

# Ports & Harbors

**December 1987**  
**Vol. 32, No. 12**



*The Publisher*

**The International  
Association of  
Ports and Harbors**

## **Port of Picton**

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New Zealand, on the  
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area administered by  
the Marlborough  
Harbour Board.  
Wellington, the capital,  
is just across the  
Cook Strait.**



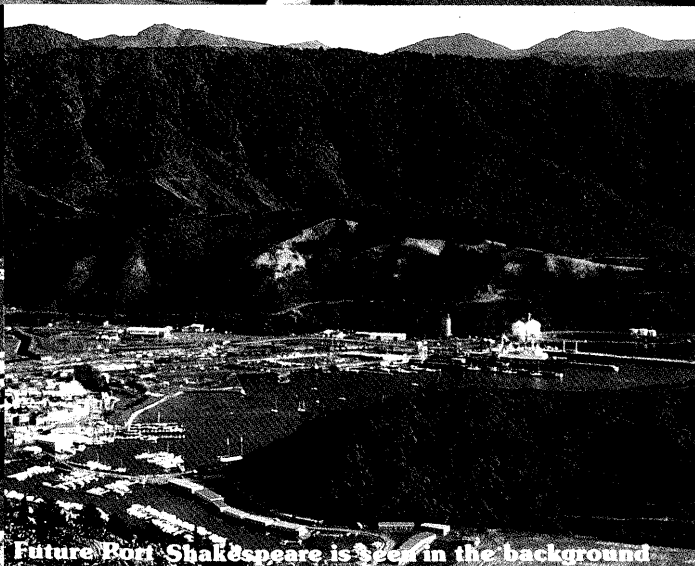
*The Ming Leader prepares to load grain for Kaohsiung*



*Refrigerated containers are loaded onto the Rex Star*



*The Island Princess in Picton*

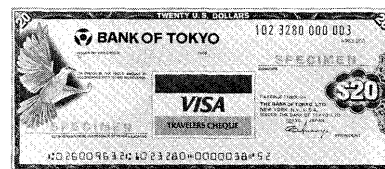
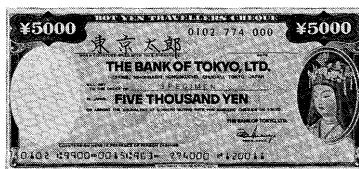
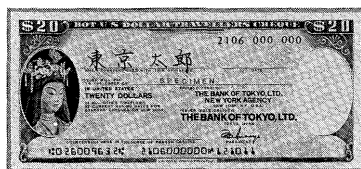


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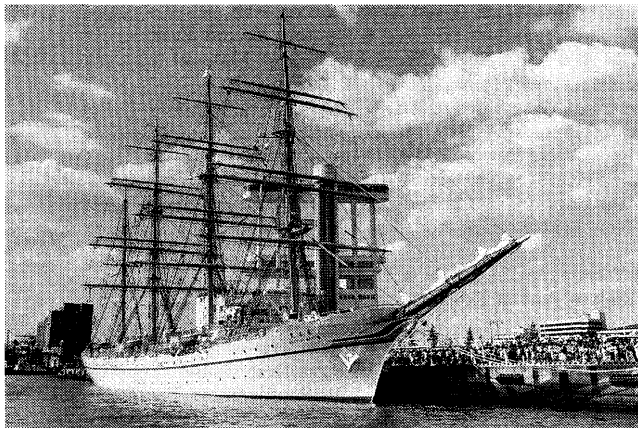
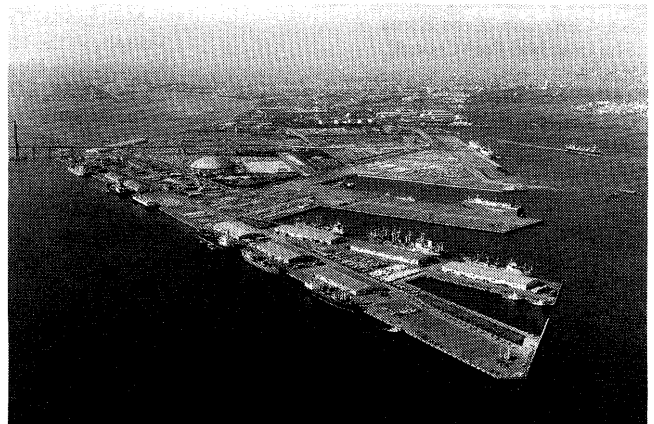
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## Berth of a nation...

