Part 2: Maritime Traffic Safety

1. Achieving a Society with No Maritime Accidents

○ Preventing the occurrence of maritime accidents

○ Promoting prompt and appropriate search, rescue, and emergency services system for passengers

2. Objectives Set in Maritime Traffic Safety

① To prevent the occurrence of large-scale maritime accidents that would close waterways in congested waters, and reduce the number of such accidents to zero

② To strive to reduce the annual number of people who die or go missing in maritime accidents or from falling overboard to 220 or less by 2010

3. Measures for Maritime Traffic Safety

<Two viewpoints>

1) Promoting various measures continuously to prevent maritime accidents

2) Improving and enhancing the systems for prompt and proper lifesaving

<Nine pillars>

i) Improving the maritime traffic environment

ii) Disseminating knowledge on maritime safety

iii) Securing safe vessel navigation

iv) Ensuring vessel safety

v) Enhancing safety measures for small vessels

vi) Enforcing laws in maritime traffic

vii) Enhancing rescue and emergency services systems

viii) Promoting victim support

ix) Enhancing R&D and study activities

Section 1: Achieving a Society with No Maritime Accidents

Surrounded by the sea and lacking in resources, Japan is largely dependent on energy resources and food resources imported from overseas, and many of its key industries are located in the coastal areas. These factors have made maritime transportation essential in supporting Japan's industries and the life of its people. For this reason, maritime transportation operations are very active in coastal sea areas, and particularly in Tokyo Bay which has a metropolis on the coast and serves as the base of economic activities, there is congestion of vessel traffic. In addition, since fishing and marine leisure are also active, the environment surrounding maritime traffic is in a very difficult situation.

If a maritime accident occurs under such circumstances, it is likely to have an immeasurable impact on Japan's economic activities and natural environment. Furthermore, it might also result in the loss of human life. Therefore, while placing the top priority on preventing the occurrence of maritime accidents, we should, in the event of an accident, carry out search and rescue operations promptly and properly to save the lives of people on board. Through such efforts, we should vigorously implement measures for maritime safety, aiming to achieve a society with no maritime accidents.

I. Current Status of Maritime Accidents

The annual average number of vessels involved in maritime accidents that needed rescue (vessels that needed rescue) in Japan's surrounding sea areas was 2,086 (167 fatalities and missing persons) for the period from 2001 to 2005. Although the number of vessels that needed rescue was up by about 11% over the number for the previous five-year period, 1,877 (170 persons), the annual average number of people who died or went missing was down by 2%. Moreover, about 54% of the deaths and missing persons had occurred on fishing boats, and about 18% had occurred on pleasure boats. During this period, in September 2002, a pleasure boat capsized in Lake Saloma in Hokkaido, claiming seven precious lives, and in 2004, there was a high incidence of grounding and capsizing accidents caused by the large-scale typhoons that arrived one after another. Furthermore, in September 2005, a saury fishing boat and a foreign cargo carrier collided off the coast of Nemuro in Hokkaido, claiming seven precious lives again.

The annual number of people who fell overboard was 204 (139 fatalities and missing persons) for the period from 2001 to 2005, down by about 3% from the number for the previous five-year period, 210 (165 fatalities and missing persons), and the number of people who died or went missing had also gone down by about 16%.

Moreover, the characteristics of the maritime accidents that occurred from 2001 to 2005 are as follows.

(i) About 70% of all maritime accidents were due to so-called human-causes such as navigation errors including inadequate watchkeeping, improper ship handling and inattention to the weather and hydrographic conditions, and inappropriate handling of engines, which was similarly high to that of the previous five-year period.

(ii) Maritime accidents had occurred in all coastal areas of Japan, and over 90% had occurred in waters

within 20 nautical miles from the shore. Particularly, maritime accidents that occurred in congested waters such as harbors and bays make up for about 40% of all maritime accidents.

(iii) The number of fishing boats that needed rescue is almost unchanged.

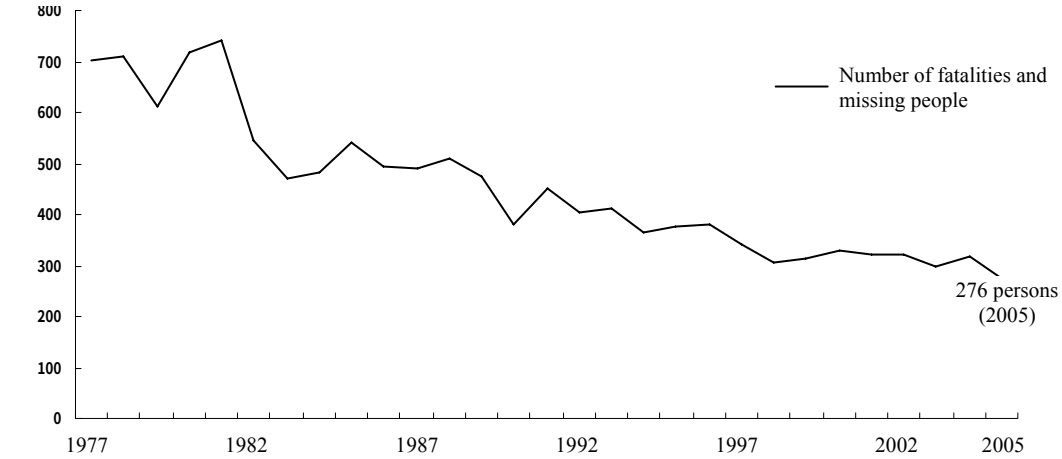
(iv) Among the vessels that needed rescue, pleasure boats account for the largest part, about 50% of all rescues. The accidents caused by extremely rudimental errors such as battery over discharge and lack of fuel were more frequent with pleasure boats than with other common vessels.

