

ClassNK Magazine

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Edition



Striving towards a safer maritime world

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A Message from the Chairman



Tadashi Mano
Chairman and President

Welcome to the 2001 ClassNK Magazine, which now reaches around 6,000 NK clients and friends around the globe. It has always been a pleasure for me to preview the NK Magazine, and this year is no exception, with its wide range of both interesting and useful information.

“Globalization” has been one of the buzzwords on everyone’s lips in the last few years, but I sometimes wonder how many people really understand what globalization is, and what it means on a practical level. When I think about it, shipping and its related industries are not only the practical backbone of globalization, transporting goods around the globe all day, everyday, but in my experience, the people involved in shipping and shipbuilding truly embody the very concept of globalization. In this year’s Focus on Japan story, you will read about a unique combination pure car carrier/reefer vessel under construction to NK Class near Yokohama. As a fine example of globalization on a practical level, the vessel is slated to ship cars from Japan to the United States, and will return with cargoes of frozen fish or chilled citrus fruit. But personally, I think the concept of globalization is more about people and attitudes than it is about logistics, and this vessel, being built in a Japanese shipyard for an American company, with a team of Polish newbuilding inspectors struck me as a fine example of this. Coincidentally, Yokohama might also be considered the birthplace of globalization for the Japanese, being so close to where Commodore Perry’s famous Black Ships first arrived in Japan in 1853.

On an organizational level, globalization places new and increasing demands on all members of the organization. The most noticeable impact is, of course, on the communication, information and service delivery activities of the organization. A key component of the NK strategy to cope with these increasing demands was

fulfilled this year with the opening of the new NK Information Center, adjacent to the NK Research Center. This impressive building was completed on schedule and commenced operation on July 1st, allowing a significant restructure of NK’s head office structure. Both the Center opening and reorganization are covered in detail later.

Global ship safety standards also came into the spotlight in the wake of the *Erika* accident and other similar high-profile accidents, and there have been increasing demands for better ways to evaluate a ship’s condition beyond the usual class requirements, especially in relation to tankers. This year’s Technical Essay outlines the NK Condition Assessment Program (CAP), which is becoming a key tool in the ongoing challenge to increase global standards of ship safety.

The NK global office network now numbers over 80, and this year’s regular overseas office profile features the NK Haiphong Office, in Vietnam. NK has a long and productive history of cooperation with the Vietnam Register and its predecessors, and the NK Haiphong Office was opened in 1996. Since then, it has steadily grown to become one of our key strategic development offices, and we expect that it will continue to grow.

Finally, may I take this opportunity to congratulate and thank my Executive Vice President, Mr. Masataka Hidaka, for his contribution, on behalf of NK, as Chairman of the International Association of Class Societies (IACS) this past year.

I hope you enjoy reading this year’s magazine as much as I have.

A handwritten signature in black ink that reads "Tadashi Mano". The signature is written in a cursive, flowing style.

Tadashi Mano
Chairman and President

The ClassNK CAP: Condition Assessment Program

Ships are typically multimillion-dollar investments, and are usually built with the expectation that they will be in service for many years. But even the best-built ships can deteriorate rapidly if they are operated inappropriately or are not maintained properly. On the other hand, ships can remain in good condition throughout, and even beyond, their planned service lives if they are operated in an appropriate manner, and inspections and maintenance are carried out regularly and properly. Despite this, primarily as a result of a number of incidents involving older ships, some charterers use a ship's age as an arbitrary judgment standard.

Ships are surveyed periodically to verify that they are maintained in an acceptable condition in accordance with international conventions, the Rules of Classification societies, etc. It must be remembered, however, that passing a Class survey only tells the owner that the ship meets the minimum required safety standards at the time of the survey. Detailed ship conditions cannot usually all be assessed by regular Class surveys. A detailed assessment of ship condition is therefore very important in planning the maintenance program through a ship's service life.

The NK Condition Assessment Program (CAP) is a specialized survey

program that offers owners a detailed assessment of a ship's actual condition, based on strength evaluation and fatigue strength analysis, as well as on a detailed on-site systematic inspection of the hull, machinery and cargo systems. With the CAP, owners can be confident that they have an accurate, detailed assessment of the ship's actual condition, especially with respect to how the condition compares with the normal Class requirements, regardless of the ship's age.

The CAP has primarily been developed as a tool for owners to use as an advanced ship management tool. Increasingly, however, some charterers, such as major oil companies, require



proof of the good condition of ships before they will accept them. The CAP has proven a useful tool for this purpose, as well. However, if the CAP is to be used as a vetting tool, its optional components may vary, or may be specified by a third party. Similarly, the CAP applies, in principle, to oil tankers and chemical carriers. Other types of ships may be covered, provided that the CAP program is properly modified.

OVERVIEW OF THE CAP

The CAP consists of two major parts, which can be applied independently depending on the intention of the applicant. The two major components are:

- (1) CAP-HULL (Condition Assessment for Hull Structures), and
- (2) CAP-MACHINERY/CARGO SYSTEM (Condition Assessment for Machinery and Cargo Systems).

The CAP is conducted by a team consisting of a CAP manager and a number of experienced surveyors selected by the manager. The CAP manager plans the CAP, taking into consideration the application materials and the proposed survey program, which must be submitted in advance by the applicant. A comprehensive fatigue strength analysis is also undertaken to assist the survey planning. Applicants then prepare for the necessary surveys based on the instructions of the CAP manager.

The surveyors then carry out the necessary surveys based on the instructions prepared by the CAP manager. Where additional surveys are deemed to be necessary by the surveyor, the surveyor may request the applicant to prepare for such surveys.

After the completion of surveys, the CAP manager evaluates the ship's condition based on the survey records and information prepared by the surveyors, and makes the CAP assessment. The results of the condition assessment are

CAP-HULL RATING

Rating Level 1: "Very Good Condition"

Items examined and measured found with only superficial reductions from "as new" or current rule scantlings. No maintenance or repair required.

Rating Level 2: "Good Condition"

Items examined and measured found to have deficiencies of a minor nature not requiring correction or repair and/or found to have all thicknesses significantly above class limits.

Rating Level 3: "Satisfactory Condition"

Items examined and measured either found to have deficiencies, which do not require immediate corrective action, or found to have thicknesses that, although generally above class renewal levels, do exhibit substantial corrosion.

Rating Level 4: "Unsatisfactory Condition"

Items examined and measured either found to have a deficiency or deficiencies which may affect the ship's potential to remain in class, or found to have, in some areas, thicknesses that are at or below the class renewal levels.

CAP-MACHINERY/CARGO SYSTEM RATING

Rating Grade 1: "Very Good Condition"

Items and systems examined and function tested, found with no deficiencies affecting safe operation and/or performance. Documentation and maintenance practices considered good. No maintenance or repair required.

