

ClassNK

NIPPON KAIJI KYOKAI

Annual Report 2012





The ClassNK Mission

ClassNK is dedicated to ensuring the safety of life and property at sea, and to preventing pollution of the marine environment. To achieve this mission, ClassNK will:

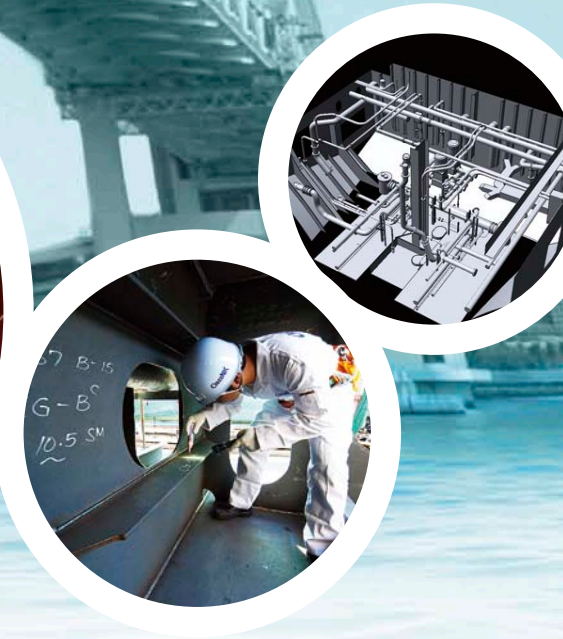
- Focus on delivering the highest quality classification services, by the highest quality personnel while maintaining its totally independent third party, non-profit status;
- Focus on the development of relevant rules, guidances and procedures, and maintain and develop its commitment to scientific and technological research and development; and
- Maintain and develop its global operations in line with the needs of those using its services.

Profile

Founded on 15 November 1899, Nippon Kaiji Kyokai, better known as ClassNK or simply NK, is a ship classification society dedicated to safeguarding life and property at sea and to preventing marine pollution. ClassNK offers a broad spectrum of services as a totally independent third party, non-profit organization. The principal work of the Society's expert technical staff is to conduct surveys of new and existing ships and other marine structures, including hull structures, propulsion systems, electrical and electronic systems, safety equipment, and cargo handling gear, among numerous other areas, to ensure their full compliance with classification rules developed by the Society. It also conducts a wide range of statutory surveys on behalf of more than 100 flag States around the world. Other activities include the auditing and registration of ship safety management systems, as well as certification of quality, environmental and occupational health management systems and seafarer training, technical consulting, and an extensive range of cutting-edge R&D projects.

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Chairman's Message



Chairman and President
Noboru Ueda

I would like to take the publishing of ClassNK's 2012 Annual Report as an opportunity to express my warm gratitude to everyone for their continued support of our activities here at ClassNK.

Even within the context of our 113-year history, 2012 was a year that deserves special mention for two very significant reasons.

- At the end of May 2012, ClassNK became the first classification society in the world to exceed 200 million gross tons under class. In addition, newbuilding registrations set a new record of 692 vessels and 20,320,000 gross tons. By the end of the year, our register reached 8,202 vessels, totaling 211,126,849 gross tons.
- With the establishment of exclusive survey offices in Doha (Qatar), Muscat (Oman), and Lianyungang (China), the number of exclusive survey offices outside of Japan exceeded 100 locations.

The achievement of these two milestones has further strengthened the Society's foundations, but I would also like to highlight the major initiatives that ClassNK took in 2012 to improve our survey structure, strengthen our research and development activities, and expand our business ventures.

Survey Structure

In 2012, we continued to expand our service network to meet the changing needs of our clients, topping 100 exclusive survey offices overseas for the first time. As of the end of 2012, we conduct classification and survey operations in 121 offices across the world.

Beyond expanding our service network, we are also working to maintain and improve the quality of our exclusive survey offices. We are constantly developing the expertise of our surveyors through extensive training courses held both in Japan and overseas.

We also continue our work to earn authorizations to carry out surveys on behalf of flag administrations around the world. Continuing from the authorization we received from the Norway and U.S. flag administrations in 2011, we were granted authorization from the flag administration of Madeira, Portugal in 2012. By the end of 2012, we had received permission to carry out surveys on behalf of 106 flag administrations around the world.

We have also expanded our range of seminars and educational activities in order to help our clients comply with the new MARPOL Annex VI amendments and the Maritime Labor Convention, both of which will come into force in 2013.

In April 2012, we established the EEDI (Energy Efficient Design Index) Division in order to comprehensively address new regulations for the reduction of greenhouse gases. For the Maritime Labor Convention, which will come into force in August 2013, we are training our surveyors to conduct surveys that address this new standard. In addition, we are striving to acquire authorization from each flag state to perform this type of survey certification.

Research and Development

In addition to our independent R&D activities, we have greatly expanded our Joint R&D for Industry program, which we began in 2009. In particular, we are focusing on the research and development of the rapidly growing off-shore and research and energy sectors, as well as the development of eco-ship design.

Since June 2012, ClassNK has been cooperating with IBM and IHIMU (now Japan Marine United) in conducting R&D for the architecture of a cloud-based "ship maintenance management system" for use by shipowners and ship management companies. It is our hope that we can reduce maintenance and management costs while ensuring vessel safety.

ClassNK will continue to provide technical and financial support for research that addresses the needs of those in the maritime industry, and in doing so, contribute to the success of the entire industry.

New Business Ventures


In addition to certification services for seafarer education and training facilities, which were introduced in 2011, in 2012 we began new services for wind turbine certification, as well as local content certification in Brazil.

In response to increasing environmental regulations, we began joint development of a new energy saving operation support system, "ClassNK-NAPA GREEN," with the leading Finnish ship design software company NAPA in May 2012.

Toward Becoming the Chosen Class Society

Our Board of Directors and staff here at ClassNK never forget the fact that ship classification is a service that our clients are free to choose. We have gone back to the basics and reaffirmed our commitment to provide high-quality services with an uncompromising focus on the improvement of technical capabilities. It is our goal to be the classification society that our clients can trust and rely upon.

We look forward to enjoying your cooperation and support again in 2013.



Noboru Ueda

2012 at a Glance

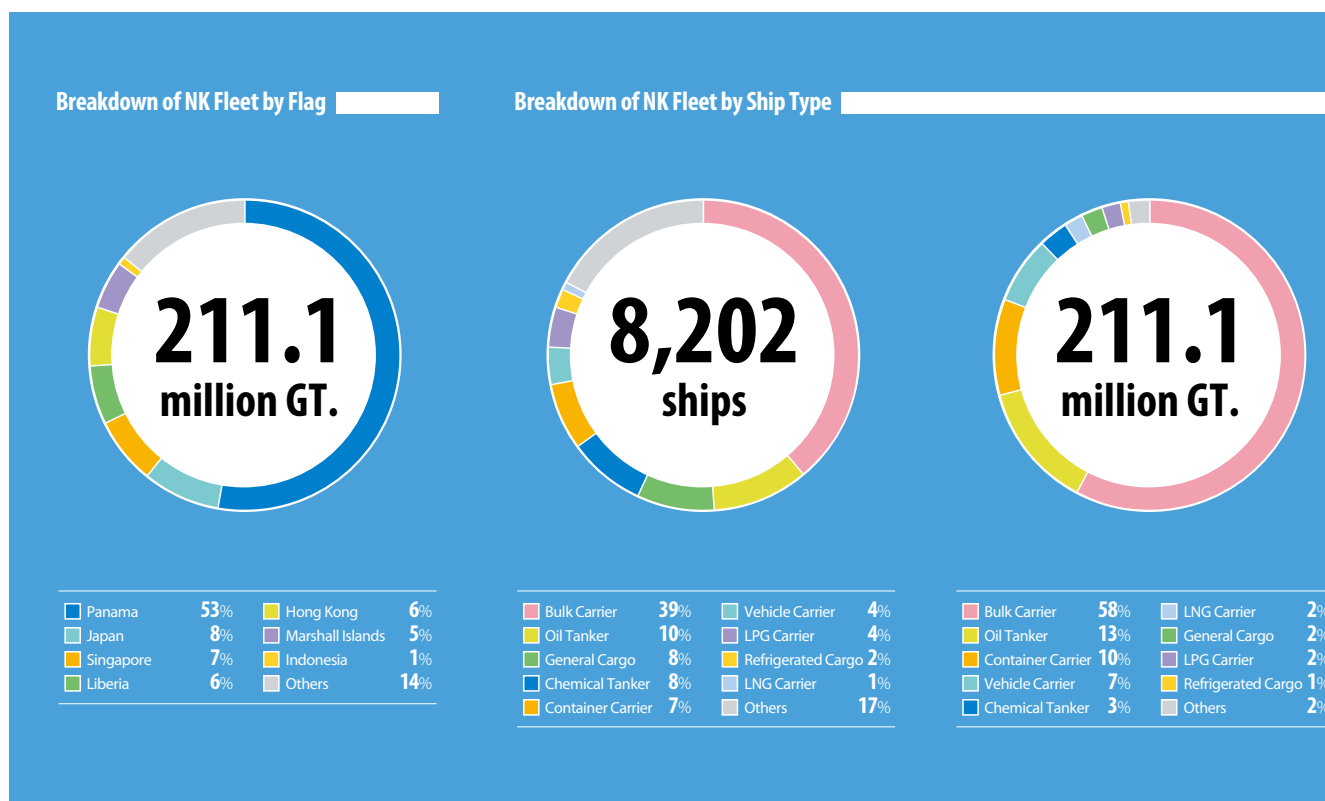


Register Exceeds 200 Million Gross Tons

ClassNK became the first classification society in the world to exceed 200 million gross tons of vessels under class.

ClassNK registered 692 newbuildings amounting to 20,328,329 gross tons in 2012, exceeding the previous record of newbuildings and gross tons registered in 2011.

As of the end of December 2012, ClassNK has 8,202 vessels and 211,126,849 gross tons under class.



Total Tonnage of Ships under Class

200 million GT

First classification society in the world to exceed 200 million gross tons on register

ClassNK became the first classification society in the world to exceed 200 million gross tons on its register, with a total of 7,847 vessels and 200,804,781 gross tons under class by the end of May 2012.

Reaching more than 200 million gross tons on our register was one of the goals set out in ClassNK's Medium-Term Business Plan "Global Approach 200" in June 2011. The objective was to reach 200 million gross tons by 2013, but was accomplished just halfway through 2012.

Total Number of Ships under Class

8,000 ships

ClassNK exceeds 8,000 vessels under class

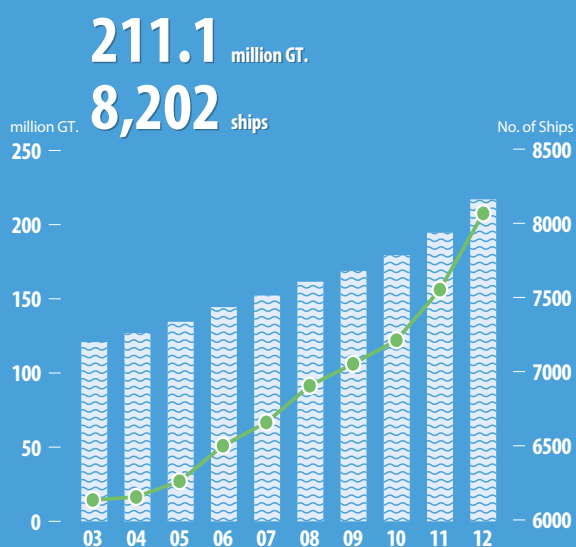
By the end of August 2012, ClassNK surpassed 8,000 vessels on its register, with a total of 8,036 vessels and 206,927,557 gross tons under class.

The Society topped 6,000 vessels in 1989, and 7,000 vessels in 2008. Within four years ClassNK registered an increase of 1,000 vessels, breaking the 8,000 mark by the end of August 2012. This was mainly thanks to the number of newbuildings classed with NK and an increase in the number of existing vessels transferring from other classification societies to register with ClassNK.



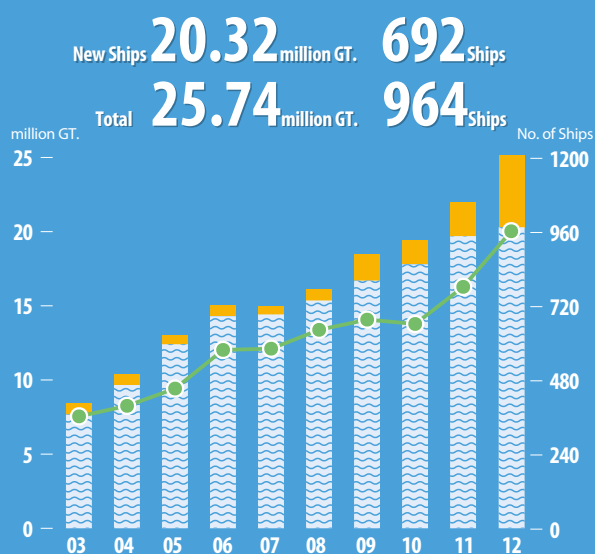
Class NK Fleet

Tonnage No. of Ships



Changes in Newly Classed Ships

Tonnage of New Ships Tonnage of Existing Ships No. of Ships



Exclusive Survey Offices Overseas

100 places

ClassNK Exclusive Survey Offices break 100 locations overseas.

ClassNK established three new exclusive survey offices in Doha (Qatar), Muscat (Oman), and Lianyungang (China), exceeding 100 locations overseas. ClassNK is committed to responding to market trends and the needs of our clients by constantly expanding our survey network and dispatching surveyors to provide the best possible service.

International Exhibitions

17 places

ClassNK participated in the following maritime exhibitions in 2012:

Name	Venue	Date
Shipping, Marine & Port World Expo	Mumbai, India	2/8~2/11
VietShip	Hanoi, Viet Nam	2/28~3/1
China Maritime	Hong Kong	2/28~3/1
Asia Pacific Maritime	Singapore	3/14~3/16
CMA Shipping	Stanford, Connecticut, U.S.A.	3/19~3/21
Sea Japan	Tokyo, Japan	4/18~4/20
Offshore Marine Asia	Singapore	4/25~4/27
Posidonia	Athens, Greece	6/4~6/8
Sri Lanka Ports Trade & Logistics	Colombo, Sri Lanka	7/10~7/11
Navalshore	Rio de Janeiro, Brazil	8/1~8/3
SMM Hamburg	Hamburg, Germany	9/4~9/7
IMPA	London	9/12~9/13
Navigestic	Asuncion, Paraguay	9/26~9/28
Gastech	London	10/8~10/11
Shiptec China	Dalian, China	10/23~10/26
Seatrade Middle East Maritime	Dubai, U.A.E.	11/27~11/29
Exponaval / Transport	Valparaiso, Chile	12/4~12/7

2012 at a Glance



Publication of new technical guidelines

In 2012 ClassNK published the following technical guidelines. These guidelines are also available to download via the Society's homepage after logging into "My Page."

- Guidelines for Gas Fueled Ships
- Guidelines for the Safe Carriage of Nickel Ore (Second Edition)
- Guidelines Regarding Performance Standards for COT Coatings (PSPC-COT)



Joint development with NAPA on the operational efficiency support system "ClassNK-NAPA GREEN"

In May 2012, the Society announced that it had launched a joint research project with ship design and operation software system development company NAPA Ltd. Together with NAPA, ClassNK is developing a comprehensive operational efficiency support system for the effective implementation of the Ship Energy Efficiency Management Plan (SEEMP).

The system was also installed onboard newbuildings at Imabari Shipbuilding Co. Ltd., and Sanoyas Ltd in August 2012. Ship trials were carried out at the companies in both calm waters and actual seas to verify the effectiveness of the system's energy-saving operational support efficiency, as well as gain information for total optimization through analysis of various information and feedback from the trials.



Seatrade Asia Awards

Lloyd's List Asia Awards

March/22

ClassNK organizational restructuring

1. Board of Directors

The following changes in the Board of Directors were approved at a board meeting held on 22 March 2012 after a meeting of the Board of Trustees:

2. Establishment of the EEDI Division

ClassNK established the EEDI Division on 1 April 2012.

Amendments to the MARPOL Convention on new regulations for reducing CO₂ emissions in international shipping came into force on 1 January 2013, bringing in the Energy Efficiency Design Index (EEDI) for newbuilding and requiring existing vessels to have a Ship Energy Efficiency Management Plan (SEEMP).

Full-time technical staff have been dispatched to the EEDI Division to make preparations for the enactment of the new regulations as well as provide appraisals for such services as EEDI and SEEMP before the regulations come into force. On top of this, the Society also provides its "PrimeShip-GREEN/EEOI" calculation analysis system and appraisals for EEOI.

Board of Directors

Chairman and President	N. Ueda (Reappointment)
Executive Vice President	T. Matsui (Reappointment)
Executive Vice President	S. Kakubari (Reappointment)
Executive Vice President	K. Fujiwara (Reappointment)
Executive Vice President	T. Yoneya (Reappointment)
Executive Vice President	Y. Nakamura (Reappointment)
Managing Director	T. Agata (New appointment)
Managing Director	T. Kinoshita (New appointment)

New authorizations earned from Lithuania, Portugal, Madeira and Palau flag states and expansion of authorizations from U.S.A. flag state (SOLAS and MARPOL)

ClassNK signed an agreement with government bodies of Lithuania, Portugal and Palau, granting the Society authorization to carry out Convention surveys and issue certificates as a Recognized Organization.