(v) The number of people who died or went missing in maritime accidents or by falling overboard was still high, and among them, the number of people who died or went missing by falling overboard from a fishing boat was high. The possible reasons for this situation are that small fishing boats tend to be influenced by the weather and hydrographic conditions, and therefore capsize more easily than common vessels, and that the rate of the use of lifejackets (rate of the use of lifejackets by those who were thrown into the sea due to maritime accidents or going overboard) has remained low.

(vi) Compared to Japanese vessels, foreign vessels tend to have large numbers of deaths and missing persons when maritime accidents with deaths and missing persons occur. This is likely to be because many of the foreign vessels sailing around Japan are large vessels with large numbers of crew on board.

(vii) Maritime accidents caused by abnormal weather such as typhoons have resulted in many deaths and missing persons, and typhoons are the greatest cause of the increase of deaths and missing persons (annual range). In 2004, 10 typhoons, more than three times the average number of typhoons in the past 30 years (3 typhoons), hit Japan. Because of this, the number of deaths and missing persons in maritime accidents associated with the typhoons increased sharply to 36 persons (11 persons in 2003.)

Changes in Number of People Who Died or Went Missing from Falling Overboard



Note: 1. Source: Japan Coast Guard
2. Figures for fatalities and missing people include those who, due to illness or other reasons, became unable to operate the vessel and died as it drifted.

II. Objectives Set in the Fundamental Traffic Safety Program

[Numerical objectives] **To reduce the number of occurrences of large-scale maritime accidents to zero**

To reduce the number of deaths and missing persons to 220 or less

The primary objective is to prevent the occurrence of large-scale maritime accidents that would close waterways in congested waters, and reduce the number of such accidents to zero by comprehensively and vigorously promoting the various measures set out in Section 2 with the understanding and cooperation of the people. Also, the government will strive to bring the annual number of deaths and missing persons caused by maritime accidents and from falling overboard to 220 or less by 2010.

Section 2: Measures for Maritime Traffic Safety

I. Viewpoints in Considering Future Measures for Maritime Traffic Safety

There have been no large-scale maritime accidents that have closed waterways in recent years. Although the overall number of vessels involved in maritime accidents has slightly increased, the number of deaths and missing persons caused by maritime accidents and from falling overboard has remained unchanged. Therefore, the government continues to promote various measures to prevent maritime accidents, and needs to vigorously implement more effective measures, including improvement and enhancement of the systems for prompt and proper lifesaving in coastal sea areas.

II. Measures to Be Taken

[Priority measures and newly-introduced measures in the Eighth Program]

○ Developing the next-generation navigation support system that takes advantage of the automatic identification system (AIS) (1 (1) d, (2) a)
○ Strengthening the supervision of passenger ship operators (3 (2) a)
○ Drastically reforming the pilotage system (3 (4))
○ Developing boat parks and fisharinas (facilities for pleasure boats established at fishing ports) (5 (1))
○ Implementing safety measures for fishing boasts (5 (2))
○ Implementing safety measures for pleasure boats (5 (3))
○ Promoting the wearing of lifejackets (5 (4))
○ Obtaining maritime accident information as early as possible (5 (5))
○ Enhancing rescue and emergency service systems (7 (2) b)

1. Improving the maritime traffic environment

To ensure safer and smoother movements of vessels and safety in ports and harbors, facing the increasing size and speed of marine vessels, the increasingly diverse use of marine environments, and the growing complexity of maritime traffic, the government will promote improvements to waterways, ports and harbors, fishing harbors and aids to navigation. In addition, the government will work to improve safety-related information such as maritime charts and sailing directions, and to improve the system to provide information using IT.

(1) Improving the traffic safety facilities

a. Improving the waterways that require regular development and maintenance

To improve the safety and smoothness of sea traffic, as needed, the government will carry out improvement work on waterways that require regular development and maintenance, with consideration to coordination with the use of surrounding sea areas and fisheries and conditions of vessel traffic

control. The improvement work includes setting up new waterways, expanding, deepening or maintaining the depth of existing waterways, improving waterway lines and eliminating flotsam.

Particularly in major international waterways where large vessels and vessels carrying hazardous materials navigate or many vessels navigate, the government will also strive for both the safety of vessel navigation and efficiency of marine transportation by combining tangible measures such as increasing the width or the depth of existing waterways and intangible measures including review of the technical requirements for high-speed vessels and the improvement of the port information system.

b. Improving ports and harbors

In response to the vessels getting larger and faster, the government will promote improvements to breakwaters, waterways and berths, with the aim of securing safe and smooth navigation of vessels and safety of various activities in ports and harbors.

The government will also create easily accessible refuge harbors all over Japan for small vessels seeking protection at times of extreme weather conditions. In planning these harbors, the government will take into account the natural characteristics of the area and the shapes of the vessels that will use them. The government will also work to improve the functions of such harbors.

c. Improving the fishing harbors

The government will improve fishing harbors that serve as refuge ports for fishing boats, as well as breakwaters designed with a protective effect against tsunamis, berths, and facilities for keeping out rafts in order to improve port safety, based on the Long-term Improvement Plan for Fishing Harbors, which came into effect in FY2002.

d. Improving aids to navigation

To create a vessel traffic environment that combines the safety of vessel traffic and the efficiency of marine transportation, the government will develop the next-generation navigation support system that takes advantage of the automatic identification system (AIS) in Japan's coastal areas including congested waters, and also advance the function of existing lighted beacons and lighted buoys through synchronized flashing, and improve the Maritime Information and Communication System.

