

In addition to the activities described in The Year in Review, ClassNK maintains a high-profile international presence through its network of exclusive surveyor offices. Highly skilled individuals at these offices extend top-level services to clients in marine and non-marine sectors in major ports around the world. In 1995, ClassNK opened offices in Kochi, Shimizu, Oslo, Madras, Vancouver and Gdansk, bringing the number of offices to 70. To further improve its responses to client needs, ClassNK plans to establish offices in Batangas, Auckland, Haiphong, Miri, Durban, Valparaiso and Dalian.

AROUND CLASSNK'S WORLD

ClassNK's operating map is divided into three geographical sectors: Asia, Oceania and the Middle East; North and South America; and Europe and Africa. A breakdown of specific activities during 1995, such as consultations, technical seminars, exhibitions, certification and inspection results as well as classification of newly built ships, is provided according to this geographical segmentation.

ASIA, OCEANIA AND THE MIDDLE EAST

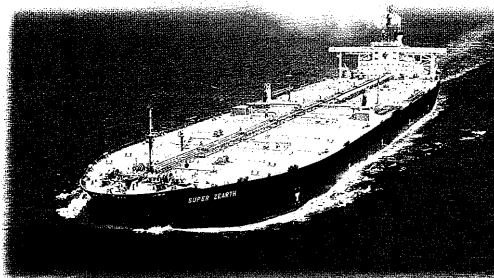
During 1995, ClassNK utilized its vast experience and high-caliber technologies to assist shipbuilders, shipowners and members of the maritime community in their operations. The Society was also represented at marine exhibitions and technical seminars throughout the region. The following areas witnessed activities of particular interest during the year.

Japan: The year began with a truly earth-shaking event—the Great Hanshin Earthquake—that caused considerable damage and loss of life, especially in the Kobe epicenter. Like most businesses in the port city, members of the local shipbuilding, maritime and related industries were rocked to their

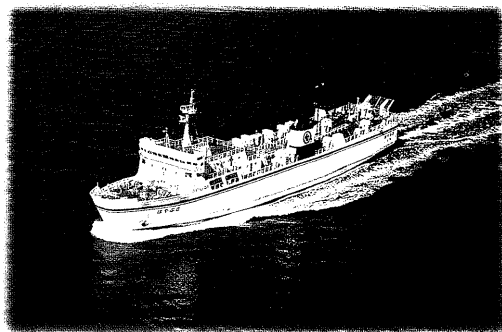
foundations. With considerable effort, these industries are making progress toward recovery.

Despite the catastrophe and its nationwide repercussions, shipbuilders constructed ships totaling about 9.3 million gt. Known for its classification expertise, ClassNK was asked to register about 70% of these ships, representing approximately 6.5 million gt.

The Society added the 258,096-dwt VLCC *Super Zearth*, chartered by Idemitsu Tanker Co., Ltd., and built in Japan by IHI. *Super Zearth* is the first vessel on the ClassNK register with the DATA notation, a classification distinction applied to ships whose hull structural members have been defined by the Designed by Application of Total Analysis concept, known as DATA. This concept allows hull responses in actual



Super Zearth is a 258,096-dwt double-hull VLCC built by IHI, in Kure, for Garnet Enterprise S.A.



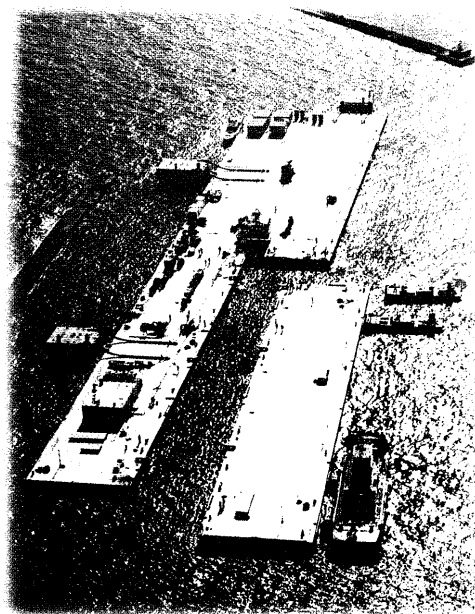
Hayabusa is a roll-on/roll-off ship of 1,759 gt built by Hakodate Dock Co., and the first Japanese single-engine twin-screw ro/ro ship.

operating conditions to be predicted through theoretical seaworthiness analysis of physical structures under various loads.

