AMSA OUTCOME 1:

MINIMISING THE RISK OF SHIPPING INCIDENTS AND POLLUTION IN AUSTRALIAN WATERS

Output 1.1: Safety and environmental protection standards for responsible operation of ships.

Business Unit: Maritime Safety and Environmental Strategy

AMSA delivers this output by:

• Representing Australia in the International Maritime Organization (IMO) in the development, implementation and enforcement of international standards governing ship safety, navigation, marine environment protection, ship operations, maritime security, crew competency, training and fatigue management.


• Promulgating policy and guidelines for the discharge of the range of powers and functions allocated to AMSA under relevant Commonwealth legislation, particularly relating to ship construction standards, ship survey and safety, crewing, seafarers’ qualifications and welfare, occupational health and safety, carriage and handling of cargoes, passengers and regulation of marine pollution.
MAJOR ACTIVITIES 2001-2002

Contribution to International Maritime Organization (IMO) Issues

A new dimension was added to the work of the IMO following the terrorist attacks in the United States of America on 11 September 2001 and the subsequent focus by the international shipping industry on maritime security issues. AMSA is working closely with the Department of Transport and Regional Services in developing appropriate measures and instruments aimed at addressing these issues, for adoption by an IMO Diplomatic Conference in December 2002.

The IMO also has considered issues associated with the involvement of commercial shipping in the rescue at sea of suspected illegal immigrants. This was a matter of interest to Australia following the rescue by the Norwegian container ship, Tampa, while on a voyage from Fremantle to Singapore, of a large group of people from a boat drifting in the Indian Ocean.

Ship Safety Issues

AMSA provided Australian representation at the 22nd session of the IMO Assembly, the IMO’s governing body of all its members, which commenced in late November 2001. With Australian support, the Assembly adopted a resolution on the review of measures and procedures to prevent acts of terrorism threatening the security of passengers and crews and the safety of ships. This set the basic agenda for the IMO’s ongoing work addressing maritime security issues. A second resolution was adopted on the review of safety measures and procedures for the treatment of persons rescued at sea, reflecting issues raised during the Tampa incident.

In addition, the IMO continued to consider ship safety technical issues relevant to Australia’s interests and AMSA made a number of submissions to the relevant subcommittees of the IMO’s Maritime Safety Committee. AMSA contributed to the following achievements during the year:

- Finalisation of interim guidelines for the safety of wing-in-ground effect (WIG) craft, to be used by a developing Australian industry for these water borne vessels with flying capability.
- Development of interpretations of the 2000 High-Speed Craft Code by relevant Sub-Committees as sought by Australian industry.
- Progress on a structured work program to address accidents with lifeboats.
- Adoption of Australia’s conceptual proposals for application of Annex 1, Regulations for Prevention of Pollution by Oil, of the
International Convention for Prevention of Pollution from Ships (MARPOL 73/78) to offshore floating production and storage units.

- Acceptance of Australian proposals for work on requirements for anchoring, towing and mooring equipment, updating the Dynamically Supported Craft and 1994 High Speed Craft Codes and on review of IMO’s Offshore Supply Vessel Guidelines.
- Amendments to the enhanced program of surveys of oil tankers and bulk carriers and the associated provisions of the International Convention for Safety of Life at Sea (SOLAS) to bring them into effect.

There were several major ship safety initiatives that Australia strongly supported in the IMO during the year:

- Mandatory carriage of Voyage Data Recorders on new ships and on existing passenger ships. This initiative will provide information that will assist in determining the cause of maritime casualties.
- A new revised High Speed Craft Code. The Australian high-speed craft building industry contributed significantly to AMSA’s input to the development of the new code.
- Amendments to the International Convention for Safety of Life at Sea (SOLAS) including a complete revision of Chapter V of the convention on safety of navigation and Chapter II-2 on fire protection for entry into force in July 2002.
- Identification of measures to be reviewed in assessing the safety of large passenger ships and continuing work to improve the safety of bulk carriers.
- Safety related issues associated with the international shipping community’s response to loss of the tanker *Erika* off the French coast, which caused a significant pollution incident in 1999. These included a condition assessment scheme, the accelerated phase out of single hull oil tankers, and the identification of other measures to eliminate substandard oil tankers.
- Approval of a code covering piracy and armed robbery against ships and associated measures to help combat the trafficking or transport of illegal migrants at sea.
- Revision of the Code for Safe Practice for Solid Bulk Cargoes.
- Amendments to the Code for the Carriage of Irradiated Nuclear Fuels (INF Code) by ships.
Improved Seafarer Training and Certification Standards

The revised Convention on Standards of Training, Certification and Watchkeeping (STCW 95) entered into full force internationally on 1 February 2002. The previous standards of training, certification and watchkeeping contained in STCW 78 were completely updated by STCW 95, to provide a stronger focus on the human element in ship safety and pollution prevention.

AMSA worked cooperatively during early 2001-2002 with the National Marine Safety Committee (NMSC) to ensure that standards underpinning State and Territory issued certificates of competency were appropriately aligned with the revised standards under STCW 95. State and Territory issued certificates of competency can be used for service on board Australian ships coming under Commonwealth jurisdiction and also by seafarers seeking employment on overseas flagged vessels. AMSA was seeking to facilitate the continued use of these certificates after February 2002 by seafarers on Australian registered ships making voyages under Commonwealth jurisdiction.

STCW 95 is given the force of law in Australia through Marine Orders Part 3, Seagoing Qualifications, made under the Commonwealth Navigation Act 1912. A review of Marine Orders Part 3 commenced in 2002 with the aim of simplifying the current seafarer qualifications system and confirming its complete alignment with the requirements of STCW 95. Following consultation with industry stakeholders, AMSA anticipates publication of a revised edition of the Marine Order in 2003.

Environment Protection

Australia contributed to debate in the IMO leading to the successful conclusion of the International Convention on the Control of Harmful Anti-Fouling Systems on Ships at a Diplomatic Conference in October 2001. The new Convention will enter into force twelve months after ratification by 25 States representing 25 per cent of the world’s merchant shipping tonnage.