And to ensure the reliability of aids to navigation, the government will renew aging facilities and equipment in a planned manner.

e. Improving the earthquake-resistance of ports and harbors

Based on the lessons learned from the earthquakes in the south of Hyogo and the western shores of Fukuoka, the government will implement the following measures.

(a) Promoting earthquake-resistant design and R&D

By making use of revisions to earthquake-resistant design standards made in view of research and investigations into the massive earthquake that occurred in southern Hyogo Prefecture in 1995 as well as subsequent research results, the government will improve the setting method of the design seismic coefficient and tighten design standards for earthquake-resistant construction, with the aim of securing the prescribed earthquake-resistance performance of structures used in ports and harbors.

The government will also promote various R&D to improve the earthquake-resistance of structures in ports and harbors.

(b) Improving the earthquake-resistance of wharves at major ports and harbors in Japan

In order to secure the transportation of evacuees and emergency goods in the event of a major disaster, the government will work to upgrade wharves to make them more earthquake-resistant. The government will also promote improvements to international marine container terminals and domestic shipping terminals including intermodal terminals to make them earthquake-resistant enough to ensure certain function as a part of the maritime transport network, even after a major disaster.

In addition to upgrading these facilities, when it is necessary to secure bases to support restoration and reconstruction of disaster-affected areas, the government will prepare open spaces that can be used for evacuation, and also storage facilities for emergency supplies and communication facilities as needed, to form comprehensive emergency operation bases in the event of a disaster.

(c) Improving the earthquake-resistance of existing port and harbor facilities

The government will assess the earthquake-resistance of existing port and harbor facilities such as port roads. As needed, it will then work to upgrade the earthquake-resistance of bridges and elevated parts of such facilities. The government will also implement measures to prevent liquefaction of facilities that may take a long time to restore after the occurrence of a disaster involving liquefaction.

f. Improving the earthquake-resistance of fishing harbors

In coordination with local disaster prevention plans, the government will promote improvements to fishing harbors that can serve as bases for local rescue activities and those for distribution of fishery products in the event of disasters such as earthquakes, by working to create berths that can be used by rescue boats, earthquake resistant-wharves and transportation facilities.

The government will also work to grasp the current earthquake-resistant structures of fishing harbors and examine the technical development of quake-proof engineering

g. Promoting the security measures of the ports and harbors

So that security measures of international wharves based on the Act for the Security of Ships and of Port Facilities (Act No. 31 of 2004) are implemented properly, the government will reinforce the security measures in ports and harbors by confirming the status of implementation, carrying out human resource training, as well as promoting upgrade of the access control of ports and harbors and improvements on the security facilities of domestic passenger terminals.

(2) Improving traffic control and distribution of maritime traffic information

a. Promoting vessel traffic safety measures in congested seaways

In order to ensure the smooth movement of marine vessels in the face of the increasingly diverse use of seaways and the growing complexity of maritime traffic, the government will implement effective traffic controls, according to prevailing conditions, by promoting improvements to maritime

traffic-related laws, while proactively providing information and instructions required to ensure vessel traffic safety.

In addition, to ensure vessel traffic safety, particularly in congested seaways, the government will create maritime traffic environments that combine the safety and efficiency of maritime traffic by appropriately operating the maritime traffic information system that provides information on maritime traffic and controls vessel traffic in an integrated way, and improving and applying the next-generation aids to navigation systems using AIS, and improving the means of control in major ports and harbors.

b. Improving the information service in coastal areas

To ensure the safety of vessel traffic in coastal areas with a high risk of maritime accidents, the government will improve the Maritime Information and Communication System for providing information on the weather and hydrographic conditions, and water safety information including navigation hazards on the Internet. It will also develop the next-generation aids to navigation systems using AIS that can directly provide and give guidance on more detailed safety information in scripts to individual vessels.

c. Improving marine charts, sailing directions and hydrographic reports

In order to keep pace with advances in the development of ports, harbors, and waterways, and the increasing popularity of marine recreation, the government will use new technology such as aircraft with onboard sounding equipment, improve hydrographic surveys and monitoring to make them more effective, and rationalize marine charts and sailing directions through measures such as producing them in electronic form. Especially for coastal sea areas where a high proportion of marine accidents occur and also both commercial vessels and pleasure boats frequently operate, the government will improve information on the waters of those areas, carefully review publications that currently provide such information, and work to revise their contents to make them more appropriate. Also, to respond to the movement of making the installation of the electronic chart display unit mandatory, the government will work to publish electronic navigation charts for more areas.

With the increase in the number of foreign crews, a sales channel will be established so that Japanese navigation charts can be easily obtained, in order to contribute to the safety of navigation in the waters surrounding Japan.

With regard to information on the safety of marine transport, the government will promote the use of the Internet for waterway reports that provide information necessary for the updating of the charts and the safety of vessel traffic.

d. Improving weather information

The government will accurately understand any weather conditions or natural phenomena which could influence maritime transport safety, and make efforts to improve various qualities of marine meteorological information, such as warnings of gales, storms, typhoons, fog and tsunamis, and forecast charts of typhoons and ocean waves, and to ensure appropriate timely announcements and prompt conveyance of such information.