Rating Grade 2: "Good Condition"

Items and systems examined and function tested, found with some minor deficiencies that do not affect safe operation and/or normal performance. Documentation and maintenance practices considered adequate. No immediate maintenance or repair considered necessary.

Rating Grade 3: "Satisfactory Condition"

Items and systems examined and function tested, found with deficiencies not affecting safe operation and/or performance. Documentation and maintenance practices considered to be of a minimum standard. Some maintenance and repair may be considered necessary.

Rating Grade 4: "Unsatisfactory Condition"

Items and systems examined and function tested, found with deficiencies significantly affecting operation and/or performance. Documentation and maintenance practices considered inadequate. Maintenance and repair required to reinstate serviceability.

clearly identified using a rating system consisting of levels one to four. (Level 1 is the highest level. See Box 1 for the full definitions corresponding to each rating.) The certificate of CAP indicating the ship's comprehensive rating (Overall Rating for CAP-HULL and/or CAP-MACHINERY/CARGO SYSTEM) is then issued.

THE CAP IN DETAIL

Upon application, the CAP manager reviews the following documents in order to prepare the instructions necessary for the applicant and/or surveyors prior to the surveys:

(1) CAP-HULL

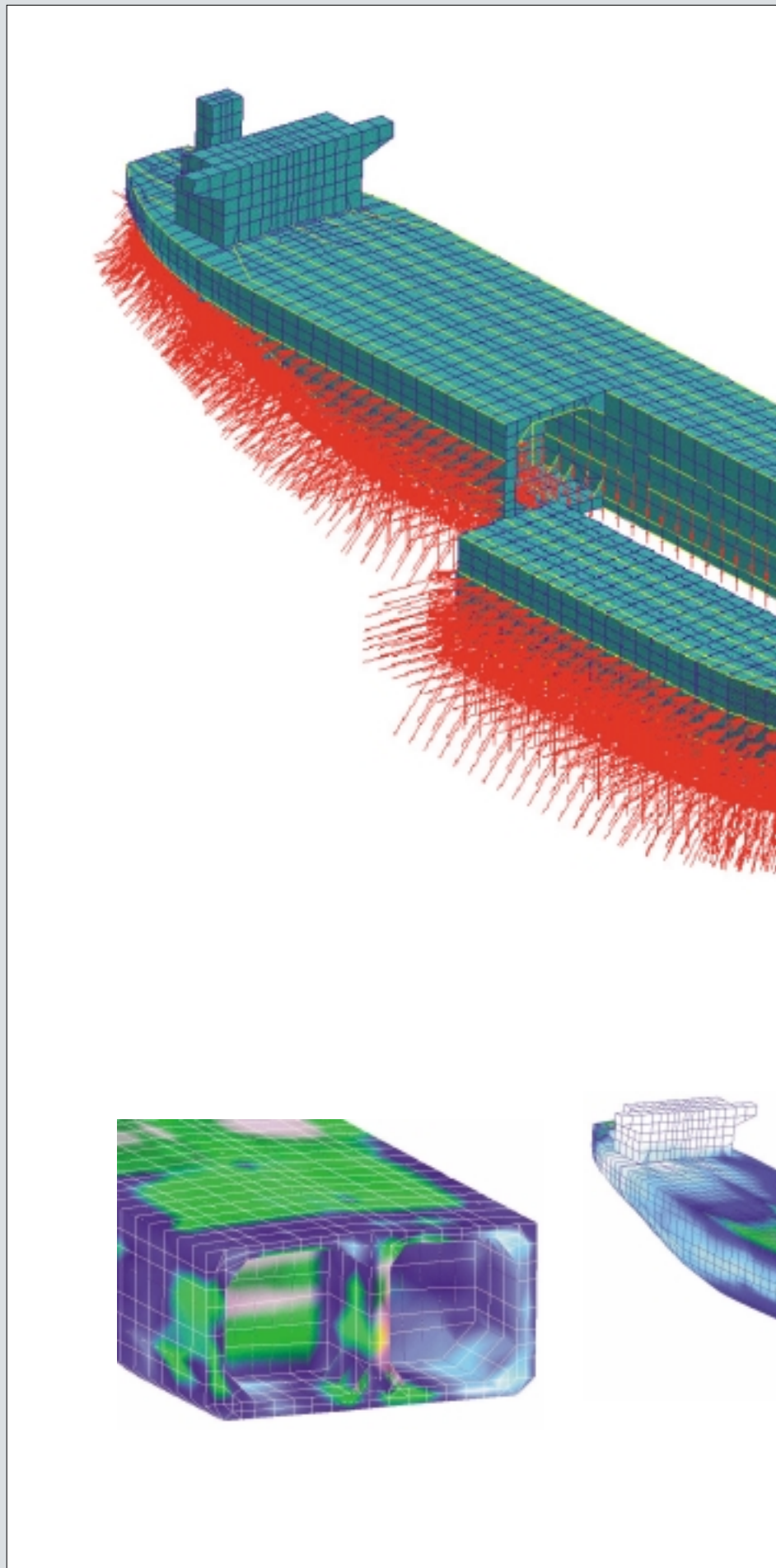
- a. Hull construction plans
- b. Survey program proposed by the applicant
- c. Previous class survey records
- d. Previous CAP report, if any
- e. Report of fatigue strength assessment
- f. Thickness measurement records, if carried out in advance.

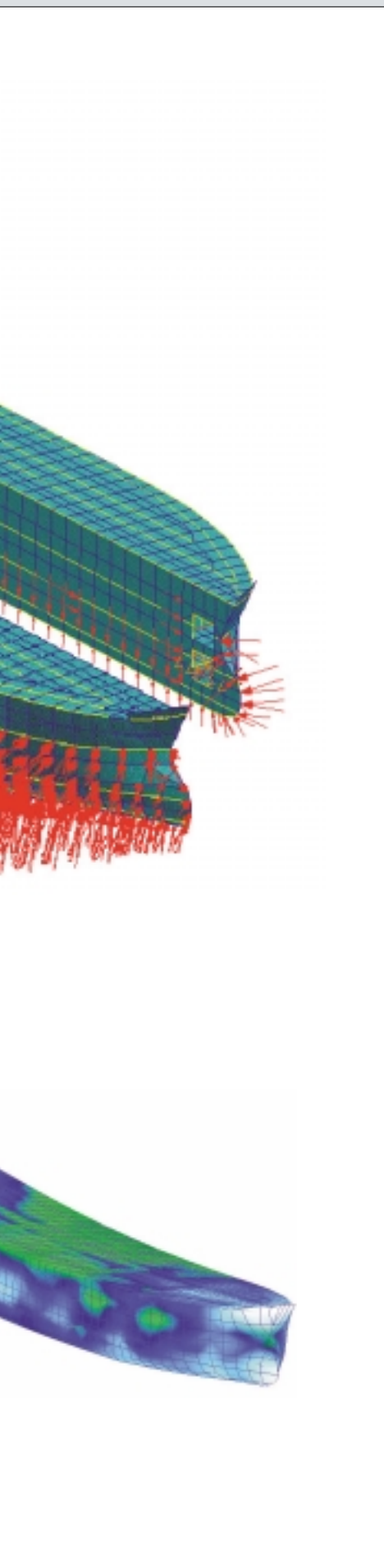
(2) CAP-MACHINERY/CARGO SYSTEM

- a. Relevant drawings
- b. Survey program proposed by the applicant
- c. Previous class survey records
- d. Previous CAP report, if any
- e. Ship's maintenance/repair records submitted by the applicant.

