

IAPH Officers

(1999 - 2001)

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Executive Vice President

Nagoya Port Authority

Japan

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Port of Houston

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Immediate Past President

Jean Smagghe

Executive Vice-President

International Affairs of

Association of French

Ports (UPACCIM)

France

Secretary General

Satoshi Inoue

IAPH Head Office

Tokyo

Japan

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IAPH ANNOUNCEMENTS AND NEWS

IAPH welcomes the ports of Nantong and Genoa as new regular members

WE are delighted to be able to report that two new regular members, Nantong Port Authority, China, and the Port Authority of Genoa, Italy, have joined IAPH.

Nantong is the 11th port from the mainland of China to have joined as a regular member, following the ports of Dalian, Guangzhou, Nanjing, Qingdao, Qinghuangdao, Shanghai, Shenzhen, Tianjin, Xiamen and Zhangjian. Moreover, the Port of Ningbo is preparing to join us as the 12th regular member from the mainland of China. The number of regular members from China as of the end of August totals 16, including the Marine Departments of Hong Kong, Kaohsiung, Haulien, Keelung and

Taichung, which are all members of extremely long-standing. Thus, China ranks as the country with the second largest representation in IAPH following Japan, which has 35 regular members. The Secretary General and the Chairperson of the Membership Committee wish to record their deep appreciation to our Chinese friends, now and past, for their support and initiatives in convincing new members to join the efforts of IAPH for the collected interests of world ports.

Genoa, a port since Biblical times, has become a regular member of IAPH as a second port from Italy, following the Port of Livorno, which joined us earlier this year. Genoa's full-fledged IAPH regular

membership has been awaited by the IAPH officers and the successive membership committee chairpersons for many years, including the period during which the Port of Genoa was with IAPH as a temporary member.

As a result of constant dialogue between IAPH and the Italian port until the time the mid-term board meeting was held in Marseilles in May of this year, IAPH had been able to receive an affirmative indication of Genoa's participation as a regular member. Following the Marseilles meeting, President Taddeo made a visit to the Port of Genoa, where he was assured of its ongoing application for IAPH membership.

Genoa's participation is warmly welcomed by all at IAPH, who look forward to working closely together with this long-established giant port.

In this issue the greetings from Giluano Gallanti, President, the Port of Genoa, are featured in the Membership Notes column and an article on the Port is introduced in the WORLD PORT NEWS section.

Exco 2000 to meet in Tokyo, October 23 - 26

Tokyo welcomes your participation if traveling to Japan

WHEN President Taddeo opened the new IAPH Head Office last December, he wished his cabinet members to gather in Tokyo to see for themselves IAPH's new head office, which Mr. Taddeo believes is now situated exactly where it should be in a high-powered business and leisure center on Tokyo's waterfront. His enthusiasm was supported by the Vice Presidents, chairs of the committees and the Board in the form of the final decision on the location of Executive Committee (Exco) meeting 2000, at the mid-term meetings in Marseilles held in May this year.

On June 23, Secretary General Inoue sent a letter to all the Exco members, chairs of the various committees and

the liaison officers, inviting them to attend the first Exco meeting ever held in Tokyo at the Association's head office since the establishment of IAPH 45 years ago.

The agenda will include the presenta-

tion of details of the Montreal Conference, consideration of the streamlining of the Bye-Laws to enhance the efficiency of the Association and other issues yet to be pursued by the Association in accor-



IAPH ANNOUNCEMENTS & NEWS

dance with the recommendations by the IAPH 2000 Task Force.

By the end of August, the following individuals had confirmed their participation in the event:

Dominic J. Taddeo

IAPH President (Montreal)

Akio Someya

IAPH 1st Vice President (Nagoya)

Pieter Struijs

IAPH 2nd Vice President (Rotterdam)

H. Thomas Kornegay

IAPH 3rd Vice President ((Houston)

Jean Smagghe

IAPH Immediate Past President (Paris)

Patrick J. Keenan and Frank J. Boland

(Cork)

Bernard S. Grosclouse, Jr.

(Charleston)

Goon Kok Loon

(Singapore)

Lu Haihu

(Shanghai)

Shieh Ming-Hui

(Keelung)

John C. Hayes

(Sydney)

OC Phang

(Port Klang)

Peter C. van der Kluit

IAPH European Representative (Rotterdam)

Technical Committees

At the point of the Marseilles meeting, Dr. Hans Ludwig Beth (Hamburg), chairman of the IAPH Committee on Combined Transport & Logistics (Distribution), announced that his committee should meet in Tokyo on the afternoon of Tuesday, October 24.

The chairs of the other committees are yet to make decisions as to whether or not their committees should meet in Tokyo and to advise the Tokyo secretariat of their decisions.

The 13th IAPH Japan Seminar

In conjunction with the Exco meeting, the **IAPH Foundation** has decided to hold this year's IAPH Japan Seminar on the afternoon of October 25 to which all those who will be gathering for the Exco and other committee meetings are invited. A series of such seminars has been held since 1988, aiming at promoting and evaluating the IAPH World Ports Conferences among the IAPH members in Japan, who have sent the largest number of participants to the recent biennial conferences. For this purpose, the organizer invited the host of the next conference to speak to a Japanese audience on the main issues to be discussed at the forthcoming conference and the state of preparations. At the October seminar,

Dominic J. Taddeo, President and CEO, Montreal Port Authority, our host for the 22nd World Ports Conference, is going to address the gathering on the main features of the Montreal Conference outlining the latest developments in the conference programs, the keynote speakers as well as the other major speakers and the subject areas. In the seminar, Peter van der Kluit, IAPH European Representative, is also speaking on the role of IAPH in the European theatre, focusing on his representation activities as IAPH liaison officer with IMO. The keynote speaker will be Mr. Izumi Shinya, Vice Transport Minister (political), who will speak on the subject "Maritime Transport for the 21st century."

The IAPH Foundation has invited the major ports in Japan, not only those who are already IAPH members but also other ports, from the north to the south, to attend the seminar on October 26. The participants will be able to meet IAPH officers and Exco members for exchange of views and information on IAPH and on issues their respective ports are facing.

Any IAPH members who are planning to visit Japan at that time are encouraged to find time to join the seminar and the reception to be hosted by the IAPH Foundation on the afternoon of Wednesday, October 25 following the seminar, where they will be welcomed by their IAPH friends coming from various ports around the world.

Program of the Exco Meeting 2000 in Tokyo in conjunction with the Japan Seminar by the IAPH Foundation October 23-26, 2000 (As of September 5, 2000)

Date	Morning program (0900/1200, otherwise indicated, coffee break 1030/1045)	Lunch 1200/1400	Afternoon program (1400/1700, otherwise indicated, coffee break: 1530/1545)	Evening functions
Oct 22 Sun	Delegates arrive			
Oct 23 Mon	Technical Committees (yet to be known)		Technical Committees Meet Combined Transport & Logistics Other committees (yet to be known)	Free
Oct 24 Tue	Technical Committees (yet to be known) Asia/Oceania Regional Exco Meeting		- Combined Transport & Logistics - Other Technical Committees at IAPH, TPTPC, etc. (yet to be known) Exco Session I (Azur) (fixed)	Welcome cocktail at the Governor's reception hall, and Welcome dinner (buffet) by the Port of Tokyo at Century Hyatt Hotel
Oct 25 Wed	Exco Session II		Japan Seminar by the IAPH Foundation at Hotel Azur	Dinner (buffet) by the IAPH Foundation
Oct 26 Thu	Exco Session III		Technical visit to Tokyo Port	
Oct 27 Fri	Delegates leave		Delegates leave	

IAPH : IAPH Head Office

TPTPC: Tokyo Port Terminal Public Corporation (next to IAPH)

Azur: Bayside Hotel Azur

Secretary General Inoue urges the Exco and committee chairs as well as non-Exco members who may wish to observe the meetings in Tokyo to complete their registrations as soon as possible. For registration and information, please contact:

IAPH Head Office

Fax: 81-3-5403-2770 Tel: 81-3-5403-7651

E-mail: info@iaph.jp Website: <http://www.iaph.or.jp>

*Note: The IAPH Foundation

The IAPH Foundation was established as a Japanese corporation in 1973 to help IAPH financially when the Association was undergoing a financial crisis triggered by what became known as the "Nixon Shock" of the early '70s. Since IAPH succeeded in achieving financial independence effective from 1982, the Foundation, under the new Agreement, has been continuing its support and assistance to IAPH through its various undertakings. These include the holding of seminars, financial assistance for the IAPH Award Scheme (essay contest) and the dissemination of literature and materials on ports from Japan to foreign countries and vice versa.

IAPH/ICHCA's joint survey of fumigated cargoes and the risk at ports

First results analysed, more time to respond

In the previous issue of this journal, the Secretary General's appeal to IAPH members to inform the IAPH European representative in Rotterdam of their situations concerning fumigated cargoes and the risk at ports was featured. IAPH members were asked to respond to Peter van der Kluit, IAPH European representative and liaison officer with IMO, concerning their experiences with fumigated cargo transport units (CTUs) by the end of August for the subsequent submission of the findings to the IMO in mid-September.

However, Peter van der Kluit has recently contacted the Tokyo head office to inform the situation in which the deadline for collection of information from the IAPH and ICHCA members has been postponed until the end of this year. Peter van der Kluit's report follows:

Following the circulation of the letter this office received 14 reactions by the end of August. All responses indicate that notification and labeling of fumigated cargoes are in principle carried out according to the IMO regulations. Although no specific incidents are reported, there is general awareness of the risks associated with these types of cargo. Mention is made of the fact that exporting countries may not have the same strict guidelines and regulations on fumigation as importing countries. This could mean that fumigated cargo arrives without proper documentation and labeling. The associated risk needs no explanation.

One respondent warns that hydrogen phosphine from previously fumigated containers, holds or spaces could be reactivated when exposed to humid environmental conditions.

Another source mentions the positive effects of meetings of the relevant authorities with the port industry to draw attention to the necessity to comply with the requirements as specified in the IMDG Code and the seriousness of non-compliance. Nevertheless, random spot checks indicate that non-compliance still occurs.

Clear guidelines, strict adherence to regulations and enforcement by the competent authorities are widely endorsed. In that respect the responses received so far amount to clear support of the Canadian submission to IMO in which it invited IMO to issue a circular reminding agents, shippers, terminal operators and ship owners of the requirements of the IMDG Code. The circular should also highlight the concern that improper procedures of fumigation and misdeclaration of fumigated cargoes can endanger the safety of people involved in the handling of these cargoes.

Since it was originally thought that the matter would be discussed at IMO's Marine Safety Committee that meets from November 27 to December 6, 2000, the deadline for reactions was set for the end of August in order to enable IAPH and ICHCA to prepare a joint submission. We have recently been advised that this subject will be discussed at the next meeting of the Sub-committee on Dangerous Goods, Solid Cargoes and Containers that is scheduled for July 16-20, 2001. IAPH and ICHCA have agreed to discuss the matter at the meeting of the ICHCA Safety Panel in January 2001. This suggests that there is time until the end of December 2000 to respond to the circulated letter.

A warm "thank you" goes to all those who have taken the trouble of providing us with information.

Ports that have not done so yet are kindly invited to share their experiences and send them as well as comments and/or recommendations on the issue, to:

Peter van der Kluit
IAPH Representative in Europe
IAPH Liaison Officer with IMO
c/o MarineSafety Rotterdam b.v.
P.O. Box 51290
3007 GG Rotterdam

The Netherlands
Fax + 31 10 484 6071
E-mail: pvdkluit@marinesafety.nl

Background

Cargo Transport Units (CTUs), such as containers and vehicles containing cargo under fumigation, are subject to the IMO regulations contained in the IMDG Code. Fumigated bulk cargoes should be handled according to IMO's Recommendations on the Safe Use of Pesticides in Ships and should also be declared to the port operator with signs displayed on said containers.

However, both the Code and the Recommendations are advisory only and have not been made mandatory instruments in a number of countries.

As a result, fumigated containers arrive in port without proper documentation and signs as indicated in the IMDG Code and the Pesticides Code. This may lead to very unsafe situations when these containers are opened for unloading by port personnel or employees of the consignee or when stevedores enter a bulk hold.

The problem has been recently brought to the attention of IMO by Canada, which has submitted a request to IMO to issue a circular reminding agents, shippers, terminal operators and ship owners of the requirements of the IMDG Code with respect to the transport of CTUs under fumigation and to highlight the risk to safety that improper procedures of fumigation and mis-declaration of CTUs under fumigation can have on the persons involved in the handling of these cargo transport units.

Both the Safety Panel of ICHCA (International Cargo Handling Co-ordination Association) and the IAPH Committee on Port Safety, Environment and Marine Operations have discussed this issue and concluded that the Canadian submission should be supported since this is no doubt a matter that is of great concern to ports and cargo handling organizations.

The IAPH/IMO Interface Group at the recent meeting in Marseilles endorsed a proposal to prepare, jointly with ICHCA, a submission to IMO in support of the Canadian initiative – perhaps with the addition of suitable references to bulk operations as well.

Visit the IAPH website to access information about the Association's wide ranging activities, the benefits of membership, how its worldwide members work together to help ports in developing countries and what's new. The websites of major ports are also accessed via the IAPH website.

<http://www.iaph.or.jp>

African hosts invite you to Pan-African Ports Conference 2000 Abidjan, December 5-6

THE Pan-Pacific Ports Conference 2000, organized under the auspices of the Pan-African Association for Port Co-operation (PAPC) and the International Association of Ports and Harbors (IAPH), will take place in Abidjan on Tuesday, December 5 and Wednesday, December 6. This important forum for people in port business will attract experts from the international port community, with discussions centered around the theme "African Ports Facing the Changes in International Transport: Challenges and Perspectives."

It will be recalled that the idea to institutionalize the organization of this conference emanated from the result of the success of the 1st Pan-African Ports Seminar in Mombassa, Kenya, in January 1998, organized jointly by the Kenya Ports Authority (KPA), the Port Management Association of Eastern & Southern Africa (PMAESA), the Port Management Association of West & Central Africa (PMAWCA) and IAPH, supported by IMO.

The main objectives of the Pan-African Ports Conference are to:

- provide a forum, within the African continent, for foreign port experts and their African counterparts to meet and discuss important issues of common professional interest;
- promote and assist with efforts aimed at increasing the efficiency of port services in Africa through the exchange of experiences and information related to the changes in techniques of technologies on port development, organization, administration and management; and
- facilitate the formation of policies and strategies on issues of common interest among the African ports authorities.

In this regard, the choice of Abidjan to organize such a meeting could not have been more appropriate. A friendly and dynamic port city of Africa, Abidjan, the economic capital of Côte d'Ivoire, has a long tradition of successfully hosting international maritime and port conferences, comprising the 1st African symposium on containerization entitled "African Sympotainer" (1984), the 3rd African port symposium (1985), the mid-term meeting of IAPH (1988), the 20th anniversary cele-

bration, and the 17th annual Council Meeting of PMAWCA (1992).

The Authorities of the Port of Abidjan and Côte d'Ivoire again have the privilege to have been chosen to host to the first main international manifestation of the maritime and port sector of the African continent at the dawn of the third millennium.

This meeting in Abidjan will be equally historic since, alongside it, the following three important events are scheduled to take place:

- the first joint meeting of the three sub-regional port management associations, namely the PMAWCA (West and Central Africa), PMAESA (Eastern and Southern Africa) and UAPNA (North Africa), who today regrouped under the auspices of the Pan-African Association for Port Co-operation (PAPC) created in Conakry, Guinea, in April 1999;
- the designation of the new headquarters and the election of the executive organ of this new continental organiza-

tion whose activities were officially launched in Alexandria (Egypt) in November 1999, as such marking a milestone in inter-port co-operation extended to the entire continent in line with the long-awaited integration; and

- the annual meeting of the Africa/Europe group of members of IAPH, whose last session took place in Marseilles in June 2000.

To ensure the success of the different meetings, the government of the Republic of Côte d'Ivoire and the Authorities of Port Autonome d'Abidjan in particular are taking all necessary steps aimed at achieving hitch-free sessions as well as the comfort and security of all delegates and invitees.

It is against this backdrop that the first Pan-African Ports Conference will be held alongside the 50th anniversary celebration of the Port of Abidjan, which began operations in 1950.

You are therefore invited to be in Abidjan, a major modern port, the dynamic economic center of Côte d'Ivoire and a cosmopolitan and hospitable African city, to join us for the celebration of the 50th anniversary of the Port Autonome d'Abidjan and for the first Pan-African Ports Conference from December 4 to 8, 2000.

IAPH Membership Directory 2001 *Digital information requested for entries*

THE IAPH head office plans to start the compilation of the 2001 edition of the Membership Directory, the production of which will be completed according to the following schedule:

- **September 20, 2000:**
Entry forms to be sent to all members via e-mail.
- **October 31:**
Deadline for receipt of the updated entry forms from members via e-mail
- **February 10, 2001:**
Completion of printing
- **February 11:**
Distribution of the Directory 2001 to IAPH members and related organizations

Starting with the 2000 edition, a completely new format has been introduced to facilitate quick and easy access by our users to the needed information, such as

the relevant personnel and respective members' profiles and e-mail addresses. The publication includes a world map of the regular members, with the three regions of IAPH indicated by: ● for the Africa/Europe region; ▲ for the American regions; and ■ for the Asia/Oceania region. Another innovation consists of indices of members, in which the regular members are alphabetically listed by region and associate members by type of business.

The Secretary General urges all IAPH members to use e-mail in returning their updated information on the respective organizations to the Tokyo head office by checking the entry forms, which they will receive from Tokyo via e-mail around September 20.

Copies of the 2000 edition of the Directory will be available from the head office on request.

IAPH Bursary granted to a Djibouti port's chief

THE Chair of the IAPH Human Resources Development Committee Goon Kok Loon (PSA Corporation, Singapore) has approved **Hassan Abdillahi Waberi**, Chief of Operation, **Port Autonome de Djibouti**, to participate in the Diploma Course on Port, Shipping and Transport

Management, International Maritime Transport Academy (IMTA), Rotterdam, from October 2, 2000 to June 1, 2001.

The IAPH Secretary General has arranged for the IMTA to receive US\$3,500, the maximum amount to be granted one bursary recipient, while the Port Autonome International de Djibouti was to pay the remainder of the necessary fees for the trainee.

Report by IAPH Bursary Recipient

Port Management And Operations Course

**Port of Singapore Authority Institute
Singapore, June 15-16, 2000**

Twila Waqasokolala

Executive Assistant, Maritime & Ports Authority of Fiji

PARTICIPANTS: Middle management port personnel 26 participants, including two female participants, from 10 countries (Maldives, Oman, Mauritius, Philippines, Singapore, India, Sudan, Vietnam, Solomon Islands & Fiji) around the world attended the course.

COURSE OBJECTIVE: To provide the participants with an insight into Port of Singapore Authority Corporation's (PSA) management, operations and administration systems.

STRUCTURE: The course was structured in a topical manner and covered many aspects of port management and operations processes. All the topics formed the links in a chain of instructions, designed to ensure the logical flow from broad perspectives to specific processes.

METHODS: The course methodology included lectures, site visits, classroom discussions, individual and group exercises.

Concepts and principles shared by the lecturers were mostly from PSA Corporation's perspectives and therefore all would not necessarily work in the different countries represented. However, most of the knowledge shared could contribute, in one way or another, to the improvement of organisations, port management and operations processes.

PROGRAM

Day 1

- Introduction – PSA Corporation's role and functions
- Visit to the ship simulator at PSA's SPI

- Tour of container terminals –
 - Tanjong Pagar
 - Keppel Brani
 - Multipurpose terminal Pasir Panjang.

Day 2

- The role & significance of ports in maritime transport
- Shipping trends & development in international trade and impacts on port operations
- Principles & concepts of port planning
- Planning, design & construction of container terminals.

Day 3

- Organisational role and functions of the Maritime Port Authority
- Navigation and traffic control
- Port regulations governing dangerous goods
- Visit to the Port Operations Control Centre.

Day 4

- Organisation of port operations
- Group assignments/discussions
- Tour of Sembawang wharves.

Day 5

- Port equipment repairs & maintenance systems
- Planning for conventional ship operations
- Conventional cargo documentation procedures
- Visit to multipurpose terminal Pasir Panjang.

Day 6

- Storage & distribution in warehousing facilities
- Container shipyard operations
- Visit to the BT Control Room.

Day 7

- Supplies management, purchasing & inventory control
- Supplies management – store management
- Distripark facilities & operations
- Visit to Keppel Distripark.

Day 8

- Handling & storage of dangerous goods
- PSA tariff/pricing structure
- Training in the Port
- Port policing & security.

Day 9

- Quality control (QC) movements in PSA
- Computer applications in the Port
- Fire prevention measures
- Port safety.

Day 10

- Capital/recurrent budgeting systems
- Visit to the crane simulator
- Panel discussion
- Course evaluation & certificate presentation.

Roles & Significance of Ports in Maritime Transport

Types of Ports

- First Order
- Second Order

Home ports
Way ports

Customer Types

- Shipping lines
- Freight forwarders
- Non-vessel-operating container carriers
- Hauliers
- Shippers

PSA Corporation believes that a port creates value.

- Value to the region
 - Reduce overall transport cost
 - Opens up the region for trade

Value to shippers

- Enjoy higher shipping frequency
- Shorter transit times
- Wider market coverage with less resources.

Shipping Trends & Development in International Trade & their Impact on Port Operations

- Market trends – low freight rates
- Industry consolidation.

Implication on Terminal Operators

- Strong bargaining power
- Pressures for better service levels

Developments in Shipping Routes

- Europe-Far East
- Transpacific
- Intra-Asia.

PSA Corporation's major challenges in 1999 were:-

- Asian currency crisis
- Lowered traffic growth
- Intra-Asia specialists continued to make more direct calls
- Maintaining port operational excellence.

The Opportunities were:-

- Increases in containerisation
- Increased cooperation between conventional/container terminals to build-up re-exports.

Shipping Trends

- Changing environments
- Shipping trends such as alliances, mergers & buy-outs
- Moves towards larger vessels
- Growth in trade encourages direct shipping links.

Containerisation Growth

In 1999 the world container volume was 2000 million TEUs. PSA controls 9% of the world container volume.