Furthermore, facilities for observing weather conditions and tsunamis will be constructed as necessary, and maintenance and improvement of those facilities will be promoted. At the same time, the government will promote information sharing with disaster prevention organizations, and strengthening IT-utilized observation or monitoring systems. Improvement of people's knowledge about meteorological phenomena will also be promoted by way of publicity activities, seminars, etc., with the aim of making more effective use of such information.

In addition to all these measures, the government will promote development of an improved optimum routing information system that makes vessels more "intelligent" and enables vessel operators to select optimum travel routes.

(3) Improving passenger ship terminals for the aging society

To ensure the safety of users in ports and harbors, there is a need to consider a variety of specific factors, such as vibration of floating piers and changes in inclination of paths due to differences in sea levels. In view of this, the government will promote the construction of "barrier free" facilities, featuring elimination of steps, and the installation of guide blocks for visually impaired people. This will ensure that all people, including the elderly and disabled, will be able to safely and comfortably make use of passengers vessels, passengers terminals, mooring facilities and marinas.

2. Disseminating knowledge on maritime safety

To improve maritime traffic safety, it is necessary to raise awareness about prevention of maritime accidents, not only among people involved in marine-related affairs, but also to marine leisure devotees and each member of the nation. In recognition of this point, the government will make use of a wide range of opportunities to promote awareness of maritime accident prevention.

The government will also provide more concrete and effective safety guidance, according to the specific characteristics of various sorts of vessels and maritime accident conditions.

(1) Promoting awareness of maritime accident prevention

The government will work to generate and spread awareness of maritime accident prevention not only among people directly involved in marine affairs but also among the general public. In addition, the government will promote improved knowledge, skills and behavior for preventing maritime accidents. To achieve these objectives, the government will carry out maritime accident prevention activities tailored to the characteristics of each type of vessel by working together with private organizations to implement effective campaigns for preventing the occurrence of maritime accidents, and by providing on-site guidance for foreign vessels.

Also, in view of the importance of spreading awareness about the need to prevent maritime accidents, the government will make use of mass media such as newspapers, TV and the Internet to get its message across to a broad audience.

(2) Guiding and training private organizations

In order to raise awareness about maritime accident prevention and to ensure the effectiveness of measures to prevent maritime accidents, the government will improve the guidance and support of various private organizations that work to prevent maritime accidents, such as the Marine Accident Prevention Association, the Small Vessels Safety Association and the Foreign Vessels Safety Policies Liaison Council, so that they can each pursue their autonomous activities more effectively and proactively.

(3) Utilizing the findings of investigation into the cause of maritime accidents

The government will carry out a detailed analysis of the causes and actual conditions of maritime accidents that have been revealed individually, by accident type, vessel type and region, summarize and present their tendencies, issues and prevention measures, and implement activities of preventing maritime accidents that utilize the findings.

(4) Providing information for foreign vessels

The government will raise awareness of and provide guidance on information needed for safe navigation by distributing pamphlets in foreign languages for foreign vessels that are unfamiliar with the geography, weather and hydrographic conditions of waters surrounding Japan.

(5) Strengthening safety measures during abnormal weather conditions including typhoons

The government will promote safety guidance and thorough awareness-raising for approaching typhoons, while enhancing safety measures that are developed for abnormal weather conditions and tailored to the characteristics of various vessels.

3. Securing safe vessel navigation

To promote greater marine transport safety in terms of vessel operation, the government will work to maintain and improve the knowledge and skills of people involved in marine affairs, and to establish a system for improved operational safety.

For this, the government will improve and strengthen appropriate guidance and supervision concerning the improvement of the quality of the crew, pilots, passenger ship operators and domestic carriers, and the improvement of operation management, based on the factor analyses of accidents, while promoting auditing by inspectors for safety management and seafarers labor who were assigned as a newly established position in April 2005.

Within a framework of regional cooperation, the government will also work to promote Port State Control (PSC) on qualifications for crews of foreign vessels calling at ports in Japan.

In addition to the above, they will promote the establishment of a system of safety management that involves every level of operator, from the top management to the operational sector, while introducing the mechanism of “management assessment” in which the government will assess such system.

(1) Improving the quality of the crew

To conform with the "International Convention on Standards of Training, Certification and Watch-keeping for Seafarers" (the STCW treaty), which was enacted in 1978, the government will strive to update the knowledge and skills of ship personnel by checking the knowledge and skills for the latest navigation equipment, while calling for a certain boarding work experience when carrying out the sea engineer test based on the Act for Ships' Officers and Boats' Operators (Act No. 149, 1951), and requesting a certain boarding record or participation in workshops when updating the seamen's competency certificate every five years.

Furthermore, since improvement of seamen's quality is important to prevent human errors, all seamen's training organizations that teach science on vessel navigation or provide sea training will implement training for new seamen and re-education for other seamen, and also work to enrich their education programs.

In addition, the government will maintain and improve the safety awareness of the crew by thoroughly implementing audits by the inspectors for safety management and seafarers labor in regard to pre-departure tests, proper implementation of training, securing of a navigation watch system, and establishing an inspection system on board, based on the Mariners Law (Act No. 100, 1947).

(2) Promoting effective operations management of vessels

a. Strengthening the supervision of passenger ship operators

The government will implement audits of passenger ship operators and domestic carriers, focusing on their observation of operation management rules. At the same time, to make audits more effective, the government will work to improve auditing methods and implement audits more vigorously.

b. Improving seminars for operation managers

The government will work to improve the standard of seminars for operation managers and crews, making use of the results from analysis of the latest accident cases. Through this measure, they aim to improve the level of knowledge and awareness of operations management among seminar participants.