One of the most important aspects of the CAP is that, as a set requirement, a fatigue strength analysis of the following parts must be carried out by experts of the Society:

- (1) All the end connections of longitudinals on shell plating at selected transverse web frames and transverse bulkheads
- (2) All the end connections of longitudinals on longitudinal bulkheads at selected transverse web frames and transverse bulkheads
- (3) All the end connections of longitudinals on the upper deck at selected transverse web frames and transverse bulkheads





- (4) Intersections between bilge hopper plates and inner bottom plates in line with selected transverse web frames, as deemed necessary
 - (5) Selected large brackets/web frame ends, as deemed necessary.
- Each part of hull structure to which fatigue strength analysis applied is

placed into a category: "LOW RISK AREA," "MEDIUM RISK AREA" or "HIGH RISK AREA," corresponding to the result of the fatigue strength analysis. The report of fatigue strength assessment includes this information together with the actual results of the analysis.

CAP-HULL: THE ON-SITE SURVEY

The surveyors carry out all necessary survey items carefully, paying special attention to the instructions prepared by the CAP manager. The following examinations are carried out.

- (1) General Examination of:
 - a. Exposed upper deck
 - b. Shell plating, including sea chests
 - c. Rudder structure
- (2) Internal Examination of:
 - a. All cargo tanks*
 - b. All water ballast tanks*
 - c. All freshwater tanks
 - d. All fuel/lubricating oil tanks
 - e. Machinery spaces.

* The corrosion protection systems should also be carefully examined, if there are any.

- (3) Close-up Examination of:

For oil tankers

Tanks	Subject members
a. All ballast tanks (including FPT, APT)	All transverse rings* ¹ and All transverse bulkheads* ²
b. One cargo wing tank	All transverse rings* ¹
c. Remaining cargo wing tanks	One transverse ring* ¹
d. All cargo tanks	All transverse bulkheads* ²
e. All cargo center tanks	One deck transverse* ⁴ and One bottom transverse* ⁴
f. As considered necessary by the Surveyor	Additional transverse rings* ¹

For chemical carriers

Tanks	Subject members
a. All ballast tanks (including FPT, APT)	All plating and internals* ³
b. One cargo wing tank	All plating and internals* ³
c. Remaining cargo tanks	One transverse ring* ¹
d. All cargo tanks	All transverse bulkheads* ²

Notes:

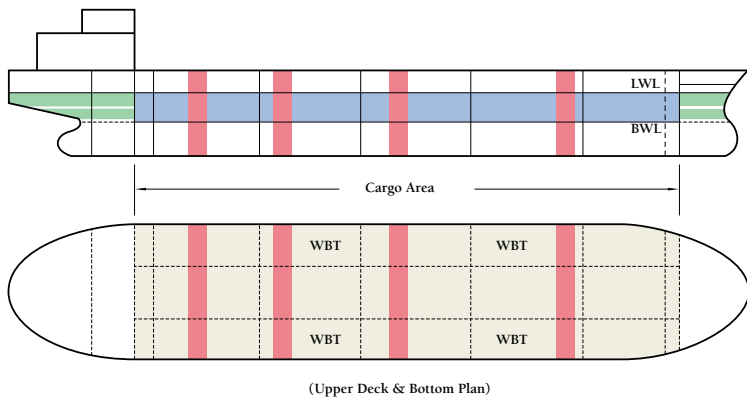
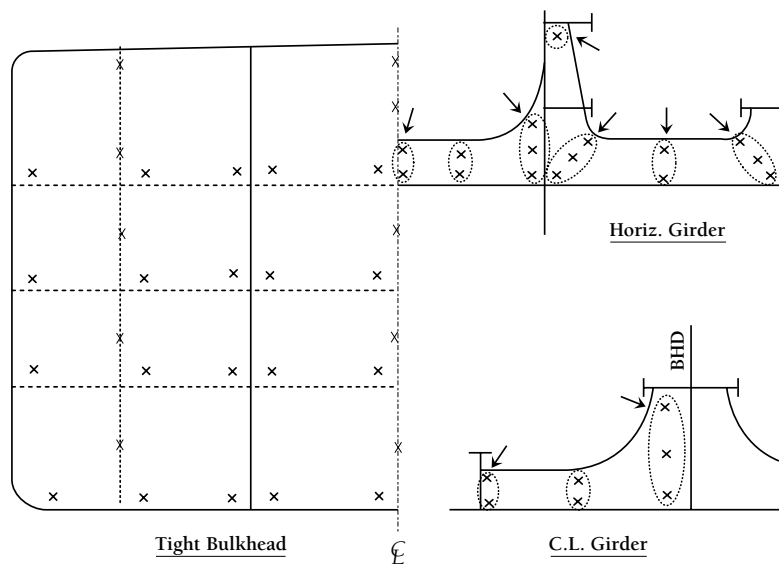
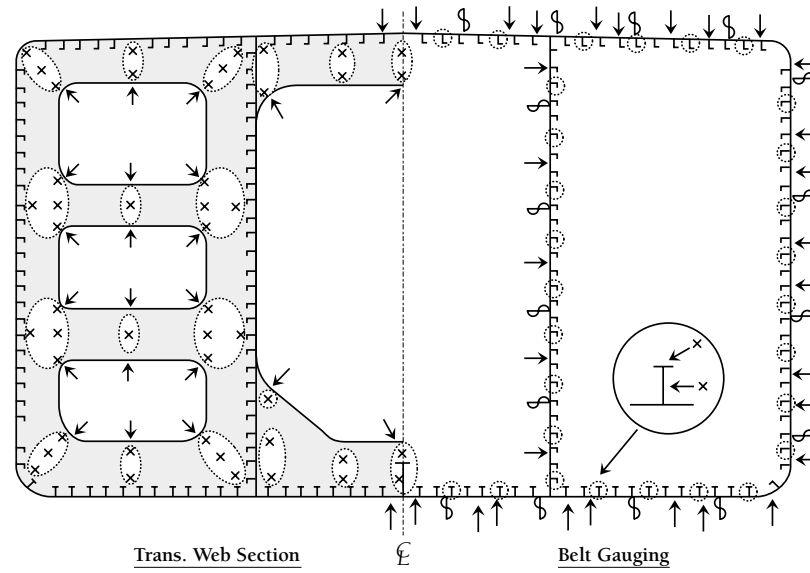
- *1 : Complete transverse web frame ring including adjacent structural members such as shell plates, longitudinal frames, brackets, etc.
- *2 : Complete transverse bulkhead including girder system and adjacent members.
- *3 : Complete tank including all tank boundaries and internal structure, and external structure on deck in way of the tank.
- *4 : Deck and bottom transverse including adjacent structural members such as deck plates, bottom plates, longitudinal beam/frame, etc.