Other key issues for Australia included the development of new Conventions dealing with the transfer of harmful aquatic organisms by ship’s ballast water, issues related to greenhouse gas emissions from ships and the on-going implementation of the International Convention on Oil Pollution Preparedness, Response and Cooperation 1990.
The 22nd session of the IMO Assembly in November 2001 adopted revised Guidelines for the Designation of Special Areas under MARPOL 73/78 and Guidelines for the Identification and Designation of Particularly Sensitive Sea Areas. Australian delegates led the correspondence and drafting groups that developed these Guidelines.

Australia was also active during sessions of the governing bodies of the 1992 International Oil Pollution Compensation Fund (IOPC Fund) in increasing available compensation limits and progressing the issue of compensation for environmental damage. The IOPC Fund Assembly in October 2001 endorsed a proposal submitted by Australia and several other countries for a new supplementary protocol. In May 2002, a special Working Group endorsed a proposal submitted by Australia and several other countries proposing guidelines on claims for the costs of measures of reinstatement of the environment and post spill environmental studies.

AMSA played an active role at the IMO’s third Research and Development Forum in Brest, France, in March 2002. AMSA chaired a session that dealt with the behaviour and fate of high density oils. Approximately 300 delegates from 70 countries attended the Forum which aimed at focusing attention on issues associated with high density oils. Delegates explored opportunities for improving the ability of agencies to detect and model the movement of the oil when spilled, and gained a better understanding of its behaviour and fate when spilled and how to contain and recover the product at sea.

The International Maritime Conventions Legislation Amendment Act 2001 commenced operation on 1 October 2001. This Act features some significant changes and updates to the MARPOL 73/78 implementing legislation, including provisions relating to:

- prosecution of a person other than the Master or owner of a ship for an illegal discharge;
- powers to require ships to discharge waste to a reception facility when reasonable and justifiable;
- consideration of legal action where negligence results in a pollution incident; and
- ensuring that the “wear and tear” defence in MARPOL 73/78 cannot be used inappropriately.
During 2001-2002, AMSA promulgated a number of new and amended Marine Orders implementing enhanced standards that are summarised in AMSA’s Regulatory Plan in the appendices to this report.

The majority of these Marine Orders give effect to amendments to conventions adopted by the IMO. They include requirements relating to carriage of dangerous goods, navigational equipment, fire safety measure and high-speed craft.

Relevant Marine Orders were amended to give effect to new IMO regulations for certain ships to carry automatic identification systems (AIS) and voyage data recorders (VDRs), which entered into force on 1 July 2002.

The International Management Code for the Safe Operations of Ships and for Pollution Prevention (ISM Code) became mandatory for most ships operating internationally from 1 July 2002. The second phase of implementation of the ISM Code was given effect in the appropriate Marine Order.

While the amendments promulgated by the IMO are generally prescriptive in nature, AMSA is seeking to adopt a performance-based approach where possible during drafting of appropriate Marine Orders. An example of this approach is reflected in Marine Orders Part 10 Medical First Aid on Ships.

Marine Orders also promulgate national standards, some of which lead the way in regulation of certain types of ships. For instance, there are no international convention standards specifically regulating livestock carriers that transport live animals by sea. AMSA has developed a Marine Order regulating ship safety and ship operations for livestock carriers, in consultation with shipping and livestock interests, relevant government agencies and the Royal Society for the Prevention of Cruelty to Animals (RSPCA). These standards have been used by overseas administrations to regulate livestock carriers coming within their jurisdiction. During 2001-2002, AMSA updated and amended the Marine Order in light of industry experience and to provide a more performance-based regulatory framework.

AMSA continues to participate in the National Marine Safety Committee (NMSC), which is tasked with developing a harmonised system of marine regulation across Commonwealth, State and Territory jurisdictions for smaller ships on domestic voyages.
AMSA has worked closely with the NMSC to assist the States and Northern Territory develop a national strategy for the implementation of the International Convention on Standards of Training, Certification and Watchkeeping for Seafarers (STCW 95). The strategy has utilised provisions in the convention whereby a Maritime Administration may define national requirements for the qualifications and training of crews on ships engaged on near-coastal voyages. This enables the provisions of the convention to be incorporated into Australia’s network of Federal, State and Territory maritime jurisdictions.

**Royal Australian Navy Gap Analysis**

During 2001-2002, AMSA continued to work with the Royal Australian Navy (RAN) to develop a gap analysis aimed at establishing areas where core competencies are common to both naval training syllabuses and the requirements of STCW 95. A number of commonalities have been established and it is anticipated that more of the prior learning and sea time of military personnel may be accepted as counting towards the issue of AMSA certificates of competency on completion of the project.

**Review of the Great Barrier Reef Ship Safety and Pollution Prevention**

In July 2002, the Minister for Transport and Regional Services announced his acceptance in-principle of the recommendations of the Review of Great Barrier Reef Ship Safety and Pollution Prevention Measures. The Minister agreed to the establishment of the Great Barrier Reef and Torres Strait Shipping Management Group to oversee the implementation of the review’s recommendations and to prepare a Shipping Management Plan for the region.

The Group comprises the Department of Transport and Regional Services (Chair), AMSA, the Great Barrier Reef Marine Park Authority and the Queensland Department of Transport. AMSA is providing the secretariat service for the Group, which held its inaugural meeting on 25 July 2002 to commence the planning process.

**Maritime Occupational Health and Safety**

AMSA continues to work closely with the Seacare Authority and carries out the role of inspectorate for the Authority as required under the Occupational Health and Safety (Maritime Industry) Act 1993. AMSA received 56 occupational health and safety incident reports during 2001-2002 and five dangerous occurrences were reported. Two prohibition notices and three improvement notices were issued by AMSA Occupational Health and Safety Inspectors. Fourteen investigations into incidents and dangerous occurrences were conducted by AMSA.
The number of reported incidents continues the downward trend since the introduction of the Act and suggests that the performance of the Australian maritime industry continues to improve. However, occupational health and safety issues prompted a focused inspection of the ships of one operator.