General

PSA Corporation Limited manages cargo terminals, logistics and other port-related facilities. Today, the corporation is rated as one of the world's busiest ports in terms of shipping tonnage. Its ports connect 400 shipping lines to more than 700 ports around the world. In 1999, more than 141,523 vessels totaling 877 million GT called at the Port of Singapore, making it the world's busiest in terms of shipping tonnage. In the same year, PSA Corporation's container terminals handled 15.9 million TEUs.

Conclusion

The course was very good. A lot of knowledge was gained from all the different experiences of the participants. I was fortunate to be exposed to a very well developed port, so advanced in technology in a fast developing country.

The course was very broad and the program and topics well designed. I'd like to see some of the techniques implemented at our Fiji ports, especially the efficiency of customer service where PSA links up electronically with their customers - paperless transactions through their IT system called PORTNET and CITOS.

One of the topics of interest and which generated a lot of discussions amongst

the participants was - 'Organisation of Port Operations.' We learnt that one of the reasons for PSA Corporation's success is the existence of a hinterland for its port, the vibrant economic activities, good infrastructure, effective supporting network, efficient work processes, efficient use of resources and the capability and will of the employees. They also consider that it is important to keep their manpower low through multi-skilling and new work methods, reduce layers of reporting, combining their operations and engineering sections under one department and in close proximity, service should be provided round the clock, put the right people in charge and practise job rotation. In summary they stated that a good port must have the right **4 M's: Management, Men, Machines and Method.**

Fiji ports in the past were normally a work place for early school dropouts dominated by men. Because of the lack of qualified people both in the management and lower levels of staff, it has been difficult over the years to introduce new ideas and work methods in the work system. However, in 1998 the Ports Authority was reorganised from a statutory authority into two entities - a commercial company (service provider) and a commercial statutory authority (regulatory functions and land-



Ms. Twila Waga is seated in the front row, second from left

lord). There have been some improvements in port performance after the reorganisation and the Maritime & Ports Authority of Fiji is continually improving its work systems for better efficiency. The people are also trained and retrained to be efficient and effective workers and with my experience at Singapore, I will try to impart to them the importance of providing quality service at the ports. PSA Corporation also ensures that its employees are innovative and rewarded for their contributions.

It is hoped that in the near future, Fiji ports, like Singapore, would be the hub for transshipment cargo in this part of the region.

During my two weeks stay at Singapore, I was able to visit many sites and experience and enjoy the kind hospitality of the people. Singapore is a clean country and as a visitor from a third world country, I was amazed at the disciplined lifestyle of the Singaporeans.

All in all, my attendance at the course has greatly benefited me personally and my organisation.

Visitors

ON August 24, **Mr. Erik Stromberg**, Executive Director, **North Carolina State Ports Authority (NCSPA)**, together with **Mr. Tadashi Aoki**, NCSPA Representative in Tokyo, visited the IAPH head office, where they were welcomed by Deputy Secretary General Kondoh and the other secretariat members.

Mr. Stromberg was visiting

Japan as an eleven-member delegation of North Carolina headed by the

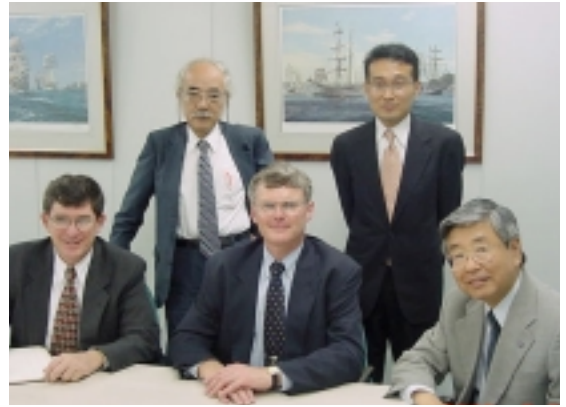


Honorable James B. Hunt, Jr., Governor of the State of North Carolina.

The previous evening, Kondoh represented IAPH at the reception given by the governor at the US Embassy in Japan, where representatives from various companies in trade business were invited. Governor Hunt thanked the people gathered for their positive participation in the investment in North Carolina's business and encouraged the Japanese partners to make the best use of various programs, including the worker training program, which his state has developed to enhance investment in North Carolina.

On August 30, **Mr. Graham D. Mulligan**, CEO, and **Mr. Grant Vinning**, Manager, International Development, **Port of Brisbane Corporation**, accompanied by **Kazuto Kimura**, Marketing

Manager, **Australian Embassy in Tokyo**, visited the head office, where the visitors were welcomed by Secretary General Inoue and Deputy Secretary General Kondoh. They exchanged views and information on the matters related to IAPH and the situations concerning Australian ports, with the focus on the port of Brisbane's commitment to grow as an environmentally-friendly port. In fact, the "Environment" is a keyword for the Port of Brisbane in ITS port planning towards the 21st century. The port's CEO presented the Secretary General with a book entitled "Wild Guide to Moreton Bay - Wildlife and Habitats of a Beautiful Australian Coast



- Noosa to the Tweed," for which the Port of Brisbane supported the publication along with other leading organizations, including the Queensland Department of Environmental Heritage.

Membership Notes

New Members

Regular Members

Nantong Port Authority (China)

Address: 140 Renmein Road (W), Nantong, Jiangsu Province, China PC.226005
Mailing addressee: Wang Shushi, Secretary General
Tel: 86-513-3519972
Fax: 86-513-3518230
E-mail: ntpa@public.nt.js.cn
Website: <http://www.ntport.com.cn>
Director: Shi Boxiang

Autorità Portuale di Genova (Port Authority of Genoa)(Italy)

Address: Palazzo San Giorgio, Via della Mercanzia, 2 16123 Genova
Mailing addressee: Giuliano Gallanti, Presidente
Tel: +39-010-241 2625/2714
Fax: +39-010-241 2397/2807
E-mail: General information: info@porto.genova.it
Webmaster: webmaster@porto.genova.it
Website: <http://www.porto.genova.it>

Message from

Giuliano Gallanti, President
Port Authority of Genoa



Genoa is fast becoming a major hub for servicing traffic in Italy, the Mediterranean and Europe.

Our port is undergoing great change. The key to this process is undoubtedly to be found in the implementation of the restructuring programme outlined by the Italian Government's Law of Port Reform. This prescribed a new working relationship between the public authorities and the private operators of the ports to achieve the highest levels of competitiveness.

The Port of Genoa is on target to handle more than 1,500,000 TEU in 2000 - up from the 300,000 TEU registered in 1994 - a statistic which is the most effective proof of the port's revitalisation. However, the Port of Genoa does not only handle containers. It is a multi-service port which provides facilities for all types of port users and is equipped for all key commodity sectors - from petroleum products to passengers, from bulk to general cargo.

The privatisation of services, the strategic location, the full range of high-tech handling equipment, the state-of-the-art infrastructure and telecommunications network, the highly qualified personnel, everything is in place to serve the port, our city and our country. We trust that our new Web will effectively present the new Port of Genoa to both our current operators and to our prospective clients.

Associate Member

Daioh Construction Co., Ltd [A-2-1] (Japan)

Address: 5-26-26 Higashi-ohi, Shinagawa-ku, Tokyo 140-0011
Mailing addressee: Hajime Eguchi, Executive Vice President
Tel: 03-3471-1470
Fax: 03-3471-1469
E-mail: h_eguchi_00200@daioh.co.jp
Website: <http://www.daioh.co.jp>

Changes *(Changes involved are underlined)*

Tokyo Metropolitan Government (Port of Tokyo)[Regular] (Japan)

Mailing addressee: Tetsuya Saitou, Director General, Bureau of Port & Harbor (IAPH Alternate Director from Japan) (Succeeding Katsuumi Namikoshi)

Amsterdam Port Authority [Regular] (Netherlands)

Mailing addressee: Godfried C.G. van den Heuvel
Advisor to Amsterdam Port Authority (His successor as Executive Director is yet to be appointed.)

Port of Los Angeles [Regular] (U.S.A.)

Website: <http://portoflosangeles.org>

Use of Marine Weather Information in Marine Transportation and Ports

Japan Weather Association

Kenichi Okumura, Managing Director

Koji Miyashita, Manager, Special Weather Forecast Section, Meteorological Information Department

1. Introduction

Weather information is utilized extensively in our daily lives as well as in industrial and economic activities, construction work, traffic control, and dam and river administration. This paper summarizes the marine weather information services in the field of marine transportation and ports provided by the Japan Weather Association with an emphasis on the weather routing service utilized by ocean liners at sea.

2. Weather Routing Service

2-1. Background to utilization of weather routing information

An ocean liner can increase its economic efficiency and maintain its navigation schedule by taking the shortest course to its destination. However, it encounters various dangers from wave phenomena during a voyage. For example, the dangers posed by bow waves include damage to the body of a ship caused by the driving force of seawater, and engine overheating from exposure (racing) of the screw. The dangers posed by stern waves include encounters with group wave phenomena, in which a ship repeatedly sustains high waves caused by the relationship between wave speed and navigation speed, intensified rolling, and reduction of ship stability against rolling.

If a ship anticipates stormy weather en route, the captain will change the route accordingly to prevent mishaps to the ship and cargo and ensure safety. A captain making a decision to change a route will attempt to shorten the journey time under way by sailing with the wind and waves around a low pressure area while also taking into consideration the type of cargo and ship, the location of ocean currents and the propulsion capacity of the ship in stormy



Kenichi Okumura



Koji Miyashita

weather.

The terrestrial and marine weather information supporting a captain's judgement in changing a route is called "weather routing information". This information is prepared on the basis of expert knowledge and judgment obtained by analyzing and forecasting phenomena through the use of numerical prediction techniques and the latest marine weather data.

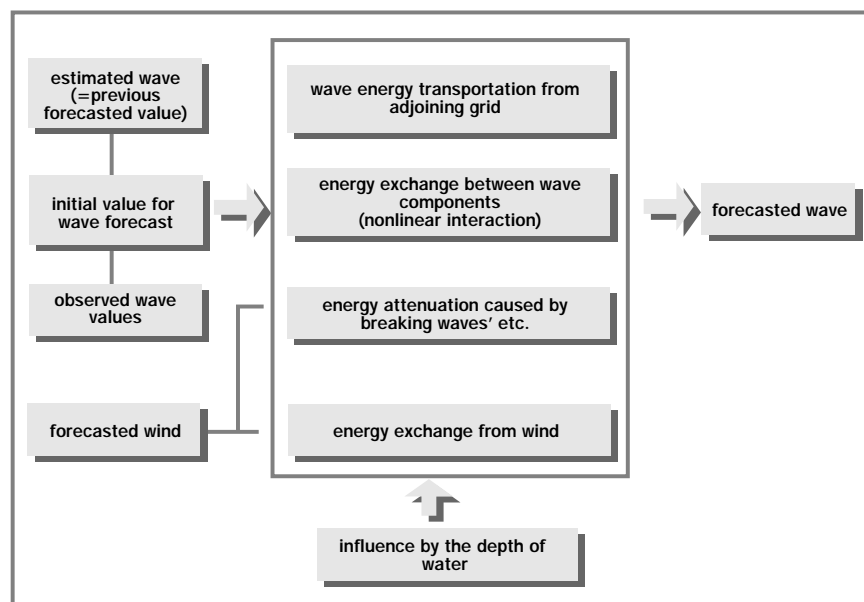
This information allows a marine transport company to understand and manage navigation schedules and to operate efficiently the vessels it owns or charters. Weather routing information is also indispensable to the navigation management department of a marine transport company.

2. 2. Development of weather routing information

2-2-1. Japan Weather Association wave prediction model

Over many years, progress has been made in numerical wave prediction grounded in basic research on waves generated, developed and weakened by energy transport from wind. Dramatic developments in computer processing capability have also speeded forecast computation, making it more accessible to us. Fig. 1 presents the conceptual

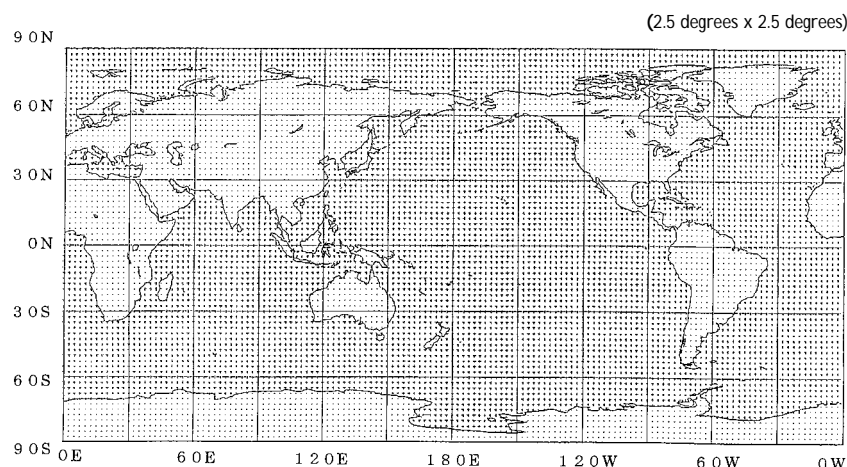
Fig. 1 Numerical wave model concept



flow of the present wave prediction model, which emerged from these developments. The model was initially derived from empirical formulas based on observed values. A prediction model based on the energy balance theory (first-generation wave prediction model) was introduced in the 1960s, but this model has ignored non-linear energy transport term. A second-generation wave prediction model has computed the energy-balance equation using parameterized formulas of this term. An improved third-generation wave prediction model is now entering widespread use. Non-linear energy transport term is directly computed in this model in solving process.

The Japan Weather Association has developed and operates an exclusive wave model representing a third-generation wave prediction model. As shown in Table 1, direct consideration of non-linear interactions between component waves differing in height, period

Fig. 2 Grid point values for computation in the global wave prediction model



information and the type and speed of the ship are taken into account to find the route that will lead the ship to its destination in the shortest time.

The next step is analysis of the wave prediction information for the route obtained from computation in the wave prediction model. A judgement is made as to whether any route change is required, and a route selection simulation is then performed by computer.

Table 1. Constituents of the Japan Weather Association's wave prediction model

Prediction Model	Spatial Resolution	Prediction Time Frame
Global wave prediction model	2.5 degree grid (225km)	Maximum 192 hours, 6-hour interval
Japan-proximal sea wave prediction model	50km grid	Maximum 192 hours, 3-hour interval
Japanese coast local wave prediction model	2' grid (3km)	Maximum 192 hours, 3-hour interval

and direction results in three constituents differing in time-space resolution depending on the area and purpose of prediction.

As shown in Table 1, the weather routing service uses computed results from the global wave prediction model to predict the waves on the route 192 hours (eight days) in advance. The computing grid points are as shown in Figure 2. Predictions for nine or more days in advance make use of wave climate values in the target sea area. Wave computation also requires predicted values for ocean winds, and these are derived from grid point values (GPV) for numerical prediction published by the Japan Meteorological Agency.

2-2-2. Preparation of weather routing information

Fig. 3 depicts the decision-making process used to determine the optimal recommended route.

The present location of the ship is first determined by a shipping traffic cable or the like, and ocean current

For example, if a ship is sailing east in the North Pacific, select a route along the south side of low pressure areas to avoid stormy weather, and cover the losses from deviation by sailing with the wind and waves for greater speed. If the ship is sailing west in the North Pacific, a similar effect is achieved by selecting a route along the north side of low pressure areas.

For the selected route, note that geomorphologic information (including coastlines, shallows, and islands) used in numerical computation may be modified for the sake of simplicity. Make sure that the ship is not navigating an impassable area. Furthermore, make sure that the route is not ill-suited for navigation - for example, due to sharp angles or

Fig. 3 Determination of the optimal recommended route

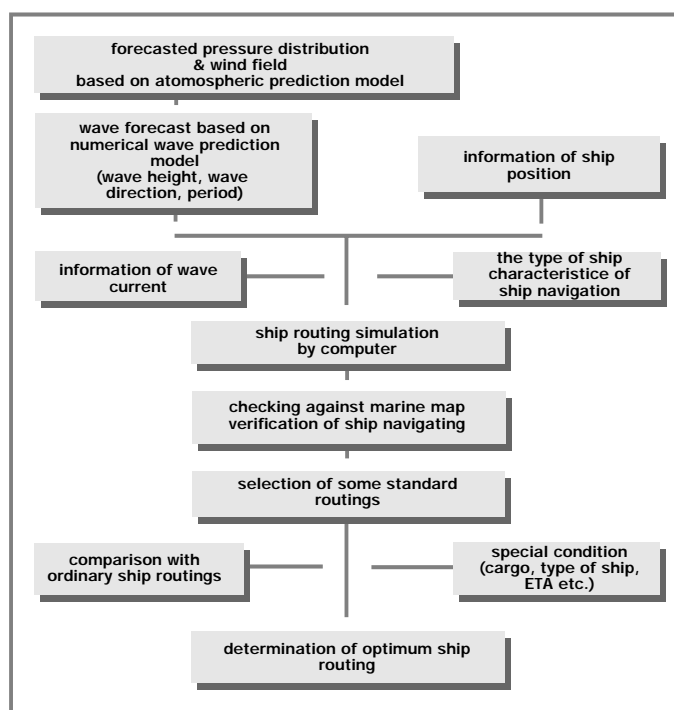
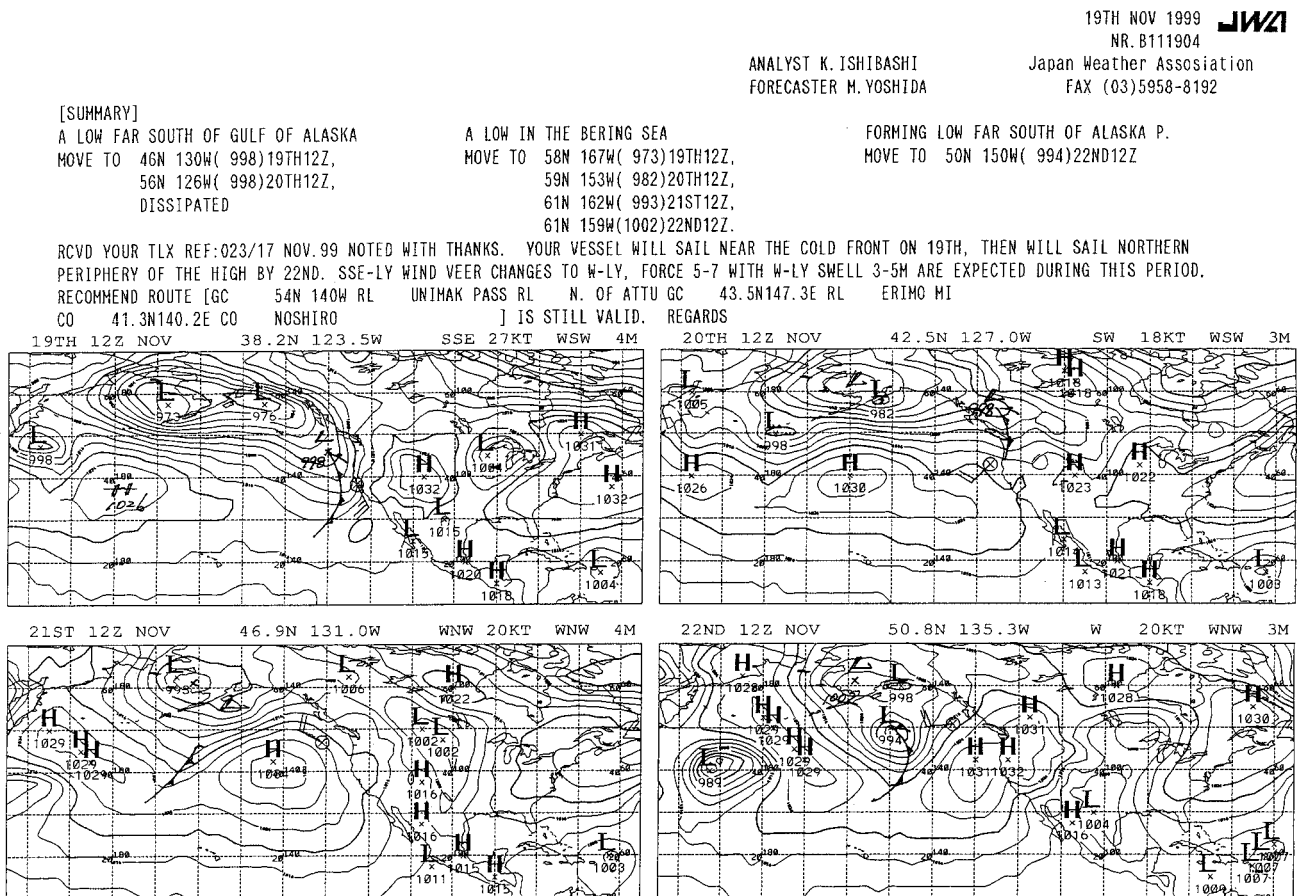


Fig. 4 Marine weather prediction data



sudden course changes.

When checking these points, examine actual routes used in the past to select five to six routes as candidates for final selection (reference routes).

Depending on the type and the anchored condition of cargo, a permissible range of rolling and pitching is determined. High wave areas exceeding the permissible range must be avoided. Moreover, the movements of ice flows and icebergs must be considered.

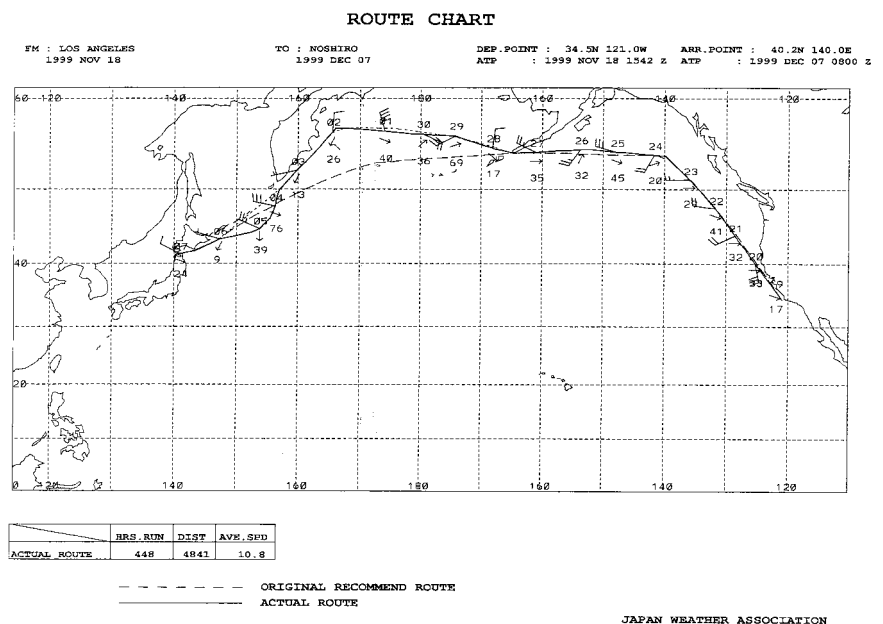
The final "optimal recommended route" is determined after the above examination processes.

