

The background of the cover is an abstract composition of thick, expressive brushstrokes in various shades of blue, purple, and teal. A central rectangular inset contains a photograph of a person standing on a sandy beach, looking out at the ocean. The overall aesthetic is artistic and textured.

**ClassNK**

ANNUAL REPORT 2002

## Profile

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Nippon Kaiji Kyokai, known as ClassNK or NK, is a ship classification society. The principal work of the Society's expert technical staff is to undertake surveys to ensure that the Rules that it has developed are applied to newbuildings and existing ships to ensure the safety of these vessels. The Rules cover not only hull structures, but also safety equipment, cargo handling gear, engines, machinery, and electrical and electronic systems, among others. By the end of December 2002, the Society had 6,326 ships totaling 117.5 million gross tons (gt) on its Register. This figure represents approximately 20% of the world merchant fleet currently under class. Although based in Japan, where it has 21 offices, ClassNK has worldwide representation through a network of 69 exclusive surveyor sites in 39 countries. ClassNK surveyors work in shipbuilding and repair yards and at ports across the world, wherever they may be called upon to examine the condition of a ship, so that all of the Society's services are available worldwide. On November 15, 1999, Nippon Kaiji Kyokai celebrated the centenary of its foundation.



## Contents

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<b>1</b>	MISSION STATEMENT
<b>2</b>	CHAIRMAN'S MESSAGE
<b>4</b>	NK AT A GLANCE
<b>6</b>	NK IN ACTION
<b>16</b>	RESEARCH INSTITUTE ACTIVITIES
<b>18</b>	NK AROUND THE WORLD
<b>34</b>	NK IN INTERNATIONAL AFFAIRS
<b>42</b>	AUTHORIZATIONS LIST
<b>44</b>	NK ONLINE
<b>45</b>	FINANCIAL INFORMATION
<b>46</b>	NK IN COMMITTEE
<b>49</b>	KEY CONTACTS

## The NK Mission

ClassNK is dedicated to ensuring the safety of life and property at sea, and the prevention of 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, procedures and Guidance, and maintain and develop its commitment to scientific and technological research, development and education.

Maintain and develop its global operations in line with the needs of those using its services.





## Chairman's Message

“ I am pleased to say that NK has been able to continue to achieve steady growth despite a number of challenges both domestically and internationally. ”

Welcome to the *Nippon Kaiji Kyokai 2002 Annual Report*. This report covers my first full year as Chairman and President of NK. I am pleased to say that NK has been able to continue to achieve steady growth despite a number of challenges both domestically and internationally. Looking back, 2002 was certainly a difficult time for business. The terrorist attacks in the United States the year before affected almost every aspect of international life and business. Globally, on the political side there were problems in Afghanistan during the first half and the issues of Iraq and North Korea in the second half. On the financial side, a state of stagnation persisted worldwide. On the domestic scene, we had to contend with the continued sluggishness of a deflationary economy, with a real growth rate of just 0.9% for the year.

Despite these challenges, NK's business activities in 2002 were generally good. The number of ships being classed to NK did not increase dramatically, although we saw a steady increase in the total gross tonnage. The tonnage of ships under NK Class grew to nearly 117.5 million gt, while the number of employees of the Society rose to more than 1,000. The number of exclusive surveyor locations overseas increased to 69. I must say that this is a credit to the daily efforts of all NK staff around the globe. I also think that the trend towards fewer, but larger, ships being built, which has become pronounced over the last few years, is here to stay. For the first time, this year's report includes more detailed financial information, with the balance of income over expenditure from business activity a little over ¥300 million.

The most high profile event of the year was no doubt the loss of the oil tanker, the *Prestige*, off the coast of Spain. When such a major disaster occurs, not only is there physical loss or damage, but the credibility of classification societies is also diminished, rightly or wrongly. Experience has taught us that under such circumstances we cannot necessarily anticipate a rational, informed response from political circles or the press. It is therefore critical that every member of the NK team does his or her best to minimize the risk of a major casualty.

The political reaction to this casualty in Europe was quite dramatic, following on from the loss of the *Erika*. I was asked recently if I thought that the measures introduced by the EU went too far, or if we at NK were "satisfied" with them. Frankly, I don't think that it is really a matter of whether or not NK, as a classification society, is "satisfied." NK has been and continues to be an active contributor to the international decision-making process whenever and wherever possible, through the IMO and/or IACS and through our relationship with the Japanese Government. We must maintain our stance as an independent not-for-profit, third party arbiter of safety, based on our high standing as a technical organization. Therefore, our role is to contribute as best we can to technical and safety discussions and then help NK clients and related parties implement the outcomes of the international decision-making process as effectively and efficiently as possible.

Some of us may not agree with all the decisions, but the reality is that the technical issues are very difficult and require faster decisions than technical purists might consider ideal. There will always be some divergence of opinion, particularly on the technical matters that have not been conclusively agreed or settled in a technical or scientific sense. However there is no simple, easy answer to some technical debates, so it is not surprising that decisions, necessarily made by non-technical specialists like politicians, and made more quickly than might be ideal, will come down on the side of caution. We have contributed to the various debates, and expressed our views, but once the decisions have been made, our role is to assist NK clients and related parties in implementing the outcomes as effectively and efficiently as possible.

To finish on a positive note, let me remind you that this year is the Year of the Sheep. Many words and characters in Japanese (and Chinese) derive their meaning from the character for "sheep." One of them is *kissho*, which can be translated generally as "good omen." It is said that this term indicates "a lucky, happy thing" or "something good." So, let me finish this year's message with the wish that this Year of the Sheep is a good year for NK and its clients, friends and associates.

March 2003



Kenji Ogawa  
Chairman and President



Front row:  
Chairman and President K. Ogawa (center)  
Executive Vice President M. Murakami (left)  
Executive Vice President Y. Tsudo (right)  
Back row (from left):  
Managing Director N. Ueda  
Managing Director Dr. M. Oka  
Managing Director T. Takano  
Managing Director T. Akahori

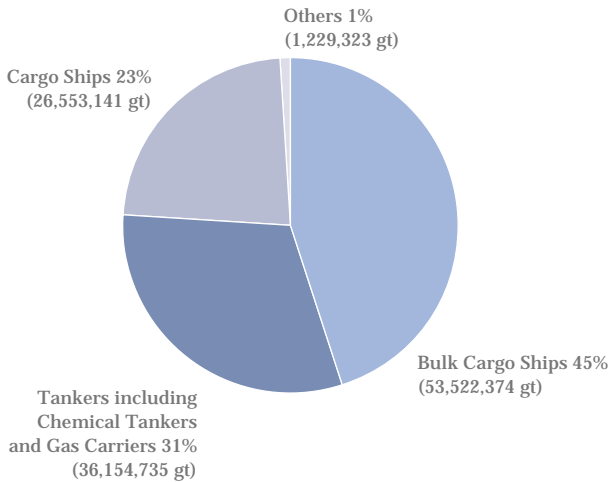


# NK at a Glance

“ The year’s key achievements, results and facts in figures, graphs, pictures. ”

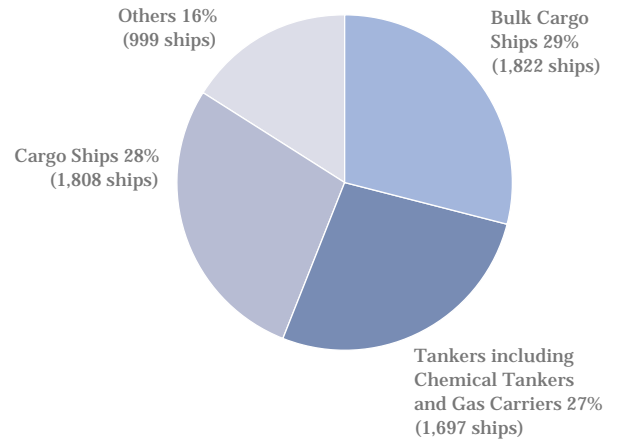
Breakdown of NK-classed Ships by Type  
(Aggregate total gross tonnage)

Total: 117,459,573 gt

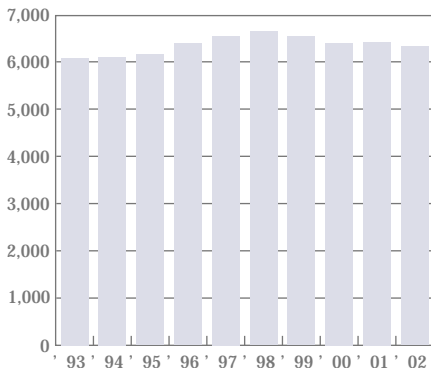


Breakdown of NK-classed Ships by Type  
(Total number)

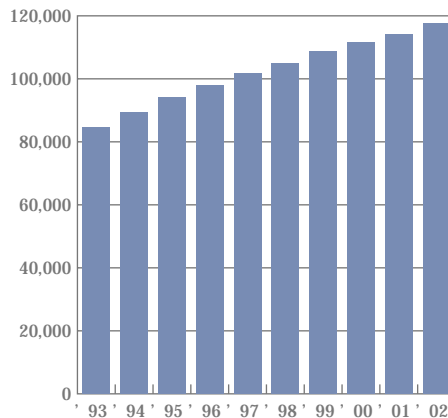
Total: 6,326 ships



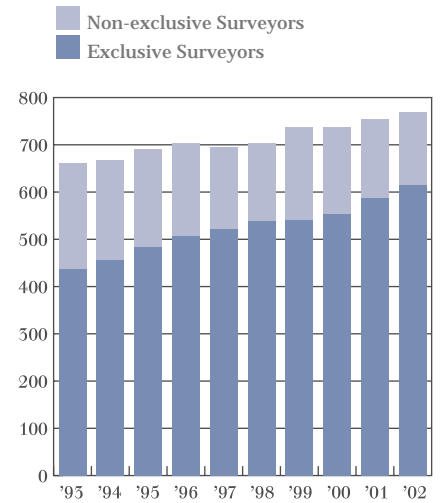
Total Number of Ships Classed  
(Number of ships)



Aggregate Total Gross Tonnage of Ships Classed  
(Thousand tons)



Changes in Number of Exclusive and Non-exclusive Surveyors Over 10 Years



EXHIBITIONS

The Society participated in three major international maritime exhibitions in 2002. SeaJapan (top left) was held from April 10 through 12 at Tokyo Big Site's international exhibition halls. Posidonia 2002 (right) was held at the Piraeus Exhibition Center in Greece from June 4 through 7. GasTech 2002 (bottom left) was held October 13 through 16 at the Qatar International Exhibition Center in Doha.



NEW INFORMATION CENTER

The Society's recently completed Information Center won a New Office Concept Information Technology Award. The award was jointly organized by *Nihon Keizai Shimbun*, the most influential business newspaper in Japan, and the New Office Concept Promotion Board supported by Japan's Ministry of Economy, Trade and Industry. The award is aimed at promoting broader understanding of, as well as building greater demand for, new concepts in office design to promote functional and comfortable working spaces.



NEW COMMITTEE

As one of its service activities in Hong Kong, in addition to the Hong Kong Committee, which was established in 1974, the Society decided to establish a Hong Kong Technical Committee to develop a much closer relationship with Hong Kong's marine industries.



NEW BOARD

In February 2002, the Society announced changes to its Board of Directors. Chairman and President Mr. T. Mano and Executive Vice President Mr. M. Hidaka both retired, resulting in two new appointments. Mr. Mano will remain with the Society in the role of Honorary Chairman and Mr. Hidaka will also stay on as Senior Adviser. Mr. T. Akahori and Mr. N. Ueda joined the board.



NEW GUIDELINES

*Guidelines for Tanker Structures* (November 2001) and *Guidelines for Bulk Carrier Structures* (August 2002).



NEW WEBSITE

The ClassNK website was comprehensively revised and renewed and relaunched in April 2002. For example, on the new site all ships registered to ClassNK can now be searched and their main details viewed. Survey Offices and Technical Information can also now be searched, as can lists of NK-approved materials and machinery.





## **NK in Action:**

**“ I also think that this trend towards fewer, but larger, ships being built, which has become pronounced over the last few years, is here to stay. ”**

Chairman and President K. Ogawa



## THE CLASSED FLEET

Recent years have seen a distinct trend towards fewer, but bigger, ships being built and constituting the NK Register. This trend continued in 2002, and at the end of December that year the ClassNK Register totaled 6,326 ships, 90 less than the total of 6,416 in 2001. However the total gross tonnage of 117,459,573 gt was up 3,208,810 gt on the total for the previous year.

Additions to the Register during the year numbered 347 ships, of 7,731,749 gt, 46 vessels fewer than joined in the previous year but 793,870 gt more than the previous year's additions. 437 ships of 4,574,797 gt, left the Register in 2002, 61 more than left the previous year, and they represented 356,582 gt more tonnage than the reduction for 2001. Of those vessels, 127 were removed for reasons of noncompliance with Society Rules, while 163 vessels were transferred to other classification societies. The average age of the NK fleet was 10.5 years old.

The NK fleet is very international. It has 5,219 ships, or 82.5%, flagged outside Japan, with ports of registry in 61 nations and territories. Their gross tonnage was 106,931,123 gt, or 91.0% of the Register. Ships flying the flags of Panama, Japan, Liberia, Singapore and Malta accounted for 75.1% of the total number and 80.3% of the total gross tonnage classed by the Society.

## NEWBUILDINGS

At 299, the number of newly constructed ships classed by the Society decreased by 12.6% over the previous year. However the 7,203,188 gt classed represented an increase of 514,212 gt over the total added in the previous year, underscoring the trend towards fewer, but larger, ships. In terms of the number of ships, these newbuildings represent 86.2% of the ships added to the register and 93.2% of the additional tonnage. Of the 299 ships, 66, or 22.1%, were built by shipbuilders outside Japan, slightly down on the previous year.

The newbuildings by type were basically as follows:

- Bulk Carriers: 109 ships, of 3,659,543 gt (compared with 139 ships, of 4,254,853 gt in 2001)
- Tankers and Gas Carriers: 75 ships, of 2,002,209 gt (compared with 60 ships, of 952,654 gt in 2001)
- Cargo Ships: 53 ships, of 1,492,276 gt (compared with 54 ships, of 1,350,469 gt in 2001)

### SPIRIT EXPRESS

A 45,861 dwt oil carrier constructed by Shin Kurushima Dockyard Co., Ltd., for Shintoku Panama, S.A.