AMSA continued to assist in the development of positive performance indicators for the maritime industry and provided advice to the Seacare Authority secretariat throughout the year on a wide range of issues.

A Safe Havens and Salvage Conference, jointly sponsored by AMSA and the Association of Australian Ports and Marine Authorities (AAPMA), was held in Sydney on 19-20 February 2002. International and local experts discussed the practical and legal implications of ship refuge access and salvage operations around the Australian coastline.

Key issues considered included the application of Commonwealth and State powers of intervention; legal implications for all organisations involved in a salvage operation; criteria for selecting and identifying places of refuge; and major salvage challenges in the application of different forms of salvage awards. The Conference identified the need for the preparation of national guidelines for providing places of refuge. The guidelines will be prepared under the auspices of the National Plan Management Committee.

AMSA coordinated the 11th Environment and Scientific Coordinators’ Workshop held in March 2002 in Adelaide. Participants included State and Northern Territory government and industry personnel. This annual forum brings together pollution response planners and decision makers to discuss and debate issues related to environmental and scientific support during maritime spills.

A National Oiled Wildlife Workshop was held in Canberra on 7-8 May 2002. Over 20 participants from the Commonwealth, New Zealand, the States and the Northern Territory attended. A key focus of the Workshop was to provide input to the development of National Wildlife Response Guidelines.

Discussions were held with the South Pacific Regional Environment Program (SPREP) regarding possible AMSA assistance with a number of projects under the Pacific Ocean Pollution Prevention Programme, a comprehensive programme of projects aimed at reducing marine pollution from shipping in the Pacific island region. SPREP is a regional organisation based in Apia, Samoa, established by the governments and administrations of the Pacific region to protect the environment.
PERFORMANCE REVIEW 2001-2002

OUTPUT GROUP 1- SHIP OPERATIONS SAFETY AND MARINE ENVIRONMENT PROTECTION PROGRAM.

Output 1.1: Safety and environmental protection standards for the responsible operation of ships.
The Authority provides a regulatory framework of safety and environmental protection standards for Australia in the area of maritime ship safety and maritime environment protection consistent with international treaties.

Strategy: Maintain an appropriate Australian maritime safety and marine environment protection regulatory framework and operational standards.

<table>
<thead>
<tr>
<th>Measure</th>
<th>Performance 2001-2002</th>
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<tbody>
<tr>
<td>Currency and relevance of the Australian regulatory framework. (Quality) Target: 100% current and relevant. [Australia is a party to nearly all of IMO's international conventions regulating shipping. AMSA is responsible for implementing changes to Australia’s regulatory framework flowing from improved international standards in these conventions. AMSA promulgates subordinate legislation, Marine Orders, under the Navigation Act 1912, Protection of the Sea (Powers of Intervention) Act 1981 and Protection of the Sea (Pollution from Ships) Act 1983.]</td>
<td>During 2001-2002, the currency and relevance of the regulatory framework was maintained by the reissue/amendment of 18 Marine Orders: Twelve Marine Orders were reissued/amended giving effect to international standards or codes. Three Marine Orders were reissued giving effect to national standards. Three Marine Orders were issued making minor amendments to existing Marine Orders.</td>
</tr>
<tr>
<td>Proportion of accepted recommendations actioned coming from debrief/investigation. (Quality) Target: 100%. [Following a shipping incident, agencies involved in the response conduct a debrief and/or AMSA may conduct an investigation into the incident from which recommendations are made to improve the regulatory framework in future. This measure records the proportion of such recommendations actioned.]</td>
<td>During 2001-2002, there have been three significant changes flowing from debriefs and/or investigations: 1. Removal of the “wear and tear” defence in a pollution incident. 2. Change to someone other than the Master of a vessel to be prosecuted for an offence. 3. Additional power to require ships to discharge waste in port.</td>
</tr>
<tr>
<td>Number of changes to Australia’s regulatory framework flowing from new international standards. (Quantity) Target: All relevant international standards implemented.</td>
<td>During 2001-2002, five amendments resulted from the passing of the International Maritime Conventions Legislation Amendment Act 2001. Twelve Marine Orders were amended to reflect changes to international standards.</td>
</tr>
<tr>
<td>Cost to provide the regulatory framework. (Price) Target: 2001-2002 estimates: $3.612 million</td>
<td>During 2001-2002, the cost of providing the regulatory framework was $3.525 million.</td>
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<tr>
<td>Improvement in the standard of ships operating in Australian waters. (Quality) Target: Reducing trend in detention rate over time. [AMSA undertakes a port State control inspection program in line with international conventions, which allow inspection of foreign ships visiting Australian ports. If ships fail to comply with convention requirements, they may be detained until restored to a safe and seaworthy condition.]</td>
<td>During 2001, the detention rate was 4.4% compared to the past detention rates (in calendar years): 2001: 4.4%; 2000: 4.3%; 1999: 5.3%; 1998: 6.8%; 1997: 6.5%; 1996: 8.5% [The slight rise in the detention rate reflected the results from AMSA’s focused inspection program.]</td>
</tr>
<tr>
<td>Number of policy and program initiatives implemented. (Quantity) Target: Industry acceptance of initiatives.</td>
<td>During 2001-2002, a significant work program was progressed to give full effect to the STCW 95 Convention changes. The acceptance by the industry was indicated by the high level of compliance with STCW 95 when it came into full effect on 1/2/2002.</td>
</tr>
<tr>
<td>Cost of promoting a safety culture in the maritime industry. (Price) Target: 2001-2002 estimates: $0.983 million.</td>
<td>During 2001-2002, the cost of promoting safety culture in the maritime industry was $1.032 million.</td>
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</table>

Portfolio Outcome 2001-2002: A better transport system for Australia and greater recognition and opportunities for local, regional and territory communities.
**Strategy: Participation and influence in international and regional maritime forums and partnerships.**