2-3. Weather routing service outline

2-3-1. Standard weather routing service

When departing from a port, a ship must be informed of the recommended route as well as meteorological and marine weather forecasts (see Fig. 4). INMARSAT (International Maritime Satellite) provides this information by fax. During a voyage, the ship's position is determined through shipping traffic reports and other means, and route selection is reviewed based on

Fig.5 Optimal recommended route and actual route



the latest marine weather forecast information. The captain is also consulted on the results of the analysis of marine weather as needed.

During a voyage, the navigation management department of a marine transport company is also provided intermittently with the current position of the

ship, weather conditions around the route, navigation speed, estimated time of arrival (ETA), and other such information. Upon completion of the voyage, the navigated distance, mean navigation speed, track chart (see Fig. 5), record of marine weather conditions, and communication record are submitted as the Voyage Record.

2-3-2. Internet-based information service

Apart from the standard information service described above, the Internet is used to provide information to the navigation management department of marine transport companies. The Japan Weather Association refers to this service as "Micos Web Ship," and some 50 corporations and organizations including those of foreign nationality currently use it. Upon signing of a user contract, we issue an exclusive ID with which a user can gain access to this information from a website (<http://koroweb.micosweb.jwa.or.jp/>). The structure of this information is shown below:

- (1) Typhoon information/Hurricane information/Cyclone information
Information that predicts the current activity, strength, and course of typhoons, hurricanes, and cyclones.
- (2) Wave information
Predicted wave distribution (wave contour lines, wind direction, wind speed, and wave direction) from

- current, actual conditions for the next 192 hours, in 24-hour intervals.
The sea region covered by this service includes the North Pacific, South Pacific, North Atlantic, South Atlantic, North Indian Sea, South Indian Sea, Oceania, and the South China Sea.
- (3) Sea ice information
Information on the southern edge location of sea ice in the Sea of Okhotsk and off Newfoundland.
- (4) Ship movement information
Information on ship location 24 and 48 hours later entered on a wave prediction map.
Call sign, ship name, daily speed, port of entry, ETA, wind direction and wind speed, and wave direction and wave height displayed as text information.
The sea area covered by this service includes the North Pacific, South Pacific, North Atlantic, North Indian Sea, South Indian Sea, Oceania, and the South China Sea.
- (5) Daily report
List of information including ship position, marine weather encountered, and expected date and time of arrival at destination port.
- (6) Completed navigation information
Information on navigation distance, mean navigation speed, track chart, marine weather record, and communication record information.
- (7) Ship position information

Latest ship position, speed, and course according to ship weather reports entered on a 24-hour advance wave prediction map.

- (8) Projected route information
Information on route from date of port departure to date of weather routing service processing, expected route to port, and potential for encountering high wave areas (numerical information in table format).
- (9) Harbor weather forecasting
Information on weather, wind direction and wind speed, and amount of rainfall at 165 major harbors in Japan, provided every three hours for the following 48 hours (displayed in table and graphical form).
- (10) Wave point prediction
Actual distribution map for wind direction and speed as well as wave direction and height at 12 representative locations along the Japanese coast. Graph of change over the following 72 hours, in 6-hour intervals.

3. Use of Wave Information in Other Fields

Marine weather information focusing on wave prediction is used in various fields other than weather routing services. Pursuant to customer requests, the Japan Weather Association currently releases 7-day advance forecasts of marine weather information for specific locations and the designated points en



Construction site of ILO power plant in Peru (offered by Taisei Corporation)

route. Representative cases of its use are described below:

- (1) **Coastal ferry**
Long-distance ferry service in Japan is an important means of support for the transport of domestic materials. Strict adherence to transport schedules is thus one crucial aspect of ensuring the safety of materials and human life. Predicted wave information is therefore used to manage navigation by determining in advance the effects from wind and waves caused by typhoons and seasonal winds and the effects from swells arising in distant seas.
- (2) **Cargo handling operations in port**
When a large marine vessel comes alongside a pier while carrying raw materials such as crude oil, natural gas, coal, ores, wood and agricultural products, or cars, tugboats are arranged to ensure safe docking of the vessel, given the effects from wind and waves. Stability of the ship must also be assured during lading, and schedules are prepared after obtaining information on the occurrence of strong winds and high waves. Predicted wave information is thus indispensable for assuring an efficient work schedule and safe work.
- (3) **Port and plant construction**
Since the mid-1960s, the Japan Weather Association's wave prediction information has been used to ensure safe and smooth maritime operations, including schedule management for large-scale port construction work and the transport of caisson and construction materials throughout Japan.

The Association has also provided site-specific wave prediction information for development of oilfields and construction of power plants in coastal regions.

The Association also retains an informational database prepared on the basis of meteorological data which includes data on waves throughout the world covering periods longer than ten years. In recent years, this database has been used to select suitable sites for plant construction in Peru and Malaysia.

4. Conclusion

Though larger ships and better nautical instruments have advanced ship safety, at the end of October 1998, four new and powerful container ships navi-

gating a North Pacific track were swallowed up by high waves in a depression that developed rapidly. Many containers were lost and the ships were damaged. Amid fierce competition in the global marine transport industry, schedule management has a particularly large impact on the profitability of container ships, which makes maritime accidents an even more serious problem. This is one example of the close connection between marine weather information and the operating strategy of shipping companies.

While developments in communications technology have provided instant

access to a wide range of information, and the development of numerical prediction techniques has improved precision accuracy, there is still a great gap between predicted information expressed in the form of prevailing waves, significant wave height, and mean wind speed and the instantaneous waves and winds that a ship encounters. The meaning and limitations of this information must be understood correctly.

On this basis, we see a critical role for the provision of appropriate information in conjunction with the timely consulting services of a marine weather expert.

COPING WITH SHIPS UNDER ARREST: GUIDELINES FOR A PORT STRATEGY

Frans van Zoelen

General Manager, Legal Department, Port of Rotterdam, member of the IAPH Committee on Legal Protection



lems and raised various questions with IAPH on the subject of arrested ships. In relation to some of the reported

1. Introduction

In the June 1999 edition of 'Ports and Harbors' an article was published on 'the Diplomatic Conference on Arrest of Ships'. This article gave a brief overview of the Diplomatic Conference of March 1999 in Geneva and its result, the new treaty relating to the arrest of ships.

The article dealt mainly with the fact that it was clearly recognised by the Diplomatic Conference that national governments retain their power to redress in national legislation any problems which ports experience as involuntary host of ships under arrest. Unfortunately ports did not succeed in acquiring a position on this matter in the new convention itself.

The article therefore ended with the appeal to all ports and harbours to make their national legislatures aware of the above-mentioned statement by the Diplomatic Conference and to provide their governments with insight into operational problems relating to ships under arrest that must be solved by national legislation.

In reaction to this article, ports reported different kinds of operational prob-

lems and raised various questions with IAPH on the subject of arrested ships. In relation to some of the reported problems, ports raised the question as to whether these problems should necessarily be mitigated by national legislation.

The reported problems may be placed into the following categories:

- a. problems regarding the management and maintenance of the arrested vessel;
- b. financial problems; and
- c. problems relating to the allocation of berths in the port.

As these problems provide a good insight into the day-to-day business of ports with regard to arrested vessels, I will address this issue briefly below.

One must bear in mind that in this article this issue can only be dealt with in a theoretical manner, as the legislation with respect to the arrest of ships still differs from country to country. The solutions given in this article must therefore be elaborated upon further within the specific national and local legislative context of each port.

2. Problems regarding the management and maintenance of the arrested vessel

If a vessel is arrested in the port, it often occurs that everybody responsible for or interested in the ship stops taking care of it. This is especially so in the case of an extensive arrest.

The owner or manager of the vessel often does not have the money to manage and maintain the ship any more. The arrest itself is often already a sign that the owner or manager has financial troubles. These financial troubles in many cases only increase because the arrested vessel is no longer able to bring in any revenues. Because of the financial troubles the agent is no longer paid and stops offering his assistance to the ship. In some cases the ship is even deserted by the crew because they are not paid any more. Moreover, the arresting party is not willing to take any measures with regard to the maintenance of the ship as he already has a claim against the ship-owner.

A ship that is not managed and/or maintained any more can easily form a threat to the nautical order and safety in the port. Therefore the port authority will be forced to take necessary measures itself to secure the safety of the ship and its environment. The maintenance and management of ships itself however is in most cases not the core business of ports, and they are often not equipped with the personnel to deal with these problems.

3. Financial problems and the system of liens

If the port is forced to take measures for the maintenance or management of the arrested vessel in cases where the crew has left the ship, the port is, of course, also incurring costs in this respect. Furthermore, in many cases involving an arrested ship, the owner of the vessel or its agent is often no longer able to pay the outstanding port dues to the port authority.

Ports often face problems with recovering these costs of maintenance and the collecting of outstanding port dues. The possibility of recovering the cost is normally determined by national legislation. In some countries, though, the Convention on Maritime Liens and Mortgages is applicable. This convention provides a uniform regime for maritime liens in case a port has to sell an arrested vessel by a forced sale to recover the costs of maintenance and outstanding

port dues. If a vessel is sold in such a way, the claims on the vessel and/or its owner will be paid out of the proceeds of the sale in the following order.

- a. The costs and expenses arising out of the arrest or seizure and subsequent sale of the vessel shall be paid first out of the proceeds of the sale. Such costs and expenses include inter alia the costs for the upkeep of the vessel and the crew as well as wages, other sums and costs incurred from the time of arrest or seizure;
- b. claims for wages and other sums due to the master, officers and other members of the vessel's complement in respect of their employment on the vessel, including costs of repatriation and social insurance contributions payable on their behalf;
- c. claims in respect of loss of life or personal injury occurring, whether on land or on water, in direct connection with the operation of the vessel;
- d. claims for reward for the salvage of the vessel;
- e. claims for port, canal and other waterway dues and pilotage dues; and
- f. claims based on tort arising out of physical loss or damage caused by the operation of the vessel other than loss of or damage to cargo, containers and passengers' effects carried on the vessel.

The first problem ports face with the collection of costs is that they have to organise a forced sale of the vessel. Ports do not like to do that because vessels and their owners are at the same time clients of the port. Selling vessels is therefore bad for the port's image.

Through organising a forced sale the port incurs costs and goes to a lot of trouble, both on its own behalf and the other arresting parties who wish to recoup their losses on the vessel. In other words, other creditors hitch a ride with the port on the assumption that they will get their claims paid without any trouble or expense (In this way, the port creates a premium precisely for seizing ships.)

The chance exists that in an auction, the ship will not yield enough proceeds to cover the costs of the forced sale, the costs incurred by the port for maintenance, port dues, mortgages or other claims. The port therefore can never be sure that its claims will be recouped from the returns via this path (the costs of maintaining the ship and the port

dues owing), even though the costs of maintenance and port dues do have a high ranking within the system of maritime liens.

The system of maritime liens can only be described as poverty law. Wrongly, in my opinion, it is therefore often stated that the ports have a powerful weapon (namely auctioning a ship) for breaking through the stalemate situation.

4. Problems relating to the allocation of berths in the port

It is a fact that the arrest of sea-going vessels can hardly take place anywhere else than in a seaport. This means that a port is always the involuntary host for a ship under arrest. In many cases, the problem quickly resolves itself (the arrest was only an effective form of pressure to obtain payment), but all too often the arrest situation is a more permanent affair. This creates problems in both the smaller and larger ports because quays and buoys are occupied for long periods by a ship under arrest.

These quays and buoys are, however, put in place to facilitate commercial activity. The most obvious disadvantage, in the social sense, of the fact that a ship can only be arrested in a seaport is therefore the disruptive effect that this has on port management.

A port therefore needs means to organise the allocation of berths for arrested ships. But, all too often, no such measures exist at local level to prevent a crucial quay or a buoy from being occupied for a prolonged period by a ship under arrest. The idea behind the organisation is that it would give rise to differentiated use as a consequence of which berths would not be available for ships under arrest.

It must be said here that this effect is highly dependent on national and local systems of rules. In this sense, it is certainly worth investigating the development of new rules on local or national level to support the most efficient allocation of berths. In my opinion, with regard to the development of such rules, it is very important to determine whether special berths are reserved in the port for ships under arrest. If this is, in fact, the case, I believe that rules can be developed to direct a ship under arrest to this reserved space.

In this way the harbour master is able to execute a berth management system in which a balance is found between securing berthing for commercial activities and having a berth available for those intending to arrest a vessel.

5. A better balance in the distribution of the pleasure and the pain of arrested sea-going vessels

In comparison to others forms of arrest (concerning, *inter alia*, houses and cars) the consequences of an arrest of a sea-going vessel in a port are exceptional. The arrested ship is blocking operational berths in the port and often has maintenance, crew and financial problems. This difference justifies, in my opinion, a different distribution of the obligations associated with the management of a ship under arrest. In various jurisdictions, the legislature has had an eye for this by setting up a special management body for the handling of ships under arrest (i.e. in England). This body is exclusively responsible for the management and maintenance of the arrested vessel. For the costs it thereby occurs, it has priority in the distribution of the proceeds in the event of the ship being auctioned.

If a ship is not auctioned, or if this does not cover the management costs, this body claims the costs it has incurred from the arresting party or parties. The effect of the fact that the arresting party might be confronted with these costs is often that a more balanced consideration is made regarding the arrest.

Only parties with serious claims will consider arresting a vessel. Therefore it is worthwhile for ports troubled with arrest to investigate if it is possible under their national law to introduce such a special management body for arrested vessels. In some jurisdictions, although such a body cannot be set up due to political or juridical reasons, in these countries it is worth considering making the arresting party directly responsible under national law for a

number of management and safety-related matters and, of course, the costs thereof. Such an arrangement may be incorporated into the general shipping legislation.

As several parties can be responsible for meeting a number of obligations in such a situation, as often there is more than one arresting party, it must also be decided that, should one of them have fulfilled its obligations, any obligation on the part of the others ends.

Both options, a special management body for arrested ships and the obligation of the arresting party for the maintenance and management of the vessel, mean that the port and the arresting party share the burdens of the arrest. The arresting party, however, is only responsible if neither the owner nor the agent is fulfilling its responsibility with regard to the vessel. As I see it, this leads to a better balance with respect to the distribution of the pleasure and pain associated with managing sea-going vessels under arrest. The national legislature is still authorised to deal with these matters after the emergence of the new Convention on the Arrest of Ships.

5. Conclusion

The Convention on Maritime Liens and Mortgages gives ports a more or less privileged position with respect to costs for maintenance and port dues. This sometimes alleviates the financial distress for a port, but it is no solution for the long-term effects associated with the seizure of sea-going vessels in a port, like operational problems and the blocking of active commercial berths.

Furthermore, in effectuating the privileges, one must remember that the ship must first of all be auctioned. If a port

does this, it actually creates a premium for the seizure of a ship for the other arresting parties who can link the procedure with the recovery of their claims. Auctioning ships is also not very good for the image of the port.

I am therefore of the opinion that other promising opportunities for reducing the problems for ports with respect to ships under arrest have not yet been fully utilised.

In the first place, this involves the necessity of protecting active berths from becoming inactive by the blocking of a ship under arrest. The port has to organise the allocation of berths in the port by a system of labelling berths for differentiated use. It has to develop rules whereby berths can be used by arrested ships for mooring and which are absolutely not. The creation of some places for arrested ships will be supportive to this end. The design and applicability of this approach, however, is highly dependent on the national and local system of rules.

In the second place, it must be said that the national legislature is still authorised to regulate a number of management and safety-related matters involving a ship under arrest. The setting up of a special management body for arrested ships, therefore, is still one of the possibilities to mitigate the negative consequences of an arrest for the port. In addition, any obligations related to the maintenance and/or management of the ship, if neither the owner nor the agent is fulfilling its obligations toward the ship, may be allotted to the arresting party. This avoids the situation whereby the port manager is left with no contact point in the event that these measures are omitted because the ship owner, the operator or the agent of the vessel fails to act.

Launch of Tokyo News Service's Website

Tokyo News Service, Ltd. has posted its website "S&TN OnLine" on the Internet. Provided on this homepage for easy reference are liner shipping schedules and related data extracted from Shipping and Trade News and Sea Sprite.

With use of the website initially being offered free of charge, we would like to invite you to sign up to access the latest updates on the homepage by first entering the information requested on the registration page.



URL: <http://www.tokyonews.co.jp/marine>

Information posted: 1. Sailing schedules a. Liner shipping schedules (export/import) to and from Japan b. Liner schedules (export) from Asian countries other than Japan c. Feeder schedules to and from Singapore
2. Ship details 3. Telephone and fax numbers of shipping firms and agents 4. Surcharges 5. News (in preparation)

Tokyo News Service, Ltd.

INTERNATIONAL MARITIME INFORMATION

WORLD PORT NEWS

Seminar of the Permanent Commission for Development and Cooperation

November 20 - 24, 2000

Buenos Aires-Argentina

Organised by

International Navigation Association
with the collaboration of
Puertos del Estado

Venue: The seminar will be held at the building of the Centro Argentino de Ingenieros, placed at Cerrito, 1250, which is also the Cámara Argentina de Consultores headquarters.

Language: The official language will be Spanish, with simultaneous translation into English and vice versa.

THE increasing development of the Latin American countries in the last decades and the favourable perspectives of its evolution in the near future has an obliged parallelism to the evolution of their ports, which are factors of main importance in the nation's economy.

PIANC (International Navigation Association), created to propose at an international level the development in design, construction, improvement, conservation and exploitation of inland and maritime waterways, ports and coastal zones, cannot ignore such processes.

With those targets, the PCDC (Permanent Commission for Development and Cooperation) of the Association assumed the idea of organizing in Buenos Aires from November 20 to 24, 2000 the seminar, hoping to add to the institution the important technical and human capital that the joining of Latin American professionals would mean to PIANC.

The celebration has been possible thanks to the efforts of the Spanish section, responsible for the seminar organization and the support given by the Cámara Argentina de Consultores, as well as the Asociación Argentina de Ingenieros Portuarios (AADIP) and the great institutional reception of the Infraestructures Ministry, who has offered through its representatives of the Transportation Secretary and the Under-Secretary of Ports and Inland Waterways their unconditional support to the seminar from the start.

72 papers have been selected to be presented during the four days of the seminar.

Our thanks so to all the attendants that will contribute to the success of the seminar and congratulations for their right decision, considering the undoubtable interest of the technical contents of the event and the unrivalled attractiveness of a city as hospitable as Buenos Aires.

Hugo Velsink
President del PCDC (AIPCN)

Rafael Escutia
Presidente of the Spanish Section (PIANC)

Registration

Registration fees are as follows:

- Attendants from Latin American countries:
US\$ 5000
- Attendants from other countries:
US\$ 650

For registration and information, please contact:

Seminar Secretariat:

SECRETARIA TÉCNICA DEL SEMINARIO

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Inland Water Transport & Dredging International Conference/Exhibition

November 13-16, 2000, at the United Nations Conference Centre,
Bangkok, Thailand

Organized by United Nations Economic and
Social Commission for Asia and the Pacific (UNESCAP)

Session 1: Policies & Prospect

Session 1: Policies & Prospect Towards Sustainable Development Inland Water Transport (IWT) and Dredging in the 21st Century

- * Sustainable Development of Inland Water Transport in the 21st Century
- * Dredging into the 21st Century- Challenges & Opportunities
- * Governmental Support for Inland Water Transport & Dredging
- * Insight Into Upper Mekong Navigation Cooperation

Session 2: Integration of Inland Water Transport (IST) with Inter-modal Water Resources

- * Integrating inter-modal transport with IWT
- * Logistics Centers along the Rhine
- * Multi-purpose Development of Water Resources

Session 3: Investment & Public-Private Partnership

- * Policies on Private Involvement in Inland Water Transport and Dredging
- * Perspectives of Private Sector on Public-Private Partnership
- * What are the Winning Factors to Public-Private Cooperation?

Session 4: Infrastructure Development for IWT

Focusing on: structures & materials/ cargo handling equipment/Innovative waterway Improvement/maintenance/aids to navigation/computer aided design/ simulation & model test

Session 5: Technological Advancement of Inland Water Vessels

- * Focusing on: pushing tows/ shallow draft vessels/lifting bridge barges/ river coaster/container barges/self-propelled vessels passenger, tourist ships/fast passenger boats/special cargo barges

Session 6: Dredging Innovation & Technology

Focusing on: dredging automation/ improved dredgers/jet technology, computer technology/maintenance and upgrading of fleets /surveying positioning/ dredger conversion

Session 7: Efficient Quality Dredging & Environmentally Sound Dredging

Focusing on: dredging production/ efficiency: precise control of dredging/ dredging cost control, disposal: treatment of contaminated dredged materials, beneficial use of dredged materials

Session 8: Project case studies

Australia: Mackay Small Craft Harbour, Bangladesh: Gorai River, Hong Kong: Chep Lap Kok Airport, Container Terminal 9, Disney Theme Park, India: Kakinada, Singapore: Jurong Reclamation Projects.

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INDIAN PORTS 2000

December 6-8, 2000 • Taj Mahal Hotel,
Mumbai, India

December 6, 2000

- 6.30 pm INAUGURAL DINNER
Address by Chief Guest
7.70 pm Cocktail & dinner
Hosted by JNPT & APL (India) Ltd.

December 7, 2000

- 8.00 am Conference delegate registration
and refreshments
10.00 am INAUGURAL SESSION
Opening Ceremony
• **Welcome Address**
President, Bombay Chamber
• **Theme Presentation**
Conference Chairman:
Michael Pinto, Chairman, JNPT
• **Address by Chief Guest**
R.Vasudevan, Secretary, MoST
Rajnath Singh, Hon. Union
Minister for Shipping
• **Vote of Thanks**
Baltic Conventions
• **Official Opening Ceremony
and Tour of Exhibition**

11.00 am Refreshment break

- 11.30 am TECHNICAL SESSION I
INDIAN TRADE & SHIPPING
Chairman: D.T. Joseph, Director
General of Shipping
• **India's International Trade –
Current Issues and Growth
Prospective**
V. Balaraman, Director (Exports),
Hindustan Lever Ltd
• **Cargo Handling Services –
Demand Growth Projections**
K.B. Kotak, Managing Director, J.M.
Baxi & Co.
• **Impacts of Alliances, Mergers
and Acquisitions on Indian
Shipping & Ports**
Tomas Dyrbye, Managing, Director,
Maersk Sealand Ltd, India

1.00 pm Lunch
Hosted by APL (India) Ltd.