The Society was also granted authorization from the United States Coast Guard (USCG) on December 2012 to carry out a full range of surveys, audits and issue certificates for the SOLAS and MARPOL among many other conventions on behalf of the United States flag administration. These are in addition to the authorizations for the Tonnage Convention and Load Line Convention granted in December 2011.

Chairman and President Noboru Ueda No. 54 on Lloyd's List Top 100 People in Shipping

Society Chairman and President Noboru Ueda was listed as 54th in the Lloyd's List Top 100 People in Shipping, published by London's Lloyd's List maritime newspaper. The List is a compilation of the world's 100 most powerful people in the maritime industry, and is published annually.

October / 9

Development of Ship Maintenance Management System to help reduce ship lifecycle costs

The Society announced in October 2012 that it is developing the Ship Maintenance Management System to help reduce ship lifecycle costs as part of a joint research effort with IHI Marine United Ltd. (now Japan Marine United Inc.), Diesel United Ltd., and IBM Japan. The system will provide shipowners and ship management companies with a cloud service for the system from June 2013.

December / 13

NK grants world's first Ship Recycling Facility Certificate

ClassNK announced in December 2012 that it had granted the world's first Statement of Compliance (SOC) to Jiangmen Zhongxin Shipbreaking & Steel Co. Ltd in regards to the Ship Recycling Convention (adopted at the Hong Kong International Convention for the improved safety of shipping and the environment).



07



Lloyd's List Global Awards

10



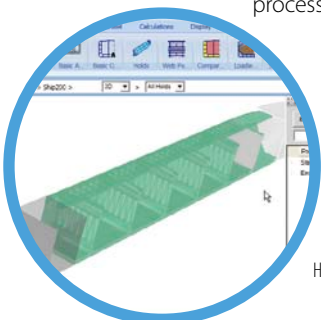
Lloyd's List Middle East Awards

12

July / 5

ClassNK first classification society to announce "Harmonized CSR Software"

ClassNK became the first classification society in the world to announce software to support "Harmonized CSR Rules for Bulk Carriers and Oil Tankers (First Draft Report)," announced by IACS on 1 July 2012. The software is based on knowledge gleaned from the society's software developments up until now and the opinions of designers based on the operation of current CSR software, and is installed with the latest technical information. It is aimed at designers, and is a complete renovation of existing CSR software. This new Harmonized CSR software will shorten design lead time and help improve the design process.



Harmonized CSR Software

December / 25

ClassNK earns authorization as Accredited Entity for certifying Local Content from ANP (NATIONAL AGENCY OF PETROLEUM, NATURAL GAS AND BIOFUELS-Brazil)

The ClassNK Rio de Janeiro Office (NK NIPPON KAIJI KYOKAI DO BRASIL LTDA.) earned authorization* from ANP as an accredited entity for certifying local content certification in December 2012.

* Local Content (LC) Authorization:

Brazil is adopting job development and manufacturing promotion measures, and is carrying out policies to regulate the local content rate of awarded companies' contracted machinery and services in oil and gas exploration and production development.

Local Content authorization activities were instituted for ANP approved Recognized Organizations in 2005 at the 7th Brazil-Round, which allow the approved Recognized Organizations to calculate the local content rate and issue approval for products and report to ANP.

Awards throughout the world

ClassNK received the following awards at award ceremonies held in various places across the world by Lloyd's List Ltd. and Seatrade Ltd.

- Lloyd's List Global Awards: "Safety Award"
- Seatrade Asia Awards 2012: "The Classification Society Award" and "The Education and Training Award" (two awards)
- Lloyd's List Middle East and Indian Subcontinent Awards 2012: "The Classification Society Award"
- Lloyd's List Asia Awards 2012: "The Classification Society Award" and "The Training Award" (two awards)

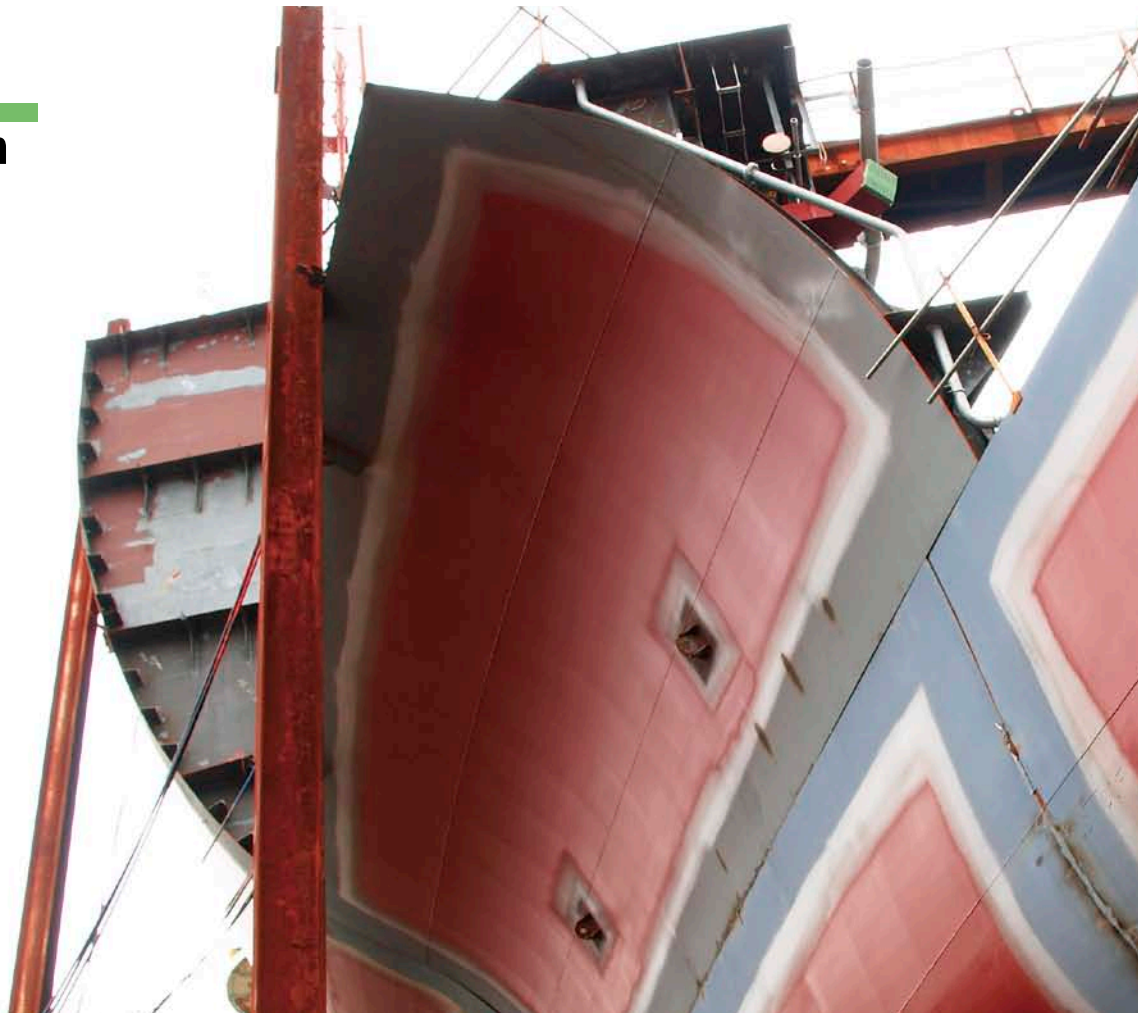
Worldwide Service Network

ClassNK continues to expand its extensive worldwide survey network, with the number of exclusive survey offices overseas exceeding 100 locations on 1 October 2012. As of the end of December 2012, the Society operates 121 exclusive survey offices at the world's major ports and maritime cities as well as five Plan Approval Centers located in the major shipbuilding regions of the world.



ClassNK in Action

ClassNK continues to expand its service network, with over 120 exclusive survey offices around the world and Plan Approval Centers in the major shipbuilding regions of the world. In 2012, the Society retained its global top share of the merchant fleet in terms of gross tonnage. By the end of 2012, the Society added 964 ships to its registry, totalling 25,746,815 gross tons, marking the highest figures in ClassNK history in both categories.



Class Surveys and Statutory Surveys

Class Surveys

Over the course of the year, the Society carried out a total of 3,312 surveys in Japan. Of these, 412 were initial surveys, and 2,900 were class maintenance surveys. Surveys conducted overseas totaled 14,308, of which 280 were initial surveys, and 14,028 were class maintenance surveys.

Statutory Surveys

At present, a total of 106 government administrations around the world recognize and authorize ClassNK to act on their behalf to conduct surveys and issue certificates in accordance with international conventions and codes, as well as national requirements pertaining to ship safety and the prevention of marine pollution. In 2012, the Society carried out inspections and issued more than 44,000 statutory certificates based on these authorizations as follows:

- International Tonnage certificates: 930
- International Load certificates: 3,644
- SOLAS related certificates: 21,882

- MARPOL related certificates: 16,390
- Anti-fouling system certificates: 1,438

Approval of manufacturers and service suppliers

The Society provided a range of company approval related services including testing and measurement services related to class and equipment maintenance surveys as well as for maintaining the registration of approved firms during the year. Firms providing the following types of services were approved by the Society in 2012:

1. In-water survey of ships: 34
2. Thickness measurements on ships: 28
3. Radio inspection services: 24
4. Maintenance of fire fighting systems and equipment: 53
5. Maintenance of life saving equipment and appliances: 27
6. BLACH: 51
7. Voyage data recorders: 22
8. Hatch tightness testing: 2

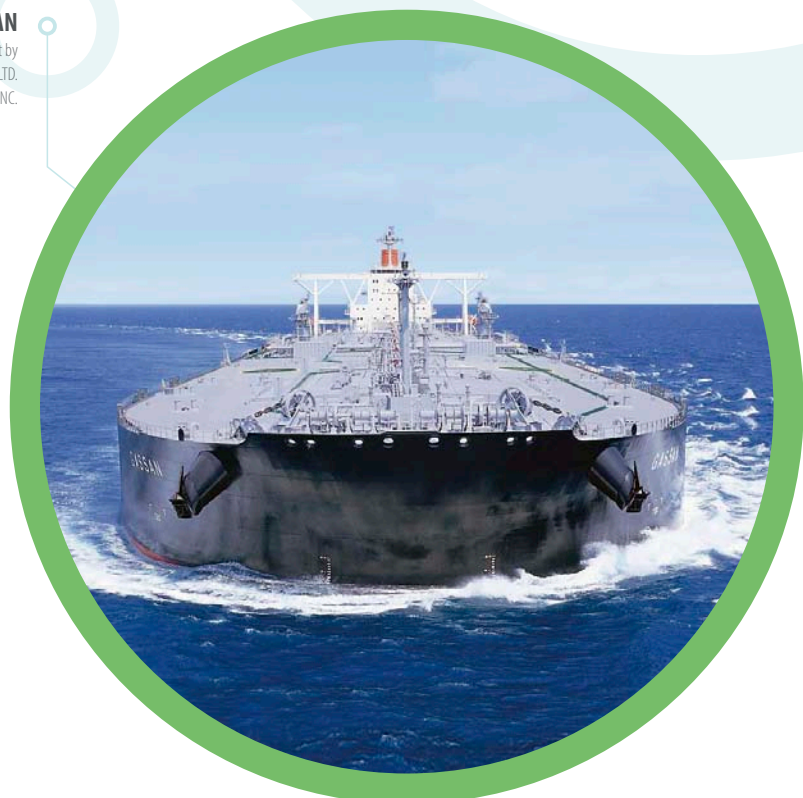


GASSAN

160,137 gt oil carrier built by
 MITSUI ENGINEERING & SHIPBUILDING CO., LTD.
 CHIBA SHIPYARD for ASTRAEA MARITIME INC.

Port State Control (PSC)

As with previous years, the Society continues to work with the managers and owners of detained vessels to help improve ship conditions and increase safety awareness. To this end, the Society's Survey Department published the Annual Report on Port State Control (August 2012), a compilation and analysis of PSC related statistics for the previous year, and distributed it to shipowners, ship managers, and other concerned parties. In addition, high-ranking members of the Society visited key maritime authorities around the world, including the Australian Maritime Safety Authority (AMSA), China MSA, Transport Canada, and the USCG during the course of the year. ClassNK also sent representatives to bilateral Korea-Japan meetings and China-Japan meetings, held in South Korea and Nagoya respectively, on inspection related matters and gave presentations on the Society's efforts being taken to reduce the detention ratio of NK classed ships.





TECHNICAL SERVICES

During 2012, ClassNK issued Statements of Compliance to 33 vessels under the Society's Condition Assessment Program (CAP). Statements of Compliance were also issued for the ballast water management plans of 667 ships. As of the end of 2011, the aggregate total number of Statements of Compliance issued by the Society stood at 291 for CAP and 5,746 for ballast water management plans.

No one is immune to the risk of incidents at sea as the rate of ship casualties of recent years can testify. The Society's Emergency Technical Assistance Service (ETAS) team is on call 24/7 to support the owners and

operators of ships registered for this service in ensuring the safety of their vessels and minimizing the environmental impact if disaster should strike. In 2012, this team was called into action for 6 incidents related to maritime casualties to provide technical support. In 2012, 80 more vessels registered for the Society's ETAS service, giving a total of 1,096 in all.



CERTIFICATION SERVICES



Audit and Registration of ISM Code and ISPS Code related Systems

In 2012, ClassNK had another busy year conducting ISM Code and ISPS Code related audits as a Recognized Organization on behalf of various flag administrations. Over the course of the year, the Society registered 46 new companies in accordance with ISM requirements, bringing the total number of companies registered with the Society to 640. Safety Management Certificates (SMC's) were issued to 887 ships in 2012, bringing the total number of vessels registered with the Society to 5,056. As of the end of 2012, NK conducts ISM authorizations on behalf of 73 Administrations. The Society also registered 853 ships to ISPS Code requirements during the year, bringing the total number of ships registered with the Society under the ISPS Code to 4,367. NK currently conducts ISPS authorizations on behalf of 58 Administrations.

1. Quality, Environmental Management, and Occupational Health & Safety Management Systems

ClassNK also conducts certification of quality management systems under the ISO 9001 standard, environmental management systems under the ISO 14001 standard, and occupational health and safety management systems under the OHSAS18001 standard. In 2012, a total of 23 organizations were newly registered under ISO 9001, bringing the total number registered with the Society to 398. The Society also registered 8 organizations to the ISO 14001 standard during the year, bringing the total number to 116. ClassNK registered 7 organizations to the

OHSAS18001 standard under its new service started in 2010.

2. New Services

ClassNK has been providing the following services since 2011:

- (1) Training Course Certification
- (2) Voluntary Certification for Seafarer Recruitment and Recruiting Institutions
- (3) Maritime Instructor Training
- (4) GHG Emission Certification

3. PrimeManagement Seminar

ClassNK has been providing its integrated PrimeManagement System for management system certifications (ISO etc.), training course certification and certification for ISM Code among others since 2011. As part of our global strategy, PrimeManagement Seminars were held in 4 locations in Japan as well as 9 locations abroad.





EDUCATIONAL & TRAINING SERVICES

ClassNK Academy

Drawing upon its extensive expertise in the survey of ships and audit of ship management systems, ClassNK set up the ClassNK Academy in 2009 to provide the necessary basic knowledge to those involved in the shipbuilding, maintenance, and transport industries. The courses listed below were held at locations throughout Japan including Tokyo, Kobe, Imabari, Yokohama, and Fukuoka, and were attended by over 1,500 participants. Some 2,000 participants also took part in seminars held in a total of 17 countries around the world; Singapore, Indonesia, Malaysia, the Philippines, India, Thai, Myanmar, China, Korea, Taiwan, USA, Mexico, Turkey, Greece, UAE, Saudi Arabia, Oman.

Courses Related to Newbuildings

- Classification Societies and Statutory Issues Course
- New Shipbuilding Course (Hull)
- New Shipbuilding Course (Machinery and Electrical Installations)
- Material and Welding Course

Courses Related to Existing Ships

- Damage and Maintenance Course (Hull)
- Damage and Maintenance Course (Machinery and Electrical Installations)
- Cargo Handling Appliance Course
- Safety Equipment Course
- Port State Control (PSC) Course

Courses Related to Ship Management

- Ship Management Course (Incident Investigation and Analysis, Risk Management and Internal Audits)

GENUINE GALAXY

19,899gt oil/chemical carrier built by KITANIHON SHIPBUILDING CO., LTD. for "K" LINE PTE LTD



TAKAMATSU MARU

157,961 gt oil carrier built by IHI MARINE UNITED INC. (Now, Japan Marine United Corporation), KURE SHIPYARD for NIPPON YUSEN KABUSHIKI KAISHA



EMERALD ACE

60,154gt vehicle carrier built by MITSUBISHI HEAVY INDUSTRIES, LTD. KOBE SHIPYARD & MACHINERY WORKS for MITSUI O.S.K. LINES, LTD.