<table>
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<tr>
<th>Measure</th>
<th>Performance 2001-2002</th>
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<tbody>
<tr>
<td>Proportion of significant Australian issues identified that are resolved or addressed to Australia’s satisfaction. (Quality) Target: 100%</td>
<td>During 2001-2002, Australia presented 22 papers on significant issues. There were four significant issues progressed with one resolved satisfactorily and three still being progressed through the forum processes with the expectation of being resolved satisfactorily.</td>
</tr>
<tr>
<td>Attendances at international and regional maritime forums and partnerships meetings. (Quantity) Target: Selected attendances in accordance with meetings scheduled for 2001-2002: 38.</td>
<td>During 2001-2002, AMSA attended 38 meetings, which represented 100% of the meetings scheduled.</td>
</tr>
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</table>
AMSA OUTCOME 1:

MINIMISING THE RISK OF SHIPPING INCIDENTS AND POLLUTION IN AUSTRALIAN WATERS

Output 1.2: An infrastructure for monitoring compliance with safety and environmental protection standards.

Business Unit: Maritime Operations

AMSA delivers this output by:

• Conducting inspections of ships, cargoes and related equipment to monitor compliance with standards for the condition of ships, compliance with operational, occupational health and safety and coastal pilotage requirements and the correct handling and loading of certain cargoes.

• Monitoring compliance by Australian flag ships and their operators with the International Safety Management (ISM) Code under the Safety of Life at Sea (SOLAS) Convention.

• Exercising rights under international conventions to inspect foreign flag ships visiting Australian ports through the port State control program to monitor their compliance with international standards.

• Participating in regional forums to promote consistency in port State control standards and exchange of ship inspection data with neighbouring countries.

• Providing occupational health and safety inspectorate services under the Occupational Health and Safety (Maritime Industry) Act 1993.

• Ensuring safety training and maritime qualifications of crew on ships operating under the Navigation Act 1912 meet the standards of the Standards of Training Certification and Watchkeeping for Seafarers (STCW 95) Convention.

• Administering the licensing system for coastal pilots and safety regulation of coastal pilotage services under the Navigation Act 1912.
MAJOR ACTIVITIES 2001-2002

Port State Control Program

AMSA’s annual report, *Port State Control in Australia*, published in April 2002, recorded that AMSA inspected 2,913 ships under the port State control program during calendar year 2001. AMSA detained 127 ships until serious safety deficiencies were rectified, representing a detention rate of 4.4 per cent, compared to 4.3 per cent in 2000. Some of these additional detentions reflect the results of AMSA’s focused inspection campaigns on specific ship safety and operational issues.

During the period the redeveloped ship inspection computer system, Shipsys2000, was commissioned. This new system includes a module to monitor ship arrivals and automatically generates ship target factor information to assist inspection resources to be more effectively allocated. The system is also designed to allow full exchange of inspection information with the database of the Asia Pacific Memorandum of Understanding on Port State Control Computer Information System (APCIS).

Focused Ship Inspection Campaigns

AMSA continued its program to focus ship inspections at selected operational areas identified as needing special attention. The program commenced in December 2000 and was intended to operate for two years with six campaigns of four months’ duration.

Four different campaigns overlapped the 2001-2002 financial year. The second campaign focusing on the Global Maritime Distress Safety System (GMDSS) radio communications ended on 31 July 2001. The third covered crew living conditions and compliance of crew’s certificates of competency with STCW 95 for the four months from August to end November 2001. The fourth program ran from December 2001 to 31 March 2002 and examined cargo management and securing as stipulated under international convention in two general areas: general/containerised cargo and dry bulk cargo.

The fifth program covered pollution prevention by garbage and oil as stipulated under the MARPOL Convention ran from March until end July 2002. The sixth focused inspection campaign commencing on 1 August 2002 will address full compliance with STCW 95. Following the end of the two year campaign in late November 2002, the effectiveness of the program will be reviewed and a decision made on whether to continue the campaigns. The results of the campaigns are published on AMSA’s website.
**International Cooperation on Port State Control**

AMSA was an inaugural member of the Asia-Pacific Memorandum of Understanding on Port State Control (Tokyo MOU). AMSA attended the regular Committee meetings of the Tokyo MOU in Tokyo, Japan, in October 2001 and Manila in the Philippines in June 2002. AMSA also is an active contributor to the various technical inter-session working groups that develop guidelines and produce proposals for consideration by the Committee. AMSA led the working group in developing the ship inspection targeting system that the AP-MOU will be implementing in 2003.

The Committee also approved a revised port State control manual which took effect on 1 January 2002 with the aim of standardizing ship inspection procedures. A new concentrated inspection campaign on the International Safety Management (ISM) Code will run from July to September 2002 with Australia acting as coordinator of this campaign. This will coincide with the mandatory application of the ISM Code for all ships from 1 July 2002.

AMSA attended the Committee meeting of the Indian Ocean Memorandum of Understanding on Port State Control (IO-MOU) in Colombo, Sri Lanka, in September 2001 and will chair the next Committee meeting. AMSA has supported efforts to facilitate the development of an information exchange system for the region.

**Improved Seafarer Training and Certification Standards**

AMSA worked intensively during the year with ship operators and seafarers to facilitate the transition to the revised standards for seafarers’ certificates of competency under the Convention on Standards of Training, Certification and Watchkeeping (STCW 95), which came into full operation from 1 February 2002. AMSA issued over 5,000 certificates or endorsements to seafarers in 2001-2002, which was almost double the 2,700 in the previous year because of the renewals required by seafarers upgrading their competency levels to STCW 95 standards.

The revised Convention entered into force internationally over a five-year transition period beginning in 1997. Despite this lead-time, there were a number of seafarers worldwide who had not been able to obtain the necessary certification before 1 February 2002. Also parties to the Convention had experienced difficulties in concluding the required arrangements to process reciprocal recognition endorsements with other parties.
The IMO reluctantly issued a recommendation to port State control officers allowing a six months’ grace period until 31 July 2002 in relation to ship inspections for compliance with STCW 95. While the IMO recommended that ships whose officers did not hold STCW 95 certificates or flag State endorsements did not need to be detained, it also encouraged the issuing of warnings to the shipping companies concerned and notification to the seafarers and the ship’s flag State accordingly. Upon expiry of the period of grace on 1 August 2002, AMSA commenced a focused inspection campaign examining full compliance of all ships inspected with the STCW 95 requirements.