ClassNK also added *Hayabusa* to the register as Japan's first single-engine twin-screw ro/ro carrier, built by Hakodate Dock Co. The special construction of *Hayabusa* is so new that it remains a rare sight in ports outside Japan as well.

The Society also performs various technical services in Japan. In 1995, we dispatched advisors to meetings on a megafloat, or huge floating structure, project that enjoys strong support from the Japanese government, the shipbuilding industry and steel mills. This is becoming a much-discussed topic today as the need for waterway development escalates in Japan. Nine floating units will be connected to form a huge floating structure measuring 300 meters long, 60 meters wide and two meters deep. Numerous tests were conducted to assess float behavior and responses in waves as well as the structure's effect on water flow and the ecosystem. In 1995, connection tests were conducted on a four-unit structure, and ClassNK plans to class the test structure in the near future.

The major topics of research concerning the megafloat project that the Society is



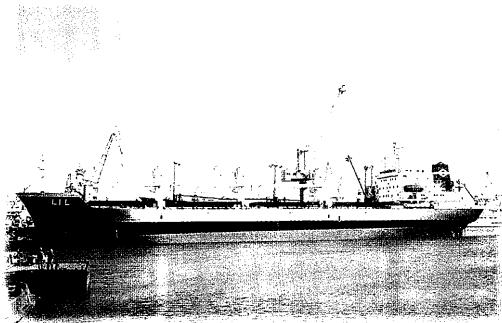
The megafloat is a massive, floating offshore structure currently under construction with advice from ClassNK. (Photograph courtesy of Asahi Shimbun.)

involved in are as follows:

- Design technology for constructing megafloats;
- Offshore construction techniques, including connection technology;
- Technology for ensuring the durability of megafloats;
- Technology for assuring the functioning of facilities installed on megafloats;
- Environmental assessment procedures for megafloat locations.

This year saw the successful conclusion to an experiment in joining together four floating units. The resulting large-scale model will be registered to ClassNK in the near future.

In July, eight technical papers were presented by ClassNK at the 5th International Symposium of Marine Engineers held in Yokohama. Representatives from 20



Lil, a 10,421-gt bulk carrier built by Xingang Shipyard and flying the Cypriot flag, is owned by Topmaster Shipping Limited.

countries, including the United States, the United Kingdom and Germany, attended the symposium entitled, "Aiming for Higher Quality and Reliability of Engines, Machinery and Systems for Marine Use," at which 160 papers were given.

In September, three topical technical papers were presented by ClassNK at the International Symposium for Marine Environment Preservation, held in Tokyo.

The Society is also involved in basic design assistance for a large multipurpose work boat that will be used to salvage vessels, prevent marine pollution and perform offshore tasks.

China: Thanks to booming construction activity, ClassNK was busy in China. The



Technical seminars in Chinese provided perfect opportunities for ClassNK to introduce PrimeShip to interested audiences in China.



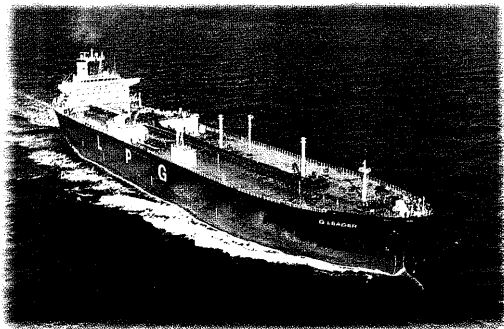
ClassNK representatives attended Marintec China '95 in Shanghai.

Society classed *Lil*, a 15,000-dwt bulk carrier, which is the first vessel built by Tianjin-based Xingang Shipyard to go on the ClassNK register.