### CHEMSTAR MOON

A 19,949 dwt oil/molasses/chemical carrier constructed by Usuki Shipyard Co., Ltd., for Luna Maritime Panama S.A.



The significant increases in the tanker and gas carrier figures reflected longer production cycles and the NK strategy of focusing on these more sophisticated vessels.

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## THE RULES

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The core of a ship classification society's technical credibility is its rules. As such, the Society constantly reviews and revises the Rules, Regulations and Guidance. In addition to keeping the Rules up to date with constantly changing statutory requirements, the Society also strongly focuses on reviewing its Rules to incorporate the results of its research and development activities. The full list of the Rules and Guidance established and/or amended by the Society in 2002 includes:

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### NEWLY ESTABLISHED IN 2002

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- **Rules for Hull Monitoring Systems**

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### AMENDED IN 2002

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- **Rules and Guidance for the Classification and Registry of Ships**

- A part revision related to Class Notation (Guidance)
- A part revision related to Ship Management System (Rule and Guidance)

#### KAIMON II

A 314,014 dwt oil carrier constructed by Mitsui Engineering & Shipbuilding Co., Ltd., for Dragon Shipping Navigation S.A.



- **Rules and Guidance for the Audit and Registration of Safety Management Systems**

- A part revision related to Amendments to ISM code

- **Conditions of Service for Classification of Ships and Registration of Installations**

- A part revision related to disclosure of information of class ships

- **Rules and Guidance for the Survey and Construction of Steel Ships**

- A part revision related to general emergency alarms by using public address system (Guidance Part H)
- A part revision related to Amendments to SOLAS Chapter II-1 (Rule Part H)
- A part revision related to temperature sensors for stern tube bearings (Guidance Part B, D)
- A part revision related to welding between stool top plate and transverse corrugated bulkheads of new bulk carriers (Rule and Guidance Part C)
- A part revision related to in-water surveys and evaluations of longitudinal strength (Rule and Guidance Part B)
- A part revision related to occasional surveys for retroactive requirements (Rule Part A, B, N, S, Guidance Part B)
- A part revision related to Amendments to SOLAS Chapter II-2 (Rule Part B, C, CS, D, H, N, P, Q, R, S, Guidance B, C, D, H, N, P, R, S)
- A part revision related to hydrostatic tests for side scuttles and rectangular windows (Rule Part L)
  - A part revision related to FPSO Guidelines (Guidance Part P)
  - A part revision related to stool top plate edge of transverse watertight corrugated bulkhead of new bulk carriers (Rule Part C)
  - A part revision related to direct calculation for structures of ore carriers (Guidance Part C)
- A part revision related to prohibition to use asbestos (Rule and Guidance Part B)

- A part revision related to steam pipes and thermal oil pipes for cargo oil tanks (Rule Part D)
- A part revision related to Amendments to IBC code (Rule Part S, Guidance Part D, S)
- A part revision related to Amendments to IGC code (Rule and Guidance Part N)
- A part revision related to emergency towing arrangement of tankers (Rule and Guidance Part C)
- A part revision related to safety devices for gas turbines (Rule and Guidance Part D)
- A part revision related to testing and manufacturing of materials (Rule and Guidance Part K)
- A part revision related to stainless steel castings for propellers (Rule and Guidance Part K)
- A part revision related to high-voltage electrical installations (Rule and Guidance Part H)
- A part revision related to welding for machinery installations (Rule Part D)
- A part revision related to pumps for boilers and thermal oil heaters (Rule and Guidance Part D)
- A part revision related to aluminum alloys (Rule Part K, Guidance Part C, K)
- A part revision related to rolled steels and steel pipes (Rule and Guidance Part K)
- A part revision related to additional requirements for ESP ships (Rule Part B, C, Guidance Part B)
- A part revision related to design of piping systems (Rule and Guidance Part D)
- A part revision related to mechanical joints (Rule Part D, Q, Guidance Part D, S)
- A part revision related to class notations for ships applying advanced structural strength assessments (Rule Part A, C, Guidance Part C)
- A part revision related to hold frames abaft the fore end bulkhead of the foremost cargo hold (Guidance Part C)
- A part revision related to partially filled ballast tanks (Rule and Guidance Part C)
- A part revision related to scantling reduction of longitudinals due to additional supports in the span (Rule and Guidance Part C)



- A part revision related to fatigue strength of longitudinal stiffeners (Rule and Guidance Part C)
- A part revision related to strength of stiffeners supporting longitudinals which penetrate floors or transverse girders (Rule and Guidance Part C)
- A part revision related to class notations (Rule Part A, B, C, P, S, Guidance Part A, C)
- A part revision related to azimuth thrusters (Guidance Part D)
- A part revision related to waterjet propulsion systems (Guidance Part D)

#### WORCESTER

A 7,224 m<sup>3</sup> LPG carrier constructed by Murakami Hide Shipbuilding Co., Ltd., for Shokuyu Navigation Co., S.A.

#### MAPLE EXPRESS

A 45,798 dwt oil carrier constructed by Minami-nippon Shipbuilding Co., Ltd., for San-Ei Marine S.A.





#### CRYSTAL WAY

A 9,756 dwt multi-purpose cargo carrier constructed by Higaki Shipbuilding Co., Ltd., for Oriental Navigation S.A.

- A part revision related to non-watertight hatch covers on the superstructure deck of container carriers (Guidance Part C)
- A part revision related to definition of fuel oil service tank (Guidance Part D)
- A part revision related to cargo tank venting systems (Guidance Part S)

#### Rules and Guidance for High Speed Craft

- A part revision related to occasional surveys for retroactive requirements (Rule)
- A part revision related to Amendments to SOLAS Chapter II-2 (Rule and Guidance)
- A part revision related to prohibition to use asbestos (Rule and Guidance)

#### PANAM PACIFIC

A 14,045 dwt oil/molasses/chemical carrier constructed by Asakawa Shipbuilding Co., Ltd., for Shenlong Maritime Pte Ltd.



- A part revision related to Amendments to HSC code (Rule and Guidance)
- A part revision related to safety devices for gas turbines (Rule and Guidance)
- A part revision related to high-voltage electrical installations (Rule)
- A part revision related to aluminum alloys (Rule and Guidance)
- A part revision related to mechanical joints (Rule)
- A part revision related to class notations (Rule and Guidance)

#### Rules and Guidance for the Survey and Construction of Ships of Fiberglass Reinforced Plastics

- A part revision related to prohibition to use asbestos (Rule and Guidance)
- A part revision related to class notations (Rule)

#### Guidance for the Approval and Type Approval of Materials and Equipment for Marine Use

- A part revision related to Amendments to SOLAS Chapter II-2
- A part revision related to prohibition to use asbestos
- A part revision related to Amendments to HSC code
- A part revision related to emergency towing arrangement of tankers
- A part revision related to testing and manufacturing of materials
- A part revision related to approval of manufacturing process of metallic materials
  - A part revision related to mechanical joints

#### Rules and Guidance for Automatic and Remote Control Systems

- A part revision related to Amendments to SOLAS Chapter II-2 (Rule and Guidance)
- A part revision related to sea trial, design of safety systems and alarm devices for machinery (Rule and Guidance)



- A part revision related to pumps for boilers and thermal oil heaters (Rule)

#### Rules and Guidance for Marine Pollution Prevention Systems

- A part revision related to occasional surveys for retroactive requirements (Rule)
- A part revision related to accelerated implementation of double hull tanker (Rule and Guidance)
- A part revision related to prohibition to use asbestos (Rule)
- A part revision related to mechanical joints (Guidance)

#### Rules for Cargo Refrigerating Installations

- A part revision related to prohibition to use asbestos
- A part revision related to mechanical joints

#### Rules for Cargo Handling Appliances

- A part revision related to prohibition to use asbestos

#### Rules for Diving Systems

- A part revision related to prohibition to use asbestos
- A part revision related to Amendments to Diving System Code

#### Rules for Floating Docks

- A part revision related to Amendments to SOLAS Chapter II-2
- A part revision related to prohibition to use asbestos
- A part revision related to class notations

#### Rules for Integrated Fire Control Systems

- A part revision related to Amendments to SOLAS Chapter II-2

#### Rules and Guidance for Testing Machines

- A part revision related to Amendments to JIS



#### Rules for Radio Installations

- A part revision related to Amendments to SOLAS Chapter IV

#### Rules and Guidance for the Survey and Construction of Passenger Ships

- A part revision related to occasional survey for retroactive requirements
- A part revision related to Amendments to SOLAS Chapter II-2
- A part revision related to prohibition to use asbestos
- A part revision related to class notations

#### YUHSAN

A 49,999 dwt LPG carrier constructed by Mitsubishi Heavy Industries, Ltd., for Pacific Gas Transports S.A.

#### TSURUSAKI

A 300,838 dwt oil carrier constructed by IHI Marine United Inc. for Kingfisher Shipholding S.A.



**CB ADVENTURE**

A 46,232 dwt bulk carrier constructed by Oshima Shipbuilding Co., Ltd., for Ken Line, S.A.

**NSS DYNAMIC**

A 233,584 dwt ore carrier constructed by Imabari Shipbuilding Co., Ltd., for Hoseni Shipping S.A.

**CERTIFICATION OF MANUFACTURERS**

The number of marine-related manufacturer certifications undertaken by the Society in 2002 was 13, bringing the total to 106, an 8.2% increase on the previous year. Approvals for firms engaged in thickness measurement work on ships amounted to nine, bringing the total to 146. The number of approvals for firms carrying out in-water surveys of ships was six, bringing the total to 123. The number of approvals for radio firms engaged in services on ships reached eight, bringing the total to 170. Certifications for a wide range of individual materials and equipment totaled 416 for the year.

**MACHINERY MATERIALS & EQUIPMENT INSPECTIONS**

Inspections of materials, equipment and fittings are also a major part of the Society's regular business activities.

**Inspections of Materials, Equipment and Fittings included:**

Materials	Amounts
Rolled steel	2,213,452 tons
Cast and forged steel	78,135 tons

Equipment	Amounts
Prime movers	1,357 units
Boilers	576 units
Deck machinery and equipment	1,558 units
Auxiliary machinery	16,081 units

Fittings	Amounts
Anchors	812 units
Chains	9,275 lengths
Freight containers	869 units

The number of NOx statements of compliance issued by the Society during the year was 1,179.

In November, ClassNK was recognized as an Accredited Calibration Laboratory for Force Standards by the National Institute of Technology and Evaluation International Accreditation Center under a Mutual Recognition Agreement (MRA) on the international mutual recognition of metrology standards and certificates. Under this system, force proving instrument calibration certificates issued by NK are recognized and accepted by other signatory countries to the MRA, and certificates issued by these other countries are also recognized in Japan. The number of inspections on testing machines during the year was 5,927.



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## AUDIT AND REGISTRATION OF SAFETY MANAGEMENT SYSTEMS

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From July 1, 2002, the ISM Code also became applicable to mobile offshore drilling units and other cargo ships 500 gt or larger, thereby becoming applicable to all types of ships engaged in international voyages.

In ISM-related activities, the Society assessed and granted Documents of Compliance (DOCs) to 95 companies and assessed and granted Safety Management Certificates (SMCs) to 1,212 ships. The total number of certifications reached 553 companies and 3,761 ships of which 1,529 ships have applied for ISM Code Phase II, including 310 ships that are not engaged in international voyages or are less than 500 gt. The total number of countries that have authorized ClassNK to carry out assessments and issue certificates on their behalf was 53. The total number of qualified auditors was 418 at the end of the year.

From March 2002, information on the status of ISM-related audits (Audit Status) was made available to registered companies via the ClassNK website, under the name ClassNK-SMART, so that they can easily access their ISM audit information at any time.

With the adoption by the IMO of Resolution A.924 (22), entitled, "Review of measures and procedures to prevent acts of terrorism which threaten the security of passengers and crew and the safety of ships," proposed by the United States, the Safety Management Systems Department formed a Maritime Security project team in July 2002, to act as a coordinating group within NK. Members of the group have already begun various activities and attended meetings at the IMO in preparation for the enforcement of the requirements of the new International Ship & Port Facility Security (ISPS) code on July 1, 2004.



Also, the chemical industry formally announced that from July 1, 2002 Safety and Quality Assessment Scheme (SQAS) - Marine Packed Cargo (MPC) audits would be required for ships carrying products of members of the European Chemical Industry Council (CEFIC) (including the Royal Dutch/Shell Group, BP p.l.c., Exxon Mobil Corporation, and the Dow Chemical Company) loaded as MPC (mostly container ships) and the management companies of such ships on a contract basis. IACS accepted a request by the Chemical Distribution Institute (CDI) to provide ISM auditors to carry out such audits. As a result, the Society has also begun to prepare to undertake CDI-MPC audits of companies and ships.

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### CAPE SALVIA

A 172,559 dwt bulk carrier constructed by NKK Corporation (now Universal Shipbuilding Corp.) for Casa Shipholding S.A.

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## ASSESSMENT AND REGISTRATION OF QUALITY SYSTEMS MANAGEMENT

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The Society is committed to promoting and implementing quality management systems. A series of presentations on the ISM Code, ISO 9001 and ISO 14001 entitled, Technical Presentation on Integrated Safety/Quality/Environmental Systems, were given in Singapore, Piraeus, Cyprus and Istanbul. In 2002, 53 organizations were assessed and registered under the ISO 9001 standard bringing to 321, the total



number of organizations assessed and registered under the ISO 9001 standard. In addition, 14 organizations were assessed and registered under the ISO 14001 standard, bringing to 41 the total number of organizations assessed and registered under this standard.

#### CLASSNK'S QUALITY ASSESSED

##### IACS QSCS Annual Audit

Annual audits were carried out at 12 locations of the Head Office and at five locations overseas based on the fourth issue of the IACS QSCS. Vertical Contract Audits were also carried out on the surveys of 12 ships. NK continued to be recognized as conforming to the IACS QSCS. In addition, an audit of the Head Office, based on the fifth issue of the IACS QSCS, was carried out on a voluntary basis at the same time. Three observers participated from the Japanese Ministry of Land, Infrastructure and Transport.

The first SGS Surveillance after the 2nd renewal audit conducted in accordance with certification based on ISO 9001:1994 was carried out at six locations at the Head Office and 12 survey offices. Maintenance of certification was verified (May through July 2002).