- 2.00 pm TECHNICAL SESSION II
**PANEL DISCUSSION ON PORT
REFORM IN INDIA**
Moderator: K.V. Rao, Jt.Secretary,
MoST
• **Autonomy/Accountability**
Rajiv Babu, Managing Director,
Nedumbassery (Cochin) Air Port
• **Commercial Flexibility**
J.M. Bevis, Chairman, CSLA
• **Port Communities in the**

Internet Age

Cyrus Guzdar, Managing Director,
AFL Ltd.

3.30 pm Refreshment break

- 4.00 pm TECHNICAL SESSION III
**PRIVATISATION IN THE
INDIAN PORT SECTOR**
Chairman: M.J. Subbaiah, Sr., General
Manager, ICICI
• **Managing Privatisation
Successfully – Case Study**
Abdul Samad Mohamed, Managing
Director, Klang Container Terminal,
Malaysia
• **Alternatives to Privatisation**
Rajiv Sinha, Dy. Chairman, MbPT
• **The Role of Institutional
Finance in Port Privatisation**
Nasser Munjee, Managing Director,
IDFC
• **Managing Privatisation
Successfully – Case Study**
Roy Choudhary, Chairman, Gujarat
Maritime Board

7.00 pm Cocktail reception
Hosted by Maersk Sealand India

December 8, 2000

- 9.30 am TECHNICAL SESSION IV
**BOOSTING TERMINAL
PRODUCTIVITY**
Chairman: A.K. Mago, Chairman,
MbPT
• **Global Trends in
Enhancement of Productivity
in Port Sector**
Mohd Sidiki Shaik Osman, CEO, PTP
– Port of Tanjung Pelepas, Malaysia
• **Impact of New Ship Design
on Terminal Operations**
Ian Claxton, Managing Director, APL
Ltd.
• **Labour Reforms**
Mohan Rao, Vice President,
Transporters & Dock Workers Union
• **Enhancement of Productivity
in Port Sector**
Dr.Jose Paul, Chairman, Mormugoa
Port

11.00 am Refreshment break

- 11.30 am TECHNICAL SESSION V
**THE FUTURE OF
TRANSHIPMENT TRAFFIC
AND HUB PORT
DEVELOPMENT IN INDIA**
Chairman S. Satyam, TAMP
• **Economics of Transhipment
– The Implications For Hub
Port Development**
Stephen McDonagh, Senior
Consultant, GHK International

- **The Future for Indian Ports
in the Global Shipping
Market**
K.L. Verma, Member Customs,
CBEC
- **Development of Indian Hub
Ports**
P.K. Srivastava, Chairman, Shipping
Corporation of India
- **Intermodal Transport
Systems to Improve Port
Facility**
Managing Director, CONCOR
- **Mega Ships and Mega Hubs:
Opportunities and Threats
for the Indian Subcontinent**
Parakrama Dissanayake, Managing
Director, Pership (Shipping) Ltd;
Chairman, Chartered Institute of
Transport, Sri Lanka

1.00 pm Lunch
Hosted by J.M. Baxi & Co.

- 2.00 pm TECHNICAL SESSION VI
REGULATORY AUTHORITY
Chairman Sunder, Former Secretary,
MoST
• **Relevance and Effectiveness
of Traffic Regulation**
Von Kuk Lun, PSA, Traffic Regulation
• **Regulatory Authority v/s
Appellate Authority**
S. Venkateswaran, Sr.Advocate
(Maritime Law)
• **Desirability of National Port
Policy**
S.R. Rao/S.K. Mohapatra

3.30 pm Refreshment break

- 4.00 pm VALEDICTORY SESSION
• **Welcome Address**
President, Bombay Chamber
• **Summing-up of Proceedings**
Conference Chairman, Michael Pinto,
Chairman, JNPT
• **Address by Chief Guest**
R. Vasudevan, Secretary, MoST

Vote of Thanks

- **Registration Information**
The registration fee for the event is:
£395.00 or US\$620.00

- **Registration form and further information**
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International Maritime Pilots' Association

IMPA: Main Activities and Achievements

IMPA's PRIME CONCERN being the safety of pilots, the association devotes considerable time and effort to the close monitoring of new international developments concerning maritime safety as they take shape at IMO in particular.

By way of illustration, three issues with major safety implications have benefited greatly from IMPA's technical expertise over the years and are likely to continue to do so as the commercial and technological needs of the shipping industry change over time. They concern, respectively, pilot transfer arrangements, training issues, and the role of maritime pilots within a shore-based Vessel Traffic Service (VTS).

Pilot transfer arrangements

Every year marine accidents include incidents involving a pilot transferring from a pilot launch to a ship or vice-versa. These accidents are usually the result of improperly rigged or poorly maintained pilot ladders, or improperly operated pilot hoists.

Pilots have to join or disembark from vessels in all kinds of weather conditions, by day and by night. After several years of determined IMPA representation at IMO, a positive outcome resulted. It was agreed by IMO that the combination/accommodation ladder must be provided where the freeboard of a ship is more than nine metres. Appropriate regulations covering the safety of pilot ladders and pilot hoists in particular were included in Chapter V of the International Convention for the Safety of Life at Sea (Solas) which covers navigational safety.

Regrettably, surveys show that there is still a large number of improperly rigged or maintained pilot ladders in use. The IMPA Safety Campaign for Pilots' Transfer is designed to overcome this problem. IMPA also designed a poster for display in the ship's wheelhouse which received formal IMO approval. Entitled "Required Boarding Arrangements for Pilot," the poster shows graphically how the pilot ladder and accommodation ladder must be rigged.

More recently, a comprehensively revised Solas Chapter V has been drafted by the IMO Sub-committee on Safety of Navigation (NAV). Its envisaged entry into force date is July 1, 2002, subject to final approval and adoption by

the Maritime Safety Committee (MSC) and subsequent fulfillment of the Solas tacit amendment procedure. The existing Solas Regulation V/17 pertaining to pilot transfer arrangements has been incorporated into the new Chapter V in its entirety.

In addition, more detailed guidelines on pilot transfer arrangements, also developed by NAV, were adopted formally by IMO by means of an Assembly resolution in 1999 [Resolution A.889(21)].

Pilot training

It is widely recognised that professional pilots are highly trained mariners with a unique expertise based on local knowledge and experience. Pilots' training involves two major aspects:

- Technical training in vessel operations, ship handling and collision avoidance and in the use of the latest shipboard equipment and navigational aids.
- Knowledge-based training and acquisition of experience with respect to the special and unique conditions which exist in a given pilotage area.

Even after qualifying as a pilot, pilots are learning 'on the job' every day, reinforcing their skills as they are continuously confronted with different combinations of and sudden variations in weather, current, traffic and, of course, different standards of vessels and crews.

Not only are they working in an environment which is in a constant state of flux. They are also having to do so whilst assisting the ship master and bridge personnel in ensuring the vessel's safe passage during the most difficult part of the voyage, when external circumstances and conditions are particularly demanding. This is the case, for example, when traffic in port approaches or port waters is particularly heavy while commercial requirements concerning berthing time are very strict, or when sailing in navigationally constrained waterways or environmentally sensitive areas.

Pilots, then, must be apt at continuously adapting their approach to the varying manoeuvres they are expected to make in the interests of safety. This, in turn, adds to their store of knowledge and expertise.

In addition, professional pilots are both encouraged and keen to attend one or more of the many training establishments located around the world throughout their career. Increasingly, they have access to the most technolog-

ically advanced radar and full-scale bridge simulators, as well as to modern model basins for ship handling under both day and nighttime conditions. An increasing number of shipping companies are also reported to seek bridge team training, including simulator training, for their senior officers with the active participation of pilots.

IMO standards

Training standards of pilots have come much more under the limelight at IMO in recent years, partly as a result of the fast-track, and radical, revision of the 1978-adopted International Convention on Standards of Training, Certification and Watchkeeping pertaining to seafarers.

The revised STCW Convention and its associated STCW Code were adopted by a diplomatic conference in July 1995, after less than two years of intensive preparation of a series of amendments (STCW 95). Entry into force followed on February 1, 1997, while a five-year period of grace granting certain transitional arrangements regarding existing seafarers' certificates and training will expire on February 1, 2002.

Pilots are not covered by the STCW 95 regime. The latter – for the first time in IMO's history – foresees in a mandatory system of external auditing involving contracting states submitting information on their compliance to the IMO secretary-general. It is his duty under the revised STCW Convention to prepare an assessment report with the assistance of panels of experts appointed by the Maritime Safety Committee, and to submit his report to the committee for a final decision on a 'white list' of complying countries.

However, the 1995 conference adopted a resolution [Resolution 10] inviting IMO to consider developing provisions covering the training and certification of maritime pilots."

An immediate response of IMO has been to embark on the updating of its existing (non-binding) **guidelines on the training and certification of maritime pilots other than deep sea pilots**, which date back to 1981 [Resolution A.485(XII)].

The draft text of the revised guidelines includes recommendations on **operational procedures for maritime pilots**, including the **exchange of information between the master and the pilot**.

The new guidelines, which have been prepared by the IMO Sub-committee on Standards of Training and Watchkeeping, in co-operation with



IMPA President Captain Michel Pouliot with IMO Secretary-General William O'Neil

NAV, are expected to be formally adopted in the latter part of 2001, when the next IMO Assembly meeting will take place (22nd Assembly).

Also worth a mention in this context are the new **IMO guidelines on voyage planning**, which were adopted by means of an Assembly resolution in 1999 [Resolution A.893(21)]. These guidelines recognise the need for "detailed planning of the whole voyage or passage from berth to berth, including those areas necessitating the presence of a pilot."

Finally, draft amendments to Solas Chapter V concerning the safety of navigation, which are proposed for entry into force on July 1, 2002, include an express requirement for the **use of English** for communications between the watchkeeping personnel and the pilot. Only when those directly involved in the communication speak a common language other than English may this requirement be overruled.

Vessel Traffic Services (VTS)

The establishment of shore-based Vessel Traffic Services in ports and harbours and major waterways took off during the 1960s and their number has been steadily on the increase.

A VTS fulfills two main functions. It enables port or harbour authorities, or other shore-based authorities concerned about marine accidents affecting their coastline, to monitor the shipping traffic, and it provides ships with valuable navigational and traffic information and other information (e.g., environmental, emergency-related) for their safe and efficient passage.

For the professional pilot VTS is just another tool to assist him in his task.

For example, it can provide him with information that may not be readily available to him otherwise, such as information about the movement of vessels in his vicinity which he may not be able to see. This is particularly valuable when visibility is poor. In some countries it is routine practice to have an experienced pilot available in the VTS centre, especially when weather conditions are bad. In other countries qualified pilots effectively man the VTS centre.

In the early 1990s IMPA participated in the preparation of a **World Guide on VTS**. The - very practical - guide, which is regularly updated and which is now also available on the Internet, was very much a joint effort of IMPA, the International Association of Lighthouse Authorities (IALA) and the International Association of Ports and Harbours (IAPH).

Including maps as well as explanatory texts, the guide is designed specifically to assist the ship master when approaching a VTS area by spelling out what is required from him (e.g., the notice required for estimated time of arrival, reporting-in requirements, pilot embarkation points).

IMPA, together with IALA, IAPH and the International Federation of Ship Masters' Associations (ISMA), has also made a major contribution to the development of **IMO guidelines on VTS**. First adopted in 1985 [Resolution A.578(14)], the guidelines were later revised by IMO, with the addition of an entirely new section on the training of VTS operators. The new guidelines were adopted in 1997 [Resolution A.857(20)].

It is also worth mentioning that **amendments to the Solas Convention**

include a new regulation on VTS. This new regulation forms part of Solas Chapter V and entered into force on July 1, 1999 [Regulation V/8-2]. It imposes an obligation on Solas contracting states to undertake to provide for the establishment of VTS where "in their opinion" the volume of traffic or the degree of risk justifies such services - whether from the point of view of the safety of life at sea, safety and efficiency of navigation, or "the protection of the marine environment," including adjacent shore areas.

IFSM 26th Assembly Resolutions - May 20, 2000

Piracy and Armed Robbery Against Ships MSC 72 @ IMO, Agenda Item 17

THE 26th IFSMA ANNUAL GENERAL ASSEMBLY, meeting in London on 19th - 20th May 2000, NOTING WITH GRAVE CONCERN that acts of Piracy and Lawlessness are numerous and increasing in many parts of the world with considerable loss of life and property,

WELCOMES THE INITIATIVE taken by Japan and the other nations of South East Asia in unanimously adopting the "Asia Anti-Piracy Challenges 2000" and the "Model Action Plan" based upon the "Tokyo Appeal" at their regional conferences held in Tokyo during March and April this year, and further welcomes the useful work done by the Piracy Reporting Centres in the region,

OBSERVES that similar problems exist in many other parts of the world where similar measures, including the introduction of similar Piracy Reporting Centres, would be doubly welcomed,

RECOGNISES that more robust measures are needed to achieve a significant reduction in piracy and lawlessness directed at merchant shipping and their crews, and therefore,

FEARING that if no effective international action is taken individual ships and shipowners will take their own steps to defend themselves, thereby escalating confrontations and increasing the likelihood of casualties,

URGES parties to IMO to take effective steps to:

1. ACHIEVE active patrolling and policing of territorial and coastal waters by the coastal states,
2. INTRODUCE secure sealanes patrolled by the naval forces of those nations possessing the

resources needed to provide this assistance,

3. CONFIRM that a legal system exists at national or international level for bringing pirates, once apprehended, to justice,
4. DEVELOP AND INSTALL aboard ships electronic warning devices (burglar alarms) to give early warning at a remote centre when an incident occurs,
5. DISCOURAGE members of ship's companies from taking active steps to oppose pirates, and
6. MINIMISE opportunities for unauthorised persons, who may commit acts of theft or armed robbery, stow away or conceal items onboard, from gaining unlawful access to ships in port.

Container crane procurement: how to avoid the high cost of failure

This article, by Bill Casper of US-based Casper, Phillips and Associates, was published in the July 2000 edition of WorldCargo News.

The container industry is about 40 years old. For the first 15 to 20 years most cranes were purchased by ordering a standard model from one of a handful of manufacturers based in the US and Europe. Since then, industry practice has changed and today there are more and more "customer" crane designs, being built by a growing number of manufacturers.

Low price is the entry ticket for inexperienced manufacturers and customers generally get what would be expected as a result: low capital cost, marginal performance levels and high life-cycle costs. This practice is unhealthy and conditions are worsening.

Many purchases are less than perfect but still deemed acceptable. More disturbing is the growing number of "high profile" jobs that go sour and which now outnumber the projects which can truly be called successful.

Ironically, the ports where these failures occur sometimes have excellent records when it comes to civil construction projects, based on good policies and training standards. But when it comes to cranes they turn everything over to someone else and let him violate all the rules.

Familiar patterns

A critique of past projects reveals patterns that, on average, greatly alter the odds of success or failure. This is especially true of some high profile failures that are characterised by huge cost overruns, deliveries months or years late, or completely unsatisfactory crane performance and durability. All these high profile failures have in common one or more of the following pitfalls.

- Lack of effective owners' project management (OPM). More than any other factor, OPM is the key to success. Effective OPM starts with top management, specifically the person who controls the purse strings and has the authority to decide which path to follow when a truly serious problem arises.

Day to day OPM should be conducted by a professional manager with a proven track record.

OPM specialists are rare. It should not be assumed that an outstanding specialist in another field has the necessary skills to be an effective owner's project manager.

- Lack of proper technical expertise. With, unfortunately, relatively few exceptions, manufacturers are less technically qualified to produce high quality engineering for custom designs. Bright young engineers are generally no longer attracted to heavy industry. Computer science and other high-tech fields get the cream.

Fading away?

Older engineers seldom keep up with the computer design aids that today are needed to produce high quality engineering. They still have sound engineering judgment based on years of experience but that skill is going away with retirements. In many countries retirement is mandatory at age 60 or sooner.

Crane consultants can still attract bright young engineers as well as offer the mature engineering skills and practical experience needed for guidance and training. Consultants can work either for the owner or the manufacturer.



A crane is either a commodity or an engineered product. The mistake is to think you can get the latter by paying a commodity price.

er.

Each has potential advantages and disadvantages for the owner. Working for the owner means more loyalty to the owner's best interest but the consultant's role is peer review rather than design leader. The inverse is true if the consultant is working for the manufacturer.

- Lack of effective manufacturer's project management. This is a major pitfall. Common practice is to award contracts with no participation from the individual who will manage the design and construction. Big mistake!

- Lack of appropriate construction oversight. This is the area that most affects life-cycle costs, productivity and durability. Common practice is to rely on the manufacturer's QA/QC supplemented by a low budget owner's representative. This practice has been used many times and has consistently produced poor results. With increasing pressure to cut corners, the situation will get worse.

Complex structures

Cranes are not just structural steel. They are a complex system of electrical, mechanical and structural components. No one individual can have expertise in all these specialties, especially when maintenance expertise as well as design and construction expertise are included. Effective QA/QC oversight is costly. Lack of oversight is, in a long term, far more costly.

- Overly aggressive delivery schedule. Studies have been made on the effect that schedule has on cost, quality and actual delivery time. Overly aggressive schedules are counter-productive and the same is true of overly liberal schedules. This is a prime example of where top level OPM can most influence suc-

cess or failure.

- Inadequate commercial protection. Foreign construction is unlike normal domestic construction in that the conventional performance bond is essentially worthless. If the contractor defaults, or even threatens to default, the bonding company first will not want to help and second cannot offer much help once they are forced to respond.

Time out

There is always a time factor that precludes starting over with another design/build contractor. True, the bonding company may eventually provide replacement cranes but only after years of litigation, redesign and construction. Even then, there is the possibility of another default.

Liquidated damages may or may not be collectable. Some laws permit charging only for actual damages. Others require that a bonus is offered to balance the liquidated damages. Only a few strongly protect the owner's right to collect liquidated damages.

However, that assumes the foreign contractor is willing to pay or that the owner has possession of the goods and enough retention to cover the assessed damages. Some foreign manufacturers simply refuse to accept liquidated damages and, regardless of contract terms, will withhold shipment until the terms have been changed.

In summary, it should not be assumed that a performance bond will provide protection unless the contract is with a domestic manufacturer. There are better ways to protect the owner's interests that are not overly expensive and given much better protection.

What's to be done?

For the full duration of the project,

top-level management participation must be maintained on policy issues and on the relatively few serious problems that will surely arise from time to time. Crane procurement must be managed like any other major construction job except for complications of design/build format and foreign rather than local construction.

Well qualified consultants should be used as advisors. When conflicts arise both sides should be listened to and the best choice then selected for the owner. That choice may or may not agree with the consultant's advice.

Comprehensive tender documents should be prepared that, clearly and without ambiguity, define the required crane system. These tender documents should be trusted and, if well enforced, will give adequate assurance of the contractor's performance. Doing this means the contract can be awarded to the lowest responsive bidder or the bidder deemed to offer lowest total cost after QA/QC costs have been factored in.

Schedules

A reasonable schedule should be followed. Common practice is to take an excessive amount of time in the pre-award phase and then squeeze the design and construction phases. This practice produces higher costs and more blunders during the design and construction phases.

When an aggressive schedule is essential, remember the adage: "fast, cheap, good—pick any two." We can add another. Fast and bad management usually results in: "slow, not good and probably not cheap" — a characteristic of most of the recent high profile failures.

Approval rights over the selection of

the contractor's project manager should be retained. This person should attend all commercial and technical meetings prior to and after contract award.

The right team

A fully qualified team for day-to-day project management and QA/QC oversight should be assembled. This is costly but that cost will be repaid several times in reduced life-cycle costs. The budget for this effort should be a reasonable percentage of the total purchase cost. Obviously a large order for, say, 10-12 cranes justifies a much higher "oversight" budget than a single crane order.

** This article, by Bill Casper of Tacoma-based crane consultants Casper, Phillips & Associates, is based on his recent presentation to a US port which is in the market for up to 12 superpost-Panamax container cranes*

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INTERNATIONAL MARITIME INFORMATION

Top 100 Containerports

IN 1998 the total volume of the world's top 100 container ports showed a healthy increase of 8.3% to 154,150,640 (154.15 million) TEU. This figure was regarded as a considerable success story, given the previously widespread predictions of gloom and, moreover, those forecasting that this rate of growth would not continue for the next twelve months were wrong. The annual figures obtained by Cargo Systems demonstrated that growth not only continued throughout 1999 but actually increased, to an annual rate of 11%, to a total of 171,128,925 (171.13 million) TEU and the phrase 'a new record in container volumes' issued forth from a number of ports.

Hong Kong regained the top slot by 'only' 311,000 TEU, much to the chagrin of Singapore, which reverted to its previous number two slot whilst, at the lower end of the scale, Mexico's port of Veracruz jumped twelve places to number 88 and Peru's port of Callao dropped from 92nd to 100th position.

A number of other interesting changes took place in this global game of musical chairs. The mighty Hamburg dropped from seventh to ninth position, whilst Shanghai climbed from tenth to seventh following its 40% increase in throughput volumes. In dropping to position nine, however, Hamburg in turn ousted Antwerp from its previously proudly held position; the Belgian port now occupies 10th position. Further down the list Tokyo dropped from 12th to 16th place, Gioia Tauro dropped by three to 18, Port Klang jumped six places from 21 to 15, Bremerhaven jumped three places to 19, Manila dropped from 19 to 21 and Yokohama dropped five places to 22.