HAKUREI

6,283 gt geolo. survey built by MITSUBISHI HEAVY INDUSTRIES, LTD.
SHIMONOSEKI SHIPYARD & MACHINERY WORKS for JAPAN OIL,
GAS AND METALS NATIONAL CORPORATION

Training

ClassNK actively runs and participates in a number of different training activities both for internal staff development and in cooperation with outside organizations. These training programs cover everything from surveyor training to internships, lectures, and other cooperative training programs designed to meet the needs of government agencies and the maritime industry. Some of the more notable training programs ClassNK conducted in 2012 are briefly introduced below.

Surveyor Training

In order to provide an unparalleled quality of service to its clients, the Society is dedicated to maintaining and improving the quality of its surveyors. To this end, ClassNK conducted a range of surveyor training programs for 73 surveyors (including new graduates) around the world during the year. In addition to the training provided by the Society's Head Office, 75 surveyors also underwent additional survey training at one of the Society's local offices either in Japan or overseas, as well as on marine engines, conducted at the Yanmar Co. Ltd.'s Amagasaki Factory T. T. School.

Marine Management Systems Auditor Training

ClassNK conducted Maritime Security Auditor training for 22 surveyors at the Society's Training Center in Japan as well as for 26 surveyors at its Shanghai, Singapore and London Offices.

Maritime Labor Inspector Training

ClassNK conducted Maritime Labor Inspector training for 33 surveyors at its Training Center in Japan as well as for 40 surveyors at the Society's Shanghai, Singapore, Dubai, London, New York, and Panama Offices.

Internships

In response to requests from numerous universities across Japan, ClassNK took offered 15 internships to students in Japanese universities. A total of 8 internships were also offered at the Manila, Jakarta, and Surabaya Offices for students overseas.

Lectures at the Eastern Japan Training Center for Shipbuilding Skills

At the request of the Eastern Japan Training Center for Shipbuilding Skills, the Society presented lectures on the quality of defective welding to technical staff members



new to the field of shipbuilding.

Lectures at the Innoshima Technical Center

At the request of the Innoshima Technical Center, the Society presented lectures on "Case Studies of Ship Damage and Lessons Learned" to staff members at the Center.

Lectures for the Japanese Ministry of Land, Infrastructure, Transport and Tourism

In 2012 ClassNK conducted a variety of lectures at the request of the Japanese Ministry of Land, Infrastructure, Transport and Tourism (MLIT). These included lectures on "ClassNK ISM Audits" at its ISM Code Seminar, and "Principles of Ship Security Risk Assessments at Classification Societies" at its ISPS Code Seminar.

Cooperation with the International Mariners Management Association of Japan and the All Japan Seamen's Union

Following a request from the International Mariners Management Association of Japan and the All Japan Seamen's Union, ClassNK provided lectures on ship classification societies, maritime conventions, classification surveys, and convention surveys for related organizations at a training course held by Japan Marine Science Inc. for junior technical superintendents.

Cooperation with JICA

Following a request from Japan International Cooperation Agency (JICA), the Society also presented lectures on the SOLAS and MARPOL conventions as well as on newbuilding surveys at the "Group Training Course in International Maritime Conventions and Ship Safety Inspection" held by the Ship Research Centre of Japan for maritime officials from various countries overseas.

ClassNK Technical Seminars Held in Japan

Providing clients with the latest and most up to date technical information is one of the most important tasks undertaken by the Society. To this end, each year ClassNK conducts a number of technical seminars on a wide variety of timely topics. In 2012, ClassNK Technical Seminars were held twice in five locations across Japan; Tokyo, Kobe, Imabari, Onomichi, and Fukuoka. The Spring Technical Seminars comprises mainly of the results of research, and the Autumn Seminar with the explanation of new rules and amendments to existing rules, with both giving an outline of the new trends in international conventions. The seminars drew a total of 1,513 attendees from across the entire spectrum of the maritime industry, including shipowners, shipyard staff, and manufacturers, among others.

ClassNK Spring Technical Seminar

- NK's efforts in R&D
- Effects of hydroelastic response (whipping, springing) on hull architecture
- NK's efforts towards the safe carriage of nickel ore (Second Report)
 - Introduction of the Guidelines for the Safe Carriage of Nickel Ore (Second Edition)
- Latest trends in international conventions and statutory requirements, etc.
- Next generation sailing vessels (Wind Challenger plans)
- NK's efforts towards the practical implementation of Gas-fuelled Vessels

ClassNK Autumn Technical Seminar

- Explanation of amendments to the Rules, etc. enacted since December 2011
 - Explanation of Rules related to machinery and electrical systems
 - Explanation of Rules related to equipment and materials
 - Explanation of Rules related to hull structures
 - Latest activities of IACS Hull/Machinery/Survey/Statutory Panel
- Latest trends in international conventions and statutory requirements, etc.
- Technical topics
 - NK activities regarding the coming into force of the MARPOL Convention on GHG Emissions
 - Explanation of pertinent EEDI and SEEMP regulations, and introduction of related services
 - NK activities regarding the development of Harmonized CSR software
 - Newest trends in the development of Harmonized CSR software, and introduction to related software

SOYO

50,872 gt bulk carrier built by Oshima Shipbuilding Co., Ltd. for NIPPON YUSEN KABUSHIKI KAISHA



ASTOMOS EARTH

47,950gt LPG carrier built by MITSUBISHI HEAVY INDUSTRIES, LTD. NAGASAKI SHIPYARD & MACHINERY WORKS for ASTOMOS ENERGY CORPORATION



Outline of Research and Development

ClassNK is carrying out research on various matters concerning ship classification societies with the aim of protecting human life, maritime property and the marine environment. ClassNK also proactively participates in joint research to respond to the industry's broad range of needs.



Research and Development Related to Ship Classification

Based on the 2012 Research and Development Plan, ClassNK carried out R&D into problems facing classification societies with the aim of creating guidelines and expanding its technical services. The following are the main details and results of the research carried out in 2012.

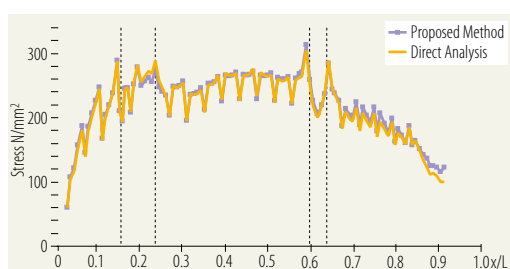
Amendments to the Guidelines for Container Carrier Hull Girder Torsional Strength Assessment

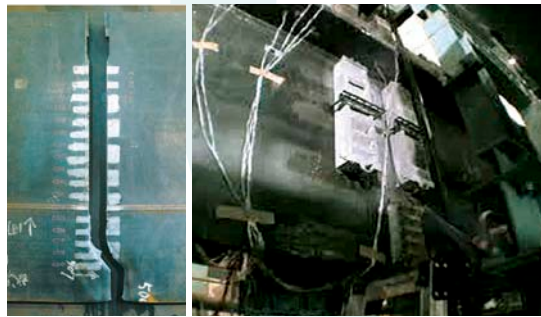
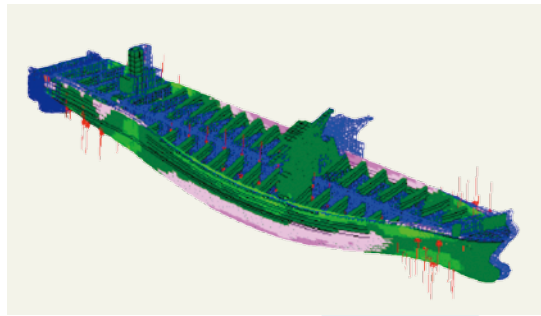
Container ships in general utilize a large storage opening, making an evaluation of strength against longitudinal bending as well as distortion due to oblique waves an important matter. In 2003, the Society created "Guidelines for Container Carrier Hull Girder Torsional Strength Assessment," which provides evaluation methods to test torsional hull strength, but centered only on ultra-large container ships with a general semi-aft arrangement (engine rooms and deck houses are located semi-aft).

On the other hand, the diversification of structural arrangement due to the further enlargement of container ships has seen the emergence of mid-ship location (engine room and deck house located amidships) and two-islander location (machinery room located semi-aft; living quarters located amidships) structural arrangements. The guidelines were amended to support these new structural arrangements, with investigative research focusing on methods of synthesizing torsional strength on hull girders. Amendments were made to the Guidelines for Container Carrier Hull Girder Torsional Strength Assessment based on the results of the research.

Total Stress(Hogging)

Results of Torsional Stress Test on 13,000TEU Container Ship (amended guidelines)





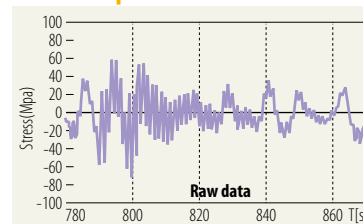
Impact investigation into hull reinforcement against hydroelasticity

Research into establishing logical evaluation methods for determining the effects on hull reinforcements against whipping and springing forms of hydroelasticity has been ongoing since 2011.

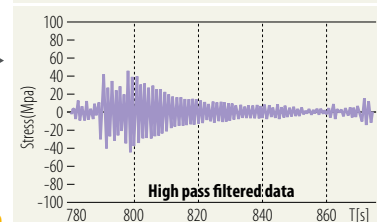
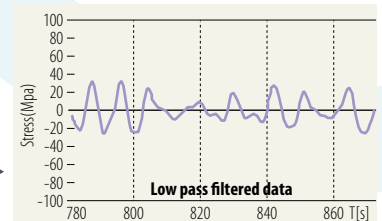
Methods for evaluating fatigue strength taking into account the probability rate of whipping was developed based on the analysis of the ultra-large container ship measurement results. The results were presented at Hydroelasticity2012 in Tokyo in September 2012.

Ordinary Wave Fluctuation

Actual Response



Measurement Data of Actual Container Ship (left) and Analysis (right)



Elastic Response

Research and development into prevention of brittle fractures in ultra-large container ships

A series of brittle crack tests were carried out on middle- and large-sized vessels from 2011 onwards with the aim of expanding on the arrest design guide published in 2009. FEM analysis was also carried out into related kinetic crack transmission along with various other numerical analyses.

cracks, and the necessary arrest ability (Kca values, brittle crack transmission arrest toughness values) in order to stop brittle cracks has an effect on plate thickness. These results were presented at various international forums. There are currently plans to amend the brittle crack arrest guide designs.

From these results, the research has proved that the shape of the welding joints has an effect on stopping

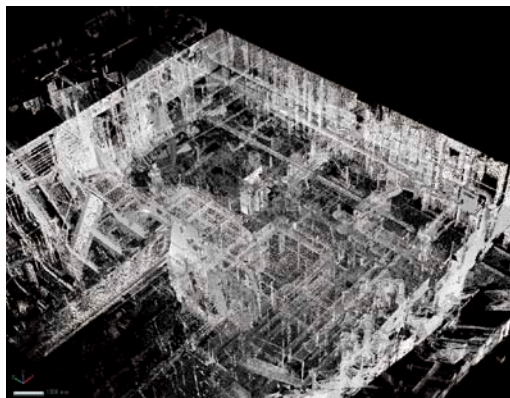
Joint Research to meet the demands of the industry

In response to the needs of the industry, ClassNK created a joint research scheme to contribute both technically and financially to numerous joint research projects with various external institutions. By the end of 2012, a total of 79 projects were completed, and 106 are ongoing. The following is an introduction of some of the 48 joint research projects which were carried out in 2012.

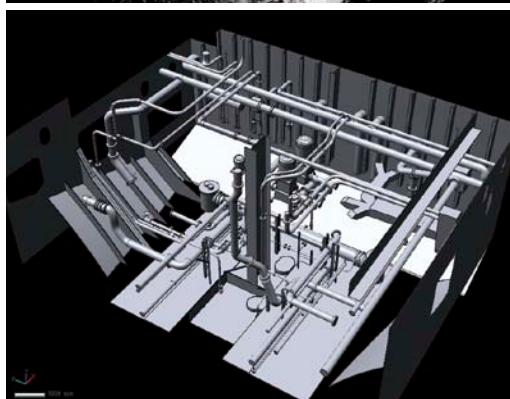
Research on usable 3D laser scanner model for vessels

Joint Research Partners (no particular order):

NYK Group, Mitsui O.S.K Lines, Kawasaki Kisen Kaisha Ltd., MTI Ltd., Sanwa Dock, Sasebo Heavy Industries Co. Ltd., the University of Tokyo, S.E.A. Systems, ClassNK



Point group data of an engine room, measured with a 3D laser scanner



A 3D model generated from the point group data

The Society has confirmed the practical use of 3D laser scanners in several maritime related circumstances at the last fiscal year's "3D CAD Laser Scanner Practical Application Research Seminar." Based on the results, the shipyards, transport companies and classification societies of Japan were the first in the global maritime industry to start research on a business model for the 3D laser scanner.

The results of this research proved that a competitive business model could be constructed for the use of 3D reverse engineering techniques using a high precision movement 3D laser scanner in various maritime related operations. However, there are tools which are indispensable for it to be used swiftly in these operations, and research on the development of such elements as specialized software is ongoing.

Research developments on onboard noise predictions (Phase 1)

Joint Research Partners (no particular order):

Tokai University Educational System, Hakodate Dock, Naikai Zosen, Onomichi Dockyard, Namura Shipbuilding Co. Ltd., Sanoyas Shipbuilding Corporation, Shin Kurushima Dockyard Co. Ltd., Imabari Shipbuilding Co. Ltd., Sasebo Heavy Industries Co. Ltd., Oshima Shipbuilding Co. Ltd., Tsuneishi Shipbuilding Co. Ltd., ClassNK

Deliberations are currently underway on the enforcement and strengthening of MLC2006 and IMO rule IMO A.468(XII) regarding onboard noise predictions. In order to solve noise level problems in living quarters that are problematic based on these rules, research was carried out to establish the method of prediction, fill the requirements of the convention, as well as contribute to ship construction to improve the environment of the living quarters for the crew.

The results of this research (phase 1) led to the creation of noise prediction program specifications and established a standardized method of measurement for noise through the air and noise reverberated through solids.

Phase 2 builds on these results with R&D being carried out to develop software for the sound prediction program as well as verify the program through measurements on actual ships.

R&D on application of Ballast Water Management System on operating vessels

Currently about 70,000 vessels will come under the coverage of the IMO Ballast Water Management System Convention adopted in 2004. After the Convention enters into force, these ships will need to have BWMS installed onboard and be approved by classification societies in the next few years. In order to carry out the construction work and the approval of the systems appropriately in as quick a time as possible, engineering verification on preliminary blueprints, as well as certification encompassing construction, the verification of installed equipment, and other matters are essential. Based on these conditions, research based on samples of certifications carried out on actual ships and investigations into plans were carried out with the aim of tackling the problem of speedily executing both the installation of the BWMS as well as the associated certifications to provide a smooth installation of BWMS, which is expected to rise in the future.

As up until that point there were few working models of BWMS on large operating vessels, the research saw a vessel fitted with the system, which enabled us to gain the knowledge for the prior procurement of machinery and conducting of ship inspections, as well as shorten the time required for both preparatory work planning and installation.

After the installation of the Ballast Water Management System, a number of biological treatment tests were carried out in different locations and during different seasons, and the system was confirmed to be well in line with regulation D-2 of the Ballast Water Management Convention (levels of biological materials in ballast water discharge). The tests also provided much other valuable data.

Joint Research Partners (no particular order):

Kawasaki Kisen Kaisha Ltd., IHI Marine United Ltd. (now Japan Marine United Inc.), JFE Engineering Corporation, S.E.A. Systems, ClassNK

Research in Data Analysis Pilot regarding the development of High Added Value Vessel Monitoring System

Research was carried out using IBM Japan's data analysis techniques and data analysis tools (ANACONDA) on information gathered from a vessel's engine components, with the aim of determining whether data analyses and failure prognoses of facility diagnostic systems could be put to further practical use.

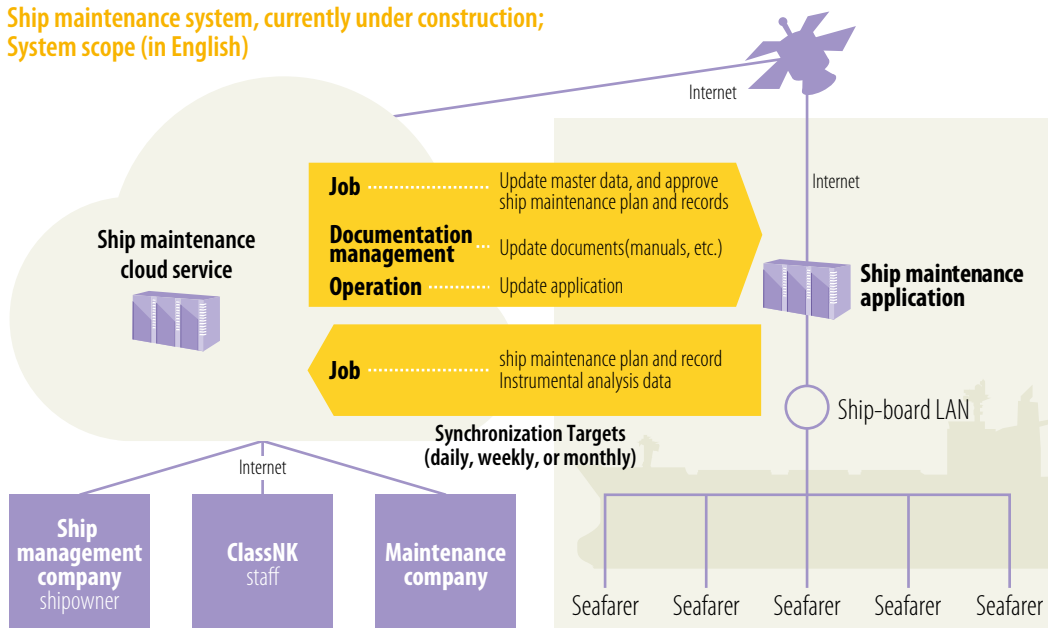
that they may provide a more accurate detection of anomalies than current methods, which entail measurements by specialists.