The government will also work to improve training on how to handle passenger ship accidents, with the aim of improving the ability of passenger ship crews and companies to deal with accident situations.

c. Supervising operation management for sea taxis, etc.

To further improve the safety of the passenger transport business, the government will instruct and supervise oceangoing passenger ship companies, as well as domestic passenger transport companies operating vessels with passenger capacities up to 12 persons, such as sea taxis, to ensure that they implement safety measures such as the formulation of operation management rules.

d. Implementing accident recurrence prevention measures thoroughly

If it is found that the basic cause of an accident involving a passenger vessel lies in the company's operations management system, the government will establish an investigation commission with the participation of external experts, entrust the commission with formulation of drastic measures

to prevent recurrence of the accident and instruct the company on vigorously implementing these measures.

Also, whenever necessary, depending on the nature of the accident and the frequency of occurrence, the government will issue cautions to passenger ship companies and passengers through relevant organizations and the media, in order to raise awareness about accident prevention.

e. Promoting the release of safety information

To enable passengers to choose appropriate passenger companies and also to provide companies with the incentive to promote higher standards of safety, the companies and the government will publicly release information about the scheme to ensure safety in the sea passenger transport business and about accidents, according to the role of each.

(3) Promoting measures to prevent accidents involving seamen

To help prevent maritime accidents caused by poor labor standards on ships by improving safety and health management, the government will steadily implement the Basic Plan Concerning Disaster Prevention for Seafarers and the Implementation Plan Concerning Disaster Prevention for Seafarers, which were formulated according to the Law for Promotion of Prevention of Seafarers' Disaster (Act No. 61 of 1967). The government will achieve this through the promotion of disaster prevention measures that take into consideration analysis of accident causes, through the activities of the Association for Promoting Safety and Sanitation for Seafarers, and through auditing and guidance by supervisors for safety management and seafarers labor inspection.

(4) Drastically reforming the pilotage system

With regards to the pilotage system, a drastic reform (to be implemented from April 2007) will be carried out from the viewpoint of training and securing pilots, ensuring the safety of vessel traffic, and making the pilotage work management efficient and accurate, and necessary measures will be taken so that the objective of the pilotage system, the safety of the vessel traffic, is ensured steadily and efficiently.

(5) Improving the maritime accident cause investigation system

In order to contribute to the prevention of maritime accidents, the government will strive for a speedy and accurate investigation of the causes, while enhancing the system for carrying out in-depth scientific investigations. Also in order to establish an international cooperative system for maritime accident investigation at an early date, the government will respond actively to the inquest by such bodies as the International Maritime Organization (IMO).

(6) Promoting Port State Control

Since serious problems are still occurring in ensuring the safety of life and navigation caused, to no small extent, by maritime accidents that arise from "substandard vessels" that do not comply with the standards of the international convention, the government will promote PSC for foreign vessels adequately

on the certification of crew, watchkeeping and operational requirements based on the STCW convention and the International Convention for the Safety of Life at Sea, 1974 (SOLAS Convention).

Also based on the framework of the Memorandum of Understanding on Port State Control in the Asia Pacific Region (Tokyo MOU), the government will promote an effective PSC with the authorities in the Asia Pacific region to eliminate substandard vessels.

4. Ensuring vessel safety

In order to improve vessel safety, the government will work under an international system of cooperation to improve the standards and inspection systems relating to vessel structures, facilities, marine transport of hazardous material and safety management systems, while promoting PSC on structures and installations of foreign vessels calling at ports in Japan. In addition, necessary measures that take into account universal design issues will be taken.

(1) Improving vessel safety standards

In order to improve the safety of vessels, IMO is working to investigate improvements to safety standards on vessel construction and facilities. While keeping pace with these movements, Japan will improve its own standards and inspection systems, as needed, to meet the new challenges presented by technological innovations and diversification of maritime transport. In particular, the government will actively respond to examining the new safety standards by the IMO including the objective-based new ship construction standards, the next-generation lifesaving system, and the global system (GMDSS: Global Maritime Distress and Safety System) on distress and safety at sea. At the same time, the government will promote performance standardization that enables a wide variety of rule compliance methods developed with the ingenuity of the operators to be approved, to promote technological innovation and reduce the cost of compliance.

The government will also actively keep up with international improvements to marine transport by improving the safety of vessels, for example, by the construction of an international database (EQUASIS) to publicize information on the safety of individual vessels with the aim of preventing the operation of substandard vessels.

Furthermore, necessary measures that take universal design into account will be taken so that passenger ship operators can easily meet obligations to make passenger vessels "barrier free," as stipulated in the Transportation Accessibility Improvement Act.

(2) Preventing recurrence of serious maritime accidents

There have been three major tanker accidents at sea in recent years in which old vessels (with high tonnage-years) broke up and sank in heavy weather conditions: the accident of the Russian tanker “Nakhodka” that occurred on the Sea of Japan in January 1997, the accident of the Maltese tanker “Erica” that occurred off the coast of Brest in France in December 1999, and the accident of the Panamanian tanker “Prestige” that occurred off the Spanish coast in November 2002. To prevent these kinds of accidents from occurring again, the IMO is now working to improve inspections of vessels in the countries in which they are

registered (flag states) and to promote PSC, upon enforcement of the IMO Member State Audit Scheme. Japan will actively respond to these changes.

(3) Improving safety examination systems for hazardous materials

In response to the increase and diversification of the marine transport of hazardous materials, the government will use all possible means to prevent accidents on marine transport by improving the technical standards based on the international safety standards set out by the IMO, and strengthen safety examination systems through thorough implementation of various pre-shipping inspections and effective on-site inspections for the vessels carrying hazardous materials.