We inspected more than 200 ships and examined a similar number of items of equipment. We enjoyed an increase in requests for approvals of welding materials as well as certifications of manufacturing methods for rolled steel used in hull construction, rounded steel components used in anchors and chains, and other materials and equipment for ship use. To keep pace with growing demand for our services, we plan to make more ClassNK technicians available to clients in China and are working toward the establishment of an exclusive surveyor office in Dalian in 1996.

To better reflect the needs of clients and encourage a broad range of opinions from members in technical and nontechnical disciplines, ClassNK established the China Technical Committee in 1995. This committee, which held its first meeting in April in Shanghai, complements the China Committee, which was inaugurated in 1994.

Shanghai was also the venue in December for Marintec China '95, in which ClassNK participated. Staff took advantage



G. Leader, a 44,574-gt LPG tanker built by MHI in Nagasaki for I.M.S. Navigation S.A., has 78,479 m³ cargo capacity.

of the opportunity to speak with visitors and introduce PrimeShip to interested parties.

During the year, the Society arranged Chinese-language technical seminars in Beijing and Shanghai, which served as forums for introducing PrimeShip and two of its most important constituent programs, the Integrated Program for Determining Ship Performance Capability and Total Analysis System for Propulsive Machinery and Shaftings.

South Korea: ClassNK registered nine newly built ships constructed in South Korea and four newly built ships constructed in Japan for South Korean owners. Of the four ships built in Japan and classed with us, the 49,743-dwt liquefied petroleum gas (LPG) carrier *G. Leader*, chartered by Yukong Line Ltd., merits particular mention as further reinforcement of our position as the classification society with the greatest percentage of liquefied gas carriers on register.

We also worked with South Korean shipyards on the technical aspects of ship design. One of our cooperative efforts concerned an Over-Panamax container carrier under construction by Samsung Heavy

Industries Co., Ltd. We were able to demonstrate all structural design methods using PrimeShip-BOSUN, our rule calculation program and a vital part of PrimeShip, and provided hull design direction for the midship section of the vessel. For Daewoo Heavy Industries Ltd., we clarified procedures for direct calculation of specialized hull design features of Capesize bulk carriers and suggested points for verification, as indicated by ClassNK rules.

The Society certified welding materials and the raw fibers used in making synthetic-fiber ropes, and approved the manufacturing processes of chains and synthetic-fiber ropes.

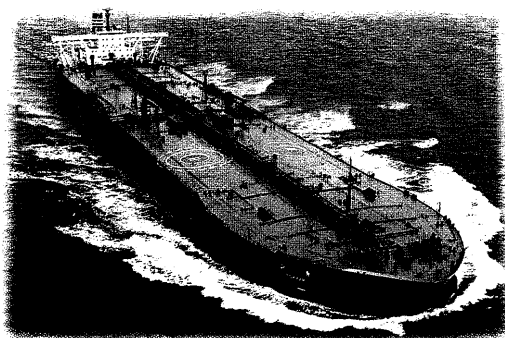


Ever Repute is a 53,103-gt container carrier constructed for Evergreen Marine Corp. (Taiwan) Ltd. by MHI in Kobe.

Taiwan: ClassNK registered 12 newly built ships for Taiwanese owners. Eleven of the vessels were constructed in Japan and one in Taiwan. A look at ship type reveals that five, including *Ever Result*, *Ever Refine* and *Ever Repute*, were container carriers delivered to Evergreen Marine Corp. (Taiwan) Ltd.; four were bulk carriers; and three were general cargo ships.

On behalf of Taiwanese shipowner Far Eastern Silo Corp., the Society oversaw construction of two bulk carriers being built at the facilities of Hitachi Zosen Corp. in Japan. On behalf of Central Trust of China, a Taiwanese government institution, we examined boilers, pressure vessels and other industrial equipment procured from abroad.

Hong Kong: At the behest of eight Hong Kong shipowners, ClassNK registered 17 newly built vessels constructed at Japanese and South Korean shipyards, one of which was the 260,870-dwt VLCC *Tohzan*, delivered to Wallem Shipmanagement Ltd. The Society also added two existing bulk carriers to its register.