The second SGS Surveillance after the 2nd renewal audit conducted in accordance with certification based on ISO 9001:1994 has begun (from October 2002).

##### BRILLIANT STAR

A 48,635 dwt bulk carrier constructed by The Hakodate Dock Co., Ltd., for I.M.A. Lines Co., S.A.



#### TRAINING

New IACS and international requirements regarding the qualification of exclusive surveyors have meant a significant increase in the demand for exclusive surveyors. In response to this and as part of the regular program, Training for Appointment of Surveyors was conducted for 76 new exclusive surveyors, including 29 non-Japanese surveyors, who recently joined the Society. Training also included non-destructive test training and diesel engine factory practice. In addition, refresher courses were provided for 18 mid-level exclusive surveyors dispatched from domestic and overseas branch offices. The aim of the course was to update and enhance the standard of the participants' knowledge, as well as to resolve any problems and correct any questionable, inadequate or incorrect understanding the participants might have had as surveyors.

Training for provisional ISM auditors was conducted once for surveyors from overseas branch offices and twice for surveyors from domestic branch offices and Head Office. A total of 36 surveyors successfully completed the training. In addition, three members of the Ship Survey Department of the Japanese Ministry of Land, Infrastructure and Transport, Maritime Bureau also undertook the training.

As part of an ongoing international cooperation program, training was carried out for ship surveyors from the Vietnam Register on subjects such as IPCA, materials and welding surveys, and newbuilding surveys. The training was undertaken in the Hull Department as well as on-site at the NK Pusan and Haiphong Branch Offices.

At the request of the Japan International Cooperation Agency, the Society prepared and presented two lecture courses on ship surveying, in training conducted by the Overseas Shipbuilding Cooperation Center for trainees dispatched from developing countries. The courses



were entitled, Group Training Course in Shipbuilding and Quality Management Systems, and Group Training Course in International Maritime Conventions and Ship Safety Inspections.

Also, at the request of the Tokyo MOU Secretariat, the Society also conducted a lecture on SOLAS and MARPOL at a training session given by the Secretariat for port state control officers in the Asia Pacific region.

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## GENERAL

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As mentioned elsewhere, in response to IACS measures to enhance surveys, that came into effect on July 1, 2001, and to continue efforts from the previous year to strengthen and build up the overseas survey network of the Society, 23 people were newly appointed as ship surveyors in other countries during the year. A resident surveyor was also arranged in Melbourne under the Sydney office. As a result, the total number of surveyors of the Society reached 615, with 69 exclusive surveyor offices in 39 overseas countries. In addition to their regular work, selected highlights of activities of interest in various departments are described below.

A surveyor from the Machinery Department was sent for two months as a short-term expert of the Japan International Cooperation Agency to the Philippines, where he provided guidance on matters aimed to help improve the ship survey ability of surveyors and others there.

Another surveyor from the Machinery Department attended the approval of the use of the HiMSEN engine produced by Hyundai Heavy Industries Co., Ltd., the first diesel engine to be completely designed and built by a South Korean manufacturer.

The world's first class approval was given for higher strength hull steel plates with Fatigue Crack Arrestability (FCA). The FCA steels, developed by Sumitomo Metal Industries, Ltd., provide superior crack propagation resistance, improving structural integrity for



fatigue fractures. The new steels have already been successfully applied in the construction of an NK-classed 35,000 m<sup>3</sup> LPG carrier built by Mitsubishi Heavy Industries, Ltd.

The printing of hard copies of the *Register of Ships* was discontinued. With the discontinuation of the printed version, the full data normally published in the Register has been better incorporated into the hitherto existing CD-ROM version, while the search function of the CD-ROM has been enhanced. In addition, the data is now offered through the Web version of the Register of Ships.

Numerous fatigue analyses were carried out for Condition Assessment Program (CAP) surveys and the preparation of CAP reports for a total of 19 single-hull tankers (including two LPG carriers) for the year.

There was a significant increase in the number of applications for CAP surveys (almost double the previous year). The Society's CAP was approved by Statoil ASA, Petroliam Nasional Bhd (Petronas) and BP.

Appraisal work was commenced with respect to the International Convention on the Control of Harmful Anti-Fouling Systems on Ships.

### NORDPOL

A 77,195 dwt bulk carrier constructed by Toyohashi Shipbuilding Co., Ltd. (former company name Kanasashi Co., Ltd.), for Wealth Line Inc.

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## RESEARCH INSTITUTE ACTIVITIES

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Ship classification has always been a complex and difficult job, influenced by a wide range of qualitative as well as quantitative factors. As ship classification has developed, it has become more quantitative and less qualitative, and class societies have become more and more technically based. Since its establishment in 1955, the ClassNK Research Institute has devoted much of its energies to research and development aimed at developing the soundest scientific underpinning for the Society's Rules. Currently the Research Institute has a wide range of projects, just some of which are described below, that aim to not only develop the soundest scientific underpinning for the Society's Rules, but also to help make the Rules and the process of their development more transparent and easy to understand for everyone.



The results of the year's labors are usually presented at the Annual Technical Research Seminar, which was held at the Nippon Kaiun Club in November, with some 150 persons in attendance.

The R&D activities of the

Research Institute in 2002 included the following:

- In the second year of the second three-year project researching wave loads, the research has been quite fruitful in the development and improvement of wave load estimation software, with the non-linearity and three-dimensional effects of the load taken into consideration.
- In the second year of a three-year project, a study into the impact load on ship structures, particularly with container carrier bow structural features in mind, has clarified certain parameters which need to be re-evaluated upon tank experiment results.

A previously developed computer program for sloshing load estimation has been improved for better precision and a simplified estimation formula for estimating sloshing load has also been developed.

- Research on the practical application of fatigue strength evaluation in the last year of a three-year project resulted in the "Guidelines for Fatigue Strength Assessment" in the "Guidelines for Bulk Carrier Structures" (August 2002), which followed the tanker version issued in the previous year.
- A three-year research project on the practical application of buckling/ultimate strength evaluation was completed, resulting in the "Guidelines for Direct Strength Analysis" in the "Guidelines for Bulk Carrier Structures" (August 2002), with its buckling strength evaluation standard developed. The project also successfully drafted a simplified estimation formula for the ultimate strength of a stiffened plate panel.
- The three-year research project on the reliability of in-service marine diesel engines was completed. Based on the results of in-service ship measurements the research showed that harmful wear of cylinder liners can be detected by means of monitoring engine vibration. The researchers also studied the mechanism of scavenging air space explosions in diesel engines, based on the results of numerical analysis and measurements on in-service marine engines, in order to establish measures to prevent those explosions, as the background for developing new rules.
- A three-year research project into the combustion characteristics of marine heavy fuel oil and wear diagnosis of slip-bearing surfaces of internal combustion machinery commenced in 2002. As the first stage of this research, the reliability of a combustion test device, in particular an FIA (Fuel Ignition Analyzer), in identification of ignitability and combustibility of heavy oils was proven.

With regard to diagnosis of wear of cylinder liners and piston rings, a watch-keeping method for monitoring wear particles in the oil phase was studied with related experiments executed.

- The research into the functional characteristics of shipboard equipment was extended by an additional year from the original two-year research schedule. The research followed the previous year's effort in the study of the most effective geometry of fire detector probes in engine rooms. The research conducted numeric simulations and fire experiments using a real ship's engine room to reach to a better understanding of the relationship between the location of the probes and the ventilation arrangement.
- In order to improve the precision of calculations of main propulsion shafting systems, the second year of research of the three-year project on methods of assessment of structural strength of diesel motors successfully established a method to model a complex crank shaft as a round bar having equivalent bending characteristics to a crank shaft. An FEM model of an engine room was developed for the purpose of analyzing its structural deformation under various draft conditions.
- Research into materials for shipboard machinery, in the fourth year of a five-year project, undertook crack propagation analysis on crankshaft steel material with an inclusion as the initial defect, considering its size effect. Through the research, it was confirmed that a fatigue limit still exists, and a method for the assessment of ultra-high cycle fatigue strength of the material was established.
- A new research project into corrosion of hull structural materials commenced. Data on how corrosion would develop was collected, regarding hull structure on which corrosion pits were

observed. Very basic data was collected on the strength properties of the materials under axial force, either tension or compression, using specimens from real hull structures, having been found corroded, or those with artificially made corrosion-like pits.

- The research into practical application of Formal Safety Assessment (FSA) was in the final year of its four-year research period. The assessment is already at the stage of actual practical application at IMO and IACS, where ClassNK was given opportunities to contribute.
- The Society is also actively cooperating in R&D activities with an informal grouping of other Asian societies. The second meeting of the JRP-MG (Joint Research Project) was held at the Head Office of CCS in Beijing in May. At this session, CCS, KR, IRS and NK discussed the results of research done during the first year of the second term (2001) of the Joint Research Project (JRP) by the societies on the themes of wave loads (JRT-WL), corrosion wastage (JRT-C/W), and FSA (JRT-FSA), as well as on the specifics of how research should proceed during the present year (2002). Each research team (JRT-WL, JRT-C/W, and JRT-FSA) proceeded with their particular research activities in accordance with their respective research programs. JRT-WL and JRT-C/W each held their second meetings at the Head Office of CCS in Beijing. The Asian Classification Societies (ACS) member societies were able to discuss and reach agreement on some themes common to both corrosion wastage and wave loads. This was a significant step toward the goals of the group. An overview and main results of the research activities carried out by each research team during the year were presented at the 10th ACS summit meeting of the four Asian societies held at the Shanghai Office of CCS in November 2002.



# NK Around the World:

“...the number of employees of the Society has grown to more than 1,000 people and the number of exclusive surveyor locations overseas has also grown, reaching 69.”

Chairman and President K. Ogawa



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## JAPAN

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The 2002 ClassNK Technical Seminar series was held at six locations in Japan, including Tokyo. It included an overview of revisions to the Rules, technical topics (Guidelines for Bulk Carrier Structures) and criteria for evaluating the fatigue strength of longitudinal frames as well as guidelines on FPSOs. The seminars also covered equivalent shaft diameter for crankshaft rigidity, and lifeboat accidents. Presentations were also given at the 2002 ClassNK Technical Research Conference, held at the Nippon Kaiun Club, on the relationship between combustion time and various elements of heavy marine fuel oil, very-high cycle fatigue strength assessment of low alloy steel for crankshafts and research on actual conditions of corrosion and strength of the cargo hold frames of bulk carriers. The conference also focused on actual ship measurement of electromagnetic waves during voyages and the PrimeShip-HULL direct strength analysis system.

During the year, a wide variety of other Seminars/ Lectures was presented including:

- Lectures on the appraisal of the combustibility of marine fuel oil and general hull damage at an informal gathering of insurance companies in Tokyo for hull insurance claims adjusters of non-life insurance companies
- A lecture at the 68th annual meeting of the Japan Institution of Marine Engineering in Kobe on The Influence of an Engine Propeller's Free Rotation upon the Prediction of a Ship's Stopping Ability
- A presentation on FPSO Guidelines at PACON 2002 (Pacific Congress on Marine Science and Technology) in Makuhari, Chiba
- Lectures on the Estimation of Buckling and Ultimate Strength of Rectangular Plate with Cutout at ISOPE 2002 (12th International Offshore and Polar Engineering Conference) in Kokura, Kyushu



- Seminar Descriptions of ETAS and CAP at the OCIMF Kyoto APT Forum (Asia Pacific Terminal Forum) in Kyoto
- Seminar papers at the 3rd Conference for New Ship and Marine Technology in Kobe, which was a part of the Asia Pacific Maritime Congress (APMC)

### SANTA VITORIA

A 75,966 dwt bulk carrier constructed by Tsuneishi Shipbuilding Co., Ltd., for Compania Flor de Vapores, S.A.

Port State Control (PSC) has recently become a matter of great concern to shipowners. In addition, the ISM Code has been in full-scale effect since this past July, and PSC is placing ever greater emphasis on the safe management of ships. Therefore, PSC seminars were held in November at three locations in Japan (Tokyo, Kobe and Imabari), with more than 300 people attending. The aim of the two-part seminar was to convey up-to-the-minute information to persons concerned with PSC and to draw attention to the need to improve the effectiveness of ship management practices and crew training to avoid unnecessary detentions, delays in ship sailings and the like. Many front-line managers from ship management attended.





#### MARITIME KAPAR

A 74,222 dwt bulk carrier constructed by Namura Shipbuilding Co., Ltd., for Rosa Maritime S.A.

#### MS CHIKYU

The launching ceremony of the MS "Chikyu" being built for OD21, the deep-sea scientific drilling program (courtesy of JAMSTEC)



#### Part 1 included:

- The current state of implementation of PSC around the world
- The main points of IMO Resolution A.787 (19) on PSC procedures
- Examples of hardware deficiencies pointed out by PSC

#### Part 2 included:

- The present state of PSC with respect to the ISM Code and proper safety management as suitable countermeasures thereto
- Case studies of ISM-related deficiencies.

On July 1, the Osaka and Kobe Branches merged to form the new Kobe Branch office, which should make the Society's business activities in the area more effective.

In ISM-related activities, the Society granted DOCs for ISM Code compliance to 64 companies, and the total number of ISM DOCs issued in Japan reached 357.

In ISO-related activities, the Society granted ISO 9001 certification to 49 companies, ISO 9002 to one company and ISO 14001 certification to 14 companies.

In other regular business, there was a large number of approvals for manufacturers including:

- Kobe Steel, Ltd., Kakogawa Works
- Shinko Wire Co., Ltd., Wire Rope Division
- The Furukawa Electric Co., Ltd., Fukui Works Light Metals Group
- Nakashima Propeller Co., Ltd.
- Tokyo Seiko Rope Mfg. Co., Ltd.
- Shimizu Steel Co., Ltd., Utsunomiya Plant
- Tohkai Shipbuilding & Engineering Co., Ltd.
- Imabari Shipbuilding Co., Ltd., Toyo Works
- Tokyo Rope Mfg. Co., Ltd., Izumizano Works

Several firms received approval as in-water survey firms including:

- Fukada Salvage & Marine Works Co., Ltd., Kanto and Osaka Branches
- Japan Marine Inc.
- Kondo Kaiji Co., Ltd.
- Pagrus Company

Anan Denpakogyo Ltd. was authorized as a radio-service company and Shin Kurushima Engineering Co., Ltd., was authorized as a thickness measurement firm. The major maritime exhibition SeaJapan 2002 was held from April 10 through 12 at the Tokyo Big Site international exhibition hall in Tokyo, where



the Society had a booth. The event was an excellent opportunity for the Society to present its wide range of expanded services, which incorporate the newest developments and enhancements in both the core technologies of class and the latest in information technology. A presentation on the new direct strength analysis system used in the *Guidelines for Tanker Structures*, released in November 2001, was given at the new technology seminar at SeaJapan 2002.