Thickness measurements to examine the ship's condition in detail must be carried out by a firm approved by the Society and under the control of surveyors. (The results of thickness measurements carried out by an approved firm within the 12 months prior to the CAP survey may be taken

into account, provided that such results are accepted by the surveyor with appropriate verification.) The points to be measured are to be increased if considered necessary by surveyors. (See Fig. 1: Thickness Measuring Points.)

Fig. 1

Thickness Measuring Points



- Systematic thickness measurement**
- Each deck and bottom plate within the cargo area
 - All longitudinal members in four transverse sections within the cargo area
 - Wind and water strakes outside the cargo area (at least two strakes on each side)
 - Wind and water strakes inside the cargo area (all strakes on each side)

CAP-MACHINERY/CARGO SYSTEM: THE ON-SITE SURVEY

The surveyors carry out necessary survey items carefully, paying special attention to the instructions proposed by the CAP manager. For the CAP-MACHINERY/CARGO SYSTEM survey, the following machinery and cargo systems are included as subject items:

- (1) Propulsion and steering system
- (2) Electric power system
- (3) Auxiliary machinery system
- (4) Deck machinery system
- (5) Cargo system.

Optional items may be included in the CAP assessment at the owner/applicant's request.

ASSESSMENT OF THE CAP-HULL SURVEY

A CAP-HULL rating for various structural groups is decided considering items (1) and (2) below, and the survey reports. The lowest rating for any individual item becomes the CAP-HULL rating for each structural group.

- (1) The necessity for maintenance, repairs or corrective action:

Using the definitions of rating level (see Box 1), the results of the survey are to be evaluated.

- (2) Diminution percentage in thickness of each structural group:

Resulting diminution is compared with the limiting diminution as required by NK.

In principle, the diminution percentage is to be based on the original "as built" scantling. However, in some cases the diminution percentage may be based on the scantlings applicable in the current rules. This option only applies to representative diminution and, if used, must be used for the whole ship. (Diminution percentages based on the scantlings applicable in the current rules cannot be used for spot diminution). "Representative Diminution" applies to the UTM data at points with uniform corrosion, and is calculated using a statistical method with 90% reliability (S-curve method). In the case of ratings 1 and 2,

however, the diminution percentage at each measuring point shall not be more than 75% of the allowable diminution limits of the classification requirements.

The CAP-HULL rating on longitudinal strength (Section Modulus, Sectional Moment of Inertia, Buckling Strength) is to be based on the comparison of the actual value with rule requirements.

Actual values are to be calculated based on thickness measurement data on belt gauging so as to cover the worst case. The lowest rating level of any item evaluated is to be considered as the overall CAP-HULL rating.

ASSESSMENT OF THE CAP-MACHINERY/CARGO SYSTEM

Using the definitions of rating grades mentioned in Box 1, a CAP-MACHINERY/CARGO SYSTEM rating for each subject is to be evaluated based on the survey results. The overall rating for the CAP-MACHINERY/CARGO SYSTEM is to be evaluated considering

B o x 2

As part of the CAP, a supplementary assessment of the condition of the corrosion protection system (CPS) for each applicable tank is undertaken. The assessment results are defined by the ratings below but are not related to CAP-HULL ratings directly.

Definitions of CPS ratings

cA: Excellent condition, where no rusting and/or blistering of the coatings is observed, or if observed, is in a very few areas. No corrosion of the structural members is observed, with paint coating in good condition.

cB: Very good condition, where a little rusting on the edge and/or welded parts and on localized flat parts of the structural members is observed, but significant corrosion is not observed.

cC: Good condition, where rusting on some edge parts and welding joints of flat parts in the structural members is observed. Small amount of "pitting corrosion" of the structural members is observed.

cD: Good condition as far as the hull scantling, i.e., no decrease of the scantling is observed and only a small amount of local and pitting corrosion of the structural member is observed. Paint coating is partly peeled off in extensive areas.

cE: Condition at a more advanced corrosion level than cD. Decrease of the scantling is at acceptable level for a periodical class survey, including a condition that requires repair works to the heavily corroded structural members. Paint coating has deteriorated across large areas.

the rating grades and importance of each subject.

THE ASSESSMENT RECORDS

At the completion of the CAP, a certificate is awarded indicating the results. Detailed assessment results and the relevant records shown below are attached to each CAP certificate.

- (1) CAP-HULL
 - a. CAP-HULL rating for each structural group and strength evaluation
 - b. Survey record
 - c. Report for fatigue strength assessment
 - d. Rating for corrosion protection systems of water ballast tanks and coated cargo tanks
 - e. Photographic report
 - f. Thickness measurement record.
- (2) CAP-MACHINERY/CARGO SYSTEM
 - a. CAP-MACHINERY/CARGO SYSTEM rating for each item
 - b. Survey record
 - c. Photographic report.



The Nippon Maru in full sail in front of Yokohama Landmark Tower

Yokohama: Japan's Leading Port

To catch a train from Japan's most populous city, Tokyo, to its second most populous city takes about 20 minutes. If you are confused, and wondering why you haven't heard about this new supersonic train, it's probably because you are thinking that Japan's second most populous city is Osaka. In fact, Japan's second most populous city is Tokyo's nearest neighbor, Yokohama, the subject of this year's NK Magazine Focus on Japan story. (For the record, and to avoid numerous letters, the population of Yokohama City is about 3.4 million, while the population of Osaka City is about 2.3 million people.) Being such a large population center in itself, and being in such close proximity to Tokyo, as a port city, it is natural that Yokohama is also one of Japan's biggest and most important ports, and it also follows that ClassNK will have a major presence there. The first NK Yokohama office was established in 1934 and became a full-fledged branch in 1945. The office has grown and moved several times over the years, and now occupies a functional four-story building just several minutes' walk from Sakuragicho Station.