(4) Improving vessel inspection systems

Vessels with hull forms that are completely different from traditional design approach have increased due to technological innovation and diversification of marine transport in recent years, and very advanced and complicated inspections have become necessary. To deal with these situations, the government will introduce a stringent quality control system based on ISO9001 and enhance the quality of the vessel inspection systems.

Furthermore, in the area of inspection of small vessels, in order to improve the safety of pleasure boats that have been diversified along with the increased popularity of marine leisure, the government will promote improvements to the inspection systems of the Japan Craft Inspection Organization, an organization dedicated to performing inspections of small vessels.

(5) Promoting the building of the vessel safety management system by passenger ship operators

The International Safety Management code (ISM code[1]) for establishing a comprehensive safety management system for vessels and the companies that operate them, which sets out the emergency response procedure for maritime accidents related to vessel navigation from the viewpoint of the safety of human life at sea, is being applied as the scheme by which the government approves the voluntary safety management system built by applicants, including operators of domestic vessels that are not required to comply with the code. The ISM code is based on a safety management system of the ISO9000 series centered on continual improvement by top management and PDCA (Plan, Do, Check, Action), and as it is very effective in preventing human-error and establishing a culture with an emphasis on safety, the government will encourage passenger ship operators to obtain the ISM code certification and strengthen the examination systems for approving the safety management system.

(6) Promoting Port State Control

Since serious problems are still occurring in ensuring the safety of life and navigation caused, to no small extent, by maritime accidents that arise from "substandard vessels" that do not comply with the

[1] ISM code: International Management Code for the Safe Operation of Ship and for Pollution Prevention

standards of the international convention, the government will promote PSC for foreign vessels adequately on the structure and installation based on the SOLAS Convention and the International Convention on LOAD LINES, 1966 (LL Convention).

Also, based on the framework of Tokyo MOU, the government will promote an effective PSC with the authorities in the Asia Pacific region to eliminate substandard vessels.

5. Enhancing safety measures for small vessels

To prevent maritime accidents by small vessels, which make up most of all maritime accidents, it is essential to improve the environment for safe navigation and strengthen the rescue system, as well as to increase the safety awareness of marine leisure enthusiasts and those involved in fishery.

To achieve this, the government will promote the improvement of "boat parks," orderly use of waters, wearing of lifejackets, and improvement of mobile rescue that utilizes helicopters.

Furthermore, casualties and disaster prevention measures for elderly crew and fishing boats will be promoted based on the Basic Disaster Prevention Plan for Seamen and Disaster Prevention Implementation Plan for Seamen.

(1) Developing boat parks and fisharinas

a. Improving boat parks

To resolve the issue of illegally moored boats, which have become a problem in various parts of Japan in recent years, and to promote the orderly use of ports and harbors and public water areas, the improvement of boat parks including mooring facilities that utilize the banks of existing quiet water areas and land-based storage facilities that utilize public vacant lots is being promoted through public projects. Moreover, the government will promote the improvement of marinas run by private and semi-public sectors by actively introducing the fund and initiative of the private sector including "the method of building, maintaining and operating public facilities by utilizing the funds, management skills and technical capabilities of the private sector (PFI[2])"

To secure the safety of pleasure boat activities and promote the orderly use of the water areas, the government will pay full attention to the setup of the location of boat parks and pleasure boats' recreation areas, and secure the safety in boat parks.

The government will provide information about facilities such as boat parks on the website "Kairanban" designed to provide information on the storage of pleasure boats, and will promote appropriate use of these facilities.

b. Improving fisharinas

The number of pleasure boats using fishing harbors is increasing with the general growth in marine recreation needs. To prevent potential problems between pleasure boats and fishing boats, the government will proceed to develop "fisharinas" designed to separately accommodate fishing boats and pleasure boats.

[2] PFI: Private Finance Initiative

c. Improving the mooring and berthing capacity and regulating illegally moored boats

With the improvement of mooring and berthing capacity to solve the problem of illegally moored boats, the government will actively designate the areas for prohibiting the illegal mooring of boats based on the Port and Harbor Act (Act No. 218 of 1950) and Fishing Port Development Act (Act No.137 of 1950), after considering the viewpoints of Tsunami and tidal wave disaster prevention and landscaping.

Furthermore, the government will proceed with an investigation on the introduction of regulations to make it mandatory for pleasure boat owners to have an approved mooring space for their vessels.

(2) Promoting safety measures for fishing boats

a. Promoting guidance on safety measures for fishing boats

Fishing boat accidents make up over half of the accidents that involve deaths and missing persons, and the rate of fishing boat crews wearing lifejackets continues to remain very low at about 20%. Also, the majority of maritime accidents are still caused by human-factors such as operation errors including inadequate watchkeeping and improper ship handling resulting from carelessness of crew members, and inappropriate handling of engines.

Under these circumstances, the government is to promote safety measures on fishing boats by heightening and educating safety awareness through maritime accident prevention workshops for fishing workers in cooperation with relevant government agencies, and by instructing these workers to observe safety precautions such as maintenance and checkups before departure, monitoring of sea conditions, understanding meteorological and hydrographic information in detail through the Maritime Information and Communication System, and to comply with all maritime-related laws.

Furthermore, to raise the safety awareness of fishermen, relevant government agencies are to work together and promote holding conferences for safety awareness education by fishermen themselves and the formulation of programs for promoting safety.

b. Securing safety of fishing boats

Since there are a lot of casualties on fishing boats due to capsizing, a study will be conducted into the improvement of safety including stability.