Cargo Systems

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Container throughput at the world's top 100 containerports, in TEU

CARGO SYSTEMS SUPPLEMENT JULY 2000

Port	1988	1999	% Change 1998/99	1998 Transshipment	1999 Transshipment	2000	2001
1 Hong Kong	14,582,00	16,211,000	11.2	3,887,000	4,883,000	17,300,000	
2 Singapore	15,096,009	5,900,000	5.3				
3 Kaohsiung	6,348,774	6,990,000	10.1				
4 Rotterdam	6,010,000	6,400,000	6.5			6,808,500	7,243,096
5 Pusan	5,752,955	6,310,000	9.7	1,213,864	1,630,000		
6 Long Beach	4,097,689	4,408,480	7.6				
7 Shanghai	3,000,000	4,200,000	40.0			5,000,000	5,400,000
8 Los Angeles	3,378,218	3,828,851	13.3				
9 Hamburg	3,546,940	3,738,307	5.4	1,284,000	1,400,000	4,000,000	4,300,000
10 Antwerp	3,265,750	3,614,246	10.7	374,000	498,000	4,000,000	4,500,000
11 Shenzhen	1,950,000	2,980,000	52.8				
12 Dubai	2,804,104	2,844,634	1.4	1,439,347	1,266,721		
13 New York/New Jersey	2,466,013	2,828,878	14.7				
14 Felixstowe	2,461,823	2,696,659	9.5	765,341			
15 Port Klang	1,820,018	2,550,419	40.1	435,854	966,090	3,100,000	3,600,000
16 Tokyo	2,198,874	2,398,972	9.1				
17 San Juan	2,071,386	2,328,093	12.4			2,392,749	
18 Gioia Tauro	2,125,000	2,253,000	6.0	2,018,750	2,140,350		
19 Bremerhaven	1,812,000	2,180,995	20.4	810,000		2,400,000	
20 Kobe	2,100,883	2,176,004	3.6				
21 Manila	1,856,372	2,144,711	15.5	1,722		2,800,000	
22 Yokohama	2,057,560	2,129,575	3.5				
23 Tanjung Priok	1,900,711	2,111,792	11.1				
24 Algeciras	1,825,888	1,832,557	0.4	1,541,361	1,529,344	2,200,000	
25 Laem Chabang	1,425,702	1,755,867	23.2	15,754	20,914	1,850,000	1,950,000
26 Colombo	1,714,077	1,705,000	-0.5	1,235,379			
27 Keelung	1,706,873	1,665,961	-2.4		613		
28 Oakland	1,575,406	1,663,756	5.6			1,728,139	
29 Nagoya	1,458,076	1,566,961	7.5				
30 Qingdao	1,213,000	1,500,000	23.7				
31 Seattle	1,543,726	1,490,048	-3.5				
32 Charleston	1,277,514	1,482,995	16.1				
33 Le Havre	1,319,278	1,378,379	4.5				
34 Virginia	1,251,891	1,306,537	4.4			1,315,267	
35 Tianjin	1,065,900	1,300,000	22.0				
36 Osaka	1,155,974	1,273,120	10.1				
37 Takoma	1,156,495	1,271,011	9.9				
38 Barcelona	1,095,113	1,234,987	12.8	180,375		1,900,000	
39 Genoa	1,265,593	1,233,817	-2.5	148,000	185,070	1,500,000	
40 Melbourne	1,044,000	1,200,000	14.9				
41 Guangzhou	846,000	1,177,000	39.1				
42 Colon	1,117,035	1,175,673	5.2				
43 Valencia	1,005,397	1,170,191	16.4	138,418	202,312	1,313,200	
44 Durban	1,105,306	1,113,654	0.8	278,394	221,362	1,180,437	1,251,300
45 Tanjung Perak	939,230	1,106,906	17.8				
46 Taichung	880,239	1,106,668	25.7	159,299	255,155	1,200,000	1,320,000
47 Sharjah	813,240	1,080,000	25.0		741,771		
48 Buenos Aires	1,139,730	1,076,102	-5.6			1,159,891	
49 Vancouver	840,098	1,070,171	27.4				
50 Bangkok	1,113,756	1,052,566	-5.5			1,000,000	1,000,000
51 Malta	1,071,669	1,044,972	-2.5	1,014,905	982,479	1,300,000	
52 Houston	968,169	1,001,170	3.4				
53 Jeddah	974,302	996,523	2.3	205,375		1,077,000	
54 Montreal	932,701	993,486	6.5			1,000,000	
55 Piraeus	933,096	964,902	3.4	366,142	366,777		
56 Sydney	833,000	955,000	14.6	36,000	45,000	1,003,000	1,050,000
57 Southampton	846,257	921,000	8.8	48,903			
58 Nhava Sheva	669,108	889,978	33.0				
59 La Spezia	731,882	843,233	15.2	80,000		800,000	

INTERNATIONAL MARITIME INFORMATION

60	Xiamen	654,000	840,000	28.4					
61	Zeebrugge	776,357	836,000	7.7			919,600		
62	Savannah	730,611	793,165	8.5					
63	Haifa	833,507	792,368	-4.9	117,855	94,754	853,000	908,000	
64	Miami	813,762	777,821	-4.4					
65	Santos	799,476	774,044	-3.2					
66	Jacksonville	753,823	771,882	2.4					
67	Port Everglades	704,354	715,585	1.6					
68	Kingston	671,070	710,065	5.8	467,314	503,351	801,040	950,640	
69	Dalian	525,745	700,000	33.1	7,280		1,000,000		
70	Marseilles	660,232	663,984	0.6	25,000	20,000	730,000	810,000	
71	Salalah	17,493	649,003	3,610.1	17,418	641,104	1,200,000		
72	Goteborg	519,642	624,000	20.1					
73	Ningbo	353,000	600,000	70.0			800,000	840,000	
74	Puerto Limon	454,584	590,259	29.8			615,007	654,183	
75	Inchon	496,000	574,656	15.8	127,494	113,311			
76	Penang	510,307	566,409	11.0			588,000	630,000	
77	Fujairah	463,707	565,723	22.0					
78	Johor	439,661	558,056	26.9					
79	Las Palmas	423,740	553,568	30.6	114,570				
80	Freeport Bahamas	470,047	549,993	17.0	465,349	544,493			
81	Auckland	499,285	526,000	5.4	18,000	27,000			
82	Liverpool	487,000	515,000	5.7	39,400	41,700			
83	Mumbai	601,289	509,350	-15.3		2,041	429,448	425,000	
84	Tilbury	464,806	500,000	7.6					
85	Baltimore	486,861	498,108	2.3					
86	Puerto Cabello	486,774	496,315	2.0					
87	Thamesport	502,477	492,112	-2.1					
88	Veracruz	427,487	484,405	13.3			563,262		
89	Livorno	535,515	478,643	-10.6					
90	Halifax	425,435	462,766	8.8					
91	Dublin	424,500	442,000	4.1			491,000		
92	Ashdod	363,539	441,101	21.3	2,302	2,756	482,000	511,000	
93	Izmir	399,755	435,962	9.1					
94	Hakata	362,992	433,858	19.5					
95	Dammam	386,862	422,341	9.2			425,000		
96	Kwangyang	33,678	417,344	1,299.6		28,080			
97	Honolulu	479,948	411,156	-14.3					
98	Guayaquil	407,434	378,000	-7.2					
99	Bilbao	368,072	377,031	2.4					
100	Callao	378,013	376,045	-0.5	24,461	26,445	392,967	410,650	
TOTAL		154,150,640	171,128,925	11.0					

shipping industry has been pursuing globalization or oligopoly for the sake of larger merits of scale. Against the backdrop of such a trend, and as vessels are becoming larger and larger in size and capacity, the industry is entering the age of 5,000- to 7,000-TEU vessels.

Under such circumstances, the new edition features the following contents:

World Containership Fleet and Its Operation 2000

CHAPTER 1 OVERVIEW

- (1) World Full-Containership Fleet as of January 1, 2000
- (2) Major Movements of World Containership Operators

CHAPTER 2 NEWBUILDINGS, SCRAP-PINGS AND LOSSES OF FULL-CONTAINERSHIPS IN 1999

- (1) Newbuildings in 1999
- (2) Scrappings and Losses in 1999

CHAPTER 3 NEWBUILDING ORDER FOR FULL-CONTAINERSHIPS IN 1999 AND CUMULATIVE ORDER BACKLOG

- (1) New Orders in 1999
- (2) Order Backlog at the End of 1999

CHAPTER 4 FULL-CONTAINERSHIPS SERVING IN THREE MAJOR TRADES

- (1) Asia/North America
- (2) Asia/Europe-Mediterranean
- (3) North America/Europe-Mediterranean

Illustrated Review & Outlook of the Shipping Market, meanwhile, carries the future prospect for the tramp market, summed up through the analysis of supply and demand of tonnage on the basis of recent data on the market.

The condition of the tramp market made a turn to a recovery track between 1999 and 2000 in both the tanker and dry bulk sectors; the shipping industry is taking a breather in the meantime. This literature contains future prospects for the market.

In organizing supply-demand gaps, the demand for tonnage was calculated on the assumption of the soft-landing of the overheating U.S. economy and the sustainable growth of the world economy.

The contents are as follows:

Illustrated Review & Outlook of The Shipping Market

1. Outlook of Supply and Demand
 - (1) Methodology of supply and demand forecasting
 - (2) Supply-demand gap in bulk carrier sector
 - (3) Supply-demand gap in crude oil tanker sector



Just Released –

“World Containership Fleet and Its Operation 2000” & “Illustrated Review & Outlook of The Shipping Market”

NIPPON Yusen Kaisha (NYK)'s Research Group has recently published the year 2000 edition of *World Containership Fleet and Its Operation* (in English, A4 format, 36 pages) and *Illustrated Review & Outlook of the Shipping Market* (in

English, A4 format, 50 pages).

World Containership Fleet and Its Operations contains the current state and future prospects of the world's container fleets and how they are deployed in main trades, summed up based on recent data including the tonnage of the world's containerships as of January 1, 2000.

The increase in the tonnage of container fleets in the world has slowed down since early 1999; however, orders have been placed for vessels aggregating over 1 million TEUs in total, and those newbuildings, mainly large vessels of more than 4,000 TEUs, will be completed beginning late this year.

In addition, as seen in the merger of Maersk and Sea-Land, the container

2. Demand Trends

- (1) Crude oil
- (2) Iron ore
- (3) Coking coal
- (4) Steam coal
- (5) Grain
- (6) Minor bulk

3. Supply Trends

- (1) Order placement and completion trends
- (2) Demolition and loss trends
- (3) Existing tonnage by year of build

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Impressive upswing in cargo traffic in 3 Brazilian ports

THE Bahia State Port Authority CODEBA (Companhia das Docas do Estado da Bahia) reports a total of 3.05 million metric tons of cargo were shipped through its three ports – Aratu, Ilhéus, and Salvador – from January through June of 2000. This equates to an increase from last year of 20%.

All three ports registered gains, the most impressive being Ilhéus, where an upsurge in soybean exports boosted total cargo to 365,000 tons, a 90% increase over last year. Aratu accounted for 1.78 million tons (+16%) of mostly imported bulks such as copper concentrates, coal and alumina.

At Salvador, the state's principal general cargo port and its capital city, cargo increased 9.6% to a total of 900,000 tons, including 502,000 tons of containerized cargo. The box count, which last year jumped to a record high of 79,116 TEUs, totaled 47,600 TEUs during the first six months of 2000, suggesting that another record year may be in the offing.

In January, Ford began using Salvador as a discharge port for imported automobiles. The trade, amounting to 13,041 vehicles from January through June, has grown so rapidly that CODEBA is adding a new storage facility which will expand total holding capacity to 5,000 autos at one time.

CODEBA anticipates year-end cargo traffic for its three ports will reach a record level of more than 6 million tons, beating the previous record of 5.68 million tons set in 1994.

(AAPA ADVISORY)

Russian carrier FESCO launches direct box service from Fraser to N.Z., Australia, Tahiti

THE Russian carrier FESCO (Far Eastern Shipping Company) is introducing an independent, direct container service from **Fraser Port** to ports in New Zealand, East Coast Australia and Tahiti.

The service, operated by FESCO's Australia North America Line (FANAL), will begin August 21 with the arrival of

the 1,000-TEU container ship Yuriy Ostrovskiy at Fraser Surrey Docks.

Thereafter, FANAL will call at Fraser Port on a fortnightly basis. It will be offering intermodal service for dry and reefer containers to and from all major cities in Canada.

(AAPA ADVISORY)

Island's First Container Crane in Place

THE skyline at the Duke Point Deep Sea Terminal has now changed with the arrival of the Nanaimo Port Authority's new container handling crane.

Even from far away, it looks huge: a reach of 114 feet, lift capacity of 40 tonnes and overall weight of 900 tonnes. It is the first of its kind on Vancouver Island, and it provides Nanaimo with the capability for handling container shipping.

"It gives the Nanaimo Port Authority the ability to load and unload containers onto ships instead of having companies barge them to Vancouver for handling," reports Nanaimo Port Authority CEO Bill Mills, who adds the crane was shipped by barge from the Port of Vancouver through the middle of the night in late June. The operation to move the crane onto the Duke Point Terminal took eight hours and had to be timed with high tides.

"This was after an agreement had been reached earlier this year with the Port of Vancouver to make Nanaimo a feeder facility," Mills explains. "Through a joint venture undertaking, they gave us the crane and we invested \$1 million moving the equipment and upgrading the Duke Point Terminal to accommodate the crane.

"We're completing some modifications and will be waiting to have the crane certified before it comes into operation in the fall," he says.

Mills continues that the trend in the maritime world is to have larger ports fed by smaller ones, like Nanaimo.



The 40 tonne capacity crane allows the Port to move ahead with plans to become a 'feeder' facility for the Port of Vancouver.

"Last year, 60 per cent of the lumber shipped from Vancouver was in containers," he says, adding BC's provincial forest sector is shifting toward more kiln-dried and value-added products to meet changing demand in Japan. "And the best way to ship those goods is by container," Mills adds, noting it will probably take three to five years to fully develop the container business.

Double-digit gains in exports/imports via Charleston in FY 1998-99

CONTAINER volume through the Port of Charleston soared 16% to a record 1,567,593 TEUs during the fiscal year ending June 30, 2000. Exports increased by 19% and imports by 13% from their FY 1998-99 levels. Details are shown below:

Port of Charleston Container Throughput - TEUs

	FY 1999-00	FY 1998-99	FY 1997-98
Inbound	743,675	656,847	631,512
Outbound	823,918	690,771	627,747
Total	1,567,593	1,347,618	1,259,259

July 1/June 30 is the fiscal year.

Source: South Carolina State Ports Authority

Despite double-digit increases in container volume and overall port tonnage, vessel traffic to public terminals in Charleston increased only 1% to 1,981 ships, up from 1,963 ships, reflecting the trend toward larger ships and higher per-vessel throughput.

To maximize use of its Charleston port facilities, the South Carolina State Ports Authority last year ordered new container handling and stacking equipment at a cost of \$42 million, including four new post-Panamax container cranes (\$25.5 million) and 12 new rubber-tired gantry cranes (\$16.1 million).

This year, the SPA will invest an additional \$47 million as part of its \$165-million near-term capital improvement program.

Just last week, in fact, the Ports Authority Board approved the purchase of five new empty container handlers capable of stacking seven high. These units will replace two existing four-high stackers and also serve the Grand Alliance consortium at the Wando Welch Terminal. The SPA began using seven-high stackers in January.

Also during fiscal 2000, the Ports Authority finalized a lease for 100 acres and three piers on the former Navy Base, began harbor deepening to 45 feet, hired dozens of new employees, and continued the permitting process to build a new terminal on Daniel Island.

(AAPA ADVISORY)

Maersk Sealand Expands Houston Operations

THE Port of Houston Authority's largest customer just got larger and plans to stay longer.

After five years of construction and a new 30-year lease, Maersk Sealand officially opened its newly expanded 71-acre terminal at Barbours Cut. During recent celebration ceremonies, Tommy Thomsen, President and CEO of Maersk, Inc. declared, "The marine terminal we are about to dedicate further solidifies our commitment to Texas and to the Port of Houston for at least another 30 years. We hope for the century ahead of us to connect Houston with the rest of the world. We will do our share to develop more jobs in the Houston area and we look forward to working together for the next 30 years."

Maersk Sealand is the world's largest container shipping line since the recent acquisition of Sea-Land Services. Both companies have maintained a presence in Houston for many years. Since 1977, Sea-Land had its own 35-acre ter-

minal at Berth 3 in the middle of the Port Authority's Barbours Cut facility. This made expansion a problem.

After much negotiation and planning, the Port Authority and Maersk Sealand decided to swap Berths 3 and 5, so that Maersk Sealand could expand onto Berth 6 as well and have 2,000 feet of berth. The move would also allow the Port Authority's cranes unfettered movement across the other four berths.

The Port Authority constructed a new terminal building for \$30.5 million and more gates were added to reduce truck turntimes to some of the best in the industry. Containers were moved gradually over a three-month period, and finally the two Maersk Sealand cranes were floated down to the new terminal.

"This new facility will improve our service to Texas and the overall Gulf region, making members of the international business community more competitive in world markets with better, more efficient access to expanding global trade flows," pointed out Mr. Thomsen.

"In 1997, Sea-land, prior to its acquisition by AP Moller-Maersk, was the first big customer at the Port Authority's newly built Barbours Cut Container Terminal. They put Barbours Cut on the map, and they continue to be the cornerstone of the Port of Houston's container business," stated Ned Holmes, Chairman of the Port of Houston Authority.

Barbours Cut handles 83 percent of the cargo moving through all Texas ports and nearly 55 percent of the containers in the Gulf of Mexico. In 1999, Maersk Sealand moved 279,194 containers through Barbours Cut. "We are proud to serve thousands of customers via the Port of Houston," emphasized



Mr. Thomsen.

Tony Scioscia, President of Maersk Container Service Corp., praised the Port of Houston. "I have been in the shipping industry for 37 years and have had the unique opportunity of observing the development of many ports around the world and in the U.S. It gives me the ability to rank one port against another and I can tell you that Houston stands out as one of the best in the world."

Four factors stand out in Mr. Scioscia's mind, "Quality staffing from the local market, labor relations second to none, high productivity and efficient service, and a great Port Authority that is customer focused with a can do attitude and great leadership. It allowed us to sign this 30-year lease with complete confidence."

Maersk Sealand employs 200 workers at Barbours Cut and some 10,000 individuals in 325 offices in nearly 100 countries spanning six continents. It is the container shipping division of the A.P. Moller Group and is headquartered in Madison, New Jersey.

Former oil field renovation initiative by Port of Long Beach

WEARING thick safety goggles, latex gloves and a white laboratory coat, a chemist peers into a small glass jar containing about four ounces of dirt.

For the next five days the soil sample, which was taken from tons of dirt at a construction site, will go through a myriad of scientific tests. It will be tested for arsenic, lead, pesticides and herbi-



cides, and more than a dozen other types of metals and chemicals.

If the dirt is found free of contaminants, then, and only then, will the Port of Long Beach consider purchasing the soil for its \$33 million soil remediation project at Pier S on Terminal Island.

With an eye toward protecting the environment, preparing for future development and meeting state and federal requirements, the port is cleaning up 150 acres of land that was once considered too contaminated for commercial use.

"Soil remediation at Pier S is an excellent example of how unproductive land can be put to productive use," said the port's Executive Director Richard Steinke.

Way back when

Pier S is at the center of the Wilmington Oil Field where dozens of wells pumped oil from deep below the ground for more than 40 years.

When the port purchased the site in 1994 from Union Pacific Resource Co. it also inherited about 200,000 cubic yards

Steps to remediate soil

- The port's first step in developing the site for commercials involves digging up the contaminated soil. This dirt is stabilized and recompacted with the addition of dry cement.
- The remediate soil is then sandwiched between two layers of nearly 800 tons of clean dirt.
- The third and final step involves topping off the remediated area with 58,000 tons of rocks, gravel and asphalt and then paving the surface.

of oil residue buried in dozens of holes throughout the site. Years of oil pumping operations also caused the ground to subside 10 feet below the water table.

Clean dirt

The port's first step in developing the site for commercial use involves digging up the contaminated soil, bringing in tons of clean dirt and raising the area to about 14 feet above sea level. The contaminated soil will be mixed with dry cement and sandwiched between clean dirt.

The soil remediation project is expected to be completed by April 2001. The site will be developed into a shipping terminal by 2003. A similar soil remediation process was used about five years ago on the 170 acres of land, located north of Pier S, that is now occupied by the Hanjin Terminal.

About 700 trucks deliver an average of 15,000 tons of clean soil to the site each day. By mid-March more than one million tons of soil had been delivered to the site. About 3 million tons are needed.

The port will not accept just any old dirt. The project's contractor, San Diego-based Godot Enterprises Inc., may only purchase dirt that adheres to the port's strict environmental and physical standards.

Soil testing

Prior to purchasing dirt, Godot takes samples of soil to Associated Laboratories in Orange. Chemists at Associated Laboratories, which has been in business since 1922, put the soil through a variety of tests that can detect contaminants. The contractor is also required to inspect the dirt to determine that the grain size is acceptable. The dirt cannot be too fine or have too much clay.



Trucks deliver soil to Pier S for the port's soil remediation project. About 700 trucks deliver an average of 15,000 tons of clean soil to the site each day.

If the dirt fails either or both of the inspections, Godot will not purchase the soil.

"They've had to turn down dirt because they've found contaminants in it," said Ari Steinberg, senior program manager, "We want good quality dirt."

Ms. Lillian C. Borrone **Assistant Executive Director**

The Port Authority of New York & New Jersey

LILLIAN C. Borrone is the Assistant Executive Director of The Port Authority of New York & New Jersey. She has just been promoted to the above title on Sept. 11, 2000. She, reporting directly to Mr. Robert Bolye, will work with senior staff on each of issues as well as industrial executives, to assure the development of appropriate strategies and that plans and resources are available to accomplish the PA's ambitious future agenda. One of the first area, her new post is to focus on is the development of a strategic plan for the PA's international activities that will assure appropriate support of key initiatives across the agency. Until this installation, she was the Director of Port & Commerce Dept., overseeing the management of the major marine terminal facilities within the Port of New York and New Jersey and was also responsible for the Port Authority's industrial parks and other regional development assets. These facilities include:



- The Port Newark/Elizabeth Port Authority Marine Terminal complex in Newark and Elizabeth, New Jersey;
- The Red Hook Container Terminal in Brooklyn, New York;
- The Howland Hook Marine Terminal in Staten Island, New York;
- The Auto Marine Terminal in Jersey City and Bayonne, New Jersey, and;
- Industrial Parks in Elizabeth, New Jersey, Bathgate (Bronx), and Yonkers, New York and the Teleport, a telecommunication office park in Staten Island, New York;
- The Newark Legal Center in Newark, New Jersey;
- The Essex County Resource Recovery Facility in Newark, New

Jersey, and;

- Waterfront development projects in Hoboken, New Jersey, and Queens, New York.