Tohzan, a 260,870-dwt VLCC, was built for Wight Navigation S.A. at Hitachi Zosen Corp.'s Ariake Works. Wallem Shipmanagement Ltd. of Hong Kong is the ship's managing agent.



Full Rich, a 24,055-gt bulk carrier was delivered to COSCO (H.K.) Shipping Co., Limited, by Oshima Shipbuilding Co., Ltd.

The Society extended various technical services to shipowners in Hong Kong during the year. Of these, the bulk comprised technical support, specifically the inspection of plans for and subsequent supervision of construction of a twin-deck cargo carrier.

On behalf of purchaser Hong Kong International Terminal Ltd., ClassNK undertook inspection of repair work on a container crane for the port container terminal.

Singapore: For Singaporean owners, ClassNK classed four bulk carriers, nine tankers and one cargo ship, built in Japan, Singapore and South Korea, respectively. Forty-one barges were also built in Singapore under Society classification, while six existing tankers under Singaporean ownership were transferred from other societies to ClassNK.

The Society performed a classification survey of a floating dock, measuring 230 meters long, 43 meters wide and 16 meters



Gas Tabangao, a 3,496-gt tanker, was built by Fukuoka Shipbuilding Co. Ltd. for Golden Ray Carrier Inc. Swan Shipping Corp. of the Philippines is the ship's managing agent.

deep, that is under construction and scheduled for completion by the end of March 1996.

Because the number of requests for classification services in Southeast Asia is rapidly increasing, the Society set up a special section at the Singapore regional office to coordinate all activities in this sphere and verify blueprints. In 1995, ClassNK recorded a 7% increase in drawing certification tasks, to 132 requests.

Inspections of refitted ships grew 15% over 1994, to 1,928 requests. The Society installed a local area network to enhance capacity and improve our services to clients.

At the International Conference & Exhibition on Maritime Technology, ClassNK's representative delivered a speech entitled "A Study on Ships' Conditions & Life Assessment Systems."

The Philippines: ClassNK registered three LPG carriers, including *Gas Tabangao* and *Gas Rosario*, and four bulk carriers for Philippine shipowners and ship managers. All the ships were built in Japan. The Society also added to its register two cargo ships and one bulk carrier previously registered with other societies.

The Society concluded an agreement



Corazon Aquino was in attendance at the launching ceremony for Gas Tabangao in Fukuoka.

with the Maritime Industry Authority, a Philippine government bureau, with regard to authorization allowing ClassNK to issue statutory certificates and to approve grain loading plans and issue subsequent certification papers.

Recently accelerating demand for LPG in Southeast Asia and China has spurred orders for liquefied gas carriers. Over the past two years, more than 70 carriers have been commissioned worldwide. Nearly all of them have been classed by ClassNK. Many of the LPG carriers bound for China are exported from Philippine relay bases, which has led to increased LPG carrier construction and management by Philippine owners. To heighten LPG carrier-related know-how among builders and management companies, ClassNK arranged technical seminars for periodical inspection and maintenance of LPG carriers.

Indonesia: ClassNK registered the 20,524-gt *Surya Aki*, a liquefied natural gas (LNG) carrier with tank capacity of about 19,100 m³. The vessel was constructed in Japan and delivered to MCGC International Ltd. in February 1996.



Jambo Jet 218 is a 222-gt passenger craft built by Yong Choo Kui Shipyard Co. flying the Malaysian flag.

The Society acted as consultant on the construction of a 30,000 kW/h power plant barge for P.T. PLN (Persero).

ClassNK sent Managing Director Ryuichiro Irie to the Regional Marine Conference, in Jakarta in November, where he described PrimeShip in a lecture entitled, "A Comprehensive Project Integrating Ship-Care Systems Spanning the Entire Lifetime of Ships."