At around 20 staff, the Yokohama branch office is one of the larger and busier branches in Japan, and is led by Mr. Hiroshi Watanabe, a highly



Sumitomo Heavy Industries, Ltd. Yokosuka Shipyard (Photo courtesy of SHI)

experienced General Manager, who recently returned from a posting as General Manager of NK Hong Kong, another busy office. As an extremely busy office, handling both newbuildings at four yards, and numerous afloat surveys every week, we were well aware that as "tourists" from the head office Marketing and Publicizing Department, we could be potentially be seen as more hindrance than help as we tagged along chronicling the activities of the branch's busy surveyors. But as luck (and a little good planning) would have it, our host, the Principle Hull Surveyor, was none other than our previous boss at the head office Marketing and Publicizing Department, Mr. Takashi Sekine. Given his intimate understanding of the task at hand, we were confident that he would arrange an interesting and diverse program for us, and we were not disappointed.

Our first site visit was to the Sumitomo Heavy Industries (SHI) Shipyard in Yokosuka, where we were met by the onsite surveyor, Mr. Furukawa. There is a view in Japan that you can guess the quality of a

hotel by the size of its lobby. As someone from outside the shipbuilding industry, in this my second year of visiting many different shipyards, I have come to the conclusion that you can guess the quality of a shipyard by the quality of the bicycle that



GM Mr. H. Watanabe with Principal Surveyor Mr. T. Sekine

横浜



Close-up inspection of welding with SHI staff

you are issued to get around on. I'm pleased to say that my SHI standard-issue bicycle was near new and very comfortable. This proved most fortunate as the yard itself is quite expansive, and it seemed that we journeyed to all its farthest points in our tour of duty. The yard is a busy and successful yard but is so clean, organized and efficient one cannot help but be impressed. As we observed the fabrication of several units, I was reminded of a passage from the 1853 journal of Commodore Perry of Black Ships fame, who noted:

"In the practical and mechanical arts, the Japanese show great dexterity; and when the rudeness of their tools and their imperfect knowledge of machinery are considered, the perfection of their manual skill appears marvelous. (sic) Their handicraftsmen are as expert as any in the world, and, with a freer de-

velopment of the inventive powers of the people, the Japanese would not long remain behind the most successful manufacturing nations. Their curiosity to learn the results of the material progress of other people, and their readiness in adapting them to their own use, would soon, under a less exclusive policy of government (sic), which isolates them from national communion, raise them to a level with the most favored countries. Once possessed of the acquisitions of the past and present of the civilized world, the Japanese would enter as powerful competitors in the race for mechanical success in the future."

The fact that this passage was written in the journal of the first American to officially visit Japan, marks Perry as a man of great insight, and he, I suspect, would not be surprised that Japan, not known then as a seafaring nation, quickly went on to become the leading shipbuilder in the world and remains in the top two today.

There were, of course, a number of vessels under construction when we



NK surveyor Mr. Y. Furukawa and Owner Representative Mr. H. Ludwisiak consult with SHI staff prior to survey



(from left) SHI's Mr. T. Nagata, Newbuilding Inspector Mr. P. Hrynkiewicz, Owner Representative Mr. H. Ludwisiak, NK surveyor Mr. Y. Furukawa and Newbuilding Inspector Mr. L. Łatuszyński



Refrigeration units built into a section of the PCC

visited, but one in particular caught our interest. The vessel in question was a pure car carrier (PCC), but this was no ordinary PCC, and this was no ordinary project. For the uninitiated, the PCC is an unusual-looking ship that looks too square and sits too high in the water. They are highly specialized vessels, some designed to carry, at times, up to 5,000 - 6,000 cars, but their operational economics is greatly effected by the fact that they are almost always one-way carriers. A PCC may travel full of new vehicles, say from Japan to the United States, but rarely is there a cargo of cars for it on the return trip.

This new PCC, the *MV Sunbelt Spirit*, under construction to NK Class, is only the second of its kind to be built, and is a 6,100-vehicle-capacity PCC, which is additionally designed and being constructed to operate as a reefer vessel on its return voyage. Being built for Great American Lines, the vessel will carry vehicles to the United States, and return to Japan with a cargo of chilled grapefruit or frozen fish. We were fortunate to also meet the owners' representative, Mr. Henryk Ludwisiak, as well as

the owners' newbuilding inspectors, Mr. Lech Łatuszyński and Mr. Piotr Hryniewicz, a specialist team from Poland. Sitting in on the morning meeting to prepare for the day's survey activities, I was impressed with the excellent relationship and communication between the various parties,

and the ease with which any difficult issues were resolved. It struck me that this combination of Polish experts, representing an American owner, building a ship to NK Class in a Japanese yard, was a fine example of the truly global nature of modern shipbuilding.

On our way back to the Yokohama office, we visited the Ishikawajima-Harima Heavy Industries (IHI) shipyard to see two recently launched bulk carrier sister ships built to NK Class, and being readied for delivery. The yard has recently completed a major restructuring, and a recent reopening ceremony was attended by NK Chairman and President Tadashi Mano, as well as by the GM of the Yokohama branch office, Mr. Hiroshi Watanabe. Originally built in 1964, the yard stopped shipbuilding in 1979, and has only undertaken repairs and steel fabrication since then. With the pending closure of the IHI Tokyo No.1 Factory, the Yokohama yard will become the main factory of IHI's Shipbuilding and Offshore



*Ishikawajima-Harima Heavy Industries Co., Ltd. Yokohama Shipyard
(Photo courtesy of IHI)*

Division. NK is pleased that the first ship delivered from the reborn yard was built to NK Class, and we look forward to many more.

Day two at the Yokohama office was planned to introduce the bread and butter of branch office business, the afloat survey. In a typical week, the Yokohama branch office may do 10 or more afloat surveys, some on as little as a day's notice. With several choices on offer this particular day, we city slickers opted for by far the least strenuous, and most glamorous, of the options offered. Since we had never been on any cruise ship, let alone Japan's most famous, NYK's *Asuka*, we chose her, even though there was little left to do other than present the ship's staff captain with the relevant documentation. As befit its reputation, the ship was immaculately presented throughout, from the cabins, which

were bigger and nicer than many hotels, through to the bridge, which was a picture of organizational efficiency and where we were welcomed warmly by the staff captain, Mr. Hideo Hara. An explanation of the matters at hand by the surveyor, Mr. Katsuhiko Mitsubishi, followed by a formal presentation of documents, and our task was completed.

On the way to the *Asuka*, and just minutes walk from the NK office, we passed the sail training ship *Nippon Maru*, looking splendid in full sail, and we promptly decided to spend the afternoon in pursuit of an improved cultural and historical education on the port of Yokohama.