For the time being, small fishing boats up to 20 tons that are engaged in fishing within 12 nautical miles of shore will be exempt from conforming to the technical standards on structures and facilities specified in the Ship Safety Act (Act No. 11 of 1933). However, since these vessels cause a large number of casualties in such accidents as capsizing incidents and falling overboard because of their low installation rate of life-saving gear, a study will be conducted into safety measures to prevent falling overboard.

(3) Promoting safety measures for pleasure boats

a. Promoting guidance on safety measures of pleasure boats

It is vital for users of pleasure boats to develop greater awareness about safety practices for preventing maritime accidents. The government will promote greater awareness about maritime accident prevention by organizing seminars and providing guidance by visiting boats at sea. The government will also instruct vessel operators to observe maritime traffic regulations, to obtain safety information such as meteorological and hydrographic reports through the Maritime Information and Communication System, and to follow basic navigational safety procedures.

b. Promoting seminars for technicians on construction of pleasure boats

To promote improved safety by maintaining appropriate standards for the construction of pleasure boats, the government will promote various types of seminars for boat builders and associated technicians. This training will aim to cultivate and improve the quality of technicians with the skills to adapt to future market needs and technological innovations.

c. Improving safety standards and inspection systems for pleasure boats

The government will actively respond to the studies on the international safety standards of pleasure boats in ISO, and improve the safety standards and inspection systems based on its findings.

d. Improving information service for the safety of pleasure boats

The government will promote utilization of "marine consulting rooms" and "marine leisure event consulting room," consultation services on the sea and marine recreation, as windows for distributing information on marine recreation to the public. At the same time, the government will work to improve the contents of information by providing safety information to pleasure boats in real time.

e. Securing knowledge and skills of license holders, and disseminating and educating the rules for small vessel navigators

Under the new simplified and streamlined licensing system for small vessel navigators, the government will secure the learning of certain knowledge and skills to enable license holders to navigate small vessels correctly and safely.

Also the government will strive to improve awareness on manners and safety for marine leisure enthusiasts by educating them about the rules that must be obeyed by small vessel navigators (prohibition of navigation under the influence of alcohol, prohibition of dangerous navigation, and wearing of lifejackets) based on the Act for Ships' Officers and Boats' Operators, and conducting an investigation into violations.

(4) Promoting the wearing of life jackets

In light of the fact that the rate of lifejacket usage is 36%, and non-wearers of lifejackets account for a larger portion of deaths and missing persons resulting from maritime accidents and falling overboard, relevant government agencies, local authorities and relevant organizations will work together to actively and effectively promote a self-life-saving campaign to promote understanding on wearing and the effects of wearing lifejackets. Moreover, the government will enhance guidance and controls on offenses against the obligation to wear lifejackets and examine the way to regulate lifejacket wearing, to improve the rate of lifejacket wearing.

In particular, they will encourage fisheries organizations to promote the wearing of lifejackets for fishing boats that show no sign of improving their rate of wearing lifejackets.

By promoting such measures, the government aims to bring the rate of lifejacket usage to 50% or above by 2010.

[Numerical objective] To raise the rate of lifejacket usage to 50% or above

(5) Obtaining information on maritime accidents early

The rate of maritime accidents that the Japan Coast Guard acknowledges within two hours after their occurrences is about 75%, which shows that it takes time for the incident to be reported. Furthermore, the accuracy of the contents of information sometimes deteriorates due to it going through a third party organization.

Considering this situation, relevant agencies and organizations are to promote the knowledge of the emergency telephone number [118] and promote the carrying of waterproof cell phones. Furthermore, with the commencement of the service for providing call location information from cell phones by various phone operators from April 2007, they will promote the carrying of cell phones equipped with location display functions, to improve the notification system of maritime accidents.

Through promoting such measures, the government aims to bring the rate of maritime accidents and falls overboard on which the Japan Coast Guard obtains information within two hours to 80% or above by 2010.

[Numerical objective] To bring the rate of accidents on which the Japan Coast Guard obtains information within two hours to 80% or above

6. Enforcing laws in maritime traffic

The government will improve guidance and control on vessel navigation and the major risk factors in maritime accidents in congested waterways. In addition, during the times when marine transport and marine recreation activities become especially busy, the government will strengthen guidance and control in order to ensure that marine transport laws are properly observed.

7. Enhancing rescue and emergency services systems

To reduce the numbers of deaths and missing persons resulting from maritime accidents, it is vital to obtain information about accidents as quickly as possible, make accurate drifting forecast, promptly dispatch rescue parties, and strengthen search, rescue, and emergency medical capabilities. For this, the government will reduce the response time by improving the mobile rescue system that utilizes the mobility and speed of helicopters, and improve rescue and emergency services activities such as to improve the advanced rescue system by emergency life-saving technicians.

(1) Improving of maritime accident information collection and handling

With a view to performing efficient search and rescue (SAR) operation by concentrating relevant information, Japan Coast Guard (JCG) is integrating its communications and SAR operations functions by

revising relevant organizations. JCG is also replacing the Cospas-Sarsat ground segment in order to receive and process distress alerts from new type satellites. Further, it is planned that the '118' emergency calling system be improved by enabling it to receive and indicate position information from cellular phones making emergency calls.

In addition, a new JCG information infrastructure intended to consolidate Cospas-Sarsat distress alert, cellular phone location data, Automatic Identification Systems(AIS) information, etc., and cross-reference them with other JCG service information of various kinds is under development for further improving SAR operation and maritime accident prevention measures.