Following these results, joint research into the development of high added value vessel monitoring systems is being carried out to improve the analyses of onboard machinery sensor data. The research aims to help to implement preventative maintenance for the early detection of anomalies in machinery installed onboard vessels.

Joint Research Partners (no particular order):

IHI Marine United Ltd. (now Japan Marine United Inc.), IBM Japan, ClassNK

Ship maintenance system, currently under construction; System scope (in English)



Development of a Design Support System



Development of Data Linkage System between 3D-CAD and PrimeShip-HULL

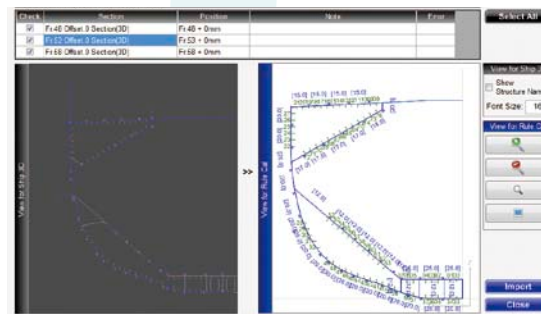
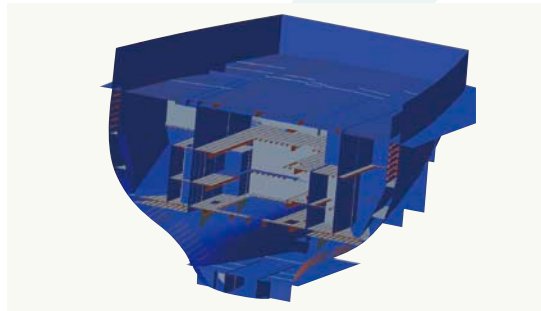
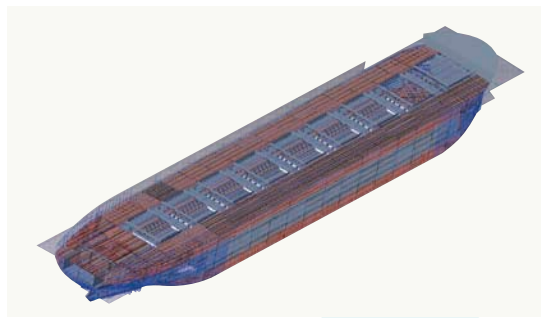
Introduction

ClassNK has developed and released advanced calculation software compatible with IACS Common Structural Rules and Steel Ship Regulations Part C. This software is known as "PrimeShip-HULL (Rules)" (hereinafter referred to as PS-HULL).

When carrying out calculations for prescriptive rules using PS-HULL, designers need to input all particular data in order to calculate the requirements for structural members in the software. However, much of the data needed overlaps with data already created within the ship performance capability calculation software and CAD software, ordinarily used in the

shipyard for the hull's basic and structural design. Accordingly, this data linkage achievement is a task to be tackled for designers.

In order to achieve this, construction of an automated system to some extent is necessary, requiring the development of a new system which makes it possible to transfer data simply. Based on the above understanding, the Research and Development project began development with 14 shipyards in Japan, which are the main users of PS-HULL, and three systems development companies.



Expansion of the use of 3D-CAD software in early design stages

In ship design in recent years, the use of 3D-CAD software, which was mainly used for product design, is now being expanded in the early design stages. With 3D-CAD, unlike conventional 2D drawings, one is able to grasp product structure intuitively. 3D-CAD models created in the early design stages make it possible to perform various functions, such as estimates for hull weight and steel materials, block division examination, and practical usage of data for FEM models. The range of functions that can be utilized is expanding every year. We believe that the practical use of 3D-CAD software in the early design stages will further expand in the future, and we are developing a data linkage system between 3D-CAD software and PS-HULL as a major part.

However, there are several kinds of 3D-CAD software on the market, and currently each shipyard is introducing several products. Since each piece of 3D-CAD software has a different data structure, in order to perform data transfers with each type, it is necessary to develop an interface program which can transfer data from each type of 3D-CAD software into the data format for PS-HULL.

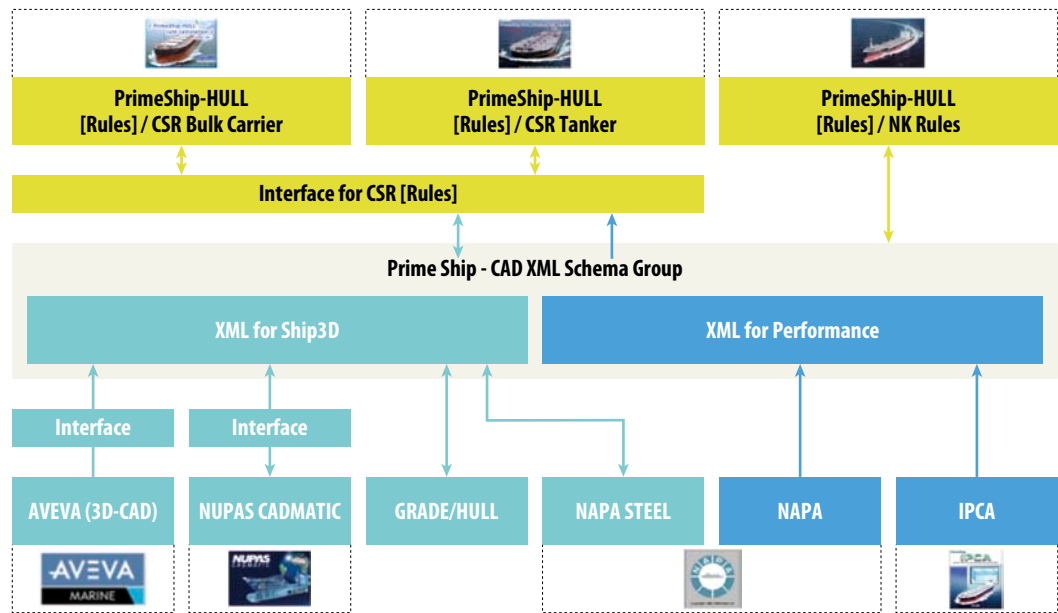
On the other hand, as it is very difficult to develop an interface program corresponding to every piece of 3D-CAD software, we consider the development of a linkage system independent of the data structure of 3D-CAD software a more realistic approach.

Outline of Data Linkage System

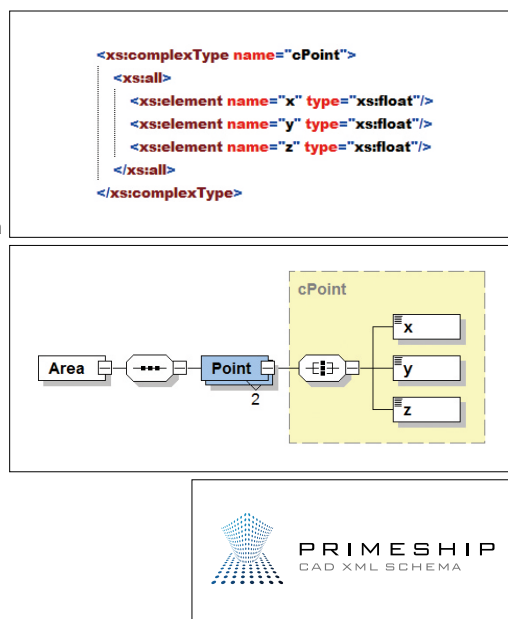
In view of the aforementioned situation, in order to enable data linkage between software for 3D-CAD ship performance capability calculations and PS-HULL, we are developing a common structure in the form of an XML format including this extensive information and an interface program centered around it.

A correlation diagram of the data linkage with each type of software centered around XML files is shown below.

Correlation diagram of the data linkage



PrimeShip-CAD XML Schema



PrimeShip-CAD XML Schema Group

• XML for Ship3D

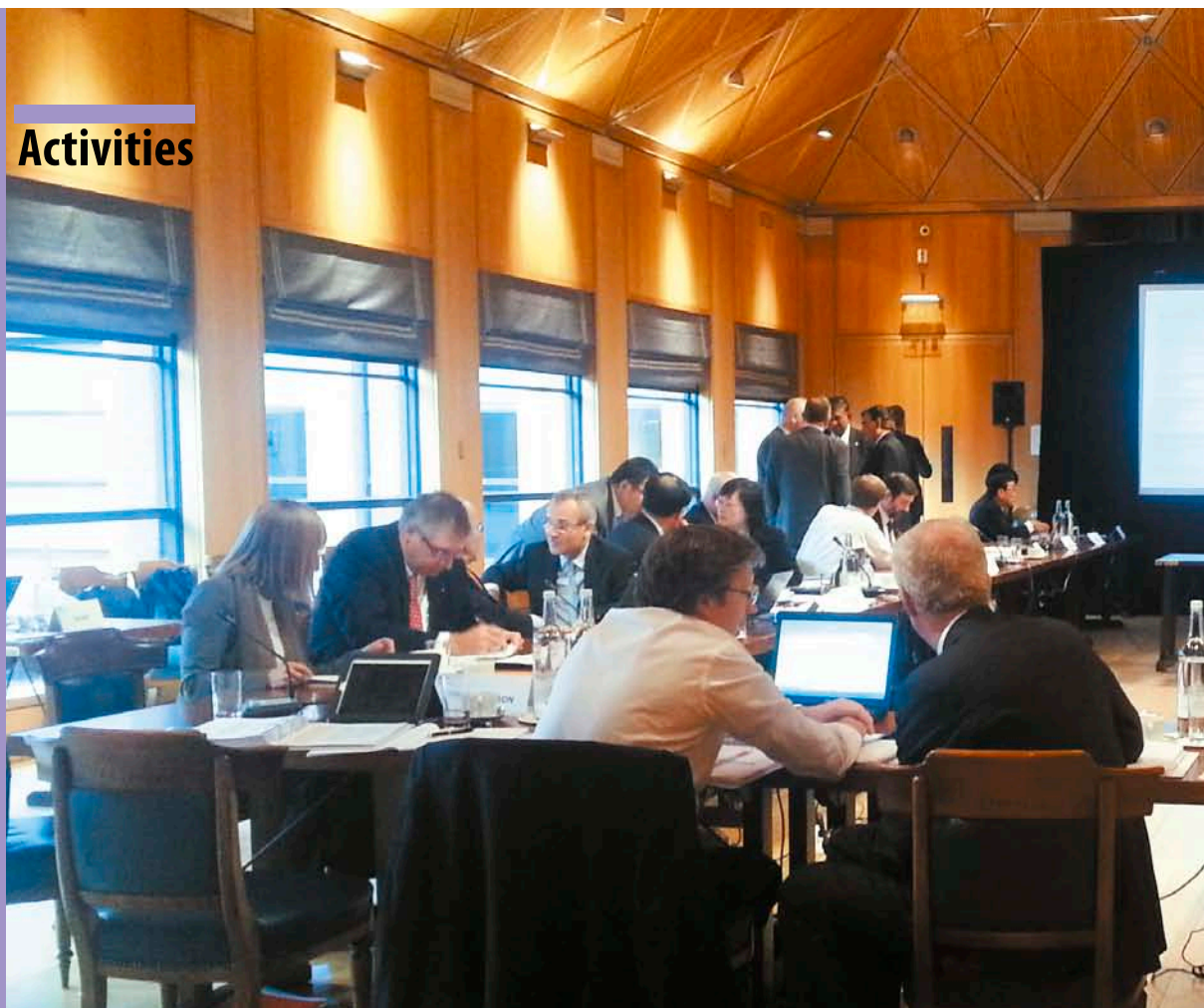
This is a data structure file in XML format developed in order to realize data linkage between each type of 3D-CAD software and PS-HULL. As it possesses versatility, it enables data linkage between various types of systems. It is being published widely so that it may be utilized by 3D-CAD vendors.

• XML for Performance

This is a data structure file in XML format developed in order to realize data linkage between each type of ship performance calculation software and PS-HULL. As with XML for Ship3D, this is available to the public.



International Activities



Participation at the International Maritime Organization

2nd Intersessional Meeting of the Working Group On Energy Efficiency for Ships	January
54th Session of the IMO Sub-Committee on Stability, Load Lines and Fishing vessels	January
16th Sub-Committee on Bulk Liquids and Gases	January
56th Sub-Committee on Ship Design and Equipment	February
63rd Session of the IMO Marine Environment Protection Committee	March
20th Sub-Committee on Flag State Implementation	March
43rd Sub-Committee on Standards of Training and Watchkeeping	May
90th Session of the Maritime Safety Committee	May
58th Sub-Committee on Safety of Navigation	July
17th Sub-Committee on Dangerous Goods, Solid Cargoes and Containers	September
64th Session of the IMO Marine Environment Protection Committee	October
91st Session of the Maritime Safety Committee	November

As one of its many important international activities, ClassNK contributes to the International Maritime Organization (IMO) on a wide range of technical issues. In 2012, the Society attended the IMO meetings listed to the left as part of the Japanese Government delegation or as a representative of the International Association of Classification Societies. In addition, the Society continues to dispatch a member of its staff to the IMO secretariat on a full-time basis.

Information regarding decisions on amendments at the Maritime Safety Committee (MSC) and the Marine Environment Protection Committee (MEPC) was sent to various associated groups via mail service, and was also uploaded on the IMO International Convention Calendar on the IMO homepage.



Participation in the International Association of Classification Societies (IASC)

After being appointed Chair Society of IACS from July 2010 until July 2011, ClassNK continued to serve the IACS as Vice-Chair Society from July 2011 until June 2012, where it contributed to debates and activities by reflecting the opinions of the industry.

ClassNK was head of the Survey Panel, one of four panels of the IASC which also includes the Hull, Machinery, and Convention Panels, and also head of the IMO Goal Based Standards (GBS) Specialist Group. Panels are responsible for resolving technical problems and amendments to various rules, and each panel has various project teams.

ClassNK also contributed to the advancement of Harmonized CSR (Common Structural Rules) and reflected the opinions of the industry through an IACS Council controlled consultative group as well as the Hull panel and 10 project teams under its control.

In 2012, ClassNK participated in the IACS meetings listed to the right.

Council Meeting	Twice
General Policy Group Meeting	Twice
Quality Committee Meeting	Twice
Chairman's Office Meeting	Once
Consultative Group Meeting (CSR, Quality Policy (2 Groups))	4 times
Specialist Group Meeting (GBS, EU, ILO etc. (8 Groups))	11 times
Technical Panel (Hull, Machinery, Survey, Convention)	8 times
Project Team Meeting (10 Teams)	27 times
IACS/Industry Joint Working Group Meetings (EEDI, Harmonized CSR (2 Groups))	8 times

Activities in the Association of Asian Classification Societies (ACS)

Executive Committee	Once
Technical Management Group	Twice
Small Group Meeting (2 groups incl. ACS established offices)	Twice
Technical Working Group (7 Groups incl. GBS and Recycling)	7 times
ACS/Industry Joint Working Group Meeting (incl. technical seminars, meeting with ASF)	3 times

The Association of Asian Classification Societies (ACS), began holding regular informal meetings from 1993. During a special meeting held in February 2012, members unanimously agreed to adopt a charter based on drafts compiled by the Society, and officially established the association. As well as taking an active part in the planning of the Executive Committee and the Technical Management activities, ClassNK also headed the GBS and Ship Recycling work groups.



20th Meeting of the Executives of Asian Classification Societies

The Society also contributed to the first ACS independent Technical Seminar (August), served on the Safe Navigation & Environment Committee for the Asian Shipowners' Forum (ASF/SNEC), and worked as ACS Coordinator. ClassNK also represented the association at the Asian Shipbuilding Experts' Forum (ASEF) held in November, and worked at strengthening links with other groups in the Asian Region.

In 2012, ClassNK participated in the meetings listed to the left.

International Committees

As part of its goal of improving customer service and better meeting the needs of the global maritime industry, ClassNK holds many overseas committee meetings around the world. These meetings are an important venue for the two-way exchange of information and advice between the Society and key industry and regional stakeholders in local regions

around the world.

Each committee is comprised of distinguished members of the maritime community in each respective country. A full list of the ClassNK Committee meetings held during 2012 is shown in the following table.