**Coastal Pilotage**

AMSA has closely monitored the operation of the Great Barrier Reef Pilotage Safety Management Code, which came into full operation from 1 July 2001. The Code adopts the systems management approach to safety regulation similar to the approach taken in the shipping industry with the International Safety Management (ISM) Code. The responsibilities and accountabilities of all parties are clearly defined within the safety management system and each has a recognised role in achieving safety outcomes consistent with the Code. An integral part of the Code is recognition of fatigue management as an essential element in the overall safety management system for coastal pilots.

AMSA holds regular meetings with pilots, pilotage service providers, and shipping industry users of the pilotage services on the operation of the Pilotage Code and implementation of the compliance audit system, including enforcement in cases of non-compliance. The audits of both pilotage service providers and pilots are conducted by specially trained AMSA officers, with the pilot audit involving the AMSA officer making a trip on a vessel with the pilot. The Code also requires pilotage providers to appoint check pilots to carry out check voyages with their licensed coastal pilots operating in the Great Barrier Reef and Torres Strait.
AMSA continues to refine its ship inspection risk management process to improve targeting at higher risk ships. It has been allocating a ranking to all ships arriving at Australian ports that are eligible for inspection to identify higher risk vessels. Eligible ships are those that have not been inspected in Australia or New Zealand for the last six months and all passenger ships and tankers over 15 years old that have not been inspected for three months.

About 5,500 of the 20,000 port arrivals each year are eligible for inspection and AMSA inspects some 3,000 of these. This risk ranking is used by AMSA to assist decisions as to which ships should be inspected to determine whether they meet international safety and environment protection standards.

The initial data analysis by AMSA that produced the basis for these risk rankings was refined and extended during 2001-2002 by the Commonwealth Scientific and Industrial Research Organisation (CSIRO). The analysis was specifically aimed at confirming which factors were useful indicators of ship seaworthiness, ranking those factors in order of importance and estimating their relative importance.

The CSIRO found that the most important indicator of ship seaworthiness was the age of the ship. Another important indicator was the inspection history of the ship, as larger numbers of deficiencies at a ship's previous inspection meant a higher likelihood of it being unseaworthy. Different ship types represented higher or lower degrees of risk and larger ships were found to be less likely to be unseaworthy than smaller ships. Several other factors were found to have minor value as indicators of seaworthiness.

The Flag state of a ship is used by some overseas administrations for risk assessment purposes, but this factor was not found to be a useful indicator of seaworthiness, except to a small extent with bulk carriers. AMSA analysis indicates that open registers are often used by both low risk and high risk operators and that this factor is not, by itself, a useful indicator of ship quality.

Another finding by the CSIRO is that there has been a genuine improvement since 1995 in the standard of ships visiting Australia, as no other factor explained the decline in detention rates over this period.
This risk ranking of ships prompted AMSA to relocate two marine surveyors over the past year to ensure better coverage of higher risk ships at remote ports. AMSA has also undertaken some initial analysis of the incidence of deficiencies and detentions of ships due to specific categories of deficiencies and how those deficiency types typically occur over the life of a ship. Examples of the occurrence profiles of detainable deficiencies for fire safety measures and for load line (water access) are shown in the following charts.
PERFORMANCE REVIEW 2001-2002

Portfolio Outcome 2001-2002: A better transport system for Australia and greater recognition and opportunities for local, regional and territory communities.

OUTPUT GROUP 1- SHIP OPERATIONS SAFETY AND MARINE ENVIRONMENT PROTECTION PROGRAM.

Output 1.2: An infrastructure for monitoring compliance with safety and environmental protection standards.
The Authority monitors compliance with international standards by conducting inspections of ships, cargoes and cargo handling equipment in Australian ports, overseeing ship operations in Australian waters (including coastal pilotage in Torres Strait and the Great Barrier Reef) and issues certificates of competency to seafarers.

Strategy: Improve compliance with standards covering ship condition, operation and handling of cargoes.

<table>
<thead>
<tr>
<th>Measure</th>
<th>Performance 2001-2002</th>
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<tbody>
<tr>
<td>Inspection rate of risk rated eligible ships under the port State control program. (Quality) <strong>Target:</strong> High risk ships - 80%; Medium to high risk - 60%; Low to medium risk - 40%; Low risk - 25%; Overall target = &gt; 50%. [AMSA's Ship Inspection Decision Support System (SIDSS) aims to improve focus of the port State control program on higher risk ships. It provides a risk rating of each ship based on age, type and inspection history.]</td>
<td>During 2001-2002 the inspection rates were: High risk ships - 95%; Medium to high risk - 81%; Low to medium risk - 68%; Low risk - 63%; Overall percentage = 77%.</td>
</tr>
<tr>
<td>Improvement in the standard of ships operating in Australian waters. (Quality) <strong>Target:</strong> Reduction in detention rate over time.</td>
<td>During 2001, the detention rate was 4.4% compared to the past calendar years: 2000: 4.3%; 1999: 5.3%; 1998: 6.8%; 1997: 6.5%; 1996: 8.5%.</td>
</tr>
<tr>
<td>Number of port State control inspections. (Quantity) <strong>Target:</strong> PSC inspections 2001-2002 estimates: 2,920.</td>
<td>During 2001, 2,913 port State inspections were conducted which is on target and compares to past calendar years: 2000: 2,926; 1999: 2,753; 1998: 2,946; 1997: 3,131; 1996: 2,901</td>
</tr>
<tr>
<td>Number of flag State control inspections. (Quantity) <strong>Target:</strong> FSC inspections 2001-2002 estimates: 160.</td>
<td>During 2001-2002, 84 flag State inspections were conducted which is on target.</td>
</tr>
<tr>
<td>Cost of providing a compliance monitoring infrastructure. (Price) <strong>Target:</strong> 2001-2002 estimate: $8.9 million.</td>
<td>During 2001-2002, the cost of compliance monitoring was $9.019 million.</td>
</tr>
<tr>
<td>Average cost of undertaking port and flag State control inspections. (Price) <strong>Target:</strong> 2001-2002 estimates: port State control: $650/inspection; flag State control: $520/inspection.</td>
<td>During 2001-2002, the cost of inspections were: Port State Control: $608/inspection; Flag State Control: $361/inspection.</td>
</tr>
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</table>
**Strategy: Maintain and enhance strategic relationships, increase public awareness and consultation with the maritime industry on compliance matters.**