In addition, Ms. Borrone oversees work to strengthen the role of New York-New Jersey region as a center for international trade and business.

Key programs and projects under Ms. Borrone's direction include new capital development and construction at the marine terminal facilities, implementation of key policies in such diverse areas as dredged material disposal within the port, new business development and long range strategic planning. She is also responsible for the management and financial performance of these valuable agency assets.

Prior to becoming Port Director in 1988, Ms. Borrone held various positions of responsibility within the Port Authority, including Director of Management and Budget; Assistant Director of the Aviation Department; as well as positions in the Rail Transportation and Terminal Departments. She also served with the US Department of Transportation as Deputy Administrator, and as Associate Administrator of the Urban Mass Transportation Administration.

Ms. Borrone is a Board Member of the International Association of Ports and Harbors, the North Atlantic Ports Association, the Regional Business Partnership in Newark, New Jersey, and immediate past Chairman of the American Association of Port Authorities. She is also Chairman of the U.S. Department of Transportation Advisory Committee to the Bureau of Transportation Statistics, past Chairman of the Transportation Research. She is a member of the Marine Board's Executive Committee.

In 1996, Ms. Borrone was honored with membership in the National Academy of Engineering for her work in multimodal transportation planning and operations. In May, 2000, she was honored by the Executive Women of New Jersey as one of the state's leading businesswomen.

Ms. Borrone holds a Master of Science degree in Civil Engineering/Transportation Management from Manhattan College and a Bachelor's Degree in Political Science from American University (As of September 11, 2000).

Mr. Richard M. Larrabee, Rear Admiral USCG (Retired) Director, Port Commerce Department

The Port Authority of New York & New Jersey

RICHARD M. Larrabee is the Director of the Port Commerce Department of The Port Authority of New York & New Jersey. He has just been promoted to the above title on September 11, 2000 and is responsible for overseeing the planning and implementation of the Port Authority's marine terminals and business development programs. These facilities include:



- The Port Newark/Elizabeth Port Authority Marine Terminal complex in Newark and Elizabeth, New Jersey;
- The Red Hook Container Terminal in Brooklyn, New York;
- The Howland Hook Marine Terminal in Staten Island, New York;
- The Auto Marine Terminal in Jersey City and Bayonne, New Jersey, and;
- Waterfront development projects in Hoboken, New Jersey, and Queens, New York.

In addition, Rear Admiral Larrabee provides guidance and recommendations and major policy issues relating to facilities management, dredging, business development, and regulatory affairs.

Prior to becoming the Deputy Director, Rear Admiral Larrabee completed a successful thirty-two year Coast Guard career, serving in a variety of operational and staff assignments. As Commander First Coast Guard District in Boston, MA, he oversaw all Coast Guard operations in the Northeast United States. During 1999, he directed the rescue and recovery of the JFK Jr. Aircraft and the Egypt Air 990 tragedies and acted as the primary public spokesperson during both operations.

Rear Admiral Larrabee has had extensive experience in marine safety and environmental protection. His operational assignments have included command at sea and shore assignments. Rear Admiral Larrabee's personal awards include two Distinguished Service Medals and three Legion of Merit awards.

Rear Admiral Larrabee holds a Master of Science degree in Ocean

Engineering from the University of Rhode Island and a Bachelor of Science degree from the United States Coast Guard Academy.

Marsh Restoration Underway

THE long-anticipated \$5 million environmental restoration of the 140-acre Deepwater Slough at the **Port of Redwood City** is underway. The end result will create a large, viable tidal marsh habitat to include a mosaic of tidal channels, low, mid, and upper marsh and upland vegetation communities.

"This unparalleled environmental restoration of former Port lands was one of the major goals of the Port Commission when we entered into an agreement with the developers of Pacific Shores Center for a land-swap that enable their project to proceed and for the Port to obtain a 10-acre waterfront maritime expansion area," said Commission Vice Chairman Larry Aikins.

The Pacific Shores Center project, a 106-acre mixed use office and recreation park east of the Port on private lands, is under construction and the first buildings will be completed by spring 2001. Four high-tech companies Excite@Home, Phone.com Inc., Informatica Corp. and BroadVision Inc. have committed to lease 85% of the office space in this unique waterside environment: which includes more than 38 acres of park areas within the project including new soccer, baseball, softball, basketball and volleyball areas, as well as a 10-acre waterfront park.

Project Director Peter Brandon said that the restoration of Deepwater Slough will be preceded by the relocation of 130,000 cubic yards of dirt transported by barge from the Island to Pacific Shores Center for fill.

Deepwater Slough Island was used by the Army Corps of Engineers starting in the 1930s and lasting through the mid 1960s for the then permissible disposal of dredged material from widening and deepening of the Redwood Creek Channel.

Environmental improvements to the Island include restoration of about 20 acres of tidal marsh, enhancement of the remaining uplands restoration of better tidal circulation to interior areas of the Island, and maintenance of a shallow, open, water marsh pond in the existing marsh on the site.

Commission Awards Next Phase of LBT Clean-Up

THE **Redwood City Port Commission** has awarded a \$2.1 million contract to a national environmental engineering firm for the next major phase of the environmental cleanup of the Liquid Bulk Terminal (LBT).

Safety-Kleen, which has a local office in Alameda, bid \$700,000 lower than three other bidders, including McLaren Hart, the firm that did the initial phases, reported Port Executive Director Michael J. Giari.

Teaming with Sierra Process Systems of Bakersfield, Safety-Kleen over the next six months will remove, treat and dispose of the remaining 5.1 million gallons of wastes in eight aboveground tanks. McLaren Hart previously treated slightly less than the volume in one large tank.

The Port under the auspices of the California Environmental Protection Agency's Department of Toxic Substances Control (DTSC), is undertaking the clean-up of approximately 10 million gallons of hazardous wastewater, oil and sludge from nine aboveground storage tanks at (LBT) at 475 Seaport Blvd., left by a business that vacated the site and left the tanks full.

Looking Back, Looking Ahead

THE **Port of Seattle** is a public enterprise that operates in a market-driven international environment. Owned by the citizens of King County, the Port provides services to its customers in the maritime and aviation industries. These services return benefits to the people and businesses of the county and the region. They include expedient, reliable and low-cost connections by land and sea with the rest of the world. They also include the social and economic benefits of job creation, environmental cleanup and long-term economic security stemming from careful management of the community's investment in the Port.

In 1999, the Port continued to cover the costs of its operations using revenues from aviation and marine industry customers. The Port earned positive net revenues, after depreciation and administrative allocations. Net cash provided by port operations rose to \$112.6 million, up 15.6 percent from 1998.

Besides funding major capital projects through its operating income, the Port also invested in non-aviation capital assets through a tax levy on property in King County. The levy is used for public access and road construction, environmental improvements and job-producing marine terminal development. The levy is not used for aviation investments or for any Port operating expenses.

In 1999, the Port Commission decided to lower the levy rate for the Year 2000, for the eighth year in a row, adding up to a saving in the tax rate of 58.8 percent since 1992. In 1999 alone, Commissioners trimmed the tax rate by 10.7 percent.

The levy for a \$200,000 house in 2000 is \$43, compared to \$48 in 1999.

Looking forward, the Port's net operating income is expected to grow significantly in 2000. The 2000 capital budget is projected to reach \$380 million, a 14-percent increase over that in 1999. This is part of a five-year, \$2.2 billion capital improvement plan for Sea-Tac Airport and seaport projects. The 2000 budget reflects two main priorities: upgrading the airport to better serve passengers and accommodate growth in air traffic, and improving the region's seaport-related transportation network to speed the movement of cargo and ease congestion.

Stockton Port District acquiring U.S. Navy-owned 1,155 acres of land

THE Stockton Port District will soon take possession of 1,155 acres formerly owned by the U.S. Navy.

The transfer of Rough and Ready Island under the Department of Defense's BRAC program will give the port "an additional five million square feet of warehouse space, 40 miles of railroad track, a mile of new docks and approximately 500 acres of undeveloped property, which will ultimately ensure hundreds of new jobs in our community," according to Port Director Richard Aschieris.

The terms of the Public Benefit Conveyance, which was facilitated by the U.S. Maritime Administration, state that the transfer will serve the community by creating opportunities for maritime and transportation companies and expansion of employment.

(AAPA ADVISORY)

Africa/Europe

The Port of Genoa and added value

A study conducted by Italian institute Centro Studi Investimenti Sociali (Censis) and commissioned by the Port Authority of Genoa demonstrates the port's economic impact. The figures show that the port is an important industry sector in the Ligurian region.

The activities of the Port of Genoa generate an annual economic turnover of ITL 9 billion (EUR 4.6 million). Of this amount, around ITL 3 billion (EUR 1.5 million) is directly earned by the port as added value, while about ITL 6 billion (EUR 3.1 million) is contributed by trade and industry directly or indirectly dependent on the port.

As concerns job potential, the port of Genoa directly creates around 11,000

jobs, and provides an additional 50,000 positions outside of its docks and other facilities (sideline businesses).

The port industry or the port as industry

"The value of these figures for the economy and employment generated by the port," say Giuliano Gallanti, port authority president, commenting on the study's results, "shows that the port of Genoa is a large industry in itself."

Much to his pleasure, these figures negate the often expressed supposition that the port occupies a great deal of space without creating an adequate number of jobs.

The port as motor for the regional economy

The study by Censis establishes, for the first time, watertight verification of the port's effects on Genoa's economy and the region of Liguria.

A total of 11.1% of Genoa's gross domestic product (GDP) is gener-

Jobs

Seafreight	3500
Industry	4700
Real estate	2800
Total	11000
Suppliers	50000
Total	61000
Share in GDP Genoa	11.1%
Share in GDP regional	5%
Share in GDI national	0.2%

ated by the port, while the region produces about 5%. Overall, the port of Genoa contributes 0.2% of national GDP. Particularly in regard to the tough competitive situation of the three Ligurian ports of Genoa, La Spezia and Leghorn these figures from the survey - and those that follow - underline Genoa's market leadership among the Ligurian ports and those of Italy in general.

Genoa: Liguria's top job provider

55.4% of all port employees work at the port of Genoa, where 74.6% of all port activity in the Ligurian region is concentrated. In a national comparison, Genoa represents 27% of total port productivity (cost-based), and offers 19% of all jobs in the port area.

When demand for goods or services increases by ITL 1, this triggers an added value of ITL 1.8. At the same time, ITL 0.9 is directly and ITL 1.9 indirectly attributable to port business. According to the Censis study, 4.5 additional jobs are generated in the Genoa area for every new job created by the port.

Development to 2012

Even in coming years, the port will be an important economic factor in and around Genoa. Censis' analysis ventures a prognosis for the decade 2002 to 2012. The institute concludes that the port will create an additional 9800 jobs (directly or indirectly dependent on port activities) within this period. Moreover, infrastructure expansion will bring with it an additional 1500 to 1800 annual jobs.

Of course, the port's economic turnover will also increase. The authors of the Censis study calculate an increase of ITL 5.8 billion by the year 2012.

(International Transport Journal 31/2000)



The Port of Genoa is one of the city's major employers. Its contribution to the regional gross domestic product is considerable. (Photo: Port of Genoa)

Port of Genoa: gross value added

Activities	billion ITL
Seafreight	2.30
Industry	0.44
Real estate	0.26
Total Added Value	3.00
Sideline businesses/dependent industry	6.00
Port total	9.00

Finnish Port Association – Container traffic in 1999

	Containers, TEU			Empty containers, TEU			Total, TEU			Trucks and trailers, number			
	Imports	Exports	Total	Imports	Exports	Total	Imports	Exports	Total	Imports	Exports	Total	
Hamina	31 046	41 755	72 801	14 317	5 840	20 157	45 363	47 595	92 958	1 470	967	2 437	Fredrikshamn
Kotka	49 370	50 911	100 281	25 651	8 096	33 747	75 021	59 007	134 028	0	0	0	Kotka
Loviis	0	0	0	0	0	0	0	0	0	0	0	0	Lovisa
Sköldvik			0			0	0	0	0			0	Sköldvik
Helsinki	139 520	127 477	266 997	30 435	24 068	54 503	169 955	151 545	321 500	152 613	151 295	303 908	Helsingfors
Inkoo	0	0	0	0	0	0	0	0	0	0	0	0	Inga
Hanko	4 043	9 309	13 352	5 163	1 882	7 045	9 209	11 191	20 379	25 633	25 504	51 137	Hango
Turku	9 762	3 978	13 740	1 001	1 539	2 540	10 763	5 517	16 280	56 454	55 628	112 082	Abo
Naantali	0	0	0	0	0	0	0	0	0	43 480	41 003	84 483	Nadendal
Uusikaupunki	0	0	0	0	0	0	0	0	0	0	0	0	Nystad
Rauma	9 475	47 180	56 655	32 562	2 937	35 499	42 037	50 117	92 154	475	2 164	2 639	Raumo
Pori	5 740	35 332	41 072	16 945	735	17 680	22 685	36 067	58 752	0	0	0	Björneborg
Kristiinankaupunki		0	0	0	0	0	0	0	0	0	0	0	Kristinestad
Kakinen	0	0	0	0	0	0	0	0	0	0	0	0	Kaskö
Vaasa	0	0	0	0	0	0	0	0	0	0	0	0	Vasa
Pietarsaari	31	104	135	27	0	27	58	104	162	106	91	197	Jakobstad
Kokkola	2 009	274	2 283	182	1 360	1 542	2 191	1 634	3 825	0	0	0	Karleby
Raahe	598	170	768	222	496	718	820	666	1 486	0	0	0	Brahestad
Oulu	0	0	0	0	0	0	x)	x)	x)	0	0	0	Uleaborg
Kemi	2 838	10 803	13 641	8 479	0	8 479	11 371	10 803	22 120	0	0	0	Kemi
Totnio	1 100	1 120	2 220	1 148	130	1 278	2 248	1 250	3 498	0	0	0	Tornea
Joensuu	0	0	0	0	0	0	0	0	0	0	0	0	Joensuu
Kuopio	0	0	0	0	0	0	0	0	0	0	0	0	Kuopio
Lappeenranta	4 780	0	4 780	1 567	0	1 567	6 347	0	6 347	0	0	0	Villmanstrand
Savonlinna	0	0	0	0	0	0	0	0	0	0	0	0	Nyslott
Varkaus	0	0	0	0	0	0	0	0	0	0	0	0	Varkaus
Kalajoki	0	0	0	0	0	0	0	0	0	0	0	0	Kalajoki
Merikarvia	0	0	0	0	0	0	0	0	0	0	0	0	Sastomola
Total	260 312	328 413	588 725	137 699	47 083	184 782	398 011	375 496	773 507	1 149 003	1 922 510	3 071 513	Total

x) 6 610 x) 8 165 x) 14 775

Paper Terminals on stream at Göteborg and Zeebrugge

Two of what will eventually be three vessels are now operating within the Stora Enso Base Port system between the Swedish Port of Göteborg and the Belgian Port of Zeebrugge. The traffic, with paper as its base cargo, is also a regular ro/ro service for trailers and containers under the Cobelfret banner.

An eighty-tonne consignment used to be a heavy lift in ports, and it still is. But eighty tonnes is the standard weight of the ro/ro loads of paper pulled and pushed onto the 'paper ships' at

Göteborg's Paper Terminal.

Unique cassette

The cargo unit is a unique weather-protected cassette that can be handled intermodally (by rail and sea). The unit, called secu – Stora Enso Cargo Unit – might look like a forty-foot ISO container but it is not. With more than twice the volume, it cannot be stacked and it stands on legs.

The concept is built around an optimal, intermodal cargo unit forwarded through the most environmentally-friendly means of transport this side of cart-pushing and sailing. Trains take

the paper boxes from the mills to the Port of Göteborg, where they are transferred to the ship for the sea-leg to Zeebrugge. The units are then stripped and the contents distributed throughout Continental Europe or overseas.

Concrete solution

The Paper Terminal at Göteborg is an area with a concrete surface (because of the weights involved, asphalt is too soft), a couple of 90-tonne straddle carriers for rail-to-terminal shifting, seven extra-wide, extra-strong terminal tractors with 90-tonne translifters, and a unique, twin-level, split access ramp



The Paper Terminal at Göteborg's Älvsborg Harbour is designed around the 'secu', the unique cargo unit used for the Sweden-to-Continental Europe paper flow of paper producer Stora Enso. The 80-tonne loads are handled by custom-built straddle carriers and extra strong tractors on a concrete yard and using a triple-ramp system.

system.

Cobelfret identity

The Dutch Wagenborg ships on charter to Stora Enso for the Göteborg-Zeebrugge paper trail are operating under the Cobelfret name. The Belgian transport company has been awarded the contract to fill the surplus capacity on the ships with conventional ro/ro cargo. When complete, the fleet will

make six round-trips a week between Göteborg and Zeebrugge.

Named the Spaarneborg, the Schieborg and the Slingeborg (to be delivered in late 2000), the three Wagenborg ships each have a dead weight of 13,000 tonnes and an overall length of 183 metres. As the vessels have front-mounted engines they also have extremely long propeller shafts (125 metres).

Port mission to West Africa a success

Amsterdam No. 1 in line services to West Africa

IN the middle of April a trade mission from the Amsterdam port visited Ghana and the Ivory Coast. The visits to the four ports Tema, Takoradi, Abidjan and San Pedro have strengthened the links between shippers, importers and other port businesses in both countries. Amsterdam has particularly strong bonds with the Ivorian capital Abidjan since both are the biggest cocoa ports in the world - Abidjan for exports and Amsterdam for imports.

In the Ivory Coast the delegation was warmly welcomed by high level representatives of the local government and port business communities, and emboldened by this reception the managements of the ports of Abidjan and San Pedro signed an agreement with the Amsterdam Port Authority to intensify the relations between the ports.

Various port projects in construction, management and operation of terminals, training, environmental protection, development and diversification of cargo flows will be studied.

The latter will focus on the export of cocoa, timber, chilled and frozen products from the Ivory Coast. Proposals for financing, preparatory work and project leadership will come at a later stage. San Pedro is the second port of the Ivory Coast and is growing in importance because of its location close to a large number of cocoa plantations.

Before making their promotional visit to the Ivory Coast the delegation had also visited the ports of Tema (near Accra) and Takoradi in neighbouring Ghana, also an important cocoa producer.

A number of Amsterdam storage companies have premises in Takoradi and one of them is investing in new cocoa warehouses there.

A general tendency in both countries is privatization which is part of their

governments' programmes. The ports are considered to still be in the general cargo phase of their development and have scarcely begun to move into the era of container and modern bulk transport. They have to improve their infrastructure and accessibility and there was much discussion of the details of expansion and reconstruction. For this reason it was very useful that the delegation also included representatives for Amsterdam Ports Consultants.

Success demands Strategy

ACROSS the world, the growth sector is containers. So, logically, new investments in terminals and ships are the rule rather than the exception. Sometimes it even seems that ports are just one big stack-up of containers, though nothing is farther from the truth. And yet as the **Rotterdam** Municipal Port Management (RMPM), we have recently attracted a bit of attention because of our involvement in the renewal of the container sector in the Port of Rotterdam. As the RMPM (35 per cent), we are, together with Hutchison Port Holdings (35 per cent) and ABN AMRO Participates (20 per cent) the new stockholders in ECT, Rotterdam's largest container stevedoring company.

No doubt, this step will have raised an eyebrow or two. Why is a governmental body buying into a private business? The answer is simple: strategy. The container sector is a booming business, but nevertheless requires investments which cannot be raised by a single party alone. This is partly why the RMPM and ECT have already been working together to develop new container terminals. When a container stevedoring company is up for sale, you can do two things: either stay on the side-lines or get in there and make things happen. With an eye to the future of the port, the RMPM has opted for the second choice. Seventy-five per cent of container throughput in Rotterdam is in the hands of ECT, setting the tone for the port's performance in containers.

To further improve this performance on the short and long term, Rotterdam and ECT were fortunate in finding a strong new partner in Hutchinson. This concern has proven itself the world over that it knows just how a container terminal can operate in a customer-oriented and profitable way.

To achieve this at ECT, the fat needs to be cut. By ensuring that the company becomes fit and lean, we will consequently ensure that it can easily take on the competition with any terminal in Western Europe. What's more, this competition will be expressed that much more clearly in the port of Rotterdam itself. This summer, the new Maersk Delta Terminal will open its doors. True, ECT has a one-third share, but Maersk is running the show there. The Maersk Delta Terminal will be responsible for its own performance. The trend among shippers is to take charge of their entire logistic chain. This was also the motivation for P&O Nedlloyd and ECT to cooperate on a joint terminal concept for the Dutch/English shipping company.

A form of competition is developing in the port. The various parties will take examples from each other more often in order to achieve the best terminal performance. The Port of Rotterdam is home to several other significant container stevedores, companies such as Hanno, Uniport and Rotterdam Shortsea Terminals. Several years back, Hanno and Uniport moved to new locations in the Waalhaven. These terminals have full potential for expanding businesses. Research into the further expansion of tidal ports for these terminals which are located more inland is focused on maintaining accessibility for the ever-growing container ship. Rotterdam Shortsea Terminals has turned its strategy to a specific segment and is proving quite successful.

All the ingredients for a strong future for container throughput in the port of Rotterdam appear to be present. There's faith in the port, and that is evident from the disposition of other governments. Investments totaling billions in extra rails, improvements in inland water-ways and an expanded road network are the tangible evidence. To be successful, though, a container port must continue to innovate. This is just one of the reasons that the participation of the RMPM in ECT was the only right decision. By investing now, the Port of Rotterdam can benefit later. The RMPM can in that case appear to be a temporary stockholder. 'Discontinued Due to Success'!



Willem K. Scholten
Chairman of the management board,
Rotterdam Municipal Port Management

Rotterdam's 1st half 2000 throughput up 4.3 percent

The Port of Rotterdam reports cargo throughput for the first six months of 2000 increased 4.3% from last year to 157.8 million metric tons.