Name of Committee Meeting	Date	Venue
18th Indian Committee	2 February	Mumbai
21st Greek Committee	2 February	Piraeus
9th Thai Committee	17 February	Chengmai
5th Middle East Technical Committee	8 March	Dubai
3rd North American Committee	16 March	New York
10th Hong Kong Technical Committee	9 May	Hong Kong
12th Taiwan Technical Committee	11 May	Taipei
23rd Korean Committee	18 May	Seoul
17th China Technical Committee	24 May	Xian
10th British Committee	29 May	London
9th Turkish Committee	31 May	Istanbul
8th Malaysian Committee	15 June	Johor Bahru
9th Singapore Committee	4 July	Singapore
10th Philippine Committee	24 July	Manila
22nd Danish Technical Committee	31 August	Copenhagen
16th Singapore Technical Committee	11 September	Singapore
4th Greek Technical Committee	4 October	Athens
38th Hong Kong Committee	31 October	Hong Kong
4th Turkish Technical Committee	7 November	Istanbul
19th Korean Technical Committee	8 November	Busan

Name of Committee Meeting	Date	Venue
10th Thai Committee	16 November	Bangkok
13th Taiwan Committee	27 November	Taipei
3rd Latin American Committee	30 November	Buenos Aires
2nd Indian Technical Committee	7 December	Mumbai
10th Indonesian Committee	11 December	Jakarta



3rd North American Committee



10th British Committee

Book Donations to Maritime Universities around the World

To help support the education of future marine engineers and naval architects, ClassNK donated a library of technical reference books to universities in both Indonesia and Oman in 2012. The Society is committed to helping support the education of students for the future of the maritime industry, and is planning to make further contributions through similar activities.



Book donation to International Maritime College Oman (IMCO)



Book donation to Sepuluh Nopember Institute of Technology (ITS)

Authorization Granted to Class NK

As of the end of December 2012

	TM	LL	SOLAS					MARPOL 73/78				AFS	
			SC	SE	SR	ISM	ISPS	I	II	IV	VI		
Algeria	★	★	★	★	★		★	★	★				
Antigua and Barbuda	●	●	●	●	●	●	●	●	●	●	●	●	●
Argentina		★	★	★	★								
Aruba		★	★	★	★	★		★	★	★			
Australia	●	●	●	●	●			●	●	●	●	●	●
Bahamas	●	●	●	●	●	●	●	●	●	●	●	●	●
Bahrain	●	●	●	●	●	●	●	●	●	●	●	●	●
Bangladesh	●	●	●			●	●	●	●	●	●	●	●
Barbados	●	●	●	●	●	●	●	●	●	●	●	●	●
Belgium	★	●	●	★	★	★	★	★	●	●	●	●	●
Belize	●	●	●	●	●	●	●	●	●	●	●	●	●
Bermuda	●	●	★	●	●	★	★	★		●	●	●	●
Bolivia	●	●	●	●	●	●		●	●	●			
Brazil	●	●	●	●	●	●	●	●	●	●	●	●	●
British Virgin Islands	●	●	★	★	★	★		★		●	★	●	●
Brunei	●	●	●	●	●	●		●	●	●	●	●	●
Cape Verde	●	●	●	●	●	●		●	●	●	●	●	
Cayman Is.	●	●	●	★	★	★	★	★	●	●	●	●	●
Chile	★	★	★	★	★	★	★	★	★	★	★	★	★
Comoros	●	●	●	●	●	★	★	●	●	●	●	●	●
Cook Islands	●	●	●	●	●	●	●	●	●	●	●	●	●
Curacao		★	★	★	★	★	★	★	★	★	★		
Cyprus	●	●	●	●	●	★	●	●	●	●	●	●	●
Denmark	●	●	●	●	●	●	●	●	●	●	●	●	●
Djibouti	●	●	●	●	●			●	●				
Dominica	●	●	●	●	●	●	★	●	●	●	●		
Dominican Republic	●	●	●	●	●			●	●				
Ecuador		★	★	★	★			★	★				
Egypt	★	●	★	★	★	★	★	★	★	★	★	★	★
Equatorial Guinea	●	●	●	●	●	★	●	●	●	●			●
Fiji	★	★	★	★	★			★					
Gambia	★	★	★	★	★			★					
Georgia	●	●	●	●	●	●	●	●	●	●	●	●	●
Ghana	●	●	●	●	★			●		●			
Gibraltar	●	●	●	●	●	★	★	●	●	●	●	●	●
Greece	●	●	●	●	●	●	●	●	●	●	●	●	●
Honduras	●	●	●	●	●	●		●	●				
Hong Kong	●	●	●	●	●	●	●	●	●	●	●	●	●
Iceland	★	●	●	●	●	●		●	●				
India		★	★	★	★			★	★	★	★	★	★
Indonesia	★	★	★	★	★			★	★	★	★		
Iraq		★	★	★	★								
Ireland		●	★	★	★	●	●	●	●	★	●	●	●
Isle of Man	●	●	●	●	●	★	★	●	●	●	●	●	●
Israel	●	●	●	★	★	★		★				●	●
Jamaica	●	●	●	●	●	●	●	●	●	●	●	●	●
Japan		●	●	●	●	●	★	★	★	★	★	●	●
Jordan	●	●	●	●	●	●	●	●	●	●	●	●	●
Kenya		●											
Kiribati	●	●	●	●	●	●	●	●	●	●	●	●	●
Kuwait	●	●	●	★	★	★	●	●	●	●	●	●	●
Lebanon		●	★	★	★		★						★
Liberia	●	●	●	●	●	●	★	●	●	●	●	●	●
Libya	★	★	★	★	★	★	★	★	★				
Lithuania	●	●	●	●	●	★	★	●	●	●	●	●	●
Luxembourg	●	●	●	●	●	●	●	●	●	●	●	●	●
Madeira	●	●	●	●	●	●	●	●	●	●	●	●	●
Malaysia	●	●	●	●	●	●	●	●	●	●	●	●	●

	TM	LL	SOLAS					MARPOL 73/78				AFS	
			SC	SE	SR	ISM	ISPS	I	II	IV	VI		
Maldives	●	●	●	●	●	●	●	●	●	●	●	●	●
Malta	★	★	★	★	★	★	★	★	★	★	★	★	★
Marshall Is.	●	●	●	●	●	●	●	●	●	●	●	●	●
Mauritius	●	●	●	●	●	●	●	●	●	●	●	●	●
Mexico	★	★	★	★	★	●	●	★	●	●	●	●	●
Morocco	★	●	★	★	★	★	●	★	★	●	●	●	●
Mozambique	●	●	●	●	●	●	●	●	●	●	●	●	●
Myanmar	●	●	●	●	●	●	●	●	●	●	●	●	●
Namibia	●	●	●	●	●	●	●	●	●	●	●	●	●
Netherlands	●	●	★	★	★	●	●	●	●	●	●	●	●
Norway	●	●	●	●	●	●	●	●	●	●	●	●	●
Oman	●	●	●	●	●	●	●	●	●	●	●	●	●
Pakistan	●	●	●	●	●	●	★	●	●	●	●	●	●
Palau	●	●	●	●	●	●	●	●	●	●	●	●	●
Panama	●	●	●	●	●	●	★	●	●	●	●	●	●
Papua New Guinea	●	●	●	●	●	●	●	●	●	●	●	●	●
Paraguay	★	★	★	★	★	★	●	●	●	●	●	●	●
Philippines	●	●	●	●	★	●	●	●	●	●	●	●	●
Portugal	●	★	★	●	●	●	●	●	★	●	●	●	●
Qatar	●	●	●	●	●	●	●	●	●	●	●	●	●
Saudi Arabia	●	●	●	●	●	●	●	●	●	●	●	●	●
Seychelles	●	●	●	●	●	●	●	●	●	●	●	●	●
Singapore	●	●	●	●	●	●	●	●	●	●	●	●	●
Solomon Is.	●	●	●	●	●	●	●	●	●	●	●	●	●
South Africa	●	●	●	●	●	●	●	★	●	●	●	●	●
Sri Lanka	●	●	●	●	●	●	●	●	●	●	●	●	●
St. Kitts and Nevis	●	●	●	●	●	●	●	●	●	●	●	●	●
St. Vincent and the Grenadines	●	●	●	●	●	★	★	●	●	●	●	●	●
Switzerland	●	●	●	●	●	●	●	●	●	●	●	●	●
Tanzania	●	●	●	●	●	●	●	●	●	●	●	●	●
Thailand	★	★	★	★	★	★	●	★	●	●	●	●	★
Tonga	●	●	●	●	●	●	●	●	●	●	●	●	●
Tunisia	●	●	★	●	●	●	●	●	●	●	●	●	●
Turkey	★	●	★	★	★	●	●	●	●	●	●	●	●
Tuvalu	●	●	●	●	●	●	●	●	●	●	●	●	●
UAE	●	●	●	●	●	●	●	●	●	●	●	●	●
Uganda	●	●	●	●	●	●	●	●	●	●	●	●	●
UK	●	●	★	★	●	★	★	★	●	●	●	●	●
Uruguay	●	★	★	★	★	●	●	●	●	●	●	●	●
USA	●	●	●	●	●	●	●	●	●	●	●	●	●
Vanuatu	●	●	●	●	●	●	●	●	●	●	●	●	●
Venezuela	●	★	●	●	●	●	●	●	●	●	●	●	●
Viet Nam	★	★	★	★	★	★	●	★	★	●	●	●	★
Yemen	●	●	●	●	●	●	●	●	●	●	●	●	●

Abbreviations :

- -- Authority has been delegated.
- ★ -- Authority has been delegated subject to some conditions.

TM: International Tonnage Certificate (1969)
 LL: International Load Line Certificate
 SC: Cargo Ship Safety Construction Certificate
 SE: Cargo Ship Safety Equipment Certificate
 SR: Cargo Ship Safety Radio Certificate
 ISM: International Safety Management Code
 ISPS: International Ship and Port Facility Security Code
 I, II, IV, VI: MARPOL Annex I, II, IV, VI
 AFS: International Convention on the Control of Harmful Anti-fouling Systems on Ships

Organization

Class NK in Committee

ADVISORY COUNCIL

Member	Chang Yung-fa Frank W. K. Tsao Sumate Tanthuanit	Group Chairman Group Chairman President	Evergreen Group IMC Group of Companies Regional Container Lines Group
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BRITISH COMMITTEE

Chairman	J. G. Davis CBE	Chairman	IMIF (International Maritime Industries Forum)
Member	F. M. Marchant MBE Douglas W. Lang Chris Bailey Sunil Malhotra Michael G. Parker Jeremy G. Hodgson Epaminondas G. E. Embiricos Philip D Atkinson Alastair Fischbacher Jan van Dijk Michael K. Drayton John Kerr	Managing Director Technical Vice President Chief Operating Officer Chairman London Representative Chairman Technical Director General Manager General Manager Ex-Chairman Operations Director	Anglo-Eastern (UK) Ltd. BP Shipping Limited British Marine Plc CMA CGM (UK) Holdings Limited Deutsche Schiffsbank AG Embiricos Shipbrokers Ltd. Graig Ship Management Limited Rio Tinto Shipping Limited Shell Shipping Technology The Baltic Exchange V. Ships UK Limited

CHINA COMMITTEE

Chairman	Sun Jiakang	Executive Vice President	China Ocean Shipping (Group) Company (COSCO)
Member	Li Tian Bao Gao Yongjun Zhao Zhanjun Xu Ziqiu Tao Jian Lu Yi Bin Yan Zhi Chong Li Zhong Hou Liping Li Cheng Han Qing Ge En Hua Wang Yong Zhang Haisen Yang Jian Ming Han Cheng Min Huang Zi Qiang Wang Hong Wang Yongliang Tian Zhong Shan	Board Chairman Manager President Assistant President Vice President Deputy Manager Managing Director Vice Division-Chief Deputy Managing Director Vice President Vice President Director Vice President President Vice President President President President Chairman Vice President Executive Director General Manager	Bohai Shipbuilding Heavy Industry Co., Ltd Fleet Planning Dept. Strategic Planning Div. China Ocean Shipping (Group) Company (COSCO) China Ship Design & Research Center Co., Ltd. China Shipbuilding Industry Corporation China Shipbuilding Trading Co., Ltd. Technical Dept. of Enterprises Management Div. China Shipping (Group) Company China Shipping Development Company Limited Business & Marketing Dept. China State Shipbuilding Corporation COSCO Container Lines Co., Ltd. Dalian Shipbuilding Industry Co., Ltd Grand China Logistics Holding (Group) Co., Ltd Hebei Ocean Shipping Co., Ltd. Hudong-Zhonghua Shipbuilding (Group) Co., Ltd. Jiangnan Shipyard (Group) Co., Ltd. JiangSu Ocean Shipping Company Ltd. Nantong COSCO Khi Ship Engineering Co., Ltd. Pacific King International Shipping Management Co., Ltd., Shanghai Penglai Zhongbai Jinglu Ship Industry Co., Ltd. Shanghai Waigaoqiao Shipbuilding Co., Ltd. Sinotrans Shipping Limited

CHINA TECHNICAL COMMITTEE

Chairman	Zhao Zhanjun	President	China Ship Design & Research Center Co., Ltd.
Member	Zhan Shuming Li Guang Min Feng Guo Ying Chen Zhengjie Zhang Lelong Chen Jian Chen Yan Wang Guorong	Chief Engineer Chief Engineer Vice President Vice General Manager Director Safety & Technology Superintendent Div Manager Fleet Planning Department, Strategic Planning Division Deputy Managing Director General Manager Managing Director Senior Chief Engineer	COSCO Shipyard Group Co., Ltd. Bohai Shipbuilding Heavy Industry Co., Ltd. China Business Marine Co., Ltd. (SINOMARINE) China Ocean Shipping (Group) Company China Ocean Shipping (Group) Company China Shipping Development Co., Ltd. Tanker Company China Shipping International Trading Co., Ltd. COSCO Bulk Carrier Co., Ltd.

Cai Deqing	General Manager Safety & Technology Management Division	COSCO Container Lines Co., Ltd.
Hong Ying	General Manager Ship Management Dept.	COSCO Shipping Co., Ltd.
Gao Cheng Gang	General Manager	Dalian Master Well Ship Management Co., Ltd
Zhao Jin Wen	General Manager Senior Chief Engineer Safety & Technical Division	Dalian Ocean Shipping Company
Yang Wei Zan	Deputy Technical Director Senior Engineer	Dalian Shipbuilding Industry Co., Ltd.
Chen Yu	Managing Director	Dalian Tiger Shipping Ltd.
Zhang Minghua	Vice President, Senior Engineer CMAC Arbitrator	Evergreen Industries Holding Group
Zhou Zhi Hao	Senior Engineer	Guangzhou Shipyard International Co., Ltd.
Lou Dan Ping	Deputy Chief Technical Officer	Hudong-Zhonghua Shipbuilding (Group) Co., Ltd.
Hu Keyi	Technical Director Technology & Market Development	Jiangnan Shipyard (Group) Co., Ltd. TDCC Office
Chen Xing	Vice General Manager	Jiangsu Hantong Ship Heavy Industry Co., Ltd.
Peter Chen	Deputy General Manager	Jiangsu Ocean Shipping Co., Ltd.
Jin Qiang	Deputy Director Merchant Ship Department	Marine Design & Research Institute of China
Goro Nishiyama	Vice President Senior General Manager of Central Technical Div.	Nantong COSCO KHI Ship Engineering Co., Ltd.
Qian Huaqing	Deputy general manager Senior Engineer	New Century Shipbuilding Co., Ltd.
Li Yanjie	General Engineer	Qingdao Beihai Shipbuilding Heavy Industry Co., Ltd
Wang RongLiang	General Manager	Qingdao Fushun Ship Management Co., Ltd.
Guan Qinghui	Deputy Managing Director	Qingdao Ocean Shipping Co., Ltd.
Ren Jian	Technology Director Senior Engineer	Qingshan Shipyard of SINOTRANS & CSC SBICO
Mu Shi Jia	V. G. Manager	Sea Carrier Shipping Co., Ltd
Wang Lin	Vice President Professor	Shanghai Merchant Ship Design & Research Institute
Qiu Xin Yao	General Manager	Shanghai Ocean Shipping Company LTD.
Jin Yun Long	Technical Chief Dept. of System Transportation Technology	Shanghai Ship & Shipping Research Institute, Ministry of Communications
Ye Jinwen	Technical Director	Shanghai Shipyard Co., Ltd.
Tao Ying	Chief Engineer Senior Engineer	Shanghai Waigaoqiao Shipbuilding Co., Ltd.
Gao Fu Quan	Managing Director Senior Engineer	Shanhaiguan New Shipbuilding Industry Co., Ltd
Yang Shiming	Technical Director	Sinopacific Shipbuilding Group Co., Ltd
Xiao Sen Yuan	President	SITC Ship Management Co., Ltd.
Yan Jun	Vice Chief Engineer General Manager of Offshore	Wuchang Shipbuilding Industry Co., Ltd.
Cao Zhi Teng	General Manager	Zhongchang Marine Company Ltd.
Sun Zhenglin	General Manager Technical Center	Zhoushan Jinhaiwan Shipyard Co., Ltd

DANISH TECHNICAL COMMITTEE

Chairman	Jørgen Juncher Jensen	Professor, Head of Section Coastal, Maritime and Structural Engineering	DTU Mechanical Engineering Department of Mechanical Engineering Technical University of Denmark
Member	Niels Bjørn L. Mortensen	Director Regulatory Affairs	A.P. Moller-Maersk A/S
	Claus Usen Jensen	Executive Vice President Technical Division	A/S Dampskibsselskabet TORM
	Lars Robert Pedersen	Deputy Secretary General	BIMCO
	Per Sønderstrup	Head of Division Ministry of Economic and Business Affairs	Danish Maritime Authority
	Per Winther Christensen	Director	Danish Shipowners' Association
	Lars Christiansen	Technical Director	ID Shipping A/S
	Peter Justesen	Vice President Head of Fleet Management	Lauritzen Kosan A/S
	Erik Møller	Technical Manager, Projects	Lauritzen Offshore Services A/S
	Thomas S. Knudsen	Senior Vice President Head of Marine Low Speed	MAN Diesel & Turbo