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<tr>
<th>Measure</th>
<th>Performance 2001-2002</th>
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<tbody>
<tr>
<td>Extent of adverse consequences from AMSA advice. (Quality) <strong>Target:</strong> No adverse consequences.</td>
<td>During 2001-2002, there were no adverse consequences recorded.</td>
</tr>
<tr>
<td>Person hours spent. (Quantity) <strong>Target:</strong> 2001-2002 estimates: 15,000 hours.</td>
<td>During 2001-2002, 11,980 hours which is below the target.</td>
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</table>

**Strategy: Maintain a high standard of seafarers’ qualifications.**

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<th>Measure</th>
<th>Performance 2001-2002</th>
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</table>
| IMO endorsement of seafarer qualifications system as being compliant with international standards. (Quality) **Target:** Maintain Australia’s inclusion on IMO “White List” of STCW 95 compliant administrations. | During 2001-2002, Australia maintained its inclusion on the IMO “White List”.

Number of certificates issued. (Quantity) **Target:** 01-02 estimates: 2,300 certifications, 700 oral examinations. | During 2001-2002, 5,023 certificates were issued and 544 oral examinations were held. [The number of certificates was higher than the target because of the surge in upgrades required before STCW 95 came into full effect on 1/2/2002.]

Person hours spent. (Quantity) **Target:** 2001-2002 estimates: 19,000 hours. | During 2001-2002, 21,600 hours were recorded. |
| Cost of maintaining marine qualifications and certification system. (Price) **Target:** 2001-2002 estimates: $2.578 million. | During 2001-2002, the cost of maintaining marine qualifications was $2.777 million. |
AMSA OUTCOME 1:

MINIMISING THE RISK OF SHIPPING INCIDENTS AND POLLUTION IN AUSTRALIAN WATERS

Output 1.3: Capability to respond to marine pollution incidents.

Business Unit: Maritime Operations

AMSA delivers this output by:

• Managing the National Plan to Combat Pollution of the Sea by Oil and Other Noxious and Hazardous Substances (the National Plan). This involves providing oil and chemical pollution preparedness and response services in consultation with State/Northern Territory governments, port corporations and authorities, shipping, oil, exploration and chemical industries and emergency services.

• Contributing to environment protection initiatives and education and information sharing on marine pollution prevention.
MAJOR ACTIVITIES 2001-2002

National Plan Review Implementation

Implementation of the recommendations arising from the 2000 National Plan Review continued during 2001-2002. By June 2002, twelve of the Review’s 17 recommendations had been implemented. The remaining five recommendations, generally relating to detailed funding arrangements, are being considered by the National Plan Management Committee (NPMC) with a view to implementation during 2002-2003.

The key outcome of the Review was the development of the Inter-Governmental Agreement (IGA) to provide a basis for continued Commonwealth, State and Northern Territory commitment and support for the National Plan. The IGA was endorsed by the Australian Transport Council and formally ratified in May 2002 by all Commonwealth, State and Northern Territory Transport Ministers.

Another important outcome of the Review was the need for a comprehensive revision of Australia’s contingency plan for responding to chemical spills, known as Chemplan. The completed revision of Chemplan was widely circulated in May 2002. The revised Chemplan provides additional focus on communications, includes more information on responding to chemical spills from containers and reflects the adoption of the Incident Control System (ICS) as the basis for the National Plan management structure during response operations. A chemical spill response training course was held in Launceston, Tasmania in June. The course targeted middle level spill managers and response personnel, including fire brigade and hazardous material officers from State and Territory agencies.

During 2001-2002, the NPMC also agreed to continue to examine funding for the National Plan and the “potential polluter pays principle” and to examine issues associated with compensation and insurance during National Plan exercises.

The NPMC also endorsed Australia moving towards adoption of the Protocol on Preparedness, Response and Cooperation to pollution incidents by Hazardous and Noxious Substances 2000 (OPRC HNS Protocol). This Protocol provides a global framework for international cooperation in combating major incidents or threats of marine pollution by substances other than oil. It requires parties to establish measures for dealing with chemical pollution incidents, either nationally or in cooperation with other countries.
During 2001-2002, there were no major ship-sourced marine pollution incidents in Australia. AMSA played a role in the response to the oil pollution incident from a grounded log carrier vessel, *Jody F Millennium*, which grounded off the port of Gisborne in New Zealand in February 2002. The ship had about 650 tonnes of heavy fuel oil on board of which almost 25 tonnes was lost in the two days following its grounding. The Maritime Safety Authority of New Zealand (MSANZ) requested environment protection support, which included an assessment of the resources available from Australia and for AMSA to act as an adviser to the New Zealand incident controllers during the initial response. After lightening the ship by removing a quantity of its log cargo, it was refloated without further loss of oil and later towed from New Zealand to an overseas port for repairs in March 2002.
**PERFORMANCE REVIEW 2001-2002**

Portfolio Outcome 2001-2002: A better transport system for Australia and greater recognition and opportunities for local, regional and territory communities.

**OUTPUT GROUP 1- SHIP OPERATIONS SAFETY AND MARINE ENVIRONMENT PROTECTION PROGRAM.**

**Output 1.3: Capability to respond to marine pollution incidents.**

The Authority manages the National Plan to Combat Pollution of the Sea by Oil and Other Noxious and Hazardous Substances, which involves providing oil and chemical spill preparedness and response services in consultation with State and Northern Territory governments, port corporations and authorities, shipping, oil, exploration and chemical industries and emergency services.