## THE AMERICAS

In **ARGENTINA**, regular survey activity was steady, at 190 surveys for the year. There were two company DOC annual endorsements and 15 shipboard initial and intermediate audits. The Buenos Aires office was also engaged in the newbuilding survey of the second bulk carrier of 27,000 dwt, in a series of three sister ships contracted by Calanda Shipping Co. with Astilleros Rio Santiago, a local shipyard. The keel was laid in April 2001 and delivery is expected in July 2003. The third ship's keel laying and delivery are also scheduled for August 2003 and December 2004, respectively. The Society approved launching appliance(s) from Ing. Nestor J. Episcopo.

In **BRAZIL**, the Rio de Janeiro office, NK do Brasil Ltda. was authorized as a recognized organization to be able to act on behalf of the Brazilian Administration until November 10, 2004. The number of survey applications, including audits, increased 25% from the previous year.

In **CANADA**, the number of ship surveys in the Vancouver office decreased considerably, especially in summer, though a number of technical seminars for owners in Vancouver were carried out in June. All-Sea Enterprise East Ltd. and Divex Marine Inc. were authorized as in-water survey firms. CMC Electronics Inc., Dartmouth, and Radio Holland (Canada) Ltd. were authorized as Radio service companies. Conam Marine Services Division was authorized as a thickness measurement firm.

The number of surveys carried out in the Valparaiso office, **CHILE**, increased around 10%. An additional exclusive surveyor was employed, and the office moved to larger premises.

In **PANAMA**, the number of surveys carried out increased 33%.

### CHEMSTAR HERO

A 19,836 dwt oil/chemical carrier constructed by Fukuoka Shipbuilding Co., Ltd., for Sun Light Marine S.A.





In **PUERTO RICO**, Caribbean Radio & Telephone Inc. was authorized as a radio-service company.

At 159, the number of surveys in Los Angeles, **THE UNITED STATES**, was approximately the same as last year, as follows:

- Class Surveys: 87
- Statutory Surveys including ISM Audit: 34
- Attestations: 9
- Equipment and Material Surveys: 3

#### SUNBELT SPIRIT

A 60,587 gt refrigerated cargo/vehicles carrier built by Sumitomo Heavy Industries Ltd. for Great American Lines, Inc. and managed by Fairfield-Maxwell Services, Ltd.

Mackey Marine of Los Angeles was authorized as a radio-service company. Also, approval was granted for the Standardized Drawings of reduction gear from Twin Disc Incorporated. The Society approved diesel engines and their Standardized Drawings from Cummins Marine, Columbus, and the Columbus Engine Plant of Cummins Inc. was approved as an

approved manufacturer. The Society also approved diesel engines from Cummins Marine, Cummins Industrial Center, and Seymour. The number of surveys carried out during the year in New Orleans increased 10%, and a presentation was given on PrimeShip-HULL at the Tanker Forum WG in New Orleans. The New York office surveyed about 260 existing ships, as usual, but this included a SS with DS, which was carried out for the first time in about 10 years in the New York area. New York also noted that inspections by the USCG are becoming increasingly severe. At 31, equipment surveys were up slightly. In Seattle, air winches for the Riser Drilling Vessel *MS Chikyu* for the OD 21 project, were inspected at Ingersoll-Rand Company Limited.

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#### ASIA AND OCEANIA

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In **AUSTRALIA**, the Society granted DOCs for ISM Code compliance to Botany Bay Shipping Services Co., Ltd. The number of surveys during the year in Sydney was consistent with previous years, at about 270. They included a dry dock survey on the passenger ship *Clipper Odyssey* over nearly two weeks at the Forgacs Dockyard in Newcastle in December. In May, Managing Director Mr. N. Ueda and Mr. Y. Kozeki, a manager of SVD, visited AMSA in Canberra to present a report on PSC and exchange views as part of the PSC activities of the Society. A presentation was given on Experimental Research on Explosions in the Starting Air Manifold of Diesel Engines at AUSMARINE WEST 2002 held in Fremantle.





In **CHINA**, the Society approved the manufacturing process for the following:

- Propeller casting(s) from Penglaim Shunda Shipbuilding Co., Ltd.
- Steel casting/forging(s) from Angqing Marine Diesel Engine Plant
- Chain accessories from Laiwu Steel Group, Zipo Anchor Chain Co., Ltd.
- Steel casting/forging(s) from Hangzhou Steam Turbine & Power Group Co., Ltd.
- Rolled steel from Angang New Iron and Steel Co., Ltd.
- Propeller casting(s) from Yuanghang Propellers Manufacturing Co., Ltd.

Individual approval was granted for lifeboats from Wuxi Haihong Boat Making Co., Ltd.

Approval of Materials was granted for:

- The raw textiles for synthetic fiber ropes from Kunshan Shanhui Synthetic Fibre Products Co., Ltd.
- Welding consumables from Dandong Golden Elephant Welding Electrode Factory

The Society approved the use of high-velocity vent/vacuum relief valve fitted with flame screen(s) and flame screen(s) from Se-Won Industries Co., Ltd., and air pipe head(s) with floating disks from Changzhou Hui Feng Marine Accessory Works. The Society also approved launching appliance(s) from Sheyang Oceangoing Marine Auxiliaries Co., Ltd. Yantai Shunda Ocean Engineering Service Co., Ltd.,



was authorized as an in-water survey firm. In ISM-related activities, the Society granted DOCs for ISM Code compliance to Fujian Da Zhong Shipping Co., Ltd. In Beijing, presentations on PrimeShip-HULL were held at COSCO Head Office, Tianjin and Xingang Shipyard. In Dalian the total number of surveys for existing ships (103) increased about 50%, including the inspection of nine older capesize bulk carriers in dry dock. The office also supervised the construction of a 361 gt tug boat, at Changxing Shipyard. There was also a 50% increase in Docking Surveys. CAP surveys were conducted for three chemical tankers. At 70, inspections for equipment and materials increased slightly. At Dalian Shipyard, a technical lecture on Suezmax Tankers was given in January, followed by a lecture on Panamax Tankers in September. Technical presentations on PrimeShip-HULL focusing on tankers were given at Buohai Shipyard, Dalian Shipyard, COSCO Dalian and Dalian New Shipyard in July. The number of ship surveys in Qingdao also increased 1.7 times and the number of inspections of equipment increased 1.5 times.

#### NAVIOS STAR

A 76,662 dwt bulk carrier constructed by Imabari Shipbuilding Co., Ltd., for Sun Lanes Shipping S.A.

#### MOL PRIORITY

A 74,453 dwt container carrier constructed by Ishikawajima-Harima Heavy Industries Co., Ltd., (now IHI Marine United Inc.), for Sunny River Line S.A.



A presentation to ship-owners and shipyards in Nanjing region of China on chemical tankers.





#### OCEAN PRINCESS

A 52,382 dwt bulk carrier built by Tsuneishi Shipbuilding Co., Ltd., for Ocean Princess International Inc. and managed by Ocean Longevity Shipping and Management Co., Ltd.

In December, a technical staff member from the Hull Department gave a presentation to shipowners and shipyards from the Nanjing and Shanghai regions of China on chemical tankers. His presentation included points requiring special attention concerning the use of stainless steel and/or clad steels for tank structures. There was great interest in the presentation, with a very active Q&A session afterwards on many of the important points concerning the design, construction, and operation of such ships.

As elsewhere, in Shanghai the number of ship inspection during the year increased about 40%. A 392 gt pusher, the *Takumi Maru*, for a 7,500 dwt cement barge was constructed to NK Class at Chengxi Shipyard. The office also undertook technical supervision for a 20,000 dwt caisson dock at Jingjiang SUMEC Shipyard. A Symposium on Rules, Regulations, Bulk Carriers/Tankers etc., organized by MARIC (Marine Design and Research Institute of China), was held in Shanghai in October. The symposium is held each year for senior engineers and senior researchers and for various members of the Chinese maritime industry. At the symposium, Dr. Zhu of the NK Research Institute gave a presentation entitled, On the Strength Evaluation of Bulk Carrier Structures. Since the presentation not only introduced a very advantageous design methodology for bulk carrier structures from a technical viewpoint but also covered



Hong Kong Winter Technical Seminar

many other topics, a very lively question and answer session followed the presentation. Technical presentations on the New Guidelines for tanker and bulk structures were held in May and July, and on PrimeShip-HULL in October and November. A separate technical presentation on bulk carriers was held in June. Cheng An Wei Ship Technology Detected Company of Guangzhou and Dalian Sun's Ship Safety Technical Service Co., Ltd., were authorized as thickness measurement firms.

The Society granted Type Approval for:

- Cable from Yangzhou Guangming Cable
- Stern tube bearings from Shanghai Poly Science
- Lifeboat(s) from Jiangyinshi Beihai LSA Co., Ltd.
- Division(s) as fire protection equipment from Jiangyin Huangshan Marine Fitting Co., Ltd.
- Division(s) as fire protection equipment from Taichang Paien Pneumatic Equipment Works

Type/Individual Approval was granted to launching appliance(s), lifeboat(s) and rescue boat(s) from Qingdao Beihai Shipbuilding Heavy Industry Co., Ltd., lifeboat(s) from Jiangyin Xinjiang F.R.P. Co., Ltd., and lifeboat(s) from Jiangyin Neptune Marine Appliance Co., Ltd.

NK **HONG KONG** was invited to a Maritime Strategic Forum jointly organized by the Hong Kong Port & Maritime Board in February. It also participated in an international seminar on Tanker Safety, Pollution Prevention, Spill Response and Compensation organized by ITOPE, INTERTANKO and OCIMF in November. An NK technical presentation on bulk carrier safety issues highlighting damage to side framing was given to the Industry/IACS/ JWG/BCS Asia meeting and the INTERCARGO CASTEC (Cargo Ship Owners Technical Committee) meeting held in March. Two semiannual technical seminars were held. At the summer technical seminar, lectures

were given on PSC & Quality Ships and the latest activities of the IMO and IACS. At the winter seminar, presentations were given on Main Bearing Damage of Two-cycle Engines and Explosions of Starting-air Pipes, as well as Recent Activities of the IMO, focusing on the new SOLAS requirements. In regular business, the Society issued new DOCs for ISM Code compliance to Janfield Shipping Limited.

In **INDIA**, a presentation was given on the PrimeShip-HULL direct strength analysis system at SHOT 2002 (International Conference on Ship and Ocean Technology) in Kharagpur. The Society approved welding consumables from Advani Oerlikon Limited. Ashapura Marinotech International and Queens Radio & Television Corporation (Sri Lanka) were authorized as a radio-service companies. Ultramarine Services was authorized as a thickness measurement firm.

In **INDONESIA**, surveys increased about 20%, as did technical consultations, including 31 underwriter Surveys. The Society granted DOCs for ISM Code compliance to PT. Alpha Pacific Lines and to PT. Tarunacipta Kencana.

In **KOREA**, the Society approved the manufacturing process for steel casting/forging(s) from Korea Lost-Wax Co., Ltd., steel casting/forging(s) from Palmi Metal Ind. Co., Ltd., steel pipe(s) from Sungwon Pipe Co., Ltd., and steel casting/forging(s) from Hab Sim Cast Steel Co. The Society approved emergency towing arrangement(s) from SeaJin Industrial Co., Ltd., and emergency towing arrangement(s), high-velocity vent/vacuum relief valve(s) fitted with flame screen, pressure/vacuum valve(s) fitted with flame screen and flame screen(s) from Tanktech Co., Ltd. Standardized Drawings were approved for an air cooler from Dong Hwa Entec, and Individual Approval was granted for launching

appliance(s) from Dae Ryuck Machinery Co., Ltd., as well as launching appliance(s) from Oriental Precision & Engineering Co., Ltd. Hansol Gauging Engineering Co., Ltd., was authorized as a thickness measurement firm and Type Approval was granted for the following:

- Flameproof type electrical equipment from Kudong Elecom
- An A.C. electromagnetic contactor from LG Industrial Systems
- Cable from Jinro Industries Co., Ltd.

#### OCEAN EXPORTER

A 28,461 dwt bulk/lumber carrier built by Imabari Shipbuilding Co., Ltd., for Mirs Shipping (BV) Limited and managed by Indochina Ship Management (HK) Ltd.

#### KANG SHENG

A 52,828 dwt bulk carrier built by Onomichi Dockyard Co., Ltd., for Everbright Shipping Ltd., and managed by COSCO (HK) Shipping Co., Ltd.





**PEDOMAN**

A 903 gt buoy laying vessel constructed by Niigata Engineering Co., Ltd., for Director General Marine Department Peninsular Malaysia

**MOL PRECISION**

A 73,063 dwt container carrier constructed by Koyo Dockyard Co., Ltd., for Cypress Maritime (Panama) S.A.

- Diesel engine(s) from Hyundai Heavy Industries Co., Ltd.
- A tank level gauging transmitter from Pan-Asia Precision & Eng. Co., Ltd.
- Division(s) as fire protection equipment and non-combustible materials(s) from Byucksan Corporation, Yongdong Plant
- Division(s) as fire protection equipment from Daemmstoff-Industries Korea Ltd.
- Division(s) as fire protection equipment from Jung Gong Ind Co., Ltd.
- Division(s) as fire protection equipment from Kumgang Korea Chemical Co., Ltd.
- Division(s) as fire protection equipment from Schindler Elevator K.K.

- Division(s) as fire protection equipment from Sebo Tech Co., Ltd.
- Division(s) as fire protection equipment from WARTSILA Accommodation Systems Korea Ltd.
- Division(s) as fire protection equipment from BIP Industries Co., Ltd.
- Division(s) as fire protection equipment from Sung Mi Co., Ltd.
- Non-combustible material(s) and fire retardant surface flooring(s) from Kumgang Korea Chemical Co., Ltd.
- Fire retardant veneer(s) from Shin Sung Engineering & Architecture Co., Ltd.
- Primary deck covering(s) from Daehyup Co., Ltd.