Kurt Rye Damkjær Svend Anthonson	Senior Vice President Chief Technical Officer	Nordic Tankers Marine A/S Othello Shipping Company A/S
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GREEK COMMITTEE

Chairman	Charalambos N. Mylonas	Chairman	Transmed Shipping Ltd.
Member	Markos A. Nomikos	Director	A. M. Nomikos Transworld Maritime Agencies S.A.
	Nicolas Hadjoannou		Alassia NewShips Management Inc.
	Tatiana V. Petalas		Carras (Hellas) S.A.
	Michael D. Chandris	Chairman	Chandris (Hellas) Inc.
	Andreas N. Hadjiyiannis		Cyprus Maritime Co., Ltd.
	Dimitrios S. Tsolakis	President	DST Shipping Inc.
	Anna G. Dracopoulos	Director	Empros Lines Shipping Co. SP. S.A.
	Ghikas J. Goumas	Director	Equinox Maritime Ltd.
	Kriton Lendoudis	Managing Director	Evalend Shipping Co. S.A.
	Nicolas A. Frangistas	Chief Executive Officer	Franco Compania Naviera S.A.
	George Fidakis	Chairman	Globus Maritime Ltd.
	Michael E. Veniamis	Director	Golden Union Shipping Co. S.A.
	Panagiotis Christodoulatos	Managing Director	Ikaros Shipping & Brokerage Co., Ltd.
	Constantinos D. Krontiras	Director	Kristen Marine S.A.
	Dimitris Z. Kritsas	President	Kritsas Shipping S.A.
	Panagiotis C. Laskaridis	Managing Director	Laskaridis Shipping Co. Ltd.
	George J. Souravlas	CEO	Load Line Marine S.A.
	Diamantis P. Diamantides	Managing Director	Marmaras Navigation Ltd.
	Dionysios Delaportas	General Manager	Meadway Shipping & Trading Inc.
	Theodore P. Angelopoulos		Metrostar Management Corp.
	Babis Ziogas	Managing Director	MFS Shipmanagement
	Angeliki Frangou	Chairman of the Board and Chief Executive Officer	Navios Maritime Holdings Inc.
	Ori Angel	Managing Director	Ofer Shipping Group
	Ted Petropoulos	Chairman	Petrofin Ship Management Inc.
	Dimitris E. Patrikios	General Manager	Springfield Shipping Co. Panama S.A.
	George S. Livanos	Chairman	Sun Enterprises Ltd.
	Constantinos J. Martinos	Managing Director	Thenamaris Ships Management Inc.
	Panagiotis N. Tsakos	President	Tsakos Shipping & Trading S.A.
	Michael M. Scufalos	Managing Director	Union Commercial Inc.
	I. Kehagias	F.I.C.S.	White Sea Navigation S.A.
	Diamandis J. Caloghiros	Managing Director	Z & G Halcoussis Co., Ltd.

GREEK TECHNICAL COMMITTEE

Chairman	Marios Stafliopatis	Owner	Byzantine Maritime Corporation
Member	P. E. Antonelos	General Manager	A. M. Nomikos Transworld Maritime Agencies S.A.
	Claude G. Savaricas	Technical Manager	Alexandria Shipping S.A.
	Christos C. Hadjigeorgiou	Technical Manager	Almi Marine Management S. A.
	George Laou	Technical Manager	Alpha Tankers and Freighters International Ltd.
	Haris G. Giantzikis	Technical Manager	Arcadia Shipmanagement Co., Ltd.
	George Kourelis	General Manager	Cardiff Marine Inc.
		Technical Management Services Tanker Division	
	Demetrios Koukoulas	General Manager	Cardiff Marine Inc.
		Technical Management Services Dry Division	
	Eleftherios A. Belessis	Technical Manager	Carras (Hellas) S.A.
	Michael D. Kapsorrachis	Technical Manager	Centrofin Management Inc.
	Dionisios Kourouklis	Director Marine Operations	Chandris (Hellas) Inc.
	Antonis Giantsis	Technical Manager	Cyprus Maritime Co. Ltd.
	George Alexandridis	Technical Coordinator	Dynacom Tankers Management Ltd.
	Dimitrios A. Alifragis	General Manager	E. Nomikos Corp.
	Pantelis Chondros	Technical Manager	Efnav Company Ltd.
	Costas Petsas	Technical Manager	Empros Lines
	Nikolaos Petromylonakis	Technical Manager	Entrust Maritime Co. Ltd.
	Leontios Pitaoulis	Technical Manager	Equinox Maritime Ltd.
		New Building Projects	
	Stefanos Georgiou	Technical Manager	European Navigation Inc.
		Tankers Division	
	George H. Paschalis	Technical Director	Evalend Shipping Co. S.A.

Pavlos G. Perakis	Naval Architect and Marine Engineer (N.T.U.A.) Technical Manager Technical Department	Fairsky Shipping and Trading S.A.
Dimitrios Theodoropoulos	Chief Operating Officer	Franco Compania Naviera S.A.
Christoforos E. Andreadis	Technical Manager	Golden Union Shipping Co. S.A.
Anastasios Kalogiannis	Technical Manager Technical Department	Iolcos Hellenic Maritime Enterprises Co. Ltd.
Dion Theodorou	Technical Manager	Konkar Shipping Agencies S.A.
Takis Koutris	Managing Director	Kristen Marine S.A.
John A. Yiannakenas	Technical Department	Kritsas Shipping S.A.
Nick Argyros	Technical Director	Laskaridis Shipping Co. Ltd.
Ioannis Voulgaris	Technical Manager	Load Line Marine S.A.
Kostas Symeonidis	Mech. Eng. NTUA MSc Marine Eng. Newcastle Technical Manager	Lydia Mar Shipping Co. S.A.
John N. Ioannidis	Technical Manager	Maryville Maritime Inc.
Theodoros Pavlidis	Technical Director	Metrostar Management Corp.
Stavros Daniolos	Technical Manager	Minerva Marine Inc.
Nikolaos Balalis	Technical Director	Navios Shipmanagement Inc.
Costas Mitropoulos	Technical Director	NEDA MARITIME AGENCY Co Ltd
Amir Geva	Manager Technical Department	Ofer (Ships Holding) LTD.
Paraskevas Koutsoukos	Managing Director & Technical Manager	Paradise Navigation S.A.
Elias A. Galanopoulos	Managing Director	Regal Mare Inc
Michael Anagnostou	Managing Director and Technical Manager	Roswell Navigation Corp.
Achilleas Avlonitis	Technical Manager	S. Frangoulis (Ship Management) Ltd
George Hatzivassiliou	Technical Manager	Samios Shipping Company S.A.
Dimitris C. Makris	Technical Manager	Springfield Shipping Co. Panama S.A.
Apostolos P. Gavalas	Technical Manager	Starmarine Management Inc.
Diamantis Andriotis	Technical Manager	Stealth Maritime Corporation S.A.
Frantzeskcs D. Kontos	Technical Director	Sun Enterprises Ltd.
Dimitrios A. Heliotis	Technical Director	Target Marine S.A.
Vasileios Lampropoulos	Technical Department Manager	Thenamaris Ships Management Inc.
Dimitris Andreadakis	Technical Manager	Transman Shipmanagers S.A.
Manolis G. Koutlakis	Technical Manager Newbuilding Projects	Transmed Shipping Ltd.
C. Dean Tseretopoulos	Naval Architect-Marine Engineer, MBA	Triple Tee International Ltd.
Savvas D. Papadatos	Mechanical Engineer Special Projects & Claims Manager	Tsakos Shipping and Trading S.A.
Constantinos M. Metaxas	Technical Manager	Union Commercial Incorporated
Takis Koutouras	Technical Manager	Z & G HALCOUSSIS Co. Ltd.

HONG KONG COMMITTEE

Chairman	Sabrina S. M. Chao	Vice Chairman	Wah Kwong Maritime Transport Holdings Limited
Honorary Chairman	M. H. Liang	Chairman	Island Navigation Corporation International Ltd.
Member	Chen Xin Chuan	Deputy Managing Director	COSCO (H.K.) SHIPPING CO., LTD
	Robert Alexander Ho	President	Fairmont Shipping (HK) Ltd. & Affiliates
	Andrew Y. Chen	Chairman & Managing Director	Grand Seatrade Shipping Company Ltd.
	Y. Q. Huang	Vice-President	Hong Kong Ming Wah Shipping Co., Ltd.
	Arthur Bowring	Managing Director	Hong Kong Shipowners Association
	Frank W. K. Tsao	Group Chairman	IMC Group of Companies
	Jack Hsu	Managing Director	Oak Maritime (H.K.) Inc., Ltd.
	Kwai Sze Hoi	Chairman & President	Ocean Longevity Shipping and Management Co., Ltd.
	Jan Rindbo	Chief Operating Officer	Pacific Basin Shipping (HK) Ltd.
	Lothair M. F. Lam	Vice President	Parakou Shipping Ltd.
	M. T. Yung	Director	Patt Manfield & Co., Ltd.
		General Manager	
		Shipping Division	
	Peter Cheng	Managing Director	Peter Cheng Naval Architect & Marine Consultant Ltd.
	Raymond Pao	President	Regent Shipping Ltd.
	Li Hua	Executive Director	Sinotrans Shipping Limited
		Deputy General Manager	
	Kenneth K.W. Lo	Chairman & Managing Director	Teh-Hu Cargocean Management Co., Ltd.
	Edward S. C. Cheng	Chairman	Unique Shipping (H.K.) Ltd.
	Richard Hext	Deputy Chairman & CEO	Univan Ship Management Limited
	David C. C. Koo	Managing Director	Valles Steamship Co., Ltd.
	Jim Nelson	Managing Director	Wallem Shipmanagement Ltd.

HONG KONG TECHNICAL COMMITTEE

Chairman Member	Peter Cheng Marcel Liedts Y. Q. Huang Alok Roy	Managing Director Chief Operating Officer Deputy General Manager Fleet Manager	Peter Cheng Naval Architect & Marine Consultant Ltd. Anglo-Eastern Group Associated Maritime Company (Hong Kong) Limited Bernhard Schulte Shipmanagement (Hong Kong) Limited Partnership Chellaram Shipping (Hong Kong) Ltd. China Shipping (H. K.) Marine Co., Ltd.
	Vishal Khurana Liu Yi Fan	Director & Chief Executive Deputy General Manager Senior Engineer	COSCO (H.K.) SHIPPING CO., LTD Fleet Management Limited Gold Bridge Shipping Ltd. Goldbeam International Limited IMC Shipping Services Co. Pte. Ltd. KC Maritime Ltd.
	Chen Xin Chuan Kishore S. Rajvanshy Lau Pong Sze Y. H. Shum Li Kwok Hung Vipin Sachdeva	Deputy Managing Director Managing Director Managing Director Director Managing Director Vice President Fleet	Lihai International Shipping Limited New Asian Shipping Company, Limited
	Pan Zhong Shan Bibhash Chaudhuri	Director & General Manager General Manager Ship Management Division	Northstar Ship Management Ltd. Orient Overseas Container Line Ltd.
	Haruki Aono James S. C. Tai	Executive Director General Manager -cum- Technical Director Fleet Management Department Fleet Manager	Pacific Basin Shipping (HK) Limited Tai Chong Cheang Steamship Co. (H.K.) Ltd. Unique Shipping (H.K.) Limited Wah Kwong Ship Management (Hong Kong) Limited
	Vijayesh Dutta Kenneth Koo Anil Arora W. L. Hung	Group Chairman & Chief Executive Officer Head of Ship Management & Projects General Manager	

INDIAN COMMITTEE

Chairman Vice Chairman Member	K. M. Sheth R. L. Pai H. Ansari V. K. Sood R. S. Nakra Ashok K. Srivastava A. K. Bahl Ashok V. Chowgule Shri D. Mehrotra	Executive Chairman Advisor Visiting Professor (Insurance) Advisor (Shipping) Managing Director Chief Executive Officer Vice President (Shipping) Executive Director Deputy Chief Surveyor with the Government of India-cum-Sr.DDG(Tech)	The Great Eastern Shipping Co., Ltd. Reliance Industries Limited ABG Shipyard Ltd. Arcadia Shipping Limited British Marine Plc Chowgule and Company Private Limited Directorate General of Shipping
	A. R. Ramakrishnan M. P. Dhanuka	Wholetime Director Executive Director Marketing	Essar Shipping Limited GEE Limited
	Anil Devli Atul J. Agarwal Commodore M. Jitendran S. Govindrajan J. V. S. Rao	Chief Executive Officer Managing Director Chief Executive Officer Managing Director Executive Director Shipbuilding & Services Department	Indian National Shipowners' Association Mercator Limited Pipavav Shipyard Limited Progressive Shipping Consultancy Services (PVT) Ltd. The Shipping Corporation of India Ltd.
	Sujata Naik Tolani	Chairperson	Tolani Shipping Company Limited

INDONESIA COMMITTEE

Chairman Honorary Member Member	Widihardja Tanudjaja Oentoro Surya Antonius W. Sumarlin	President Director Commissioner Ex-President Director of PT Humpuss Intermoda Transportasi Tbk	PT. Berlian Laju Tanker Tbk PT. ARPENI PRATAMA OCEAN LINE Tbk.
	Chan kok Leong Ir. Tjahjono Roesdianto Carmelita Hartoto Arifin Soenardjo, MH	Director Chairman Chairman Director of Marine Safety Directorate General of Sea Transportation	GBLT Shipmanagement Pte. Ltd. Indonesia Shipbuilding and Offshore Industry Association Indonesian National Shipowners' Association Ministry of Transportation Republic of Indonesia
	Theo Lekatompessy Asmari Herry Praditya Nirtara Stephen Layarda Iriawan Alex Ibarat	President Director President Director Managing Director Chief Executive Officer	PT Humpuss Intermoda Transportasi Tbk PT Samudera Indonesia, Tbk. PT. Adnyana PT. Alpha Pacific Lines PT. Arpeni Pratama Ocean Line Tbk.

Kasim Arifin	President Director	PT. Bumi Perkasa Bahtera
Amir Gunawan	President Director	PT. Daya Radar Utama
Riry Syeried Jetta	President Director	PT. Dok & Perkapalan Kodja Bahari (PERSERO)
Yance Gunawan	President Director	PT. Dumas Tanjung Perak Shipyard
Hendrato	General Manager Liner Division	PT. Gesuri Lloyd
H. Soenarto	President Director	PT. Gurita Lintas Samudera
Joeswanto Karijodimedjo	President Director	PT. Janata Marina Indah
Henry Djuhari	President Director	PT. Meranti Maritime
Frank Menaro	Fleet Directo	PT. Meratus Line
M. Firmansyah Arifin	President Director	PT. PAL Indonesia
Benny Winarto	President Director & CEO	PT. Pelayaran Caraka Tirta Perkasa
M. Yudhie RF	SVP Shipping	PT. PERTAMINA
Rachmat Koentjoro	Managing Director	PT. Tanto Intim Line
Johnson W. Sutjipto	President Director	PT. Wintermar Offshore Marine Tbk

INDIAN TECHNICAL COMMITTEE

Chairman	R. L. Pai	Reliance Group - Advisor	
Member	K. Mantry	Associate Vice President - Projects Naval Architect	ABG Shipyard Ltd.
	Ashok Kumar Sharma	Superintendent - Training	Anglo-Eastern Maritime Training Centre
	B. N. Prasad	Managing Director	Bernhard Schulte Shipmanagement (India) Private Limited
	P. Vinayakumar	Director (Technical)	Cochin Shipyard Limited
	Dileep Krishnan	Associate Professor & Consultant Department of Ship Technology	Cochin University of Science and Technology(CUSAT)
	D. V. Abeyesinghe	General Manager (Projects & Engineering)	Colombo Dockyard PLC
	Rajeev Nayyar	Head S & P New Building Sea Transportation Business	Essar Shipping Limited
	S. C. Misra	Director	Indian Maritime University(IMU)
	R. B. Urikouth	General Manager (Ship Building)	Larsen & Toubro Limited
	S. M. Rai	Vice President (Technical) Head Ship Management	Mercator Limited
	Maneesh Jha	Chief Engineer, F. I. Mar. E. Vice Principal & Head	Samundra Institute of Maritime Studies
	Hariraj P.	Manager-Hull Structure Design	Smart Engineering and Design Solutions Ltd.
	Ajoy Chatterjee	Principal & Head	The Great Eastern Institute of Maritime Studies
	David Birwadkar	Vice President - Fleet Management	The Great Eastern Shipping Co. Ltd.(GESCO)
	Indra Nath Bose	General Manager – Quality, Safety & Training	The Great Eastern Shipping Co., Ltd.(GESCO)
	Virendra Gharat	Director (Technical)	Tolani Shipping Company Limited

KOREA COMMITTEE

Chairman	S. R. Pae	President & CEO	STX Pan Ocean Co., Ltd.
Member	Bang Eon Jeong	Senior Executive Vice President/CTO	Daewoo Shipbuilding & Marine Engineering Co., Ltd.
	Hyon-Soo Bong	Senior Executive Vice President/CTO	Hanjin Heavy Industries & Construction Co., Ltd.
	Oi-Hyun Kim	President & CEO Shipbuilding & Offshore Division	Hyundai Heavy Industries Co., Ltd.
	Weon-Gil Choe	President & CEO	Hyundai Mipo Dockyard Co., Ltd.
	Byung-Wook Oh	President & C.E.O.	Hyundai Samho Heavy Industries Co., Ltd.
	Jin Bang Lee	Chairman	Korea Line Corporation
	Doo-Chan Chang	President	Korea Maritime Foundation
	Suh, Myung-Chun	President & CEO	Namsung Shipping Co., Ltd.
	Sangbok Lee	Representative director President	Pan Continental Shipping Co., Ltd.
	Insik Roh	President & CEO	Samsung Heavy Industries Co., Ltd.
	Kyuhw Whang	President & CEO	SK Shipping Co., Ltd.