Port of Rotterdam Cargo Traffic Metric Tons, 000s

	January-June		
	2000	1999	Change
Dry Bulk			
Agribulk	5,134	6,669	-23.0%
Ore/Scrap	22,374	17,313	29.2%
Coal	10,925	11,414	-4.3%
Others	5,934	5,179	14.6%
Sub-Total	44,367	40,575	8.3%
Liquid Bulk			
Crude Oil	45,756	48,735	-6.1%
Petroleum Products	10,016	9,391	6.7%
Others	14,664	11,346	29.2%
Sub-Total	70,436	69,472	1.4%
TOTAL BULK	114,803	110,046	4.3%
General Cargo			
Ro/Ro	5,000	4,871	2.6%
Containerized	33,400	32,238	3.6%
Others	4,555	4,138	10.1%
TOTAL GENERAL	42,955	41,247	4.1%
GRAND TOTAL	157,758	151,293	4.3%

Source: Port of Rotterdam / www.port.rotterdam.nl

(AAPA ADVISORY)

Portnet: Supply of Port Consultancy and Management Services

In pursuance of the "African Renaissance Initiative" of the government of South Africa, Portnet (South Africa's Port Authority) has created a Port Management Services and Consultancy division (PORTCON) to provide expertise to Port Authorities, operators and others on the African continent.

PORTCON, having its roots in Africa, understands the many unique circumstances existing within the African maritime industry and can provide meaningful and workable solutions to the port and maritime industry throughout Africa.

PORTCON, with expertise and experience gained by their respective specialists through Portnet's processes of transformation, restructuring and development in addition to all aspects of port working for many years, is able to assist other ports in similar circumstances to upgrade, develop and become a preferred supplier of port services.

Mayor's pledge to make sure river services can succeed

LONDON Mayor, Ken Livingstone, gave a pledge at the opening of the new Tower Millennium Pier to guarantee that this time river services on the Thames will succeed.

"I would like to congratulate all the people who brought this project together and I give an absolute guarantee that this time it will survive and grow," he said.

Everyone connected with the building and installation of the £4 million pier was at the grand opening to see Mr. Livingstone cut the tape and declare it open.

Anthony Mayer, transitional chief executive of Transport for London, remarked: "The PLA, Millennium Commission, and ourselves all helped to fund this pier and we will continue to do so for further piers."

"This is a demonstration that in this great city of ours we have got to stop talking about improving London Transport and do something about providing it."

He went on that here was demonstrable proof of a serious commitment from all four parties involved and a number of other colleagues: "To getting this great River of ours back, not just as a tourist facility, but a facility to help the London travelling public to move around."

Tracing the development of the project Steve Cuthbert, PLA chief executive, explained: "Some time ago we began working with colleagues in the Corssriver Partnership in developing the Thames 2000 initiative, which was to put a number of piers along the River through the public sector in one way or another."

"Then encourage boat owners to invest in new plant."

"In all we have all invested £30 million in new piers and new boats - all of this to promote services."

"With the help of the Pool of London Partnership we obtained funding for the construction of this pier from the Millennium Commission and from the Government through the Single Regeneration Project."

Pier for boat trade and Tower

"This is a fine pier to serve both the tourist trade at this World Heritage site by the Tower itself and the cruise market."

Lottery money had helped to build the pier said Mike O'Connor, chief executive.



PLA chairman Sir Brian Shaw greets London's Mayor, Ken Livingstone prior to the opening of Tower Millennium Pier.

utive of the Millennium Commission: "It is very good value for the money and is helping to revitalise the Thames. People can look forward to using this pier for many years to come."

Ken Livingstone promised that what he will be trying to achieve is getting a proper river travel service for Londoners.

"We tried that at the GLC, but we did

not have available the wonderful new piers that make it so much more attractive and with easy access," he said.

"This is a great start and I am determined that we are going to find some way in which Londoners use their travel cards on the Thames and that we will see this service on the tube maps where it should be – drawing the attention of Londoners to it."

He also pointed out he was thinking about extending the service down the Thames as the development of the Thames Gateway goes ahead.

"I expect to see another quarter of a million people coming to the docklands area for new jobs and new housing over the next generation," he said. "We should extend the service to the suburbs down the River so that it becomes a great commuter artery."

"Then we can say we have stopped the neglect of what is a wonderful asset for the City. After the people, the River must be our most wonderful asset."

sewage pumped out.

The design and specifications for the unit was worked out mainly by PLA marine engineer superintendent, Mike Campbell at Denton.

Towed upriver

When the plans were finally completed, the Sadi, one of the PLA's dumb barges was towed upriver to Charlton and put on the blocks at Cory's.

The barge was completely gutted and new bulkheads installed. A big sewage tank capable of holding 50,000 litres of raw sewage was positioned in the hold.

The roof section and decking were added and made completely water-proof.

With methane being produced by the waste, the most up-to-date extractor fans were installed in strategic places, including a flame proof bilge extractor fan to remove methane gas in case of waste spillage into the bilge.

On deck is the control panel to start and stop pumping action. Also, there is a shower compartment for the operator to wash off any spillage that may have found its way onto clothing.

The Sadi is now permanently moored off Denton and is brought ashore to be pumped out. This can be into the public sewage system or taken away for disposal by tanker lorries.

The Sadi is the first purpose-built fully automatic sewage barge to come on the Thames and is claimed to be the first anywhere in the country.

PLA has always been the first in the world to install new navigational systems and now it is leading the way in the vital, but until now, largely ignored area of sewage disposal.

First automated sludge barge

PLA has now in service the first automatic sludge barge in the UK.

Designed by the Marine Department it was fitted out at Cory's Barge Works at Charlton.

To conform to national and international regulations, vessels over a stated tonnage have to operate a system for the disposal of blackwater waste (sewage).

PLA craft are all just outside these regulations, but to comply with the spirit of the regulations and as an initiative to improve the quality of river water, the new barge unit has been built.

Most of the small craft on the Thames, including those owned by PLA, do not have any

sewage disposal system, other than flushing it into the River.

Now, all PLA craft can come alongside the new barge and have their



The first automated sludge barge comes off the blocks at Cory's Charlton barge works.

Asia/Oceania



Corporation joins Frontline attack

THE Port of Brisbane Corporation has joined a growing list of transport-related organisations that are supporting the Australian Customs Service Frontline initiative to intensify the forces working against illicit drug trafficking and trade into Australia.

Corporation Chief Executive Officer, Graham Mulligan, said with the help of customs experts, the Corporation had drawn up a set of tactics designed to assist in improving the success rate in detecting illegal materials entering or leaving Australia via Brisbane.

"While we have always been vigilant in relation to the movement of ships and cargo around the port, the arrangement we now enjoy with Customs means we will formalise a number of key aspects. Port staff will be kept up to date with the latest techniques used to identify suspect cargo and parcels, as well as how to recognise signs of anomalies in paperwork," he said.

Australian Customs Service Regional Director for Queensland, Trevor Van Dam, said, "This project is part of our efforts to constantly review our surveillance and control activities to make sure we are always one step ahead of drug traffickers and anyone else trying to import or export illegal materials.

"Frontline is integral to our fight against illegal trafficking, and the involvement of groups such as the Port of Brisbane Corporation means we are in close contact with those at the coal-face of international import and export trade."



CEO, Graham Mulligan, and Australian Customs Service Regional Director for Queensland, Trevor Van Dam, sign the Frontline agreement.

Plans to Redevelop the Western End of Victoria Quay Released

THE Fremantle Waterfront Masterplan to redevelop the western end of Victoria Quay was released by Premier Richard Court in May.

The Masterplan provides a comprehensive framework to revitalise five precinct areas at the west end of Victoria Quay. These include the maritime Museum development, slipways, commercial ferry and slip streets.

Mr. Court said the framework focused on bringing the characteristics of traditional Fremantle to the waterfront.

Prepared by architects Cox, Howlett & Bailey Woodland, the Masterplan identifies key features including:

- the new \$35 million Maritime Museum at Forrest Landing;
- plans to develop a new ferry terminal in the Inner Harbour, with enhanced berthing and passenger facilities, to be constructed alongside the existing wharf facilities between B and C sheds;
- a new entry point to the waterfront, immediately west of the Fremantle Railway Station, providing improved pedestrian and vehicle access;
- strong links between the waterfront, the west end of Fremantle, the Fishing Boat Harbour, the Esplanade and the Roundhouse; and
- development of further marine-related education opportunities
- new commercial development opportunities.

The majority of the development is planned for completion within five years.

The new Maritime Museum, which will showcase Western Australia's maritime heritage and culture, will be the first project to begin construction. Work on the site will start shortly, with completion expected towards the end of 2001.

Fremantle Port Authority Chief

Executive Officer, Kerry Sanderson, said the waterfront plan strongly emphasised the importance of ensuring that all developments were consistent with a dynamic and growing working port.

"The constant shipping activity in the harbour will provide added interest to visitors to the new Maritime Museum and other proposed developments included in this imaginative plan.

"The Fremantle Port Authority has had input from the earliest stage, particularly in relation to the operational needs of the Port, and looks forward to a continuing involvement as the new Maritime Museum and other aspects of the Masterplan are developed."

Copies of the Masterplan are available for viewing at the Government Projects Office, Fremantle City Council, Fremantle Port, public libraries in Fremantle and East Fremantle, Cockburn and Melville, and from the Alexander Public Library.

Digital copies of the Fremantle Waterfront Masterplan can be downloaded from the Fremantle Port website at <http://www/fremantleport.com.au> and the plan is available on compact disc from the Government Projects Office, Level 8, 197 St George's Terrace, Perth.

China's Ports Set New Record in First 6 Months

By Zhang Zheng
Special Correspondent
in Beijing, STN

IN the first six months of this year, major ports on China's mainland handled a total of 793 million tons of goods, of which 270 million tons were shipped into or out of the country, according to preliminary statistics released by the Ministry of Communications.

Compared with the same period of 1999, the volumes handled rose by 19.1 percent and 35.1 percent, respectively, both the highest in a decade.

Seaports

The volume of cargo handled by major seaports in the period amounted to 609 million tons, including 251 million tons of foreign trade goods, up 20.6 percent and 35.2 percent, respectively, from the same previous period.

Total volume handled for the half-year was more than that for the whole of 1992

(605 million tons). Furthermore, the handling of foreign trade goods exceeded the corresponding amount for the whole of 1993 (243 million tons).

China's biggest port, Shanghai, handled an unprecedented 100.18 million tons in the first half-year, up 11.9 percent from a year earlier. The port is on a pace to handle 200 million tons for the whole year. If successful, this is likely to place it among the Top Five ports in the world.

The ports of Ningbo and Guangzhou immediately followed Shanghai. Ningbo handled 58.58 million tons, up 25 percent, and Guangzhou handled 52.23 million tons, up 9.2 percent. The two ports are well expected to exceed the 100-million-ton mark at year-end.

Other ports on the Top Ten list were: Qinhuangdao, 46.55 million tons, up 19.9 percent; Tianjin, 46.07 million tons, up 32.2 percent; Dalian, 43.15 million tons, up 4.9 percent; Qingdao, 42.66 million tons, up 19.5 percent; Shenzhen, 25.78 million tons, up 23.8 percent; Zhoushan, 17.49 million tons, up 70 percent; and Lianyungang, 12.94 million tons, up 29.4 percent.

Analysts say Qinhuangdao, Tianjin, Dalian and Qingdao all have the potential to handle 100 million tons a year each. The chances for the first two ports to achieve the goal are big, because, generally speaking, a port handles more in the second half-year.

The performance of smaller ports is also encouraging. Three ports, namely Lanshan in Shandong, Zhapu in Zhejiang and Zhangzhou in Fujian, recorded growth of over 100 percent. Moreover, volumes of cargo handled by Jinzhou in Liaoning, Fuzhou, Meizhouwan in Fujian, Qingzhou in Guangxi, and Haikou all grew by more than 50 percent.

In terms of cargo types, statistics show that the handling of agro-products, minerals, construction materials, petroleum and its products, grain and coal grew rapidly, within the range of 20-50 percent.

Containers

China's major container terminals handled a total of about 10.4 million TEUs in the six-month period, up 37.9 percent. The figure exceeded the 9.84 million TEUs for the whole of 1997.

Container handling has sustained fast growth for over a decade. Analysts predict that handling by major terminals on the mainland could exceed the 20-million-TEU mark at year-end.

The Top Ten ports handled approximately 8.6 million TEUs, up 36.6 percent. The number handled by three leading ports - Shanghai, Shenzhen and

Qingdao - accounted for about 61.6 percent of the total handled by the Top Ten ports. The big three are located, respectively, in the country's central, south and north coastal areas, signifying that China's container terminal network is well in shape.

Details of container handling by the Top Ten ports in the first six months are: Shanghai, 2.54 million TEUs, up 32.9 percent; Shenzhen, 1.75 million TEUs, up 35.5 percent; Qingdao, 1.01 million TEUs, up 48.1 percent; Tianjin, 842,200 TEUs, up 42.7 percent; Guangzhou, 677,100 TEUs, up 27 percent; Xiamen, 509,000 TEUs, up 28.6 percent; Dalian, 456,500 TEUs, up 44.2 percent; Ningbo, 396,100 TEUs, up 58 percent; Zhongshan, 226,600 TEUs, up 31.4 percent; and Fuzhou, 191,100 TEUs, up 25.2 percent.

Other container terminals also reported improved performances. The number of containers handled by ports ranking 11th through 20th added up to 893,500 TEUs, marking a 51.4 percent increase over the same previous period.

River Ports

Major river ports handled a total of 184 million tons of cargo in the preceding six months, up 13.4 percent. This includes 20.74 million tons of foreign trade goods, which represented a year-on-year growth of 32.3 percent.

The 10 ports that handled the greatest volumes are all located along the Yangtze River. The Port of Nanjing continued to top the list with a cumulative handling of 33.48 million tons, up 13.3 percent from a year before. Nantong, the number two port, handled 13.45 million tons, up 23.4 percent. Hangzhou climbed into third position, thanks to its satisfactory performance in the past two months, when monthly handling exceeded two million tons.

The above ports were followed, in descending order, by: Zhangjiagang, 9.57 million tons, up 39.8 percent; Zhenjiang, 9.27 million tons, up 21.3 percent; Wuhan, 8.27 million tons, up 12.5 percent; Huzhou, 4.74 million tons, up 78.1 percent; Wuhu, 4.17 million tons, up 42.6 percent; Changshu, 3.72 million tons; and Anqing, 3.6 million tons, up 10.3 percent.

The ports on the main course of the Yangtze River achieved an average growth of 17.8 percent in handling volume, which is 4.4 percentage points higher than the national average. In contrast with this robustness, ports along the Heilongjiang River at the Sino-Russian border handled only about 80 percent as much as they handled in the same period of 1999. This is blamed on

the severe drought that hit the region earlier this year.

Insufficient rainfall has also deteriorated the navigational conditions of the north/south Beijing-Hangzhou Canal. Ports on this waterway handled 4.6 percent less cargo than they did last year.

In the Pearl River area, ports suffered declines in handling volume for a different reason. They were victims of rapidly developing road transportation there.

The volume of cargo handled by ports in this region fell by 9.2 percent in the first half of 2000.

(Shipping and Trade News)

Keelung should rank within top 25 ports in 2000

Total Container Throughput in 1999

(from Jan. 1st to Dec. 31th)

unit/volume	Year 1999	Import	Export	Transship
total	1,665,960.50	845,992.25	744,830.50	75,137.75
TEU empty	238,136.00	200,026.50	37,496.50	613.00
loaded	1,427,824.50	645,965.75	707,334.00	74,524.75
total	1,166,238.00	586,915.00	524,001.00	55,332.00
BOX empty	160,308.00	133,506.00	26,361.00	441.00
loaded	1,005,940.00	453,409.00	497,640.00	54,891.00

Total Container Throughput in half 2000

(from Jan. 1st to June. 30th)

unit/volume	Jan. 1st to June. 30th	Import	Export	Transship
total	957,704.25	490,674.25	421,399.25	45,630.75
TEU empty	159,246.75	138,123.50	20,335.50	787.75
loaded	798,457.50	352,550.75	401,063.75	44,843.00
total	657,798.00	334,260.00	290,081.00	33,457.00
BOX empty	104,811.00	90,194.00	13,921.00	696.00
loaded	552,987.00	244,066.00	276,160.00	32,761.00

Through our efforts and improving service quality, I hope that the container throughput handled in 2000 will be around 1.9-2 million TEUs and then Keelung Port will rank within top 25 again.

Ming-Hui Shieh

Director

Keelung Harbor Bureau

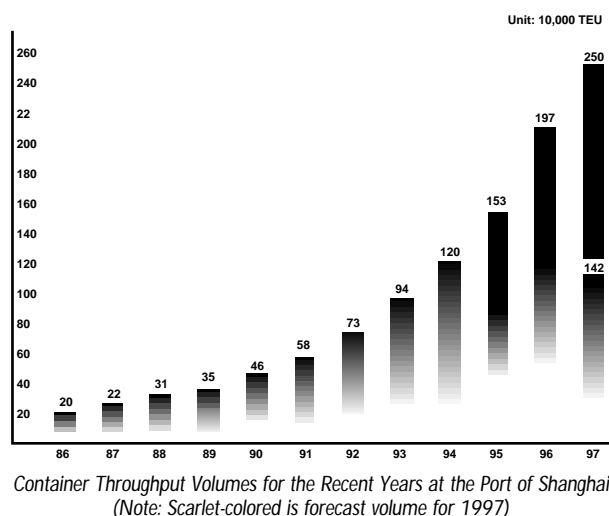
Rapidly Increasing Container Throughput

As a result of the reform and modernization drives and the economic development of Shanghai and the provinces along the sea coast and the Yangtse River, container traffic in the Port of Shanghai has been growing rapidly. The Port's container throughput in 1996 was 1.97 million TEUs, making the Port the world's 17th largest container hub. And during the first half of 1997, the Port handled 1,119,400 TEUs, representing a 31.31% growth over the same period last year. It is expected that the Port will handle a total of 2.4-2.5 million TEUs in 1997, which will enable the Port to reach an annual growth rate of over 25% for the 8th consecutive year and will bring the Port into one of the 15 biggest container ports of the world. Such continued high growth has been a rarity even in the international experiences of port development.

In order to promote the further development of container transportation in the Port of Shanghai, the Shanghai Port

Authority will work closely with governmental departments and companies concerned, quicken the pace of technical upgrading and construction in the Waigaoqiao Terminal, quicken the pace of developing EDI and other IT infrastructural facilities, and provide a good environment for the development of international container transshipment business. According to traffic forecast, the Port's container throughput by the year 2000 will reach 3-3.5 million TEUs.

The Port of Shanghai is not only the largest container port in the mainland of China, but has also taken on a preliminary form on an international container hub port. It has laid the foundation for Shanghai to become an international shipping center in the early 21st century.



(effective Monday through Saturday).

Furthermore, at the Hakozaki Container Terminal, the integrated operation of the terminal proper (about 5.6 hectares) and the adjacent open-air storage yard (about two hectares) was started in late July so as to heighten the storage capacity of these facilities and thereby cope with the growth of international container cargoes.

In addition, Hakata Port will introduce a prior announcement system for information concerning arriving/departing container cargoes from September this year; the introduction of the service will mark the first use of the i-mode mobile phone in Japan for such an activity.

Trailers arriving at container yards have to wait at their gates if preparations for carriage out of/into the yards are not completed.

This is apt to cause road congestion outside the yards, lower container handling efficiency and worsen trailer drivers' work efficiency.

Under the scheduled new system, data on preparations for carriage of container cargoes into/out of yards will be transmitted to transport operators in real time in order to elevate work efficiency inside the yards and contribute to maximizing the effective use of drivers' labor.

The Internet will be used to transmit data to transport operators' personal computers or drivers' i-mode mobile phones. Drivers will thus be able to grasp conditions in the yards beforehand, which in turn will ensure smooth carriage into/out of the yards.

Moreover, the Hakata Port and Harbor Bureau is working to introduce an incoming/outgoing container cargo advance booking system by the end of this year. This system will enable the registration of scheduled incoming/outgoing cargoes up to the previous day so that they can be brought in or out at off-dock facilities outside container terminals.

It will not only ease congestion inside the yards and enhance the container handling capacity of the facilities involved, but also ensure the expeditious and accurate carriage of cargoes into/out of the yards in conformity with shippers' needs.

Specifically, transport between off-dock facilities and container terminals will be operated by means of dedicated shuttle heads.

The idea is to enhance the effective storage capacity of the terminals and the turnover of chassis for inbound and outbound carriage.

Moreover, carriage into/out of off-dock facilities will be allowed around the

Maintaining Reputation as Forward-Looking Port

Hakata First to Tap i-mode to Speed Box Handling

THE Hakata Port and Harbor Bureau is pushing ahead with various measures to reinforce the container-handling capacity of Hakata Port in cooperation with terminal and transport operators with a view to enhancing the international competitiveness of the port.

Back in October 1997, Hakata Port implemented cargo handling for vessels on a 365-day, 24-hour basis – and took this step ahead of other ports in Japan.

Hakata has also successively carried out various other software improvement measures, including the opening of terminal gates during the noon recess since July 1998, and offering a 30 percent

reduction in port-entry fees for oceangoing liners and the reduction of gantry crane fees for transshipment cargoes (¥1,200 per container), both from April 1999.

Regarding facilities, the port enlarged a container inspection site in March 1999. Moreover, between 1998 and 1999, empty container storage yards totaling about 6.5 hectares were secured to accommodate about 7,500 TEUs of containers, while chassis yards totaling about 3.3 hectares in size were laid out to store about 500 chassis.

With effect from July 1 this year, the operational hours of container terminal gates have been tentatively lengthened by one hour during the summer season (July through September) in order to enhance the turnover of cargoes being kept at terminals – that is, from 8:30 a.m. to 4 p.m. to 8:30 a.m. to 5 p.m.

clock in order to maximize user convenience.

With Pusan, an international hub port situated across the channel in South Korea, Hakata Port is literally confronted with international competition, which has generated an acute sense of crisis in both the public and private sectors of this country.

In particular, because of the short distance between Hakata and Pusan, a delay in the processing of transport business could seriously affect transit time.

Accordingly, Hakata Port is tackling the task of expediting the carriage of incoming/outgoing cargoes in all seriousness.

All quarters concerned, such as the port administrator, terminal operators, harbor transport operators, shipping firms and shippers, share a sense of need to always consider the improvement of the Port of Hakata because of the formidable international competition which the port currently faces.

Therefore, a full-scale system of coop-

eration covering both the public and private sectors has been organized concerning the strengthening of container handling capacity.