The *Nippon Maru* is a magnificently maintained, 1930-built, sail training ship of almost 100m in length and four masts, the tallest of which reaches 46m above the sea. When not in use,

the *Nippon Maru* is moored afloat at the stonebuilt dock, which was formerly the Mitsubishi Heavy Industries Yokohama drydock No. 1, and directly in front of the Yokohama Maritime Museum. The museum is a fascinating walk through the history of shipping and ports in Japan, featuring many hands-on and interactive exhibitions, as well as scores of extremely intricate scale models of various ship types. It succeeds admirably in being both interesting to visitors of any age as well as highly educational. On the opposite side is the famous Yokohama Landmark Tower, until recently the tallest building in Asia and still boasting the fastest elevators in the world, running at 750m/min. At 70 stories or 296m, its viewing deck also offers unparalleled views of the whole of the port of Yokohama.

The port itself is huge and seems as if it is under constant development. Today, it is a far cry from the sleepy fishing town near where Commodore Perry and his famous Black Ships arrived in 1853, or when it was first officially opened as a port in 1859. The latest 25 billion yen development plan is slated to redevelop the Yokohama International Passenger Terminal. It is fair, however, to say that the focus of the port remains trade, and in the year 2000, the port of Yokohama was Japan's number one port in terms of ocean-going vessel calls (111,114 arrivals), and in terms of the total trade value, at 8962.2 thousand million yen, with both exports and imports increasing. There can be no doubt that Yokohama will continue as one of Japan's most important ports, and NK will continue to serve the port with pride.



MV Basic Arrow, the first ship launched from IHI's reopened Yokohama shipyard

Opening of the NK Information Center

Regular readers of the NK Magazine and Annual Report over the last few years will be well aware of Chairman and President Mano's views on the strategic importance of information management to the future of the Society. Information management is the backbone of the Society's activities and offers the huge increases in efficiency that will be necessary for the Society to remain at the forefront of international ship classification services. In recognition of this, a plan was developed, and the NK Information Center project was inaugurated in the Society's centenary year, 1999.

Construction of the Information Center began on June 8 last year, proceeded on schedule and was completed on time in mid-June this year. Blessed with fine weather, in spite of it being the rainy season, a traditional ceremony to celebrate the completion and opening of the Information Center was held on June 27, and included an elaborate purification ceremony by a Shinto priest. Senior management and staff of the Society, along with other persons concerned from the design company (Yamashita Sekkei Inc.) and the construction company (Taisei Corporation) attended the ceremony.

The main aims of the center are to perform the central role in the development and promotion of information management and information technology, and to provide continuous business support on a global scale 24 hours a day, 365 days a year, as well as to protect the information assets of the Society from natural disasters. The completion of the Information Center combines with the NK Research Center, located right across the street, to serve as a base for the technical development and advanced information technology activities of the Society into the new century.

The Information Center will enhance the accuracy and efficiency of the activities of the Society by centralizing the information processing



NK Information Center

functions concerned with classification-related services, as well as the computer facilities, which are a core element of the ClassNK information and communications network. In addition, the Center is equipped with a large-scale document storage capability in order to manage commonly used information in a unified, safe and organized manner.

The amazing growth of information and communications technology in recent years has led to a huge expansion and diversification in the production of information. This has resulted in ever-greater importance being placed on services that suitably sift and provide information promptly in a readily accessible manner. The



Information Center Computer Room

establishment of this Center is aimed at supporting clients through the entire information distribution cycle, which spans the receipt and sending of generated information, to the processing, utilization, retention and disposal of such information throughout its useful life. This includes, for example, combining the role of the portal service for the Internet and the function of a library. It also brings together a number of similar functions that until now had been done by different departments independently of each other. These include the provision of surveys and other types of information to clients, the sending of all manner of notifications, as well as the processing and storage of information. It is expected that the coordination of these activities in a more harmonized and rational manner will contribute greatly to providing service of a higher quality that is more responsive to client needs.

In terms of protecting the information assets of the Society from natural disasters, the building has a number of special features. The building as a whole is constructed to be earthquake resistant from the foundation up. It incorporates the most up-to-date



base-isolation systems, and the building effectively sits on rubber pylons built deep into the foundations. It also incorporates pneumatic braces, and is surrounded by a 75cm trench to allow movement of the building. In addition, the facilities are also equipped with measures for emergency support, including electric power, water supply and sewage, which are provided for via backup systems and redundancy, as well as through the use of natural energy and other measures. The entire

facility is designed and built such that it could, if required, accommodate and serve as the head office, should the Tokyo head office be damaged in a natural disaster.

The interior of the building is carefully designed to be both functional and comfortable. The advanced design highlights the expandability, environmentally friendly nature and energy-saving features of the facilities. The building has been constructed with the aim of creating comfortable offices that give occupants a feeling of nature while inside. This is achieved through the installation of atria and light wells in the building so that the natural lighting evokes a sense of nature, as does the landscaping. This is complemented by the fact that the center is surrounded by a beautiful green environment that is naturally blessed with many trees and greenery. In fact, special measures have been taken against bugs, birds, snakes and

the like in the surrounding area!!

Several departments relocated to the Information Center from the 1st of July (see relocation story pg.19) and over 100 staff are already enjoying these magnificent facilities.

Natural light and atria are key design elements.



The laminated ferro-rubber shoe placed on a base block. These make the quake period longer and softer.



The base isolation system in completion



An oil damper of the base isolation system, which is placed in the base. The damper's right-hand end is fixed to the building's main structure, and the left-hand end is fixed to an anchor block on the base.



Fact File

The Information Center is a four-story, reinforced concrete structure located about 45 kilometers east of Tokyo in the Kyuryobu section of Midorinomori (Green Forest) Industrial Park in Toke, Chiba City.

Location of site:	Ohnodai 1-8-5, Midori-ku, Chiba City, Chiba (across from the NK Research Center)
Area of site:	13,058.67m ² (including 5,622.60m ² of wooded land)
Construction area:	1,839.47m ²
Floor area:	5,547.98m ²
Design:	Yamashita Sekkei Inc.
Construction:	Taisei Corporation

The port city of Haiphong is the economic, industrial, commercial services and tourist center of the northern coastal area of Vietnam. It is the main sea gateway of the northern provinces and an important transport center not only for the north, but also for the entire country. The port has a large working area of 600,000m², and now handles the greatest proportion of cargo in all of northern Vietnam. There are 15 quays, totaling 2,705m in length, with a depth of draft of -7.5m. Presently, the port can easily accommodate ships of 8,000 dwt. However, the navigation channel is now being dredged to increase capacity to receive ships of about 10,000 dwt.

In 1999, the first phase of Haiphong's port rehabilitation project was completed with a loan from the Japanese Overseas Economic Cooperation Fund (OECF). In the year 2000, the second phase of the project was implemented to rehabilitate the navigation channel and facilitate more shipping, as well as to enhance the handling capacity of the port. Another project is currently under construction in order to rehabilitate the Chua Ve port area of Haiphong to enable it to become the largest container terminal in the north of Vietnam, with a handling capacity of 500,000 teu per year. In addition to the present seaport, a modern deep-sea port that can accommodate ships of 30,000 dwt will be built in the Dinh Vu economic zone.