KOREA TECHNICAL COMMITTEE

Chairman	Jeom Kee Paik	Professor Department of Naval Architecture and Ocean Engineering	Pusan National University
Member	Jang Min-Seok	Director Design Department	Dae Sun Shipbuilding & Engineering Co., Ltd.
	ManSoo Kim	Vice President Head Of Hull Design	Daewoo Shipbuilding & Marine Engineering Co., Ltd.

W. G. Sagong	Vice President Head of Outfitting Design 1 Team	Daewoo Shipbuilding & Marine Engineering Co., Ltd.
Sung-Ryool Kim	Managing Director Ship Sales Engineering Department	Hanjin Heavy Industries & Construction Co., Ltd.
In Soon Kim	Vice President Fleet Management Director	Hanjin Ship Management Co., Ltd.
Lee Jong-seung	Senior Vice President Basic Design Office Shipbuilding Division	Hyundai Heavy Industries Co., Ltd.
Taeg-Gyu Lee	President	Hyundai Ocean Service Co., Ltd.
Hyun-Sang Shim	Executive Vice President Head of Design Division	Hyundai Samho Heavy Industries Co., Ltd.
Yeong-Se, Jeong	Managing Director Marine Engineering Team	KLC SM Co., Ltd.
Jae-Sung Choi	Professor Dept. of Marine System Engineering	Korea Maritime University
Moon-Ho Park	Managing Director Marine Affairs Management Department	KSS Line Ltd.
Munkeun Ha	Executive Vice President Project Planning Team 1	Samsung Heavy Industries Co., Ltd.
Hohyun Jeong	Vice President Project Planning Team 2	Samsung Heavy Industries Co., Ltd.
Seog Hwan Kang	Vice President Director of Fleet Management	SK ship management Co., Ltd.
Chul-Ho, Song	Technical Managing Director Basic/Structure Design Team Busan R&D Center	SPP Shipbuilding Co., Ltd.
Nam-Young Kim	Chief of Engineering Division Senior Vice President	STX Marine Service Co., Ltd
S. W. Jo	Senior Vice President Shipbuilding Technology Division	STX Offshore & Shipbuilding Co., Ltd.
Sang-Heon OH	Director Hull Technology Department Shipbuilding Technology Division	STX Offshore & Shipbuilding Co., Ltd.
Jae-Woo Son	Vice President Team Manager Basic Design Team	Sungdong Shipbuilding & Marine Engineering Co., Ltd.
Nojoon Park	CEO	TMS Co., Ltd

LATIN AMERICAN COMMITTEE

Chairman	Ricardo dos Santos	Director	P&O Maritime Services Paraguay S.A.
Member	Javier Reyes Conde	FSV's Operations Manager / FSV's Contracts Manager	Blue Marine Technology Group
	Angel Canessa T.	Vice President Planning and Operations Shipmanagement	Compañía SudAmericana de Vapores S.A.
	Alberto Velázquez	Fleet Director	Elcano, S.A.
	Danilo Moreno Oleas	General Manager	EP FLOPEC
	Marcelo de Mendonça Abreu	Engineering Manager - DRU Project	Estaleiro Atlântico Sul S/A
	Wanderley Marques	President	Estaleiro Mauá
	Patricio Mondaca	Senior Vice President	Humboldt Shipmanagement
	Hiroshi Nishiyama	General Manager	Kawasaki del Peru S.A.
	Ricardo Vahia Alves de Souza	Director	KROMAV Engenharia Ltda.
	José Luiz Nunes Ruiz	Principal Engineer	London Offshore Consultants Brasil Ltda.
	Ricardo Menezes	Operation and New Building Director	Ocean Pact
	Vladimir Contreras	Naval Architect / Project Engineer	Petróleos de Venezuela S.A.
	Tomazo Garzia Neto	President	Projemar
	Roberto Hetz Vorpahl	Chief Executive Officer	Sociedad Nacional Maritima S.A.
	Eduardo Balzaretti	Commercial Manager	TANDANOR S.A.C.I. y N.
	Paul Casanova Claros	General Manager	Transgas Empresa Naviera
	Agenor Cesar Junqueira Leite	Shipping Director	Transpetro
	Ruben Galindo Villanueva	Technical and Fleet Managing Director Transportacion Maritima Mexicana S.A. de C.V.	TMM Group
	Victor Montes	Manager & Marine Engineer	Ultrapetrol S.A.
	Nelson Luiz Coelho Alves	Shipping Engineering General Manager	Vale S.A.

MALAYSIAN COMMITTEE

Chairman	Datuk Nasarudin bin Md Idris	President/Chief Executive Officer	MISC BERHAD
Vice Chairman	Ir. Nordin Mat Yusoff	Vice President	MISC BERHAD
Member	Azmi Bin Ahmad	Group Technical Services	Alam Maritim Resources Berhad
	Thomas Ng Chin Keuan	Group Managing Director/CEO	Coastal Contracts Bhd.
	Dato' Ir. Abdul Hak B. Md. Amin	Executive Director	E.A. Technique(M) Sdn. Bhd.
	Billy Tan Gim Hoe	Managing Director	Ecoship Sendirian Berhad
	Dato' David Tan	Chairman	Everise Maritime Sdn. Bhd.
	Johari Mohd Noh	Managing Director	Gagasan Carriers Sdn Bhd
	Tan Sri Dato' Seri Halim Bin Mohammad	Executive Chairman and Managing Director	Halim Mazmin Bhd.
	Dennis Liong	General Manager	Hub Shipping Sdn. Bhd.
	Elias Kadir	President	Keretapi Tanah Melayu Berhad
	Azharuddin Osman	Chief Executive Officer	Petronas Maritime Services Sdn. Bhd.
	Lawrence Wong	General Manager	Sarawak Land Shipyard Sdn. Bhd.
	Lim Piak Wah	Executive Director	Serudong Shipping Sdn. Bhd.
	Vincent Ling Lu Yew	Director	Shin Yang Shipyard Sdn. Bhd.
	Datuk Lau Nai Hoh	Group C.E.O. / Group M.D.	Tuong Aik Shipyard Sdn. Bhd.
	Torbjørn J. Aaker	Regional Manager WSM Asia	Wilhelmsen Ship Management Sdn. Bhd.

MIDDLE EAST TECHNICAL COMMITTEE

Chairman	Jitendra Misra	Managing Director	Emarat Maritime
Member	Haakon Johnsen	Senior Vice President (Operations)	ADNATCO-NGSCO
	Benny K. Alex	General Manager (New Buildings & Tech. Services)	Emarat Maritime
	Abdul Hayee	Fleet Manager	Gulf Stolt Ship Management
	Anil Cariappa	Technical Director	International Tanker Management Limited
	Jamil Al-Ali	Manager	Kuwait Oil Tanker Co. S.A.K.
	Masanori Hayashi	Fleet Engineering Group General Manager(LNG)	Oman Ship Management Company
	Zaheer Babar Qureshi	Marine and Technical Department Executive Director	Pakistan National Shipping Corporation
	A. Ramamurthy	Ship Management Sr. General Manager	Pioneer Ship Management Services LLC
	A. Mansourzadeh	Ship Management Dept Technical Director	Simatech Shipping L. L. C.
	Mohammed El-Sayed Ahmed	Vice President - Fleet(acting) Fleet Management	United Arab Shipping Company (S. A. G.)
	Abdulaziz A. Sabri	Fleet Operations Manager	Vela International Marine Limited
	N. V. K. Nambiar	Technical Manager	Warm Seas

NORTH AMERICAN COMMITTEE

Chairman	Alexis P. Zoullas	President	Eagle Shipping International (USA) LLC
Member	John Calicchio	Chairman	Apex Bulk Carriers LLC
	Royce C. Wilken	President	ARTCO
	John D. Noonan	President	Chembulk Tankers
	Hiromi Akasaka	President / C.O.O.	Dowa Line America Co., Ltd.
	Ramesh Bhat	Technical Director	Eagle Shipping International (USA) LLC
	Calvin W. S. Cheng	Chairman	Eastmark Associates, Inc.
	Byron M. Sugahara	President	Fairfield-Maxwell Services, Ltd.
	Charles Leung	Senior Vice President	Fairmont Shipping (Canada) Limited
	Thomas H. Paterson	Vice President	Fednav Limited
	Michael M. Lee	Owned Fleet & Business Development President	Foremost Maritime Company LLC
	Shunji Sasada	Chief Operating Officer	Navios Corporation
	Ronald W. Tursi	President	Roymar Ship Management Inc.

PHILIPPINE COMMITTEE

Chairman	Arben E. Santos	President & CEO	Southwest Maritime Group of Companies
Member	Doris Magsaysay Ho	President & Chief Executive Officer	A. Magsaysay Inc.
	Roy R. Alampay	Vice President for Operations & General Manager	Baliwag Navigation, Inc.
	Emerson M. Lorenzo	Administrator Maritime Industry Authority	Department of Transportation & Communications

Rogelio A. Torres	Vice-President Traffic & Operations	Eastern Shipping Lines, Inc.
Ahn, Jin Kyu	President	HHIC-Phil
Mok Kim Whang	President	Keppel Philippines Marine, Inc.
Teodoro G. Bernardino	President	Loadstar International Shipping, Inc.
Edgardo G. Lacson	President	MIS Maritime Corporation
Eduardo U. Manese	President	Philippine-Japan Manning Consultative Council of the Philippines
Thomas A. Tan	President	SMC Shipping and Lighterage Corporation
Fausto C. Tiu	Executive Vice President	Solid Shipping Lines Corporation
Hitoshi Kono	President	Tsuneishi Heavy Industries (Cebu), Inc.

SINGAPORE COMMITTEE

Chairman	Aloysius Seow	Chief Operating Officer	Ocean Tankers (Pte) Ltd.
Member	Kenneth A Glenn	President	APL Co. Pte Ltd
	Tong Chong Heong	Chief Executive Officer	Keppel Offshore & Marine Ltd
	Lam Yi Young	Chief Executive	Maritime and Port Authority of Singapore
	Kuok Khoon Kuan	Managing Director	Pacific Carriers Limited
	Teo Cho Keng	Senior Executive Director Technical Division	Pacific International Lines (Pte) Ltd.
	Wong Weng Sun	President & C.E.O.	Sembcorp Marine Ltd

SINGAPORE TECHNICAL COMMITTEE

Chairman	Tey Yoh Huat	Technical Head	Altus Shipping Pte. Ltd.
Member	Iwane Ogawara	Chief Engineer Managing Director	"K" Line Ship Management (Singapore) Pte Ltd
	Robert Sumantri	Chief Executive Officer	Altus Shipping and Logistics Pte. Ltd.
	Shaj U. Thayil	Vice President Technical Services & Ship Management	APL
	Soumendu Das Roy	General Manager Fleet Management	Berge Bulk (Singapore) Pte. Ltd.
	Cheam Yeow Cheng	Director (Shipyard)	Bina Marine Pte Ltd
	Kapil Berry	Project Manager Projects & Support	BW Fleet Management Pte Ltd
	Liu De Tian	Managing Director	COSCO (SINGAPORE) PTE LTD
	Chandrasehgaran	B. Eng Ship Science (Naval Arc) Dip. BA (GDBA) Director (Operations)	Drydocks World-Singapore Pte. Ltd.
	B. S. Teeka	Managing Director	EXECUTIVE SHIP MANAGEMENT PTE LTD
	Ajay K. Chaudhry	General Manager	Fleet Ship Management Pte Ltd.
	Lim Teck Cheng	Chief Executive	HONG LAM MARINE PTE LTD
	Ir Wong Sin Futt	Assistant Director Newbuildings CEng FIMarEST	IMC Shipping Services Co., Pte. Ltd.
	Seow Tan Hong	Senior General Manager Engineering Department	Jurong Shipyard Pte Ltd
	Chor How Jat	Executive Director	Keppel Shipyard Limited
	Avinash Kadam	Director Technical Operations	Maersk Tankers
	Mark Lim Yew Guan	Deputy Director (Shipping) Deputy Director of Marine	Maritime and Port Authority of Singapore
	Toshihiko Ota	Managing Director	MOL Tankship Management (Asia) Pte Ltd
	Arun K. Ahluwalia	Fleet Director	MSI Ship Management Pte Ltd
	Mok Kim Terng	Corporate Development Director	NAM CHEONG LIMITED
	Hemant Pathania	Managing Director Chief Operating Officer	NYK SHIPMANAGEMENT PTE LTD
	Teh Eng Hua	Vice President Technical Department	Ocean Tankers (Pte) Ltd
	Lim Tau Kok	Director Fleet Management Division	PACC SHIP MANAGERS PTE LTD
	Panneer Selvam	General Manager Technical Division	Pacific International Lines (Pte) Ltd
	Toh Ho Tay	Offshore Division (Ship Local)	R. S. Platou (Asia) Pte. Ltd
	Govinder Singh Chopra	Director	SeaTech Solutions International (S) Pte Ltd
	Francis Chin	Chief Operating Officer	Stellar Shipmanagement Services Pte Ltd
	Rajdeep Singh	Technical Director	Tanker Pacific Management (Singapore) Pte Ltd

Naresh Chand	General Manager	UNITED OCEAN SHIP MANAGEMENT PTE LTD
Calum S Hume	Deputy Managing Director and Technical Director	V. Ships Asia Group Pte. Ltd.

THAI COMMITTEE

Chairman	Sutep Tranantasin	Executive Vice President	Regional Container Lines Public Co., Ltd.
Member	Warawan Nganthavee	Managing Director	Asian Marine Services Public Co., Ltd.
	Bhumindr Harinsuit	Managing Director	Bhureemas Navee Co., Ltd.
	Suparuak Potchanant	Operation Director	ES Offshore and Marine Engineering (Thailand) Co., Ltd.
	Wirat Chanasit	Managing Director	Italthai Marine Ltd.
	Chanet Phenjati	President	Jutha Maritime Public Co., Ltd.
	Nat Chubchai	Deputy Director General	Marine Department
	Suraphon Meesathien	Vice President	Nathalin Group
	Jaipal Mansukhani	Director	Precious Shipping Public Co., Ltd.
	Kraiyasit Intarapanich	Vice President	PTT Public Company Limited
		Internatinal Chartering Department	
	Voravit Visitkitjakarn	Managing Director	Sang Thai Shipping Co., Ltd.
	Nitas Krongvanitchayakul	Managing Director	Thaioil Marine Co., Ltd.
	Yodchai Ratanachiwakorn	Marine Operation Director	Thoresen & Co., (Bangkok) Ltd.
	Vivek Dwivedi	Director - Shipping	TIPCO Asphalt Public Company Limited
	Teruo Kondo	Chief Production Manager	Unithai Shipyard & Engineering Ltd.

TURKISH COMMITTEE

Chairman	Yalcin Sabanci	Chairman	YA-SA Holding S.A.
Member	Necdet Aksoy	Chairman	Akmar Shipping & Trading S.A.
	Ali Umur	President	Aktif Shipping
	Kenan S. Sumra	Company Manager	Anadoluhisari Tankercilik A.S.
	Erhan Bayraktar	Board Member/CEO	Bayraktar Shipping Group
	Derya Sabaz	Board Member	BEŞİKTAŞ GROUP
	Engin Ozcelik	General Manager	CEBI Maritime & Trading SA
	Idil Baran	Director	CerBa Group of Companies
	Esref Cerrahoglu	Chairman	Cerrahgil A. S.
	Serra Cerrahoglu	Vice Chairman	CERRAHGİL GROUP OF COMPANIES
	H. Bülent Şener	Chairman	Delta Marine Engineering and Computer Trading CO.
	Serdar Akcali	Managing Director	Denak Ship Management & Agency
	Ö. Faruk Miras	Member of Board	Diler Shipping and Trading Inc.
	Bilge Bayburtlugil	General Manager	DITAS Tanker and Marine Operations Corp.
	Cihan Ergenc	Chairman	ER Denizcilik Sanayi Nak. Ve Tic. A. S.
	Orhan Karademir	Chief Operating Officer	Genel Denizcilik Nakliyatı A.S.
	Sadan Kaptanoglu	Owner	H.I. Kaptanoglu Shipping Group
	Bedri Ince	Chairman	Ince Shipping and Trading Co. Inc.
	Murat Edip Karahasan	Chairman	Karahasan Group of Shipping Companies
	Tamer Kiran	Chairman	KIRAN Group of Shipping Companies
	Bayram Yusuf Aslan	President	Mardeniz & Kardeniz & Mardas Group of Companies
	Mecit Çetinkaya	Owner	MECİT ÇETİNKAYA Shipping, Transport, Marketing Ind. & Trade Co. Ltd.
			MOLIVA SHIPPING INC.
	Huseyin Yardimci	General Manager	
		Member of Board	
	Serif Ozdaglar	Deputy General Manager	NEMTAS NEMRUT LIMAN İŞLETMELERİ A.S.
	Hüseyin ŞENER	Fleet Manager	Odin Ship Management
	G. Osman Küçükertan	General Manager	OMSAN DENİZCİLİK A.Ş.
	Emir Sohtorik	Chairman	SEMIH SOHTORIK MANAGEMENT & AGENCY INC.
	Suha Izmirligil	President	SINOMAR S. A.
	Orkun Kalkavan	Executive Board Member	Turkon Holding
	Hasan PEHLİVAN	Operational Director / CSO	U.N RO-RO İŞLETMELERİ A.Ş.
	Yasin ÇİL	General Manager	VERA SHIPPING
	Ilhan Sabanci	Member of the Board	YA-SA Shipmanagement and Trading S.A.
Emirhan Sabanci	Board Member	YA-SA Tanker and Transportation S.A.	