**Strategy:** Provide a level of response capability consistent with National Plan requirements.

<table>
<thead>
<tr>
<th>Measure</th>
<th>Performance 2001-2002</th>
</tr>
</thead>
<tbody>
<tr>
<td>Availability of support resources and equipment. (Quality)</td>
<td>During 2001-2002, the availability of support resources and equipment was 99%.</td>
</tr>
<tr>
<td><strong>Target:</strong> 95% availability.</td>
<td></td>
</tr>
<tr>
<td>Implementation of recommendations from reviews of exercises and responses to spills. (Quality)</td>
<td>During 2001-2002, there were no significant incidents requiring review and no major National Plan exercises were held during this period.</td>
</tr>
<tr>
<td><strong>Target:</strong> 100% implementation of accepted recommendation.</td>
<td></td>
</tr>
<tr>
<td>Number of trained and adequately equipped personnel. (Quantity)</td>
<td>During 2001-2002, more than 40 national response team members and 200 trained support personnel were available.</td>
</tr>
<tr>
<td><strong>Target:</strong> 40 national response team members/200 support personnel.</td>
<td></td>
</tr>
<tr>
<td>Cost of maintaining a response capability. (Price)</td>
<td>During 2001-2002, the cost of maintaining a response capability was $5.580 million.</td>
</tr>
<tr>
<td><strong>Target:</strong> 2001-2002 estimates: $3.882 million.</td>
<td>[National Plan assets are being transferred to the States at no cost to them. The above figure is higher than the target as it includes accelerated depreciation on these assets.]</td>
</tr>
</tbody>
</table>
AMSA OUTCOME 1:

MINIMISING THE RISK OF SHIPPING INCIDENTS AND POLLUTION IN AUSTRALIAN WATERS

Output 1.4: Systems that aid safe marine navigation.

Business Unit: Maritime Safety and Environmental Strategy

AMSA delivers this output by:

• Providing the national network of integrated aids to navigation and coastal traffic management measures that meet the requirements of commercial shipping for safe and efficient coastal navigation.

• Participating in the development and application of international navigation safety policy and standards, principally through the International Maritime Organization (IMO) and International Association of Marine Aids to Navigation and Lighthouse Authorities (IALA).

• Providing a maritime safety communications network that broadcasts and receives safety and navigation information to and from ships at sea.
The Navigational Services Advisory Committee (NSAC), AMSA’s principal consultative forum on navigational services matters in Australian waters, met twice during the year, in November 2001 and in July 2002. The Committee generally concurred with AMSA’s proposals in relation to the future directions for the aids to navigation network and addressed the following major issues:

- review of measures to promote ship safety and pollution prevention in the waters of the Great Barrier Reef;
- review of the aids to navigation network around Australia;
- new radar and system upgrades for the REEFREP ship reporting system;
- trials of the Automatic Identification System (AIS) and the potential to use INMARSAT C polling for ship tracking purposes in the REEFREP ship reporting region;
- AMSA’s Differential Global Positioning System (DGPS) program; and
- production of Electronic Navigational Charts by the Royal Australian Navy Hydrographic Office.

During 2001-2002, the aids to navigation network was maintained at a level of availability above the relevant IALA standards. Improvements to the network continued through a number of major projects:

- new or replacement lights were established at Adele Island (Western Australia); Arden Island (Queensland); Long Spit, Margaret Brock Reef, Yarraville Shoal and Marion Reef (South Australia); and new racons established at Robe and Middle Bank South (South Australia). A buoy with light and racon was established at Stagg Patches off the Queensland coast; and
- Differential Global Positioning Systems (DGPS) stations were established at Mallacoota, Victoria and Darwin, Northern Territory.

It is mandatory for certain ships in the Torres Strait and inner route of the Great Barrier Reef to regularly report their position to the REEFREP Ship Reporting System (SRS), a joint facility of AMSA and the Queensland Department of Transport. The REEFREP system employs a VHF radio network at sites distributed throughout the region to interact and communicate with shipping together with a radar system to monitor shipping movements and provide enhanced traffic information.
The Ship Reporting Service Management Group provides the overarching leadership, high-level strategic oversight, long-term direction and viability of the REEFREP. It comprises representatives from AMSA and Queensland Transport and met twice during the year when discussion centred on the initiation of a comprehensive review of the REEFREP Ship Reporting System, the conduct of INMARSAT C trials for satellite based ship tracking and a review of maintenance arrangements and fault reporting.

A major upgrade of the Traffic Information Module to accommodate the future needs of REEFREP commenced this year. The upgrade involves a significant redesign of the database and systems architecture to cater for the rapidly evolving requirements of the SRS. In particular, this includes the need to ensure the enhanced management of increasing quantities of automatic input positioning data (e.g. INMARSAT C, the Automatic Identification System (AIS)), support for an increasing number of users, address evolving business requirements and provide a more robust system.

**Maritime Safety Communications Network**

AMSA continued to broadcast maritime safety information through the Coast Radio communications network maintained by AusSAR. During the year, 504 messages were broadcast to ships at sea on a wide range of incidents such as faults with particular aids to navigation, ship breakdowns, hazards to navigation, marine pollution and distress situations.

**Satellite Tracking in the Great Barrier Reef**

In late 2001, AMSA in conjunction with the Queensland Department of Transport commenced a six month trial to examine the potential of satellites providing ‘near real time’ pictures of ship movements in the Great Barrier Reef. More than 80 vessels from 20 companies participated in the trials which involved the INMARSAT C global satellite communications network. INMARSAT C is fitted to most ships to provide relevant data to the REEFREP Ship Reporting System in a larger area within the Great Barrier Reef and Torres Strait to that presently covered.