Malaysia: ClassNK classed three passenger ships built in Malaysia and one bulk carrier built in Japan for Malaysian owners. In addition, construction of an LNG carrier for Asian LNG Transport Sdn. Bhd. of Malaysia began in Japan in 1995 and ClassNK expects to be called upon to register the vessel.

In recognition of the growing size and importance of Sabah's state capital, in May the Society moved its local office from Labuan to Kota Kinabalu.

Thailand: The Society classed a Japanese-made tanker, the 4,685-dwt *Tasco I*, for Tipco Maritime Co., Ltd. ClassNK was also invited by The Precious Shipping (Public) Co., Ltd., to attend to construction of six



Tasco I, a 4,685-dwt tanker owned by Tipco Maritime Co., Ltd., of Thailand, was built by Kanasashi Shipbuilding Co., Ltd.

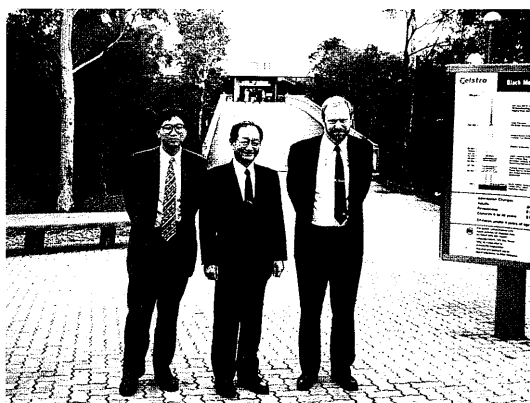
18,000-dwt bulk carriers by South Korean shipbuilders.

The general manager of our Bangkok office presented a lecture on classification societies' activities and regulations related to oil tankers at a seminar organized by the Thai Port Authority, the Oil Industry Environmental Safety Group and the Oil Tanker Shipowner Group called "Thai Oil Tankers: Toward IMO Standards."

India: Reinforcing its exclusive surveyor network, ClassNK established an office in Madras in December.

Turkey: Since ClassNK opened its exclusive surveyor office in Istanbul in 1994, the Society has noted that a growing number of Turkish shipowners are seeking out ClassNK to be their ship registry. In 1995, we classed two bulk carriers previously classed by our overseas counterparts, bringing the total number of Turkish-owned ships on the register to 46, representing 690,000 gt.

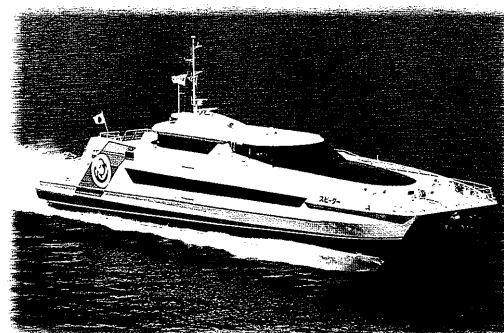
Oceania: ClassNK was asked to class a catamaran-type passenger craft built in Australia by Austal Ships Pty. Ltd. and flying the Japanese flag. The vessel can accommodate 331 people.



Executive Vice President Isao Takeuchi (center), in his former capacity as Managing Director, paid a visit to the AMSA in early August 1995.

As in the United States, PSC is of considerable importance in Australia. ClassNK Executive Vice President Isao Takeuchi, in his former capacity as Managing Director, visited the headquarters and branch offices of the local PSC enforcer, the Australian Maritime Safety Authority (AMSA), to explain the Society's firm stance regarding PSC. The visits were well received and ClassNK looks forward to smooth relations with the authority in the future.

To complement activities in Australia,



Speeder, a 375-gt high-speed passenger craft with a 42.2-knot trial speed, is owned by Diamond Ferry Co., Ltd., and was constructed by Austal Ships Pty. Ltd. of Australia.

ClassNK plans to open an office in New Zealand. Preparations for an Auckland office are presently under way.

The Middle East: Construction of a series of LNG carriers for Qatar has begun in Japan, and ClassNK is ready to put them on its register. We also expect to register three supply vessels presently under construction in Singapore for Saudi owners.

In Kuwait, the Society verified the design drawings of floating pontoons for use in the city's harbor.