All this development has led many shipping agencies and shipping lines to establish branches in Haiphong, including Vietnam Ocean Shipping Company (Vosco), Vietnam National



Delivery ceremony for the MV Vinh Thuan at Bach Dang Shipyard

Shipping Lines (Vinalines), Vietnam Sea Transport and Chartering Company (Vintranchart), Vietnam Ocean Shipping Agent (VOSA), AMP Saigon, Sealands, Mitsui, Evergreen, Maersk, P&O Nedlloyd, NYK, APL, Hyundai, Hanjin, K-line, Cosco, and Heung-A.

Haiphong has been the key ship center of Vietnam for many years. Most Vietnamese shipyards and ship-repair yards are concentrated in the Haiphong area, including Bach Dang Shipyard, Song Cam Shipyard, Nam Trieu Shipyard, Ben Kien Shipyard, Pha Rung Shipyard and Tam Bac Shipyard, among others. Vietnam Shipbuilding Industry Corporation (Vinashin) has recently adopted an aggressive 10 year-plan (2001 - 2010) aiming at upgrading and expanding its yard. The ambitious plan is to extend repair facilities to handle up to 50,000 dwt and extend new building capacity up to 30,000 dwt. Bach Dang Shipyard, which is the leading shipyard of Vinashin, is located at

Cam River. This shipyard recently achieved a historic milestone with the successful delivery of the MV *Vinh Thuan* constructed to NK class. She is recorded as the first 6,500-dwt ship to be built by a domestic shipbuilding yard. At the same time, Bach Dang Shipyard is undertaking the construction of a second and third 6,500-dwt cargo ship, a set of five ships of 11,500 dwt for Vosco and one ship of 12,500 dwt for Vinashin.

Halong Shipyard (in Quang Ninh province, 60km from Haiphong) is building an LPG carrier, of 2,500 m³, with two pressure tanks. Other, smaller-scale shipyards such as Song Cam Shipyard, Ben Kien Shipyard, Nam Trieu Shipyard, and Tam Bac Shipyard, which have slipways capable of handling newbuildings up to 1,000 dwt, specialize in building tug boats, barges or high-speed boats. For ship repairing, Pha Rung Shipyard is a large



Haiphong

repair dockyard with a drydock of 15,000 tons and other facilities enabling repairs of ships up to 20,000 dwt in size.

The NK Haiphong Office covers surveys across the whole of Vietnam. Since the establishment of the office in October 1996, with only one Japanese surveyor to take care of both survey jobs and office management, the office has now expanded with two Vietnamese exclusive surveyors and 10 non-exclusive surveyors appointed from the Vietnam Register of Shipping (VR) in order to meet the demand for ship surveys. With 23 survey offices and branches spread across the country, VR surveyors have been joining surveys with NK surveyors based on a cooperation agreement between NK and VR.

In line with the ongoing development of the Vietnam maritime industry, the NK Haiphong Office is contributing to the technical quality of shipbuilding and repairing by domestic shipyards, and also by further boosting the cooperative relationship between Japanese and Vietnamese Marine-related counterparts.

The Haiphong Office has also become much busier than ever before since the establishment of the Hyundai-Vinashin Shipyard in May 1999 at Khanh Hoa Province, home of the beautiful Nha Trang beach city. This is a joint venture shipyard between Vinashin and the Korean shipbuilder

Hyundai, and is equipped with two dry-docks (400,000 dwt and 80,000 dwt) and three quays. There are routinely several NK-classed ships dry-docking at this shipyard for repair and/or periodic survey each month.

While Haiphong Port is under rehabilitation to accommodate bigger ships, most afloat surveys for large vessels are carried out outside the Haiphong area, such as in Halong Bay (Quang Ninh Province), in the southern part of Vietnam, including Can Tho Port, Vung Tau Port and Saigon Port, or in the central part of Vietnam, including Nghe An Port, Da Nang Port and Qui Nhon Port. Surveyors therefore often have to travel long distances by airplane for surveys. But this also offers a good chance to travel and investigate Vietnam, a tropical country with 4,000 years of history and culture. Halong Bay, for example, is recognized by UNICEF as one of the world's natural wonders, with thousands of small and big natural islands and caves.

The sea and coastal areas are no doubt the special natural features of Vietnam, and especially Haiphong. They are also potentially of special advantage to the economy of Haiphong, with romantic resorts and holiday areas such as Do Son Beach, Cat Ba Island and Bach Long Vi Island. Do Son Beach is just 20km from the city center and is famous for its beauty. Its long



GM Mr. H. Inoguchi with the NK Haiphong team

beaches and beautiful scenery attract many domestic and foreign tourists for summer vacation.

Along with its natural beauty, Vietnam's cities also have a lot to offer. Da Nang is an industrial city with Hoi An Ancient Town, My Son Sanctuary, Marble Mountain, and Cham Museum. And Can Tho, for example, has Ninh Kieu Wharf, the city's major trading center, which is famous for its floating fruit market and restaurants.

Ho Chi Minh City (formerly Saigon), which was once praised as the Pearl of the Far East, is not only a commercial center, but is also a scientific, technological, industrial and tourist center. Over the past centuries, Saigon was well known as an important trading center to Chinese, Japanese and Western merchants. In addition to enjoying scenic areas, visitors can delight in various cuisines, which are very regional and vary quite differently across the northern, central and southern areas.

The General Manager of the Haiphong Office, Mr. Hidenori Inoguchi, was newly appointed to this post in April this year, but has quickly grown comfortable with Vietnam and come to appreciate the country with its many beautiful areas and open-hearted people. No doubt, Vietnam has also left good memories with the many other foreigners who have visited here.



Modern Ho Chi Minh City

EVP Hidaka carries the fight forward

NK Executive Vice President Mr. Masataka Hidaka recently completed his one-year term as IACS chairman, passing the baton to our Russian colleague, Mr. Igor Ponomarev. NK congratulates and thanks Mr. Hidaka for his contribution on behalf of the Society, during what was unquestionably one of IACS' more challenging years.

Not content to rest on his laurels, Mr. Hidaka has immediately thrown himself back into the fray as chairman of the IACS Steering Committee on Bulk Carrier Safety. Mr. Hidaka has a strong personal interest in the issues of bulk carrier safety, and is looking forward to contributing his expertise in this area. The committee first met in July this year to deal with a range of concerns raised by the Hong Kong Ship Owners Association earlier this year, and will meet again towards the end of this year.

Change to NK-SHIPS Service

Most readers will already be familiar with the NK-SHIPS Service, which provides NK-classed ships' survey status, periodical survey items, survey due dates and other information 24 hours a day, 365 days a year, from anywhere in the world via the Internet.