In ISM activities, the Society granted DOCs for ISM Code compliance to Fine Ocean Marine Co., Ltd., and to Sejin Lines Co., Ltd.

In **MALAYSIA**, the ClassNK CAP program was recognized by Petronas.

In newbuilding activities in the **PHILIPPINES**, three bulk carriers of 52,300 dwt type were delivered at Tsuneishi Heavy Industries (Cebu), Inc., constructed to NK Class. ISM activities were also busy, and the Society granted DOCs for ISM Code compliance to:

- Bright Knight Management Incorporated
- Eastern Shipping Lines, Inc.
- Loadstar International Shipping Inc.
- Maine-Tech Shipmanagement Co., Inc.
- Pagasa Ship Management, Inc.
- Transnational Ship Management, Inc.
- VOM (Manila) Corporation

The Society also granted ISO 9001 certification for seafarer training to Maritime E-Training, Inc., and Matrix Explore Inc. was authorized as a thickness measurement firm. The Metaphil Division of Aboitiz Construction Group, Inc., was granted certification



for approval of a manufacturer for Deck Machinery and Marine Outfittings in July. This was the first such approval in the Philippines.

NK **SINGAPORE**, entered an agreement with the Maritime and Port Authority of Singapore, in accordance with IMO Res. A739(18). Tru-Marine Pte. Ltd. was approved as an approved manufacturer and Weldtech Marine Services Pte Ltd was authorized as a thickness measurement firm. Type Approval was granted for a tank pressure monitoring system from Valmet Instrumentation Pte Ltd. The Society granted DOCs for ISM Code compliance to NYK Shipmanagement Pte Ltd, Consort Bunkers Pte Ltd, and to VLK Traders (S) Pte. Ltd. The Society also granted ISO 9001 certification for shipping and ship management services of oil tankers, high-speed passenger craft and other cargo ships to Ocean Tankers (PTE) Ltd. Since October 2002, the Singapore Office has been organizing technical talks periodically to provide technical support and knowledge to the local maritime communities in Singapore. These technical talks have been held on subjects such as Pump room protection, Fuel oil piping arrangement, PrimeShip-HULL and the enhanced survey program and damage of main engines due to inadequate servicing. These technical talks were well attended by superintendents, executives and managers.

A new business agreement was concluded in April between NK and CR in **TAIWAN**. Technical presentations on ISO 14000 were held at Evergreen Marine Corporation. In regular business, Reson Electronics was authorized as a radio-service company. Gauging Enterprise Co., Ltd., was authorized as a thickness measurement firm, and the Society granted DOCs for ISM Code compliance to Asian Marine Co., Ltd.

Upon opening its new premises, the ClassNK Bangkok office in **THAILAND** held a technical seminar on



various topics including “Recent accidents due to inadequate servicing of main engines,” “Fire protection of high-pressure fuel injection piping and F. O. piping,” “Procedure and preparation for carrying out thickness measurements at Special Survey” and “Good Preparation for Docking Survey.” Mr. Somsak Sucondhaman, GM of the Bangkok Office, Mr. Y. Shibata, a lecturer from NK Singapore and staff of the Bangkok Office welcomed twenty participants from shipyards and shipping companies that are ClassNK clients in Thailand. A Second Technical Seminar jointly organized by ClassNK and the Thai Shipowners’ Association was held in November. ClassNK Managing Director Mr. T. Akahori and co-host Mr. Sumeth Tanthuwant (Chairman of the Thai Shipowners’ Association) welcomed the Director of the Thai Government Ship Survey Division, Mr. Pttaya Sroythong, Government Ship Surveyors and more than 130 distinguished guests from the Thai Maritime Community. They included the Port Authority of Thailand, transportation-related government organizations and authorities, shipowners, managers, shipyards, service companies and shipping agencies. ClassNK staff made presentations on “PrimeShip-HULL,” “Port State Control regarding the ISM Code year 2001,” “Introduction of AIS and VDR” and on “Lessons from Lifeboat Accidents.” In regular business, the Society approved fire retardant veneer(s) from Aeroflex International Co., Ltd. Surveyors from the Bangkok office also carried out surveys on mostly aged ships, as well as factory

#### ALPHA VENTURE

A 28,442 dwt bulk/lumber carrier built by Kanda Shipbuilding Co., Ltd., for Alpha Venture Maritime Corp. and managed by Sincere Industrial Corporation

inspections and ISM Code Audits at the various ports in Myanmar, Cambodia and Bangladesh.

NK Haiphong in **VIETNAM** had another busy year. On June 12, the last 6,500 dwt bulk carrier in a series being built at Bach Dang Shipyard for VOSCO, the *MV Vinh Hung*, was delivered. Also, one 2,500 dwt self loading coal barge and one 1,000 ps tug boat were completed and delivered to Singapore owners in August. A further five tugs and three barges will be completed and delivered at the beginning of 2003. Following the success of these newbuildings, Vietnam shipyards are looking to build even bigger ships. The first 11,500 dwt big dry cargo ship newbuilding at Bach Dang Shipyard for VINASHIN Shipping & Marine Service Company was delivered in December. NK Haiphong is currently classing a 12,000 dwt multi purpose dry cargo newbuilding under construction at Halong Shipyard for the same owner. The Society granted DOCs for ISM Code compliance to Nghi Son Cement Corporation and granted ISO 9001 certification for design and development, production, repairing and servicing of merchant vessels and vessels owned by governmental organizations to Bach Dang Shipyard.

#### EISHU

A 1,866 dwt caprolactam carrier constructed by Shin Kurushima Dockyard Co., Ltd., for Procyon Shipholding S.A.



## EUROPE

Bourgas Shipyards JSC was authorized as a thickness measurement firm in **BULGARIA**.

In **DENMARK**, the Society approved pressure/vacuum valve(s) fitted with flame screen from Pres-Vac Engineering A/S. Type Approval was granted for:

- Cable from Helkama Bica Oy.
- Diesel engines from MAN B&W Diesel A/S.
- Division(s) as fire protection equipment from Rockwool A/S
- An analog alarm annunciator from SELCO A/S

Type Approval was also granted for diesel engines from Wärtsilä Finland Oy, in **FINLAND**.

In **FRANCE**, the Society approved the manufacturing process of steel casting/forging(s) from Acieries Hachette & Driout. There were a number of industrial projects related to LNG ships in Marseilles, including type approval for valve(s) for low temperature services on liquefied gas carriers from VELAN S.A.S. About 95 industrial surveys were undertaken, significantly more than usual. About 280 ship surveys were also conducted. For the first time, a survey was undertaken by an exclusive surveyor in Algeria.

In **GERMANY**, the Society approved Standardized Drawings for:

- Reduction gear from Reintjes GmbH
- Turbo charger(s) from KBB Compressorenbau Bannewitz GmbH
- Starting air reservoir from Neuenhauser Kompressorenbau GmbH

Valkan Kupplungs-und Getriebbau B. Hackforth GmbH & Co., Kg became an approved manufacturer and the Society gave Individual Approval to:





- Launching appliance(s) from Davit International GmbH
- Launching appliance(s) from Ernst Hatecke GmbH
- Lifeboat(s) from Fr. Fassmer GmbH & Co.

Mass Produced Machinery approval was granted for diesel engine(s) from Deutz AG. Naussed & Partner GmbH & Co., and KG was authorized as a thickness measurement firm.

Type Approval was granted for:

- Alarm and safety systems for diesel engines from Dr. E. Horn GmbH
- Division(s) as fire protection equipment from Intermarco GmbH
- A special pipe joint from Rasmussen GmbH
- A flexible joint from Stenflex Rudolf Stender GmbH
- A thermocouple exhaust gas temperature sensor from SAB BRÖCKSKES GmbH & Co. KG, and a water level limiter and transmitter and water level control and safety system from GESTRA GmbH

In **GREECE**, the Society was very active in ISM-related activities granting DOCs for ISM Code compliance to: Paschal Holding Inc., Fairport Shipping Limited, Petrobulk Maritime Inc., Starfish Maritime Inc., Trust Shipping Enterprises Ltd., Marine Managers Ltd. and Argosy Shipmanagement Inc., Roswell Navigation Corp., Pleides Shipping Agency and Franco Compania Naviera SA. The number of ship surveys and inspections of equipment in Piraeus increased 10%. A technical seminar was held for shipowners in the Greek region, at which lectures were given on PrimeShip-HULL and the latest trends concerning bulk carrier safety and ISO 14001. In other regular business, A.D.D Ltd. Bureau, I.M.S. Ltd. (International Marine Surveyors) and Neorion New S.A. Syros Shipyards were authorized as thickness measurement firms. The Society participated in the international exhibition, Posidonia 2002, held in Piraeus at the Piraeus

Exhibition Centre from June 4 through 7. Posidonia 2002 was the largest ever in the history of this maritime exhibition. The surveyors and office staff of the NK Piraeus Office were at the booth each day to greet and take care of the many visitors to the stand. It was a good opportunity for the Society to promote itself to the shipping world. Chairman and President Ogawa visited Piraeus with his wife and worked to strengthen relations with clients of the Society. Mr. S. Ogawa, General Manager of BND, also accompanied him and attended the exhibition.

In **ITALY**, a type approval test was carried out on the Wärtsilä (Sulzer) RT-flex electronic control diesel engine (the first such electronically controlled marine low-speed engine in the world) in the presence of a surveyor of the Machinery Department of the Society. The electronic control engine eliminates the camshaft. The Society also approved the manufacturing process of steel casting/forging(s) from Teksid Iron Business Unit. The Society participated in the annual seminars on class matters and the ISM Code given for newly approved PSC officers at the Genova General Command of the Coast Guard. The Genova office noted an increase in the number of surveys and ISM audits in the whole territory and an increase in SS/DS in Malta. There was also an increase in the number of inspections on behalf of the Japanese Government for Geisunger Couplings (Salzburg), T/C made by ABB.



#### ALITIS

A 53,094 dwt bulk carrier built by Imabari Shipbuilding Co., Ltd., for Colosseo Shipping Ltd. and managed by Empros Shipping Management S.A.

#### YASA KAPTAN ERBIL

A 52,455 dwt bulk carrier built by Tsuneishi Heavy Industries (Cebu) Inc. for Yasa Denizcilik Sanayi Ve Ticaret A.S.

Paolillo Studio Tecnico Navale S.r.l. was authorized as a thickness measurement firm and type approval was granted for ACB and MCB from ABB Sace and flexible metal hose from Chibro S.p.A.

There were a number of type approvals in **NORWAY** including for:

- A launching appliance and lifeboat(s) from Umoe Schat-Harding AS
- An industrial monitor, maritime multi monitor and maritime multi display from Jakob Hatteland Display AS
- A wireless temperature monitoring system and pressure transmitter from Kongsberg Maritime Ship Systems AS

The Society also approved emergency towing arrangement(s) from Scan Rope a/s, and gave individual approval to lifeboat(s) from Norsafe AS. Four offshore cranes, including equipment and two-man rider baskets (Stabbing baskets), were certified at Hydralift ASA, Kristiansand for delivery to the Riser Drilling Vessel MS Chikyuu for the OD 21project. In Oslo, a lecture was given at OMAE 2002 (21st International Conference on Offshore Mechanics and Arctic Engineering) on the “Consideration of Wave-Induced Loads for Direct Strength Calculation under Extreme Waves.”

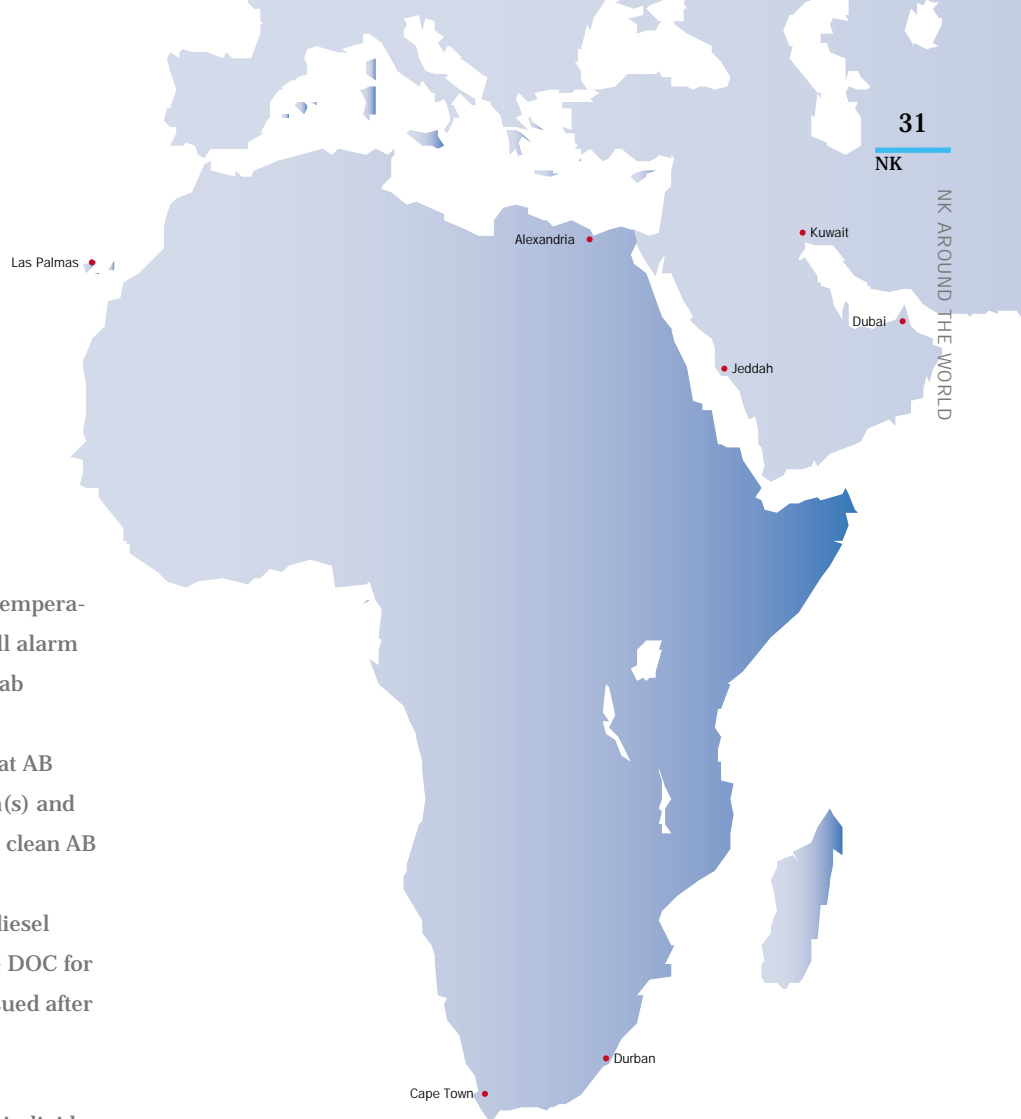
The number of ship surveys, shipboard audits and industrial inspections remained approximately at the same level as the previous year in **POLAND**.

