Cyprus, Liberia, Panama, Malta, Philippines, Croatia, Bahamas or Iran flags would be targets for inspection by Canadian Coast Guard surveyors to confirm their structural integrity and compliance with international conventions, especially bulk carriers more than 10 years old.



MARINE SAFETY COMMITTEE - 61ST SESSION

PROPOSAL FOR GUIDELINES FOR
ENHANCED SURVEY PROGRAMME FOR BULK CARRIERS

Submitted by The International Association of
Classification Societies (IACS)

1. Introduction

In consideration of the report of MSC 60 and in particular MSC 60/20 item 20.41 - 20.44, Hull structural integrity of tankers and bulk carriers, IACS have developed the attached Unified Requirements which are offered as Guidelines in relation to resolution A.713(17).

The development of the Unified Requirement has been based on a similar proposal for oil tankers, submitted to IMO MEPC 33rd session as MEPC 33/6/2 in response to the IMO invitation to provide a proposal for Guidelines in connection with the implementation of Resolution MEPC 52(32) "Amendments to the Annex of the Protocol of 1978 relating to the International Convention for the Prevention of Pollution from Ships 1973, Regulation 13G(3)" requiring oil tankers to be subject to an "Enhanced Survey Programme".

2. Application

It is intended that the IACS Unified Requirement will be applicable to all self-propelled bulk carriers regardless of size or date of construction, and includes ore carriers. Combination Carriers are covered by these Guidelines as well as applicable parts of Guidelines for Enhanced Surveys of Oil Tankers, MEPC 33/6/2.

3. Implementation

IACS Council has decided that the member Societies will phase in these requirements at the earliest possible date, commencing July 1993.

4. Scope

These IACS Unified Requirements amplify the existing IACS requirements with the following main principles:

4.1 Survey Schedules

The Special Survey requirements at 5 yearly intervals, are intended to result in a standard of ship that will be suitable for trading until the next Special Survey, without significant structural problems, provided a policy of prudent operation and adequate maintenance is followed by the owner.

However, due to a high variation on the rate of deterioration experienced with older ships, the Special Survey is supplemented by means of Intermediate and Annual Surveys to provide a more frequent inspection schedule.

In order to take the maximum advantage of improved survey accessibility at potential dry dockings, Intermediate Survey items which are additional to the requirements at Annual Surveys may be carried out at or between the 2nd and 3rd Annual Surveys.

4.2 Extent of Surveys

In addition to requirements stipulated in Regulation 10 of the Protocol of 1988 relating to the International Convention for the Safety of Life at Sea 1974, Cargo Ship Safety Construction Certificate and existing classification rules, the surveys are to be enhanced to include:-

- a) At Special Surveys (every 5 years): An Overall and Close-up Survey including thickness measurements of all areas subject to corrosion, cracking and buckling, with the extent of inspection increasing with age of ship.
A requirement for a dry-dock survey to be held in conjunction with the Special Survey, which will provide the most suitable location to assure the proper quality of the survey.
- b) At Intermediate Surveys (at 2nd or 3rd anniversary): An Overall and Close-up survey of cargo holds and salt water ballast tanks with extent depending on the age and condition of the vessel, including thickness measurement to a sufficient extent to determine the general and local corrosion levels at areas subject to Close-up Survey. The Close-up survey supplemented by thickness measurement is to cover suspect areas noted at the previous Special Survey.

- c) **At Annual Surveys:** An examination of cargo holds including Overall and Close-up Survey for bulk carriers over 10 years of age with an increased level of survey for bulk carriers over 15 years of age. An examination of salt water ballast tanks without coating or where coating was found to be deteriorated and not renewed at previous surveys.

4.3 Preparation for Surveys

Recommendations for the preparation for surveys including requirements for access, lighting, gas freeing and survey equipment. Recommendations for planning and preparation of the Special Survey Programme to include a reference to previous damage and repair history.

4.4 Thickness Measurements

Principles for the certification of companies performing the thickness measurements.

Requirements for the extent, intensity and areas for measurement and standard procedures for reporting the measurements.

4.5 Reporting

Standard principles for reporting, indicating the extent, results and actions of the survey.

An Executive Hull Summary reviewing the main findings to provide a condition assessment of the ship.

4.6 Documentation On Board

Requirements for a survey report file with

- Survey Reports
- Executive Hull Summary, including a condition assessment
- Thickness measurement report

Recommendations for supporting documentation with

- Structural plans
- cargo and ballast history
- previous repair history
- inspection and reporting by ship's personnel
- survey plan

The Survey Report File should also be available at the Owners and Classification Society's offices.

5. Enhancement of Existing Unified Requirements

Enhanced surveys are now included in requirements and recommendations for the following subjects:

- Overall Survey of spaces.
- Close-up Survey of spaces.
- Thickness measurements of spaces.
- Areas (including extent and intensity) of thickness measurement.
- Standardised reporting procedures.
- Certification of firms conducting thickness measurement.
- Onboard documentation as an aid to conducting surveys.
- Survey records onboard.
- Classification Society Executive Report of survey and condition assessment.
- Dry-dock survey as a part of Special Survey.
- Additional or extended surveys at Intermediate Survey based upon the results of the previous Special Survey.
- Annual Survey based upon the results of the previous Special Survey and/or Intermediate Survey.
- Planning of alternative risk based survey procedures.

APPENDIX 10

EXPERIMENTAL* POINTS SYSTEM FOR PSC TARGETING

POINTS SYSTEM FOR PSC TARGETING

TYPE	DESCRIPTION	TARGET INSPECTION LEVEL
A	Eligible cargo ships with points ≥ 27 .	95%
	All cargo ships with no info available.	
	All passenger ships.	
	Ships subject of report.	
B	Eligible cargo ships with $15 \leq \text{points} < 27$.	50%
C	Eligible cargo ships with points < 15 .	10%
D	Non-eligible ships.	0%

Where:

$$\text{Points} = \text{Age} * \text{TypeFactor} + 2 * \text{NameChanges} + 3 * \text{Class Changes} + 4 * \text{ClassCategory}$$

Age = Years since entry into service;

TypeFactor = 1.6 for bulk and combination carriers
 = 1.3 for oil, gas and chemical tankers
 = 1.0 for all other types;

NameChanges = number of changes of name listed in Lloyds Register Book;

ClassChanges = number of changes of class society listed in Lloyds Register Book;

ClassCategory = 1.0 for ships currently in class with ABS, BV, DNV, GL, LRS, or NK
 = 2.0 for other ships, including those in joint class with a society listed above eg. ZC-NK.

Note: Eligible vessels are those that have not been subjected to a port state control inspection within the past 6 months.

* Being assessed against alternative methods of targeting for efficiency in identifying potentially sub-standard ships.

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