(2) Improving and strengthening maritime accident rescue systems

a. Securing faster dispatch of rescue parties

The government will implement a 24-hour guard system for rapidly dispatching rescue parties to emergency scenes when a maritime accident occurs. At the same time, when there is a high risk of maritime accidents, for example when a strong typhoon is approaching, the government will implement emergency procedures to prepare for the possible occurrence of serious accidents.

When a maritime accident actually occurs, the government will immediately send out patrol vessels and aircraft to the accident scene. The government will also implement prompt and exact rescue activities by providing a fast and accurate drifting forecast, collecting and analyzing relevant information promptly, and determining the search area and rescue method.

Furthermore, the government will replace aging and out-of-date patrol boats and aircrafts, strive for technological advantages including the improvement of speed and nighttime search capabilities, improve and strengthen the search parties by reducing the time required in reaching the destination or for searching.

b. Enhancing rescue and emergency services systems

For rescues in coastal areas with a higher risk of maritime accidents, the government will allocate a "mobile rescue technicians" equipped with ranger rescue techniques, diving ability and emergency medical techniques to air bases (of the Japan Coast Guard). Since the range of emergency medical procedures that emergency life-saving technicians are allowed to apply expands and advances year by year, the government will improve the skills of emergency life-saving technicians and promote improvement of the medical control system that guarantees the quality of emergency medical procedures operations from the medical viewpoint.

c. Making coordination among marine rescue systems

To perform fast and precise search and rescue activities over wide areas of sea in the Northwest Pacific, according to the "International Convention on Maritime Search and Rescue, 1979" (SAR treaty), the government will work to extend cooperation with search and rescue organizations in SAR treaty countries, and also work to encourage non-contracting parties to sign the SAR treaty. Furthermore, to effectively use the Japanese Ship Reporting System (JASREP), the government will promote participation in the system through explanatory sessions on JASREP to marine transport and fishery

companies, visits by patrol vessels to instruct ships, distribution of pamphlets, and publishing articles in maritime-related publications.

Also the government will promote the effective and efficient use of the ship reporting system each country is applying independently, and improve the convenience for participating vessels.

Furthermore, the government will carry out rescue and emergency services activities in cooperation with the Marine Rescue Japan and Japan Marine Recreation Association for the marine rescue of small vessels.

(3) Improving marine rescue technology

To deal effectively with operations that require advanced technology and expertise, such as rescuing people from capsized boats, the government will improve rescue systems by upgrading human resources. At the same time, they will work to improve research and investigation into marine rescue methods, as well as training exercises and seminars. In this way, the government will improve rescue technology for use in maritime accidents.

(4) Improving marine emergency service system

Marine Rescue Japan and other bodies conduct marine emergency service projects in which doctors and nurses are quickly and smoothly dispatched to attend to sick or injured people at sea. The government will guide and cooperate with these groups to support them in ensuring their appropriate management systems. At the same time, by cooperating with relevant organizations, the government will strengthen marine emergency service systems by promoting the participation of medical institutions and providing better training to doctors and nurses.

8. Promoting victim support

The government will work to review the responsibility of ship owners in relation to compensation for harm and damage caused to passengers and third parties in accidents at sea, taking into account recent changes in the standards of damage for marine insurance. At the same time, according to the increase of obligation to take out insurance, the government will distribute information about new insurance requirements to all relevant parties in the maritime industry, and work to make further improvements to maritime-related insurance systems.

In addition, the government will implement measures with due consideration to victim's feelings. Particularly, in case of a large-scale accident, the Japan Coast Guard, police, medical institutions, local authorities and private victim support organizations will work together to support the victim.

9. Enhancing R&D and study activities

The government will promote R&D into marine transport safety and comprehensive investigations to clarify the causes of accidents. They will then promptly reflect the results of such studies into safety measures, in order to improve the safety of marine transport.

(1) Promoting R&D into marine transport safety

To improve the safety of marine transport, it is necessary to promote scientific research on marine traffic environments, natural phenomena, e.g. meteorology and hydrography, vessels, vessel navigation systems, and the performance and functions of ports and harbors, all of which are factors in maritime accidents. At the same time, it is necessary to reflect the results of such studies in marine transport safety policies.

Particularly, keeping in mind the recent incidents of maritime accidents and marine contamination, the government will establish the concept of the standard of construction and facilities for combating substandard vessels including aging vessels, and promote study activities for establishing objective-based new ship construction standards, which is being studied by the International Maritime Organization. The government will also build the next-generation GMDSS that utilizes the latest communication technology, utilize IT in respect to vessel navigation, and promote study activities needed to prevent human errors.

Furthermore, in order to secure the safety of vessel navigation in coastal areas, the government will promote R&D of tide race monitoring technology and methods of providing and obtaining information.

(2) Promoting comprehensive research and investigation on causes of maritime accidents

To investigate the causes of maritime accidents promptly and accurately, the government will promote study activities concerning the methods of studying and investigating the causes of maritime accidents, while carrying out a comprehensive study and analysis of maritime accidents and reflect the findings in safety measures for maritime traffic.

(3) Promoting comprehensive safety assessment of vessels

The National Maritime Research Institute will promote research on the Formal Safety Assessment (FSA) method of vessels for assessing regulations objectively based on accident data. Also, in order to build a rational and effective regulation system for technical regulations designed for vessel safety and marine contamination prevention, the findings of the research will be used to enhance the implementation of the assessment.