However, in **PORTUGAL** NK Lisbon’s activities for surveys of existing ships increased considerably. Turnover doubled, with many ships dry-docked or repaired in shipyards (mainly oil tankers/BC/Reefers-SS & IS) and a consequent increase in the time of surveyors’ attendances.

In **ROMANIA**, S.C. Dias Ultra Test S.R.L. was authorized as a thickness measurement firm.

In **SPAIN**, the Society approved the manufacturing process of steel casting/forging(s) from Forging Products S.A.

A presentation was given at a Tribon User’s Meeting in Malmo, **SWEDEN**, on the FEM interface for Tribon that is integrated with PrimeShip-HULL. A paper was presented on the PrimeShip-HULL direct strength analysis system at ICCAS 2002 (International Conference on Computer Applications in Shipbuilding), also in Malmo. The Society approved Standardized Drawings of a plate heat exchanger from SWEP International PHE AB.



Type Approval was granted for:

- A level gauging system comprising level, temperature, pressure high-level alarm and overflow alarm and cargo monitoring and control from Saab Marine Electronics AB
- Fire retardant veneer(s) from SSAB Tunplat AB
- Sample extraction smoke detection system(s) and crude oil washing machine(s) from Scanjet clean AB

In **SWITZERLAND**, the Society approved diesel engines from Wärtsilä Switzerland Ltd. The DOC for Shipmanagement Reederia Zurich was reissued after a renewal audit.

In **THE NETHERLANDS**, the Society gave individual approval to launching appliance(s) from Maritime Design Office BV. It gave Type Approval to division(s) as fire protection equipment from Beele Engineering B.V.

The number of ship surveys in **TURKEY** increased about 50%. ISM activities were also busy, with the Society granting DOCs for ISM Code compliance to Adriyatik Gemi Isletmeciligi Ve Ticaret A.S., Ufuk Deniz Gemicilik Ticaret Limited Sirketi and to Sagbas Kum-Cakil Nakliyat Taahhut Ve Ticaret A.S. Also in Istanbul, a technical presentation on ISO 9002 and ISO 14001 was held in December for 36 participants from 20 companies.

There were two approvals for mass produced machinery in the **UNITED KINGDOM**, for diesel engines from Cummins Engine Co., Ltd., in Daventry, and for diesel engines from Cummins Marine, in Darlington. The Society granted Type Approval for intrinsically safe type electrical equipment from M.T.L., a viscosity and density transducer from Solarton Mobrey Limited, fixed fire detection and alarm system(s) from Thorn Security Limited, and color display(s), small form factor PCs and personal computer(s)

from Mariner Systems (UK) Ltd. The Society also granted DOCs for ISM Code compliance to MOL Tankship Management Ltd. A surveyor from the Offshore Technology Division gave presentations and lectures on FSA at the IMO, various international conferences, and to The Royal Institution of Naval Architects (RINA) in the United Kingdom.

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## MIDDLE EAST AND AFRICA

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NK Alexandria in **EGYPT** experienced an increase in job orders (class & statutory surveys & Company/-SMC Audits), especially for overseas job orders. They also continued the training program for Syrian Government Inspectors on Flag & PSC inspections.

There was an increase in number of ship surveys carried out by NK **KUWAIT** surveyors in 2002, to 120 ships. This number included surveys carried out in ship repair yards in Bahrain, statutory surveys in Pakistan and some surveys in Saudi Arabia, Qatar and other countries. Technical services were also proffered to shipowners in Kuwait including Kuwaiti Saudi Co.





#### KOTA GEMAR

A 37,115 dwt container carrier built by Shin Kurushima Dockyard Co., Ltd., for Kota Gemar Limited and managed by Pacific International Lines Pte. Ltd.

#### SUEZ CANAL BRIDGE

A 71,359 dwt container carrier constructed by Hyundai Heavy Industries Co., Ltd., for CL Port Said (Panama) S.A.



#### ATCO SHARIFA

A 469 gt patrol boat constructed by NKK Corporation (now Universal Shipbuilding Corp.) for Atco Marine Services and managed by A.A. Turki Corporation

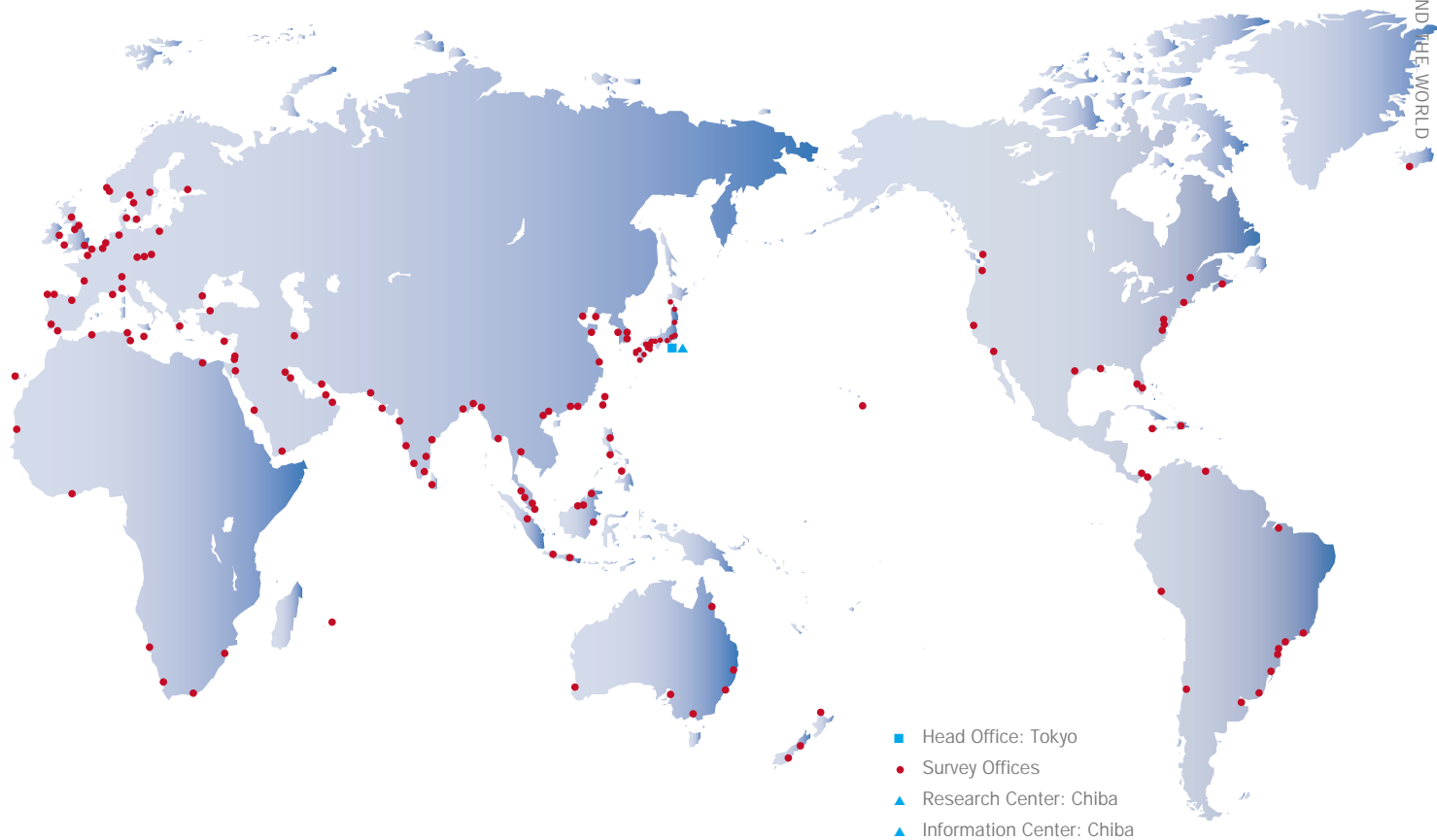
In **OMAN**, the Society granted DOCs for ISM Code compliance to MO LNG Transport Agency Ltd.

**SOUTH AFRICA** was busy, with the number of ships surveyed increasing 50% in Cape Town. In Durban, surveys and audits on existing ships increased 29%. From November 15, 2002, the Durban office took over responsibility from the London Office for all surveys in West Africa from Mauritania in the north to Congo in the south.

The Society had its own booth at GasTech 2002 exhibition at the Qatar International Exhibition Center in Doha, **QATAR**. A conference was held concurrently at the center and the adjacent Sheraton Hotel. More than 130 companies had displays, and the exhibition attracted approximately 3,000 visitors over the four days. About 1,400 delegates attended the conference.

In **SAUDI ARABIA**, the number of class and statutory surveys and ISM audits increased slightly and the number of surveys undertaken by exclusive surveyors also rose.

The Society granted DOCs for ISM Code compliance to Altoun Shipping Company and to Mamari Shipping Company in **SYRIA**, as well as to Gulf Development Marine Services Co., Ltd., in the **UNITED ARAB EMIRATES**.



## EXCLUSIVE SURVEYOR OFFICES

### JAPAN

Aloi  
 Hachinohe  
 Hakodate  
 Hiroshima  
 Imabari  
 Innoshima  
 Kagoshima  
 Kitakyushu  
 Kobe  
 Kochi  
 Nagasaki  
 Nagoya  
 Okayama  
 Onomichi  
 Sakaide  
 Sasebo  
 Sendai  
 Shimizu  
 Tokyo  
 Usuki  
 Yokohama

### ASIA, OCEANIA AND THE MIDDLE EAST

Auckland  
 Balikpapan  
 Bangkok  
 Batam  
 Batangas  
 Beijing  
 Cebu  
 Chennai (Madras)  
 Chittagong  
 Dalian  
 Dhaka  
 Dubai  
 Fremantle  
 Guangzhou  
 Haiphong  
 Haiphong  
 Hong Kong  
 Istanbul  
 Jakarta  
 Jeddah  
 Johor Bahru  
 Kaohsiung  
 Koje  
 Kota Kinabalu  
 Kuala Lumpur  
 Kuwait  
 Manila  
 Melbourne  
 Miri  
 Mumbai (Bombay)  
 Pusan  
 Qingdao  
 Seoul  
 Shanghai  
 Singapore  
 Surabaya  
 Sydney  
 Taipei  
 Ulsan

### EUROPE AND AFRICA

Alexandria  
 Antwerp  
 Bilbao  
 Cape Town  
 Constanza  
 Copenhagen  
 Durban  
 Gdansk  
 Genova  
 Hamburg  
 Las Palmas  
 Lisbon  
 London  
 Marseille  
 Milford Haven  
 Oslo  
 Piraeus  
 Rotterdam

### NORTH AND SOUTH AMERICA

Buenos Aires  
 Houston  
 Los Angeles  
 Miami  
 Montreal  
 New Orleans  
 New York  
 Norfolk  
 Panama  
 Rio de Janeiro  
 Seattle  
 Valparaiso  
 Vancouver



## NK in International Affairs:

“NK has been and continues to be an active contributor to the international decision making process whenever and wherever possible...”

Chairman and President K. Ogawa



Although based in Japan, NK proudly considers itself an international ship classification society. It has 90 exclusive surveyor locations in 40 countries, including 21 in Japan. During 2002, 23 persons were newly assigned as exclusive surveyors in overseas offices, bringing the total number of exclusive surveyors to 615. A resident exclusive surveyor also commenced operating in Melbourne, Australia, working under the Sydney office.

As always, International Committees were a key element of NK's international relationship-building activities. As one of the Society's new services to the marine industry in Hong Kong, in addition to the Hong Kong Committee that was established in 1974, the Society decided to establish a Hong Kong Technical Committee, in order to develop a much closer relationship with Hong Kong marine industries. The first meeting of the Hong Kong Technical Committee was held at the Mandarin Oriental Hotel, Hong Kong on April 12, 2002. Executive Vice President M. Murakami, Dr. T. Yoneya, a Manager of TID, Mr. Y. Nakamura, a Manager of HLD and Mr. T. Kinoshita, a Manager of BND, participated from the Society. Mr. H. Yamamoto, General Manager of the NK Hong Kong Office, also attended the meeting as secretary. After making opening remarks, Mr. Murakami, presented membership certificates to each committee member. Dr. Peter Cheng, who is also a member of the Society's Hong Kong Committee, was elected as the first chairman of the Hong Kong Technical Committee and then chaired the meeting.

Another important aspect of NK's international relations is Government Authorizations. In 2002, the United Kingdom authorized ClassNK for the first time to perform (on a case by case basis) a range of duties on ships flying its flag. The number of countries that have authorized ClassNK on their behalves



to carry out surveys and issue certificates based on International Convention or domestic laws was 96 at the end of 2002.

28th meeting of the  
Hong Kong Committee

As always, NK was active at the IMO during the year. Either as a member of a Japanese Government delegation or as a representative of IACS, ClassNK participated in the following IMO meetings:

- Sub-Committee on Fire Protection (FP) 46th session
- Marine Environment Protection Committee (MEPC) 47th session & 48th session
- Sub-Committee on Ship Design and Equipment (DE) 45th session
- Sub-Committee on Stability and Load Lines and on Fishing Vessels Safety (SLF), Intersessional Meeting & 45th session

The full list of NK Committee meetings held during 2002 is as follows:

The 18th Southeast Asia Committee	January 25	Kuala Lumpur
The 11th Greek Committee	February 7	Piraeus
The 1st Hong Kong Technical Committee	April 12	Hong Kong
The 3rd Taiwan Committee	April 15	Taipei
The 8th China Technical Committee	May 22	Shanghai
The 12th Danish Technical Committee	June 18	Copenhagen
The 13th Korea Committee	July 12	Seoul
The 2nd Taiwan Technical Committee	September 5	Taipei
The 28th Hong Kong Committee	September 12	Hong Kong
The 9th China Committee	October 29	Shanghai
The 9th Korea Technical Committee	November 1	Pusan
The 6th Thai Technical Committee	November 21	Bangkok
The 6th Philippine Technical Committee	November 25	Manila
The 6th Singapore Technical Committee	December 12	Singapore
The 2nd Indonesia Technical Committee	December 19	Jakarta



#### NIPPON

A 298,399 dwt oil carrier constructed by Hitachi Zosen Corporation for Topaz Shipholding S.A.