Users of this service can search, download and output information in real time, with no special software needed. Complete security of information is provided, allowing users to access information regarding their ships with total confidence.

Access to the service requires registration. However, ClassNK is pleased to advise that since January 2001, the NK-SHIPS Service via the Internet has been available free of charge.

Users should note, however, that using the free service only allows searches of the vessels for which they are registered as an owner or a manager.

If you are not already taking advantage of this free service, and would like to register, please contact the Information Service Department at the NK Information Center on:

Fax: +81- 43 294 7204
or email: isd@classnk.or.jp

NK recognized as an Accredited JCSS Calibration Laboratory for Force Standards

The Japan Calibration Service System (JCSS) consists of the National Standards Provision System and the Calibration Laboratory Accreditation System, introduced in accordance with the amended Measurement Law (1993). It was introduced to ensure precision measurement and confidence in the quality control of the industrial production process in Japan. Accredited JCSS calibration laboratories are approved in accordance with the JIS (Japan Industrial Standard) Z 9325 (ISO/IEC Guide 25).

One of the important services that ClassNK provides clients through its facilities at the NK Research Center in Chiba, is inspections of material testing machines, using force-proving instruments that are calibrated by a series of ClassNK force calibration machines that are fully traceable to the Japanese national force standards.

The Society also provides inspection and calibration services for tensile testing machines, compression testing machines, impact testing machines, hardness testing machines, as well as force-proving instruments.

On February 20 this year, the ClassNK Testing Machine Department received recognition as an Accredited Calibration Laboratory for Force Standards by the Ministry of Economy, Trade and Industry in accordance with the traceability system of the Measurement Law. Hence, the NK Testing Machine Department is now an Accredited Calibration Laboratory under the JCSS of the Measurement

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EVP Mr. M. Hidaka



NK-SHIPS Homepage

Law in the category and field of force and force-proving instruments, and can now issue certificates with the JCSS logo on them (see right), for calibrated instruments (force-proving instruments).

The approval number for the Testing Machine Department is 0093, and the Approved Calibration Ranges are as follows:



JCSS accredited laboratory logo

Reorganization of ClassNK Head Office

Six departments began operations at the new NK Information Center from the 2nd of July: the Safety Management System Department (SMD), Marine and Industrial Service Department (MID), Classification Department (CLD), Technical Investigation and Information Department (TID—Computer Section and Damage Investigation Sections), the Training Center (TRC) and the Information Service Department (ISD).

The ISD is a new department, and has been established at the center with the aim of facilitating the ease and convenience by which internal and external clients can obtain information. The ISD consists of three sections: the Customer Service Section, the Records Service Section and the Publishing Section. The first handles various inquiries from clients, while the second manages the information assets of the Society, and the last oversees the provision of information via a range of media, including various publications and the ClassNK Web site.

The details of the reorganization and the changes in contact numbers were recently advertised in Lloyd's List, and have been reproduced at the end of this magazine for the convenience of readers. Please feel free to cut this page out and keep it with other important numbers.

Category and Field		Range of Calibration		Best Measurement Capability
Force	Force-Proving Instrument	Compression	30 N min. 1 kN max.	± 0.02 %
			200 N min. 1 kN max.	± 0.01 %
			100 N min. 5 kN max.	± 0.01 %
			1 kN min. 50 kN max.	± 0.02 %
			5 kN min. 50 kN max.	± 0.01 %
			5 kN min. 500 kN max.	± 0.02 %
			15 kN min. 500 kN max.	± 0.01 %
			50 kN min. 5 MN max.	± 0.02 %
			100 kN min. 5 MN max.	± 0.01 %
		Tension	1 kN min. 50 kN max.	± 0.01 %



NK calibration laboratory equipment

Reorganisation at

ClassNK

Nippon Kaiji Kyokai (ClassNK) is pleased to announce the completion of its new Information Center, based in Chiba. Following the completion, many of the Departments and Sections now in the Head Office in Tokyo have relocated to the new facility.

The new addresses and contact numbers of all Departments are summarised for your convenience herewith. ClassNK apologises for any inconvenience that this may cause, but believes the new organisational structure will allow it to serve you in a more timely and effective manner.

Any enquiries regarding the reorganisation should be directed to the Planning Department on fax number +81-3-5226-2030.

Head Office Reorganisation (Effective from 1 July 2001)

HEAD OFFICE Contact Numbers

Administration Center Address: 4-7 Kioi-cho, Chiyoda-ku, Tokyo 102-8567 JAPAN

	(TEL) +81	(FAX) +81
GENERAL AFFAIRS DEPARTMENT	3-5226-2011	3-5226-2012
FINANCE DEPARTMENT	3-5226-2015	3-5226-2012
PLANNING DEPARTMENT	3-5226-2035	3-5226-2030
EXTERNAL AFFAIRS DIVISION	3-5226-2038	3-5226-2039
BUSINESS DEPARTMENT	3-5226-2040	3-5226-2039
HULL DEPARTMENT	3-5226-2017	3-5226-2019
MACHINERY DEPARTMENT	3-5226-2022	3-5226-2024
MATERIALS & EQUIPMENT DEPARTMENT	3-5226-2020	3-5226-2019
SURVEY DEPARTMENT	3-5226-2027	3-5226-2029
AUDIT DIVISION	3-5226-2043	3-5226-2039
ETAS (Emergency Technical Assistance Service) DIV.	3-5226-2027	3-5226-2029
QUALITY & ENVIRONMENT SYSTEMS DEPT.	3-5226-2042	3-5226-2039

Research Center Address: 1-8-3 Ohnodai, Midori-ku, Chiba 267-0056 JAPAN

	(TEL) +81	(FAX) +81
GENERAL AFFAIRS DIVISION (RESEARCH AND INFORMATION CENTER)	43-294-5400	43-294-5464
RESEARCH INSTITUTE	43-294-5894	43-294-5896
DEVELOPMENT DEPARTMENT	43-294-6672	43-294-6699
OFFSHORE TECHNOLOGY DIVISION	43-294-6672	43-294-6699
TESTING MACHINE DEPARTMENT	43-294-5549	43-294-5706

Information Center Address: 1-8-5 Ohnodai, Midori-ku, Chiba 267-0056 JAPAN

	(TEL) +81	(FAX) +81
CLASSIFICATION DEPARTMENT	43-294-6469	43-294-5660
TECHNICAL INVESTIGATION AND INFORMATION DEPARTMENT	43-294-5467	43-294-7206
INFORMATION SERVICE DEPARTMENT	43-294-5451	43-294-7204
MARINE & INDUSTRIAL SERVICE DEPT.	43-294-6131	43-294-7212
SAFETY MANAGEMENT SYSTEM DEPT.	43-294-5999	43-294-7206
TRAINING CENTER	43-294-6205	43-294-7212
LECTURERS		

ClassNK

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