This is, without doubt, a strong point of Hakata Port: the ability for all interests to come together to face and resolve issues affecting the port's competitiveness and to draw up strategies for future development with the convenience of users kept paramount.

Construction of the Swing-Arch Floating Bridge between Yumeshima and Maishima Islands.

In order to create a new Osaka city centre for the 21st Century, a new waterfront transportation network project is being undertaken in the Port of Osaka. The islands of Yumeshima and Maishima, which will be at the core of this new city centre have recently become linked by a new Swing-Arch Floating Bridge. (fig. 1)

If Osaka is successful in its bid to host the 2008 Summer Olympics, Maishima will function as the main venue, with the athletes village being located on Yumeshima. During this time, the new bridge will be an important access route for athletes.

Although the Northern passage between Yumeshima and Maishima is usually an auxiliary passage for smaller vessels, should some serious accident occur in the Main passage between Sakishima and Yumeshima, the Northern passage would also need to function as an emergency passage for larger vessels. This condition requires that the bridge linking Yumeshima and Maishima be constructed as a moveable, and in this case, a floating bridge, the first of its kind in the world.

The main section of the bridge is a floating arch structure supported by two hollow steel pontoons, which are connected to mooring section by large rubber fenders. When the passage needs to be opened, tugboats push and pull the whole floating section, thereby allowing the larger ship to pass. The whole bridge consists of three sections, the floating arch section, the transitional bridge sections and the approach sections of



Fig. 1

Yumeshima and Maishima. (fig.2) The whole bridge consists of the floating section over the passage, the transitional bridge sections, and the approach sections of Yumeshima and Maishima, as indicated in the fig. 2. The dimensions of the bridge are: an under clearance of 135 meters wide and 24 meters high, and when it is swung by tugboats, horizontal

clearance increases to 200 meters.

[Specifications]

Road Condition

Road Standard: Grade 4, Type 1
Expected Vehicle Speed: 60 km/h
Road Specification: 6-lane roadway and two sidewalks

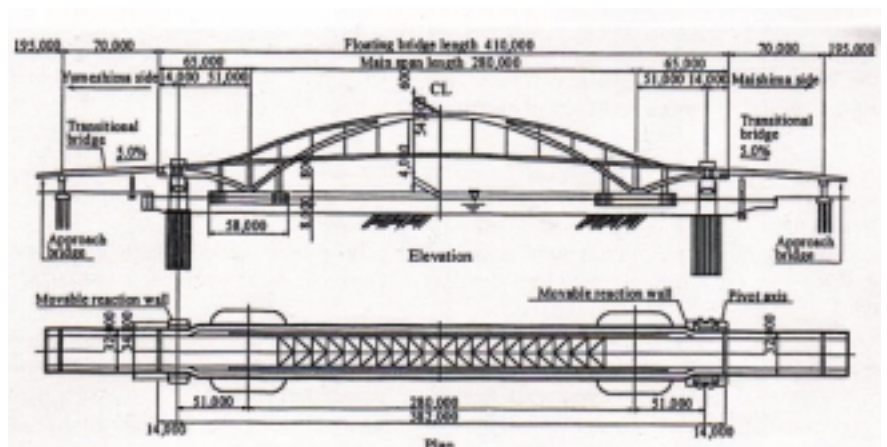


Fig. 2 The general view

Bridge Specifications

Type: Swing Arch Floating Bridge
 Length: 878m (LOA), 410m for Floating Section
 Effective Width: 31.2m
 Under Clearance: 24m from water surface
 Passage Conditions
 Width: 135m (Usual), 200m (Emergency)
 Depth: -10m
 Expected Natural Conditions
 Wind Load: $V_{10}=42\text{m/s}$
 Waves: $H_{1/3}=1.3\text{m}$, $T_{1/3}=5.7$ to 7.7m
 Others: Tides, trends and storms are considered.
 Limit Conditions for Swinging
 Wind Load: V_{10} is less than 10m/s
 Waves: $H_{1/3}$ is less than 0.5m

[Design]

Structure

The Yumeshima-Maishima Bridge consists of two hollow steel pontoons, the floating section superstructure, and the bridge mooring system. The positioning system consists of reaction walls standing atop of the mooring system.

The two major areas of concern for a design of this type are to ensure a stable passage for commuters and to secure safe traffic in times of rough weather. To this end, the appropriate mooring system and structural strength against both wind and wave load have been taken into consideration at the design stage.

Mooring System

Although pontoons are usually secured with wires or chains, The Yumeshima-Maishima Bridge is secured with the use of reaction walls with large rubber fenders. The broad side rolls are regulated by reaction walls on both Yumeshima and Maishima sides, whereas the long side rolls are regulated by reaction walls only on the Maishima side.

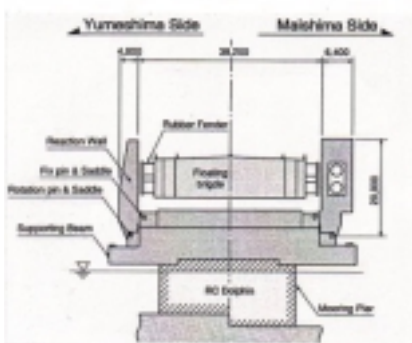


Fig.3 Mooring system (Reaction wall)

Others

This bridge was constructed using state-of-the-art technology, devised through the following experiments and simulations.

Rigid-Body Model Motion Experiments in a Large-Scale Water-Tank

Wind Tunnel Tests

In-Wave Elastic Model Experiments
 Rubber Fender Characteristic Tests
 Vessel Collision Analysis Simulations
 Swinging and Temporary Mooring Experiments

[Installation]

The towing and installation work of the floating section was carried out in the manner indicated in fig. 4.



Fig. 4 Installation

In-Dock Erection

The erection work in dock is executed by bent method using two 120t jib-cranes at docksides near the Port of Osaka.

Towing

The section is pulled out from the dock by tugboats and winches. A fleet of eight tugs and six guard boats tows the section to the site.

On Site Installation

The section is anchored near the mooring system as indicated in fig. 4. Winches and rollers on the pontoons will pull the section to the mooring position.

Pivot pin is inserted, and the section is swung to the required position. Reaction walls are then closed and the section is fixed to the pier.

The installation procedure took less than a day, and was carried out on 9th July, 2000. It is characteristic of this kind of bridge, that installation requires much less time than that of ordinary bridges.

[Swinging Procedures]

Yumeshima-Maishima Bridge will be opened and closed by tugboats. The basic procedure is as follows, indicated in fig. 5.

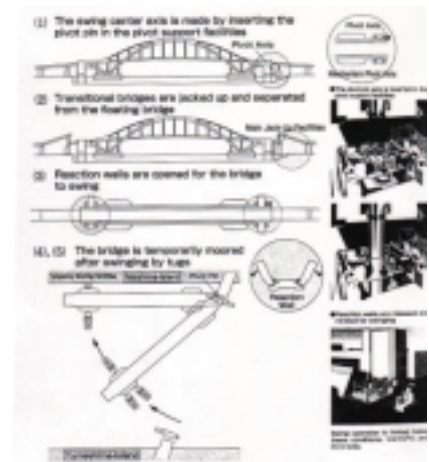


Fig.5 Swinging Procedures

Pivot Pin Insert

The swinging centre axis is created by inserting the pivot pin into the pivot support structure.

Transitional Bridge Section Jack-Up

Transitional bridges are jacked up high enough to separate them from the floating section.

Open Reaction Walls

Reaction walls are opened by hydraulic cylinder. The floating section is supported by the pivot pin and tugboats. The swinging movement is ready to start.

Swing

Tugboats push the pontoon section to Maishima side. The floating section swings with the pivot pin as the centre axis.

Transitional Mooring

The floating section is moored at Maishima side transitional mooring location with ropes.

Closure of the bridge involves following the above procedure in the reverse order.

[Present Situation]

The main section was towed to the site between Yumeshima and Maishima, and installed on 9th July, 2000. The approach section is also generally completed, and the reaction walls and transitional bridges are being tested in the mechanical sense.

The bridge is due to be completed by the end of March 2001, after the paving, open-close system, and related works have been completed. However, as Yumeshima itself is not yet open to the public, the bridge will, for the meantime, continue to only be used by construction related vehicles. Upon completion of the deep water(-15m) container terminal at



The floating bridge in the dock



Towing



Installation



Bridge Installation

Yumeshima, the Swing Arch Floating Bridge, complete with a new name, will be open for general public use. The name will be selected from the citizens* applications in September, 2000.

[Afterword]

As outlined above, Yumeshima-Maishima Bridge is unique in its type and scale. Many technical problems were solved through experiments and consideration in a very short period of time.

A debt of gratitude is owed to the Technical Committee for Movable Floating Bridge (headed by Prof. Eiichi Watanabe of Kyoto Univ.) and the Sub-Committee for Anti-Shaking (headed by Prof. Kazuki Oda of Osaka City Univ.). The Port of Osaka would also like to thank all the committee members and experts from the Ministry of Transport for their precious time and helpful advice.

Okinawan Ports - 'A Crossroads of the Asia-Pacific Region'

Sumio Suzuki – Councillor, Department of Public Works, Okinawa Prefecture

1. Kyushu-Okinawa Summit 2000

The meeting of heads of states and governments at the Kyushu-Okinawa Summit was held in Nago from July 21 to 23, 2000. For Okinawa, it was a rare opportunity to show the world the unique culture of the Ryukyu Dynasty and the emerald green coral seas that typify Okinawa's exquisite natural environment and its peace-oriented spirit. As the 21st century draws near, Okinawa aims to develop as a crossroads of the Asia-Pacific region.

The conference hall takes its name from the term '*Bankoku Shiryo*,' which means 'Bridge Across the World.' Like the inscription on the Bankoku Shiryo Bell hung at Shuri Castle, the name of the conference hall expresses the mettle of our predecessors, who toiled for prosperity during the 15th century, when

trade flourished between many nations and the Ryukyu Dynasty.

2. Naha Port - Striving to be 'a crossroads of the Asia Pacific Region'

Ryukyu Dynasty's Great Era of Trade

Okinawa was once independent as the Kingdom of Ryukyu. Naha Port has a long history dating back to the *Ryukyu Dynasty era*, when it was a port for trade with various countries. In the 13th century, King Eiso Chuzan resided at Urasoe Castle and built an imperial warehouse and hall at Tomari Port, which was the national port. At the time, Ryukyu was contested by three powers - Hokuzan (Northern), Chuzan (Central) and Nanzan (Southern), but in the 15th century King Sho Hashi united the three kingdoms and established his reign. Subsequently,

Naha Port (presently Naha Wharf) was used for tributary trade with China as well as for trade with South East Asian countries. Tomari Port (presently Tomari Wharf) served as a connecting port with the surrounding islands of Okinawa.

Trade between Ryukyu and South East Asian countries was conducted over a period of some 150 years from the 15th to mid-16th century. Ryukyu was



Summit Conference Hall

Facts about Okinawa Prefecture

Population: 1,299,822 (as of October 10, 1998)

Total area: 2,267 km², 160 islands

Distance from Naha to major regional cities:

Shanghai – 780 km
Hong Kong – 1,370 km
Taipei – 600 km
Yokohama – 1,500 km

Container cargo traffic:
3,058,000 tons (300,000 TEUs)

Number of Tourists:
annual average 4,558,700

The number of vessels, which made port in Okinawa in 1999, amounted to 150,000 (77.09 million gross tons), with 6.22 million passen-

gers.

The total volume of cargoes in 1999 was 36.71 million tons, of which general cargoes were 19.22 million tons and specialized cargoes 17.49 million tons. The major commodity items include iron ore, crude oil, sand, ferry cargoes and industrial chemical products (petroleum and heavy oil). Trends show a significant increase in inbound cargoes.

The total figures for inbound and outbound were 24.23 million tons (inbound) and 12.48 tons (outbound), of which 9.48 million tons were moved via Naha, 6.11 million tons via Nakagusukuwan, 11.91 million tons via Kinwan, 0.90 million tons via Unten, 1.22 million tons via Hirara, 1.25 million via Ishigaki and 5.84 million tons at the other ports.



Diagrammatical presentation of Okinawa's foreign trade



Naha Port, Now and 170 years ago
Katsushika Hokusai, a famous Ukiyoe artist traveled to Ryukyu and completed "Eight Scenes of Ryukyu," including a piece known as "Sounds of Rinkai (seaside) Temple" (Urasoe Museum). It is believed that Hokusai completed this piece around 1832 as a motif of Mie Castle, which was built to guard the port area and Rinkai Temple standing mid-way to the port fort. The temple burned down during the WWII and was rebuilt in a different location in 1967.



A view of the present Naha Port as seen from the wharf. The arrow shows the site where Mie Castle used to be, which is now a reclaimed land.

prosperous as a trading centre, with eight countries as trading partners. Later on in the early 17th century, Ryukyu was invaded by Shimazu, Lord of Satsuma, and brought into the domain system, while trade with China continued to develop.

Current State of Naha Port

At present, Naha Port is managed by the Naha City government and functions as a point of distribution for the entire prefecture. A container berth with a depth of 13 metres began operation in April 1999, and a second berth of the same depth is under construction.

APL and Maersk Sealand operate every week on the North American route, and Uniglory Marine Corp. on the Indonesian route calls at Naha once a week. In 1999 the volume of containers passing through the port was 71,431 TEUs.

Towards a Port for International Distribution

With a shift towards Asia as a location for manufacture and with the expansion of the Chinese market, the flow of containers to Asia began to show a significant increase.

Dubbed the 'Keystone of the Pacific,' Okinawa is in an extremely important position. It is therefore seeking to build up its transshipment capability aiming to be a container hub for Asian trade.

In an effort to establish itself as an international distribution port, Naha Port is keen on making plans to expand its facilities and functions as a large container wharf.

In order to enable Naha Port to properly manage its facilities as an international port of distribution, Naha City is shifting management to an

administrative organisation made up of Okinawa Prefecture, Naha City and Urasoe City.

3. Okinawan Ports - Striving to promote tourism

Tourist Industry Trends

In 1999, a record number of 4.6 million tourists visited Okinawa Prefecture. This number is roughly twice that of ten years ago. The tourist industry is steadily growing and is deemed as a strategic industry for the Okinawan economy. To support the tourist industry, construction of cruise liner docks is highly expected, however, it is not realized yet.

Preparation for a Cruise Ship Dock

In 1997, a new cruise ship company based in Singapore and Malaysia, called 'Star Cruises,' included a regular cruise connecting Okinawa and Taiwan. At present Star Cruises calls at Naha Port and Ishigaki Port. These two ports are therefore playing an increasingly active role as new gateways for foreign tourists.

Ishigaki Port, the southernmost port of call in Japan, is located on the same latitude as Miami and Honolulu, and is on the world 'resort belt.'

The Port is managed by Ishigaki city and has played an important role for a long time as a base for economic exchange between Japan, Taiwan and other countries, and was a base port for the numerous islands of the Yaeyama Archipelago. In addition to cruise ships, foreign ferries also make regular calls. Located in Japan's southern most tip, Ishigaki Island is making the most of its geographical advantages and is now highlighted as an international resort focusing on marine leisure.



Cruise ships, such as Star Aquarius, calling at Ishigaki Port

Harbour Facilities in Marine Recreation Area

In order to support the tourist industry, preparations are under way to create quality marine recreation areas in every port in Okinawa. Hirara City manages

Hirara Port, which is the main port of the Miyako Islands. In addition to facilitating the flow of people and goods, plans have been made to develop a coastal resort featuring a man-made beach and a marina with recreational functions.

The development plan of Miyako Port features a marina, hotels, green-belts, an artificial beach and other recreational facilities. At present preparations for



An artist's concept of a beach resort in Hirara Port

land reclamation are 80% complete, and construction of a park and a marina club house will follow soon to attract hotel enterprises.

Located in the center of the eastern part of the Okinawa main island, Ginowan City is blessed with beautiful beaches where resort hotels stand side by side. Ginowan, which is becoming an area for marine recreation, has a marina which can accommodate some 300 pleasure boats, artificially constructed beaches, resort hotels and other facilities, is pursuing its tourism-centered activities in co-operation with the nearby Convention Centre. At present, the marina is expanded to accommodate 810 craft.



Aerial photograph of Ginowan harbour marina

4. Conclusions

Okinawa is historical-

ly a trading hub of Asia. The G8 Summit held in July 2000 was an opportunity for the world to consider the problems of Asia and Okinawa. In addition, it proclaimed information about Okinawa's nature, culture and history, its aim to be the 'crossroad in the Asia-Pacific' region and its great potential and position. Okinawan Ports are dedicated to making even greater progress aggressively pursuing their aim to be a gateway to Okinawa.

Kuantan Port - the Growth Nucleus of the Eastern Corridor

THE economic recovery during the year had in a way stimulated the increase in cargo flow as well as ship calls to and from the port. Such a condition requires infrastructure development and procurement of facilities in order that the port can continue to be readily operable and capable of providing optimum services.

Since taking over the operations of Kuantan Port on January 1, 1998, Kuantan Port Consortium Sdn Bhd has embarked on a massive capital expenditure expansion programme in order to set pace for the new business ventures into the new millennium.

During the first year of privatisation, a 240-metre Second Liquid Chemical Berth with a capacity of handling vessels up to 40,000 DWT was commissioned in November 1999 to meet the demand for liquid chemical traffic.

In addition, with the construction of 250,000 sq metres of the Centralised Tankage Facilities by Kuantan Terminals Sdn Bhd, a subsidiary company of Petronas, scheduled to be completed by the end of year 2000, will boost the raw materials and chemical products from production plants to the central tank farm via pipeline. Chemicals from these tanks



This is the main port operations area handling containers, a host of general cargo, and cruise vessels.

will be channelled to a common pipeline at the wharf side to receive or discharge various liquid cargoes at the LCBs, thus raising the productivity level at the liquid cargo handling facilities at Kuantan Port.

Meanwhile, Petronas has constructed a 10-km 3-tier steel pipe rack facility from the port to Gebeng Industrial Estate and commissioned to operate by the end of 1999. These pipelines are being installed for acrylic and propane dehydro plants while other lines will be installed as and when necessary.

To date, the physical expansion of the port involves the excavation of the 80-

hectare new Inner Harbour Basin which commenced work on June 14, 1999 and scheduled for completion by the third quarter of 2001. Once completed, this new basin will have the capacity to accommodate 11 new berths which KPC will be constructing in phases over the concession period of 30 years.

In line with the anticipated rapid growth in traffic to be generated via Kuantan Port, we have taken adequate measures to expand the capacity of the port. The construction of new berths is already in the pipeline. These shall comprise 7 liquid chemical berths with the

total capacity to handle 7 million tonnes of liquid chemical products annually; 3 general cargo berths with the capacity to handle 750,000 tonnes per year; and a container berth which will have the total capacity to handle 1 million TEUs per year.

The physical transformation of Kuantan Port is a clear reflection of the hinterland which over the past few years has been recording impressive growth. The changing trend reflects the maturing of the industries around the Kuantan Port hinterland, and a shift of the composition of cargoes handled at Kuantan Port.

The Eastern Corridor, rich in oil and gas resources, as well as an abundance of timber and agricultural base sectors, will develop fully its industrial potential and accelerate the growth of the east coast states of Peninsular Malaysia. A wide range of fiscal incentives has been offered to investors to ensure this growth.

We are particularly encouraged by the fact that the three state governments of Pahang, Terengganu and Kelantan have taken active and aggressive steps to attract investors to the newly-opened industrial estates, all of which are provided with excellent infrastructures, including access to the national power grid and highways linking Kuantan Port, and we pledge our full commitment in transforming the Port into an important and premier port of the region. The vital link by rail from Kertih to Gebeng, now underway, will certainly boost the attraction for chemical and petrochemical freight transportation to and from the industrial estates in both Gebeng and Kertih, and would serve to further enhance the utilisation of Kuantan Port.

Besides, the 360-km East Coast Highway project, which will take off by mid-2000, is posed to be the biggest road development project on the east coast of Peninsular Malaysia. The estimated

RM2.3 billion highway will act as a land-bridge between the sprawling industrial areas on the Eastern Corridor and Kuantan Port.

Kuantan Port Consortium Sdn Bhd has for its part adopted the 'East Coast Incorporated' concept and will complement the efforts of the state governments by offering and packaging port services to investors to make them competitive in

the world market. KPC would continue to be responsive to the growth in demand for cargo and ship handling facilities with the composition or character of the cargo. In this regard, we would be closely monitoring the traffic flow pattern in the economic hinterland and to continue taking appropriate measures to enhance and improve the range and services provided by Kuantan Port.

KUANTAN PORT CONSORTIUM SDN BHD



**Tengku Tan Sri Dato' Seri Ahmad Rithauddeen
Bin Tengku Ismail**
Chairman

Corporate Highlights

The financial year 1999 saw the divestment of the equity of some shareholders to the others within the Company.

Essmarine Terminals Sdn Bhd, and Euromawar Sdn. Bhd. individually divested their 5% equity each to the major shareholder Road Builder (M) Holdings Berhad.

Mentiga Corporation Berhad meanwhile, divested its 10% equity to Pasdec Corporation Berhad.

The resultant shareholding structure of Kuantan Port Consortium Sdn. Bhd. were as follows:-

Road Builder (M) Holdings Berhad	50%
Pasdec Corporation Berhad	30%
Damanjaya Sdn. Bhd.	15%
KPC Management & Staff	5%

Two of the major shareholders, namely Road Builder (M) Holdings Berhad and Pasdec Corporation Berhad are currently listed on the Main Board of the Kuala Lumpur Stock Exchange.

Financial Performance

In the year 1999, the national economy reversed the downward trend of the previous year and eventually chalked up a strong positive growth of 5.4%, higher than the earlier forecast of 4.3%.

In consonance with the improved economic climate, the Company's turnover also increased by 4.6% to RM55.95 million from RM53.51 million in the year 1998: the first year of the privatisation of Kuantan Port.

Through prudent management, the Company's pre-tax profit also rose by 18.2% to RM15.07 million from RM12.75 million in 1998. The overall profit margin increased to 26.9% in the year 1999 from 23.8% in 1998.

Operational Performance

In tandem with the improved economic environment, KPC's cargo throughput increased by 0.2% to 5,509 million revenue tonnes from 5,499 million revenue tonnes in 1998.

Business Outlook

With the national economy back on the recovery and growth path, we are very positive about the business outlook for the years to come.