- Sub-Committee on Flag State Implementation (FSI) 10th session
- Maritime Safety Committee (MSC) 75th session & 76th session
- Sub-Committee on Bulk Liquids and Gases (BLG) 7th session
- The Maritime Security Intersessional Working Group (ISWG) and the Diplomatic Conference

#### LT PEACE

a 19,309 dwt container carrier built by Evergreen Shipyard for Evergreen Marine Corporation (Taiwan) Ltd. as the manager

At IMO MSC 75, NK gave a presentation on bulk carrier safety on behalf of the delegation of Japan. The presentation introduced examples of major side shell damage to a Capesize bulk carrier due to undetected excessive corrosion.



NK also gave a presentation at MSC 76 on the latest results of the FSA Study on Risk Control Options for bulk carrier safety, also on behalf of the Japanese delegation, which took the U.K. report on bulk carrier casualty data into consideration. The presentation by NK on bulk carrier FSA study contributed to discussions within IACS and further at MSC 76. The Committee subsequently agreed that reinforcing hatch covers of existing ships would result in a need to replace them due to technical reasons and would not be cost-effective.

In IACS-related activities, the Steering Committee on Bulk Carrier Safety (SCBCS), which ClassNK had chaired, completed its assignment and was dissolved in June. The Society still chairs the Working Party/Materials and Welding (WP/MW), the Ad Hoc Group/Hull Damages (AHG/HD) and the Correspondence Group/Mooring & Anchoring (CG/MA). Furthermore, ClassNK actively contributed to the other activities of IACS by sending representatives to a wide range of meetings, including other working groups. During the year ClassNK participated in the following meetings:

Council:	2 times
Quality Committee:	3 times
General Policy Group:	2 times
Steering Committee on Bulk Carrier Safety:	Once
Working Groups	
(including Joint Working Group):	34 times
Project Team:	2 times

Major topics addressed by the meetings were:

- Bulk carrier safety
- Transparency of class and statutory information
- Assistance to flag Administrations
- Scantling unification,
- Quality management review
- European Commission matters

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## ADVISORY COUNCIL

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Chang Yung-fa	Evergreen Group	Constantinos J. Martinos	Thenamaris Ships Management
Frank W. K. Tsao	IMC Group of Companies	Charalambos N. Mylonas	Transmed Shipping Ltd.
Maeng-Kee Lee	Korea Line Corporation	P. N. Tsakos	Tsakos Shipping & Trading S. A.
Kou Ming Koo	Valles Steamship Co., Ltd.		

### SECRETARY TO THE COMMITTEE

Y. Hiraoka, NK Piraeus Office

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## CHINA COMMITTEE

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### CHAIRMAN

Chen Hong Sheng

### MEMBERS

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Chen Hong Sheng	China Ocean Shipping (Group) Co.
Xu Ziqiu	China Shipbuilding Industry Corporation
Lu Yi Bin	China Shipping (Group) Company
Zhang Xiping	China State Shipbuilding Corporation
Han Chengmin	COSCO Container Lines
Yan Ming Yi	Shanghai Shipping (Group) Co. and China Shipping Development Co., Ltd., Tanker Company

### SECRETARY TO THE COMMITTEE

M. Kato, NK Beijing Office

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## GREEK COMMITTEE

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Michael D. Chandris

### MEMBERS

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Michael D. Chandris	Chandris (Hellas) Incorporated
Anna G. Dracopoulos	Empros Lines Shipping Company S.A.
Prokopis N. Karnessis	European Navigation Inc.
Michael E. Veniamis	Golden Union Shipping Company S.A.
Ghikas J. Goumas	J.G. Goumas Shipping Company S.A.
Z. D. Kritsas	Kritsas Shipping S. A.
Panagiotis C. Laskaridis	Laskaridis Shipping Co., Ltd.
Diamantis P. Diamantides	Marmaras Navigation Ltd.
George S. Livanos	Sun Enterprises Ltd.

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## HONG KONG COMMITTEE

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### CHAIRMAN

Andrew Y. Chen

### VICE CHAIRMAN

Xu Zunwu

### HONORARY CHAIRMAN

M. H. Liang

### MEMBERS

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Andrew Y. Chen	Grand Seatrade Shipping Agencies Ltd.
Huang Shao Jie	Hong Kong Ming Wah Shipping Co., Ltd.
Arthur Bowring	The Hong Kong Shipowners Association
Frank W.K. Tsao	IMC Group of Companies
Zhu Huai Xin	International United Shipping Agency Ltd.
M.H. Liang	Island Navigation Corporation International Ltd.
Steve G. Hsu	Oak Maritime (H.K.) Inc. Ltd.
Kwai Sze Hoi	Ocean Longevity Co., Ltd.
Michael Y.M. Kwok	Orient Overseas Container Line Ltd.
C.C. Liu	Parakou Shipping Ltd.
M. T. Yung	Patt Manfield & Co., Ltd.
Peter J.S. Cheng	Peter Cheng Naval Architect & Marine Consultant Ltd.
Raymond Pao	Regent Shipping Ltd.
Kenneth K.W. Lo	Teh-Hu Cargocean Management Co., Ltd.
Edward S. C. Cheng	Unique Shipping (H.K.) Ltd.
C.A.J. Vanderperre	Univan Ship Management Ltd.
George Chao	Wah Kwong Shipping Holdings Ltd.
Gerry Buchanan	Wallem Shipmanagement Ltd.
Li Hua	Worlder Shipping Ltd.

### SECRETARY TO THE COMMITTEE

H. Yamamoto, NK Hong Kong Office



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**INDIAN COMMITTEE**


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**CHAIRMAN**

Arun Mehta

**VICE CHAIRMAN**

R.L. Pai

**MEMBERS**

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Deepak L. Chowgule	Chowgule Steamships Ltd.
S. Govindrajan	Essar Shipping Ltd.
M.P. Dhanuka	GEE Limited
Ajay Chatterjee	Government of India The Directorate General of Shipping
K.M. Sheth	The Great Eastern Shipping Co., Ltd.
H. Ansari	National Insurance Academy
R.L. Pai	Reliance Industries Ltd.
R.K. Mitra	The Shipping Corporation of India Ltd.
Arun Mehta	Varun Shipping Co., Ltd.
C. Dayal	V.M. Salgaocar & Brother Private Ltd.

**SECRETARY TO THE COMMITTEE**

A. V. Pradhan, NK Mumbai Office

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**KOREA COMMITTEE**


---

**CHAIRMAN**

Jong-Kew Park

**MEMBERS**

Sung-Leep Jung	Daewoo Shipbuilding & Marine Engineering Co., Ltd.
Jung-Hoon Kim	Hanjin Heavy Industries & Construction Co., Ltd.
Kil-Seon Choi	Hyundai Heavy Industries Co., Ltd.
Yung-Won Hyun	Hyundai Merchant Marine Co., Ltd.
Hak-Se Jang	Korea Line Corporation
Jong-Kew Park	KSS Line Ltd.
Jin-Won Chiang	Pan Ocean Shipping Co., Ltd.
Youn-Jae Lee	Samho Heavy Industries Co., Ltd.
Jing-Wan Kim	Samsung Heavy Industries Co., Ltd.
Seung-Gwon Lee	SK Shipping Co., Ltd.

**SECRETARY TO THE COMMITTEE**

J. J. Kang, NK Seoul Office

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**SOUTHEAST ASIA COMMITTEE**


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**CHAIRMAN**

Lua Cheng Eng

**MEMBERS**

Lua Cheng Eng	Singapore Shipowners' Association
Dato' Hj Mohd Ali Hj. Yasin	Malaysia International Shipping Corporation Berhad
Carlos C. Salinas	Philippine Transmarine Carriers, Inc.
Firdaus Wajdi	Indonesian National Shipowners' Association
Sumate Tanthuanit	Regional Container Lines

**SECRETARY TO THE COMMITTEE**

M. Sakamoto, NK Singapore Office

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**TAIWAN COMMITTEE**


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**CHAIRMAN**

Lin Sun-San

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Donald K. L. Chao	China Steel Express Corp.
H. N. Chu	Chinese Petroleum Corp. / CPC
Shang-Wen Liao	ET Internet Technology Corp.
Lin Sun-San	Evergreen Group
Hwang Jin-shan	Evergreen International Corp.
Joseph J. M. Jhu	First Steamship Co., Ltd.
Bill M. H. Huang	Glory Navigation Co., Ltd.
Harvey Chiu	Hsin Chien Marine Co., Ltd.
C. H. Chen	Kien Hung Shipping Co., Ltd.
Michael M. K. Hsiao	Mingtai Navigation Co., Ltd.
Lan Juin Der	Shih Wei Navigation Co., Ltd.
Mathias K. Y. Chen	Sincere Industrial Corp.
Fred C.P. Tsai	Sincere Navigation Corp.
J. T. Chwang	Ta-Ho Maritime Corp.
I. Y. Chang	Taiwan Navigation Co., Ltd.
Nobuyoshi Morimoto	TMT Co., Ltd.
C. K. Ong	U-Ming Marine Transport Corp.
Loh Yao-fon	Evergreen International Storage & Transport Corp.
C. C. Lin	Unison Marine Corp.
Chao-Hon Chen	Wan Hai Lines Ltd.
David C. H. Liu	Yang Ming Marine Transport Corp.

**SECRETARY TO THE COMMITTEE**

N. Takahashi, NK Taipei Office

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**CHINA TECHNICAL COMMITTEE**


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**CHAIRMAN**

Lu Zhi Ping

**MEMBERS**

Zhu Yue Chen	Bohai Shipbuilding Heavy Industry Co., Ltd.
Feng Guo Ying	China Business Marine Corp. Ltd.
Dong Ming	China Ocean Shipping (Group) Co.
Luan Fu Kai	China Ocean Shipping (Group) Co.
Xiao Yan Jun	China Ocean Shipping (Group) Co.
Li Xue Qiang	China Shipping Container Lines Co., Ltd.
Fang Meng	China Shipping International Trading Co., Ltd.

Lin Zhi Shui	China Shipping (Group) Company
Wang Yong Fu	COSCO Bulk Carrier Co., Ltd.
Qiu Xin Yao	COSCO Container Lines
Zhang Ming Hua	COSCO Industry Company
Sun Bo	Dalian New Shipbuilding Heavy Industry Co., Ltd.

Li Jun Bao	Dalian Ocean Shipping Company
Zhao Zhan Jun	Dalian Shipyard Co., Ltd.
Ding Nong	Guangzhou Maritime Transport (Group) Co., Ltd.

Liu Hong	Guangzhou Ocean Shipping Company
Ye Pei Hua	Guangzhou Shipyard International Co., Ltd.
Cao Zhi Teng	Hudong Shipyard
Hu Ke Yi	Jiangnan Shipyard (Group) Co., Ltd.
Yang Shi Ming	Jiangnan Shipyard (Group) Co., Ltd.
Yu Bao Jun	Marine Design & Research Institute of China

Kohsaka Akira	Nantong COSCO KHI Ship Engineering Co., Ltd.
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Kang Zhen Shan	Qingdao Ocean Shipping Company
Lu Zhi Ping	Shanghai Merchant Ship Design and Research Institute

Zhang Jia Long	Shanghai Ship & Shipping Research Institute, Ministry of Communications
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Xu Hui	Shanghai Shipping (Group) Co. and China Shipping Development Co., Ltd., Tanker Company
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Zhang Ming Xian	Shanghai Shipyard
Zhang Li Feng	Xingang Shipyard

**SECRETARY TO THE COMMITTEE**

A. Takezaki, NK Shanghai Office

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**DANISH TECHNICAL COMMITTEE**


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**CHAIRMAN**

Preben Terndrup Pedersen

**MEMBERS**

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Mogens Fynbo	Dampskibsselskabet Torm A/S
Valdemar Ehlers	DFDS A/S
Flemming Schmidt-Andersen	Lauritzen Kosan Tankers A/S
Peter Tang-Jensen	Odense Steel Shipyard Ltd.
Erik Møller	Quantum Tankers A/S
Bengt Sangberg	ShipTech A/S
Preben Terndrup Pedersen	Technical University of Denmark

**SECRETARY TO THE COMMITTEE**

K. Ikegami, NK Copenhagen Office

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**HONG KONG TECHNICAL COMMITTEE**


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**CHAIRMAN**

Peter Cheng

**MEMBERS**

Marcel Liedts	Anglo-Eastern Group
D. Bao	Associated Maritime Company (Hong Kong) Ltd.
Vishal Khurana	Chellaram Shipping (Hong Kong) Ltd.
Fu Xin	China Shipping (H.K.) Marine Co., Ltd.
Huang Peilin	COSCO (HK) Shipping Co., Ltd.
Arvind Sharma	Eurasia International (China) Limited Partnership

Kishore S. Rajvanshy	Fleet Management Limited
Y. H. Shum	Goldbeam International Ltd.

Lau Pong Sze	Gold Bridge Shipping Ltd.
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Suresh K. Anand	The Government of the Hong Kong Special Administrative Region
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Y. Q. Huang	Hong Kong Ming Wah Shipping Co., Ltd.
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K. H. Li	IMC Shipping Co., Pte Ltd.
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C. Kocherla	IndoChina Ship Management (HK) Ltd.
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Jagmeet S. Makkar	KC Maritime Ltd.
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S. S. Tse	Lihai International Shipping Ltd.
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Vijayesh Dutta	New Asian Shipping Co., Ltd.
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James S. C. Tai	Orient Overseas Container Line Ltd.
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Peter Cheng	Peter Cheng Naval Architect & Marine Consultant Ltd.
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Kenneth Koo	Tai Chong Cheang Steamship Co. (H.K.) Ltd.
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Chen Shizhou Top Glory Shipping Co., Ltd.  
W. L. Hung Wah Kwong Ship Management  
(Hong Kong) Ltd.