The results clearly demonstrated that this technology can enhance ship traffic information throughout the REEFREP region by reliable delivery of Automated Position Reports from individual vessels. The evaluation demonstrated that the ‘near real time’ availability of ships’ positional information would significantly improve the quality of ship traffic information provided by the REEFREP system. It is expected that vessels transiting the region in future will be encouraged to participate.
During 2001-2002, AMSA completed trials of Universal Automatic Identification System (AIS) technology in the Great Barrier Reef and Torres Strait. AIS is a shipboard broadcast transponder system that is capable of automatically sending ship information (such as identity, position, course, speed, ship length, draught, ship type and cargo details) to shore and to other ships or suitably fitted aircraft. It is also capable of receiving such information from similarly fitted ships and can be used to monitor, track and exchange information with ships from shore.

The International Maritime Organization has endorsed compulsory carriage of AIS by all ships by 1 July 2008. The IMO’s International Convention for the Safety of Life at Sea (SOLAS) requires mandatory AIS carriage on board all new ships from 1 July 2002 and its progressive introduction on existing vessels.

AIS originally was conceived as a shipboard collision avoidance tool. It has since been extended to incorporate shore-based functionality and information exchange. There is now greater interest in extending its uses to include traffic monitoring and management, particularly since the focus on maritime security issues arising from the terrorist attacks in the United States of America in September 2001. As part of its review of security measures, the IMO is considering advancing the deadline for AIS compulsory carriage before 2008.

In planning for the introduction of AIS, AMSA conducted a series of sea trials to experience the technology. The trials also evaluated the effectiveness of AIS when integrated with the existing mandatory Ship Reporting System, REEFREP. The sea trials included the capability of portable AIS transponder units, ‘pilot packs’ for carriage by pilots aboard ships. The ‘pilot packs’ proved generally reliable and effective and provided valuable additional information on the practical aspects of using this new technology.
IALA Conference

AMSA hosted the fifteenth conference of the International Association of Marine Aids to Navigation and Lighthouse Authorities (IALA) in March 2002 attended by more than 300 of the world’s leading experts in maritime navigation from 45 countries. It was the first time that the four yearly conference had been held in the southern hemisphere.

IALA is a non-government association of organisations concerned with the provision and maintenance of navigation systems at sea and on inland waterways. It fosters safe and economic vessel movement and protection of the marine environment through improvement and harmonisation of navigation aids and marine traffic practices.

The conference examined a diverse range of issues including the use of lasers as navigation aids, the role of navigation technologies such as ship tracking and monitoring to avert terrorist incidents and the future of ship traffic management. Following the conference, a technical workshop on the safety of navigation in environmentally sensitive areas, such as the Great Barrier Reef, was held in Cairns, Queensland.
PERFORMANCE REVIEW 2001-2002

Portfolio Outcome 2001-2002: A better transport system for Australia and greater recognition and opportunities for local, regional and territory communities.

OUTPUT GROUP 1- SHIP OPERATIONS SAFETY AND MARINE ENVIRONMENT PROTECTION PROGRAM.

Output 1.4: Systems that aid safe marine navigation.
AMSA provides technical, maintenance and engineering services supporting the provision of a national network of integrated aids to navigation and traffic management measures to meet the needs of commercial shipping for safe and efficient coastal navigation. In addition, AMSA provides a distress and safety communications network under the International Convention for Safety of Life at Sea (SOLAS).

Strategy: Enhancement of systems that aid safe navigation.

<table>
<thead>
<tr>
<th>Measure</th>
<th>Performance 2001-2002</th>
</tr>
</thead>
<tbody>
<tr>
<td>Marine navigational aids network meets requirements of the five-year Navigational Strategic Plan. (Quality) <strong>Target</strong>: 100%.</td>
<td>During 2001-2002, the network met 100% of the Navigational Plan Strategic Requirements.</td>
</tr>
<tr>
<td>Availability of the marine navigational aids network. (Quality) <strong>Target Visual</strong>: Cat 1 - 99.8%; Cat 2 - 99.0%; Cat 3 - 97.0%; Buoy top marks or day marks: 97.0%; and DGPS/Racons/Tide gauges/radars: &gt;98%.</td>
<td>During 2001-2002, the network was available: Visual: Cat 1 - 99.95%; Cat 2 - 99.93%; Cat 3 - 99.99%; Buoy top marks or day marks: 100%; and DGPS/Racons/Tide gauges/radars: &gt;99.66%</td>
</tr>
<tr>
<td>Provision of a comprehensive network of aids to navigation. (Quantity) <strong>Target</strong>: 338 lights, 39 racons, six radar, 13 auxiliary lights, nine unlit beacons, 13 DGPS stations and five tide gauges at 367 locations.</td>
<td>During 2001-2002, the network comprised: 338 lights, 42 racons, four radar, 13 auxiliary lights, nine unlit beacons, 14 DGPS stations and four tide gauges at 369 locations.</td>
</tr>
<tr>
<td>Cost to provide a network of aids to navigation. (Price) <strong>Target</strong>: 2001-2002 estimates: $19.615 million.</td>
<td>During 2001-2002, the estimated cost of providing the network was $19.522 million.</td>
</tr>
<tr>
<td>Cost per aid to navigation location. (Price) <strong>Target</strong>: $53,500 per location.</td>
<td>During 2001-2002, the cost estimate per aid to navigation was $47,076 per location.</td>
</tr>
<tr>
<td>Median time taken to distribute safety information messages. (Quality) <strong>Target</strong>: 2 hours.</td>
<td>During 2001-2002, the median time was 16 minutes.</td>
</tr>
<tr>
<td>Capability to distribute a number of safety messages per day. (Quantity) <strong>Target</strong>: An average of five messages per day.</td>
<td>During 2001-2002, 504 messages were sent with a capability maintained in excess of an average of five messages per day.</td>
</tr>
<tr>
<td>Cost to provide maritime safety messages. (Price) <strong>Target</strong>: 2001-2002 estimates: $0.260 million.</td>
<td>During 2001-2002, the cost is estimated to be $0.260 million.</td>
</tr>
</tbody>
</table>