TURKISH TECHNICAL COMMITTEE

Chairman	M. Erbil Özkaya	General Coordinator	YA-SA Shipping Industry and Trading S.A.
Member	Ş. Şenol Üngör	Technical Manager	Active Shipping & Management Pte Ltd
	Özgür Aksoy	General Manager & Board Member	Akmar Holding S.A.
	Saim Gökçen	Technical Manager	Aksay Denizcilik ve Ticaret A.S.
	Erkan Dereli	Owner	ALİAĞA DENİZCİLİK

Yusuf Angin	Manager	Aruna Shipping Ltd., Corp.
Selçuk Karakimseli	Board of Member	Atlas Ship Management Ltd.
Kenan S. Sumra	Marine Department Manager	Aygaz A.Ş.
Metin Solak	Technical Manager	Besiktas Group
Mustafa Bahar	Technical Manager	Cebi Denizcilik AS
S. Dirim Şener	Department Manager	Delta Marine Engineering and Computer Trading Co.
	Planning Department	
Şemsettin Özyapar	Technical Manager	Denak Ship Management & Agency
Baha Erbil	General Manager	Densan Deniz Nakliyat ve Sanayi A.Ş.
Taşkin Çilli	CEO, Member of Board	Desan Deniz İnşaat San. A.Ş.
Coşkun Ağca	Fleet Manager	Ditaş Deniz İşletmeciliği ve Tankerciliği A.Ş.
Yavus Büyükyüksel	Fleet Manager	GAS MASTER Deniz İşletmeciliği ve Acenteliği Ltd. Şti.
Mehmet Cebeci	Bulk Fleet Manager	Genel Denizcilik Nakliyatı A.Ş.
Ergun Köker	Technical Manager	GUNGEN Denizcilik
Ahmet Taymeç	Manager	Horizon Gemi İşletmeciliği San ve Tic A.Ş.
Bülent Subaşı	Operation Manager	IDÇ Denizcilik San. Tic. A.Ş.
A. Yaşar Canca	Technical Manager	Ince Shipping Group
Raif Söylerkaya	Ocean Going Master	Kaptanoglu Holding
Cengiz Eren	Head of Technical Department	Karahasan Group of Shipping Companies
Mehmet Güllakdeniz	Safety Coordinator / DPA	Kiran Group of Shipping Companies
	Master Mariner	
Melek Yavan	Member of Board	Körfez Shipping and Trading Inc.
Galip Kendigelen	General Manager	Mardas & Mardeniz & Kardeniz Group of Companie
Gökseven Eroğul	Deputy General Manager	Nemtaş Shipping
	(Technical & Logistics)	
Hüseyin Şener	Fleet Manager	Odin Ship Management
Kemal Ayten	Technical Manager	Pina Shipping & Transportation Inc.
M. Murat Döşemeciler	Operation Manager	POLARNET İletişim ve Gemi İşletmeciliği San. Tic. A.S.
Haktan Demirboğa	Uzak Yol Kaptanı	Ministry of Transport Maritim Affairs and Communications
	Gemi Sörvey Kurulu Başkanı	
	Republic of Turkey	
M. Cumhuri Kuter	General Manager	Sedef Shipbuilding Inc.
Mehmet Başoğlu	General Manager	Semih Sohtorik Management & Agency Inc.
Müjdat Uludağ	Purchasing & Logistics Director	Turkish Airlines Technic Inc.
Hayati Cingöz	BSC Engineer & Technical Manager	Ulusoy Sea Lines Management S.A.
Ali H. Doğanlı	Technical Manager	VERA SHIPPNG
Mehmet Kayhan	General Manager	YA-SA Shipmanagement and Trading S.A.
	Bulk Carriers	
Hakan Gürel	General Manager	YA-SA TANKERCİLİK VE TASIMCILIK A.S.

TAIWAN COMMITTEE

Chairman	Loh Yao-fon	Assistant to Group Chairman	Evergreen Group
Member	Huang Chin-san	Chief Executive Director	Chang Yung-Fa Foundation
	Donald K. L. Chao	Chairman	China Steel Express Corporation
	Jei-Yuan Chen	Executive Manager	CPC Corporation, Taiwan
	Robert Lai	Chairman	CSBC Corporation, Taiwan
	Der-Hsiung Chen	President	Deryoung Maritime Co., S.A.
	Shang-Wen Liao	President	Eastern Media International Corporation
	David Hsu	Ph. D. Leeds. U.K.	
	B. C. Tsai	Chairman	First Steamship Co., Ltd.
	Bill M. H. Huang	Chairman	Franbo Lines Corp.
	Harvey Chiu	Chairman	Glory Navigation Co., Ltd.
	R. Y. Guer	President	Hsin Chien Marine Co., Ltd.
	Jimmy C. Hsiao	Director & President	Kuang Ming Shipping Corp.
	J. D. Lan	Chairman	Mingtai Navigation Co., Ltd
		C. E. O.	Shih Wei Navigation Co., Ltd.
	Mathias K. Y. Chen	Chairman	Sincere Industrial Corporation
	Fred C. P. Tsai	Chairman	Sincere Navigation Corporation
	Hrongs-Nain Lin	President	Ta Tong Marine Co., Ltd.
	Janus Kao	President	Ta-Ho Maritime Corporation
	I. Y. Chang	Chairman	Taiwan Navigation Co., Ltd.
	Nobu Su	C.E.O.	TMT Co., Ltd.
	C. K. Ong	President	U-Ming Marine Transport Corp.
	Lin Ching Chih	Chairman	Unison Marine Corporation
	Glenn K. L. Chan	President	United Ocean Shipping S. A.
	Chen, Po Ting	Chairman	Wan Hai Lines Ltd.

James Lan	Chairman	Wisdom Marine Lines S.A.
Robert Ho	President	Yang Ming Marine Transport Corp.

TAIWAN TECHNICAL COMMITTEE

Chairman	Chiang Shou-hsing	Senior Vice President Shipbuilding Dept.	Evergreen Marine Corp. (Taiwan) Ltd.
Member	Guo I-Lung	Chairman / President	Biggin Shipping Corporation
	K. C. Lin	Senior Manager Marine Dept.	Cheng Lie Navigation Co., Ltd.
	P. J. Ching	Vice President	China Steel Express Corporation
	J. Z. Fang	Chief Engineer Chief Engineer Office	CPC Corporation, Taiwan
	Chih-Peng Tsai	Assistance To President	Deryoung Maritime Co., S.A.
	Michael L. Y. Pan	Executive Vice President	Eastern Media International Corporation
	Luo Chin-ek	Senior Vice President Maintenance Dept. Project Division.	Evergreen Marine Corp. (Taiwan) Ltd.
	S. H. Wang	Vice President Engineering & Supply Dept.	First Steamship Co., Ltd.
	Anthony Lin	Adviser	Formosa Plastics Marine Corporation
	Tony C. T. Hsueh	Manager of Marine Department	Glory Navigation Co., Ltd.
	Thomas S. H. Yeh	DS Vice President SMS Dept.	Harmony Transportation Co., Ltd.
	W. K. Wu	Manager Technical Dept.	Hsin Chien Marine Co., Ltd.
	C. K. Lin	Vice President Engineering / Operation Department	Mingtai Navigation Co., Ltd.
	You-Yen Ho	Vice President Marine Department	Shih Wei Navigation Co., Ltd.
	Kenny J. H. Yang	General Manager Technical Department	Sincere Industrial Corporation
	Young Perng-Terng	Chief Engineer	Ta Tong Marine Co., Ltd.
Yu Ko Yuan	Associate Manager Marine Department	Ta-Ho Maritime Corporation	
Chen Teng	Senior Vice President Marine Dept.	Taiwan Navigation Co., Ltd.	
Robert Y. P. Kao	Assistant Vice President	U-Ming Marine Transport Corporation	
Peter W. D. Ho	Vice President Technical Department	Unison Marine Corp.	
Sanders Jong	Vice President Engineering Division	Wan Hai Lines Ltd.	
Charles Chu	Vice President Technical Department	Wisdom Marine Lines S. A.	

Class NK in Control

Officers

Councilors	Z. Akasaka	President	Akasaka Diesels Limited
	A. Ashida	Chairman	Mitsui O.S.K. Lines, Ltd.
	S. Hayama	Professor Emeritus	The University of Tokyo
	Y. Katoh	President	Mitsui Engineering & Shipbuilding Co., Ltd.
	S. Minami	Company CEO	Oshima Shipbuilding Co., Ltd.
	K. Miyahara	Chairman	Nippon Yusen Kabushiki Kaisha
	M. Nakanishi	Former Executive Director	Tokio Marine & Nichido Fire Insurance Co., Ltd.
	M. Satani	Former Executive Consultant	JX Nippon Oil & Energy Corporation
	H. Shima	Representative Director and President	Taihei Kogyo Co., Ltd.
	K. Sugimoto	Counselor	Iino Kaiun Kaisha, Ltd.
	H. Tanikawa	Professor Emeritus	Seikei University
	K. Tsukuda	Chairman	Mitsubishi Heavy Industries, Ltd.
	T. Uyeno	Chairman & President	Uyeno Transtech Ltd.
M. Yasutomi	Vice President	Tokyo Metro Co., Ltd.	
K. Yoshida	Professor Emeritus	The University of Tokyo	
Directors	N. Ueda	Chairman and President	Nippon Kaiji Kyokai
	T. Matsu	Executive Vice President	Nippon Kaiji Kyokai
	S. Kakubari	Executive Vice President	Nippon Kaiji Kyokai
	K. Fujiwara	Executive Vice President	Nippon Kaiji Kyokai
	T. Yoneya	Executive Vice President	Nippon Kaiji Kyokai
	Y. Nakamura	Executive Vice President	Nippon Kaiji Kyokai
	T. Agata	Managing Director	Nippon Kaiji Kyokai
	T. Kinoshita	Managing Director	Nippon Kaiji Kyokai
	S. Arisaka	Executive Officer	Kawasaki Kisen Kaisha, Ltd.
	K. Ishikawa	Director and Senior Managing Officer, Ship and Offshore Structure Division	Universal Shipbuilding Corporation
Y. Otagaki	Executive Vice President	IHI Marine United Inc.	
H. Otsubo	Professor Emeritus	The University of Tokyo	
K. Yoshida	Managing Executive Officer	Mitsui O.S.K. Lines, Ltd.	
Auditors	T. Aihara	Former Commandant	Japan Coast Guard
	Y. Fujita	Professor Emeritus	The University of Tokyo
	Y. Sakinaga	Board Counsellor	Kawasaki Kisen Kaisha, Ltd.
	Y. Tanaka	Managing Corporate Officer	Nippon Yusen Kabushiki Kaisha

Classification Committee

Chairman	N. Ueda	Chairman and President	Nippon Kaiji Kyokai
Vice Chairman	T. Matsu	Executive Vice President	Nippon Kaiji Kyokai
Members	T. Agata	Managing Director	Nippon Kaiji Kyokai
	T. Araki	Director	Iino Marine Service Co., Ltd.
	S. Arisaka	Executive Officer	Kawasaki Kisen Kaisha, Ltd.
	K. Fujiwara	Executive Vice President	Nippon Kaiji Kyokai
	S. Hayama	Professor Emeritus	The University of Tokyo
	H. Hosaka	General Manager, Marine Division	The Japanese Shipowners' Association
	H. Itagaki	Professor Emeritus	Yokohama National University
	S. Kakubari	Executive Vice President	Nippon Kaiji Kyokai
	T. Kinoshita	Managing Director	Nippon Kaiji Kyokai
	K. Kiriake	Managing Director	The Shipbuilders' Association of Japan
	K. Kohayashi	Associate Officer, General Manager, Engineering Division, Ship & Offshore Structure Company	Kawasaki Heavy Industries, Ltd.
	Y. Nakajima	General Manager of Basic Design Department	IHI Marine United Inc.
	Y. Nakamura	Executive Vice President	Nippon Kaiji Kyokai
	T. Nomoto	Professor Emeritus	The University of Tokyo
	H. Otsubo	Professor Emeritus	The University of Tokyo
	M. Sunouchi	General Manager Technical Group	Nippon Yusen Kabushiki Kaisha
	T. Tsubokawa	General Manager of Basic Design Department, Ship & Ocean Headquarters	Mitsui Engineering & Shipbuilding Co., Ltd.
	N. Tsukamoto	Senior General Manager, Commercial Lines Claims Department	Tokio Marine & Nichido Fire Insurance Co., Ltd.
	N. Ueda	Deputy General Manager, Ship & Ocean Engineering Division, Shipbuilding & Ocean Development	Mitsubishi Heavy Industries, Ltd.

H. Yamada	General Manager, Naval Architect Strategy Planning Dept. Ship & Offshore Structure Division	Universal Shipbuilding Corporation
T. Yoneya	Executive Vice President	Nippon Kaiji Kyokai
K. Yoshida	Managing Executive Officer	Mitsui O.S.K. Lines, Ltd.
K. Yoshida	Professor Emeritus	The University of Tokyo

Technical Committee

Chairman	K. Yoshida	Professor Emeritus	The University of Tokyo
Vice Chairman	H. Otsubo	Professor Emeritus	The University of Tokyo
Member	S. Arisaka	Executive Officer	Kawasaki Kisen Kaisha, Ltd.
	H. Hara	Executive Vice President & General Manager, Shipbuilding & Ocean Development Headquarters	Mitsubishi Heavy Industries, Ltd.
	S. Hayama	Professor Emeritus	The University of Tokyo
	K. Ishikawa	Director and Senior Managing Officer, Ship and Offshore Structure Division	Universal Shipbuilding Corporation
	H. Itagaki	Professor Emeritus	Yokohama National University
	T. Iwamoto	General Manager, Casting and Forged Products Dept.	The Japan Steel Works, Ltd.
	H. Kawasaki	Councilor	Nippon Steel & Sumitomo Metal Corporation
	T. Kinoshita	Managing Director	Nippon Kaiji Kyokai
	M. Kishimoto	Director, Chief General Manager, Business & Technical Development Division	Sumitomo Heavy Industries Marine & Engineering Co., Ltd.
	K. Kobayashi	Associate Officer, General Manager, Engineering Division, Ship & Offshore Structure Company	Kawasaki Heavy Industries, Ltd.
	H. Matsubara	General Manager of the Steel Casting & Forging Division in the Iron & Steel Business	Kobe Steel, Ltd.
	T. Matsui	Executive Vice President	Nippon Kaiji Kyokai
	Y. Nakajima	General Manager of Basic Design Department	IHI Marine United Inc.
	Y. Nakamura	Executive Vice President	Nippon Kaiji Kyokai
	H. Nishizaki	Senior Vice President	JFE Steel Corporation
	T. Nomoto	Professor Emeritus	The University of Tokyo
	M. Okada	Managing Director, General Manager of Ship & Ocean Project Hq.	Mitsui Engineering & Shipbuilding Co., Ltd.
	Y. Onuki	Director & Managing Executive Officer	Daiichi Chuo Kisen Kaisha
	H. Takahashi	Managing Director	JX Tanker Company Limited
	Y. Tanaka	Managing Corporate Officer	Nippon Yusen Kabushiki Kaisha
	N. Ueda	Chairman and President	Nippon Kaiji Kyokai
	K. Yasuda	Managing Executive Officer	Sasebo Heavy Industries Co., Ltd.
	T. Yoneya	Executive Vice President	Nippon Kaiji Kyokai
	K. Yoshida	Managing Executive Officer	Mitsui O.S.K. Lines, Ltd.

Quality Committee

Chairman	H. Sakai	Professor Emeritus	The University of Tokyo
Member	T. Kuboki	General Manager, Classification Service Department	Nippon Kaiji Kyokai
	N. Ooka	Senior Technical Advisor	The Japanese Society for Non-Destructive Inspection
	Y. Nishioka	Managing Director	The Japanese Shipowners' Association
	T. Yagi	Senior Technical Manager	The Japan Iron & Steel Federation
	Y. Yamaguchi	Deputy General Manager	The Shipbuilders' Association of Japan
	T. Yamazaki	Senior Researcher	Japan Marine Equipment Association
	K. Yoshida	Technical Supervisor	Japan Ship-Machinery Quality Control Association
	K. Yoshida	Manager, Engineering Department	The Japan Electrical Manufacturers' Association



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