SECRETARY TO THE COMMITTEE  
H. Yamamoto, NK Hong Kong Office

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#### INDONESIA TECHNICAL COMMITTEE

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CHAIRMAN  
Widihardja Tanudjaja

MEMBERS

Sopardi Somantri	PT. Adnyana
Andy A. Mallian	PT. Arpeni Pratama Ocean Line
Widihardja Tanudjaja	PT. Berlian Laju Tanker Tbk
Djoko Mulyanto	PT. Djakarta Lloyd
Budhi Halim	PT. Humpuss Intermoda Transportasi Tbk
Hendrato	PT. Gesuri Lloyd
A. L. Soebagio Windoe	PT. Samudra Indonesia Tbk.
H. Soenarto	PT. Gurita Lintas Samudra
Ibrahim Hasyim	PERTAMINA
Barens Th. Saragih	INSA
Saur Maruli Pohan	IPERINDO
Adwin H. Suryohadioprojo	PT. PAL Surabaya
Irnanda Laksanawan	PT. DKB Jakarta
Capt. Sahid	Sea Communication (DITJENLA)
Professor Soegiono	Institut Teknologi Surabaya (ITS)

SECRETARY TO THE COMMITTEE  
K. Yasuda, NK Jakarta Office

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#### KOREA TECHNICAL COMMITTEE

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CHAIRMAN  
Sung-Won Kang

MEMBERS

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Kang-Soo Kim	Daewoo Shipbuilding & Marine Engineering Co., Ltd.
Kyu-Won Park	Hanjin Heavy Industries & Construction Co., Ltd.
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Jae-Sung Choi	Korea Maritime University
Sung-Won Kang	Pusan National University
Young-Rok Park	Samho Heavy Industries Co., Ltd.
Chull-Yun Kim	Samsung Heavy Industries Co., Ltd.
Yong-Hee Nam	STX Shipbuilding Co., Ltd.

SECRETARY TO THE COMMITTEE  
Y. Oka, NK Pusan Office

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Arben E. Santos

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Rogelio A. Torres	Eastern Shipping Lines, Inc.
Ko-Lin Toh	Keppel Philippines Marine, Inc.
Michael G. Bernardino	Loadstar Shipping Co., Inc.
Doris Magsaysay Ho	Magsaysay Maritime Corporation
Edgardo G. Lacson	MIS Maritime Corporation
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Nelson Yeo	Keppel Hitachi Zosen Ltd.
Wong Len Poh	Maritime and Port Authority of Singapore
Hiroaki Kubo	MOL Shipmanagement Asia Pte Ltd.
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K. K. Kumar	NYK Shipmanagement Pte Ltd.
Foong Wing Chee	Ocean Tankers (Pte) Ltd.
Phua Cheng Tar	PACC Ship Managers Pte Ltd.
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Ng Sing Chan	Pan-United Shipyard Pte Ltd.
Kenneth Kee	Petroships Pte Ltd.
Mok Kim Whang	Singapore Technologies Marine Ltd.
Hugh Hung	Tanker Pacific Management (Singapore) Pte Ltd.
Morten Jaer	Thome Ship Management Pte Ltd.
C. P. Chan	World-Wide Shipping Agency (S) Pte Ltd.

### SECRETARY TO THE COMMITTEE

M. Sakamoto, NK Singapore Office

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### CHAIRMAN

Huang Shiun-Kwo

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C. T. Lu	China Steel Express Corporation
J. Z. Fang	Chinese Petroleum Corporation
C. S. Chen	Deryoung Maritime Co., S.A.
Michael L. Y. Pan	ET Internet Technology Corporation
Huang Shiun-Kwo	Evergreen Marine Corp. (Taiwan) Ltd.
Johnny J. Ho	First Steamship Co., Ltd.
Anthony Lin	Formosa Plastivs Marine Corporation
Guo I-Lung	Glory Navigation Co., Ltd.
K. J. Leu	Hsin Chien Marine Co., Ltd.
H. C. Hsieh	Kee Yeh Co., Ltd.
T. M. Lin	Kien Hung Shipping Co., Ltd.
C. K. Lin	Mingtai Navigation Co, Ltd.

Y. Y. Ho

Tommy T.M. Li

C. S. Huang

C. C. Shih

Young Perng-Terng

Lung-Wen Lee

Kuo Wen-ben

J. R. Kuo

Yen-Ru Chen

Shih Wei Navigation Co., Ltd.

Sincere Industrial Corporation

Ta-Ho Maritime Corporation

Taiwan Navigation Co., Ltd.

Ta Tong Marine Co., Ltd.

U-Ming Marine Transport Corporation

Uniglory Marine Corporation

Unison Marine Corporation

Wan Hai Lines Ltd.

### SECRETARY TO THE COMMITTEE

N. Takahashi, NK Taipei Office

## THAI TECHNICAL COMMITTEE

### CHAIRMAN

Sutep Tranantasin

### MEMBERS

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Bhumindr Harinsuit	Bhureemas Navee Co., Ltd.
Wirat Chanasit	ItalThai Marine Ltd.
Chanet Phenjati	Jutha Maritime Public Co., Ltd.
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Wittawat Svasti-Xuto	PTT International Petroleum Authority of Thailand
Sutep Tranantasin	Regional Container Lines Group
Voravit Visitkitjakarn	Sang Thai Shipping Co., Ltd.
Anan Junprapap	Thaioil Marine Co., Ltd.
Teruo Kondo	Unithai Shipyard & Engineering Ltd.

### SECRETARY TO THE COMMITTEE

Somsak Sucondhahan, NK Bangkok Office



Areas/Countries	LL	SOLAS				MARPOL 73/78		TM
		SC	SE	SR	SMC	IOPP	NLS	
Maldives	0	0	0	0	0	0		0
Malta	*	*	*	*	0	*	*	*
Marshall Islands	0	0	0	0	0	0	0	0
Mauritius	0	0	0	0		0	0	0
Mexico	*	*	*	*		*		*
Morocco	0	*	*	*	*	*	*	*
Mozambique	0							
Myanmar	0	0	0	0	0	0	0	0
Namibia	*	*	*	*		*		*
Netherlands	*	*	*	*	*	*	*	
Netherlands Antilles	*	*	*	*	*	*	*	
Oman	0	0	0	0				0
Pakistan	0	0			*	0	0	0
Panama	0	0	0	0	0	0	0	0
Papua New Guinea	0	0	0	0		0		0
Paraguay	*	*	*	*	*			*
Philippines	0	0	0	*	0	0	0	0
Portugal	*	*				*		
Qatar	*	*	*	*	*	*	*	*
Saudi Arabia	0	0	0	0	0	0	0	0
Seychelles	0	0	0	0	0	0	0	0
Singapore	0	0	0	0	0	0	0	0
Solomon Islands	0	0	0	0				0
Somalia	0							
South Africa	0	0				*	0	
Sri Lanka	0	0	0	0		0		0
St. Vincent and the Grenadines	0	0	0	0	*	0	0	0
Switzerland	0	0	0	0	*	0	0	0
Tanzania	0							
Thailand	*	*	*	*	*	*		*
Tonga	0	0	0	0		0	0	0
Tunisia	0	*				0		
Turkey	0	*	*	*	0	0	0	*
UAE	0	0	0	0	0	0		0
UK	*	*				*		*
Uganda	0							
Uruguay	*	*	*	*				
Vanuatu	0	0	0	0	0	0	0	0
Venezuela	*							
Vietnam	*	*	*	*	*	*	*	*
Yemen	0							

## Abbreviations:

- 0 Authority has been delegated.
- \* Authority has been delegated subject to some conditions.
- LL International Load Line Certificate
- SC Cargo Ship Safety Construction Certificate
- SE Cargo Ship Safety Equipment Certificate
- SR Cargo Ship Safety Radio Certificate
- SMC Safety Management Certificate
- IOPP International Oil Pollution Prevention Certificate
- NLS International Pollution Prevention Certificate for the Carriage of Noxious Liquid Substances in Bulk
- TM International Tonnage Certificate (1969)





## NK ONLINE

2002 was an exciting year for NK in cyberspace, as we realized several initiatives to further improve and develop our online presence. Information management is the backbone of the Society's activities and offers the huge increases in efficiency that will be necessary for NK to remain at the forefront of international ship classification services. The global nature of the ship classification business has meant that one of the main aims of the Society has been to provide continuous business support to NK clients, on a global scale 24 hours a day, 365 days a year. One key to achieving this has been a significant expansion of and improvement to NK's online presence.

In April the Society re-launched its website, which was comprehensively revised and renewed. Previously available only in English, the new website is fully duplicated in both English and Japanese and has been totally redesigned for ease of use and speed. The new site includes many new features, including free access to the Register of Ships as a searchable database. As part of its commitment to international moves to improve the transparency of ship and survey-related information, in the interests of improved safety, NK also added the following two items. One is a regularly updated list of class suspensions. The second is the ability to view part of the survey status and conditions for class-suspended ships. A new list of ships withdrawn from class will be added soon. As part of this commitment to transparency, in the interests of improved safety, NK has also authorized and facilitated deep hyperlinking from EQUASIS, an international ship

information database, to its ship data, including certain survey status information in the Register of Ships.

Also available now, as fully searchable databases, are the NK office locations and their staff, all the NK Technical information notices and the full list of materials and equipment approvals. Users can download most application forms, and a wide variety of publications including some rules and guidances. Naturally, it links easily to other subsidiary NK websites, all of which were also upgraded or newly launched. The NK-SHIPS site, restricted to the owners and operators of NK class ships, has been upgraded, with two important new functions in addition to the full range of free-of-charge services previously available. The first new function is the direct perusal of certificates and survey records in the NK Archives system. The second is the graphic display of survey schedules for the entire fleet of a user. In both cases, registered users can view and, where appropriate, print copies of the information.

In preparation for the implementation of Phase II of the ISM Code, whereby almost all types of ships engaged in international voyages became covered by the code on July 1, the Society announced in March 2002 the launch of its new Safety Management System online information service called NK-SMART, which stands for Safety Management Audit Report. The service is available for free through the Internet at <http://sms.classnk.or.jp>, although prior registration is required. The service is exclusively for ClassNK clients registered for ISM audits and certification with the Society, and information is only available on those ships under direct ownership or management. Using NK-SMART, a management company can obtain the current status of DOCs and SMCs for ships under their management. Registered users can also see the details of the DOCs and SMCs, the due date of the next audit, the history of past audits, and descriptions of nonconformities and observations pointed out in the past audits.

## SUMMARY OF FINANCIAL INFORMATION FOR FISCAL 2002

### STATEMENT OF REVENUES AND EXPENDITURES

	2002	
	Millions of yen	% of total
<b>REVENUES</b>		
Operating revenues		
Survey and inspection fees	¥ 16,234	90.36%
Traveling expenses reimbursed	471	2.62
Other revenues	54	0.30
Interest, dividends and miscellaneous income	523	2.91
Proceeds from sale of non-current assets	192	1.07
Reversal of reserved deposits for retirement and pension allowance	492	2.74
<b>Total revenues for the year</b>	<b>¥ 17,966</b>	<b>100.00%</b>
<b>EXPENDITURES</b>		
Operating expenses	10,687	60.56%
Administrative expenses	5,201	29.47
Expenditures for non-current assets	987	5.59
Expenditures for reserved deposits for retirement allowance, pension allowance and renewal of non-current assets	773	4.38
<b>Total expenditures for the year</b>	<b>¥ 17,648</b>	<b>100.00%</b>
<b>Difference between revenues and expenditures</b>	<b>¥ 318</b>	

Note: Income taxes are included in "Administrative expenses"

### BALANCE SHEET

As of December 31, 2002

	2002	
	Millions of yen	% of total
<b>ASSETS</b>		
Current assets	¥ 8,167	19.93%
Non-current assets	32,813	80.07
<b>Total assets</b>	<b>¥ 40,980</b>	<b>100.00%</b>
<b>LIABILITIES</b>		
Current liabilities	¥ 2,460	6.00%
Non-current liabilities	7,791	19.01
<b>Total liabilities</b>	<b>10,251</b>	<b>25.01</b>
<b>NET ASSETS</b>		
<b>Total net assets</b>	<b>30,729</b>	<b>74.99</b>
<b>Total liabilities and net assets</b>	<b>¥ 40,980</b>	<b>100.00%</b>

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 NK IN COMMITTEE
 

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 BOARD OF DIRECTORS
 

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K. Ogawa	Chairman and President Nippon Kaiji Kyokai
M. Murakami	Executive Vice President Nippon Kaiji Kyokai
Y. Tsudo	Executive Vice President Nippon Kaiji Kyokai
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Y. Sakinaga	Chairman The Japanese Shipowners' Association
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K. Suzuki	President Mitsui O.S.K.Lines, Ltd.
M. Tazaki	President Kawasaki Heavy Industries, Ltd.

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I. Shintani	Chairman Kawasaki Kisen Kaisha, Ltd.
H. Uemura	President Mitsui Sumitomo Insurance Co., Ltd.

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K. Ogawa

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S. Dote	Executive Vice President NKK Corp.
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N. Ishii	Former Managing Executive Director Nippon Yusen K.K.



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T. Yamaoka	Chairman Japanese Marine Equipment Association	M. Tomita	Managing Director Kawasaki Shipbuilding Corporation
Dr. K. Yoshida	Professor Tokai University	N. Tsutsumi	Chairman of Ship Building Sub-Committee The Japanese Shipowners' Association

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## TECHNICAL COMMITTEE

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### CHAIRMAN

Dr. H. Itagaki

### MEMBERS

T. Hada                   Member of Technical Committee  
The Japanese Shipowners' Association

Dr. S. Hayama       Professor Emeritus  
The University of Tokyo

T. Hirao                Managing Director  
Nippon Steel Corp.

Y. Uesu                Vice Chairman of Technical Committee  
The Japanese Shipowners' Association

S. Yabuki             Director  
Mitsui Engineering & Shipbuilding Co., Ltd.

K. Yamagami        Director  
IHI Marine United Inc.

Y. Yamanaka        Director  
Sasebo Heavy Industries Co., Ltd.

O. Yamane            Chairman of Sub-Committee on Ship  
Maintenance  
The Japanese Shipowners' Association

Dr. K. Yoshida     Professor  
Tokai University

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**KEY CONTACTS**


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