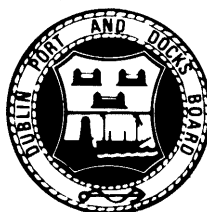
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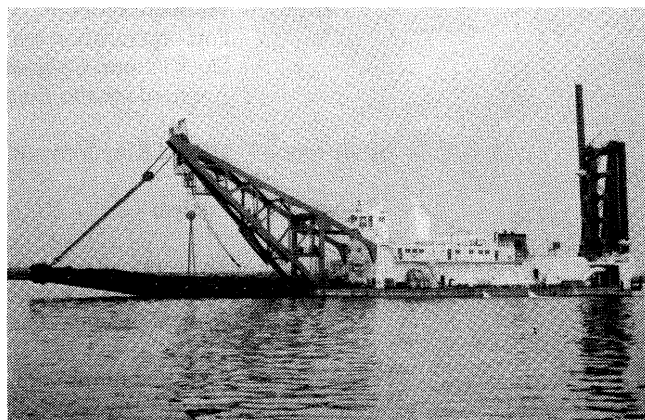
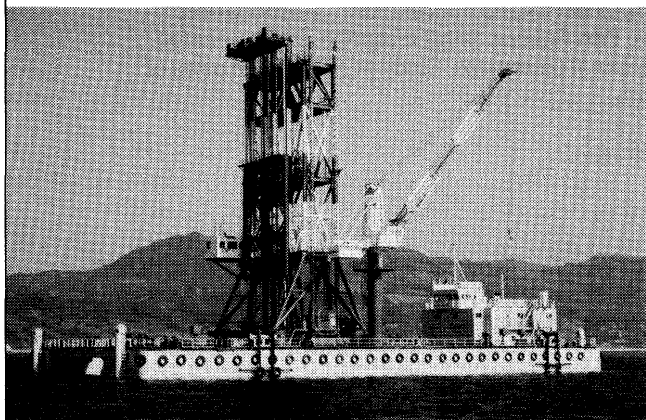
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Themes: Telematics for port communications and information. Transportation. Port organization patterns. Port finance. Ships reception. Port operation. Dock labour. Cargoes. Terminal operations. Study periods in the ports of Amsterdam and Rotterdam.

Study tours: United Kingdom and Belgium.

Language: English.

Application and admission: The seminar is destined for qualified candidates who are confronted with port management problems in their daily activities. They should have at least five years of practice. The number of participants is limited to 35.

Fellowships: A limited number of fellowships will be granted to participants from developing countries by the Netherlands Government. Fellowship's applications should be submitted through the Netherlands Diplomatic Representative not later than March 16, 1988. Other fellowship granting organizations are: United Nations, UNCTAD, International Labour Organization (ILO) and several other semi-governmental organizations. Nationals of countries associated with the European Economic Community, may apply through the Delegation of the EEC in their country.

Fees and other expenses: Dfl. 3500, which includes tuition fee, travel cost for all study tours and lodging outside the Netherlands.

**For further information, please write to:  
The IHE Registrar, P.O. Box 3015, 2601 DA Delft,  
The Netherlands.**

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# IAPH ANNOUNCEMENTS AND NEWS

## IAPH Writes to IMO Legal Committee

Prior to the 59th Session of IMO's Legal Committee scheduled for November 20, 1987, the Secretary General of IAPH Mr. H. Kusaka wrote to the IMO Secretary General Mr. C.P. Srivastava expressing the IAPH's hope for the rapid resolution of the problem areas in relation to the revision of the 1974 Athens and 1976 London Conventions.

In connection with this matter, Mr. Andre Pages, who has been representing IAPH at the IMO's Sessions on behalf of the CLPPI (Committee on Legal Protection of Port Interests) chaired by Mr. Paul Valls of Bordeaux, and Mr. A.J. Smith, our European Representative in London, have been working together in order to best present IAPH's position to the forthcoming Session of IMO. In undertaking the preparations for this important occasion, Mr. Smith has been in close contact with the Tokyo Head Office.

Secretary General Kusaka appreciates the efforts directed by Mr. Pages and Mr. Smith and finds it most satisfactory that the recently created Technical Committee Financial Support Fund is being utilized in support of these initiatives.

The letter from IAPH to IMO dated October 21, 1987 was as follows:

Dear Mr. Srivastava:

IAPH was represented at the 58th Session of IMO's Legal Committee and participated in its consideration of possible revision of limitation amounts in the 1974 Athens and 1976 London Conventions, as well as the drafting of a new HNS Convention.

IAPH fully supports the Legal Committee's work in these respects in the belief that its early and successful conclusion is essential in safeguarding the interests of both victims of damage and of the maritime industry as a whole.

IAPH agrees that work on the three Conventions is inter-connected and that its successful completion is dependent on a step by step approach. IAPH hopes, however, that these steps will be concentrated in forthcoming sessions of the Legal Committee in such a way as to lead to rapid resolution of the problem areas at an early Diplomatic Conference.

IAPH, therefore, respectfully expresses the hope that the 59th Council will give every encouragement and all necessary facilities to the Legal Committee to achieve these objectives.

With kind regards,  
Sincerely  
Hiroshi Kusaka  
Secretary General, IAPH

## Mr. Caddo of Thunder Bay Elected Exco Member

Mr. Caddo



At its meeting by correspondence held on November 15, 1987, the Board of Directors approved the election of Mr. Donald Caddo, Commissioner, Thunder Bay Harbour Commission, Canada, as an Exco member to fill the vacancy created by Mr. Fred Gingell, who had resigned as Chairman, Frazer River Harbour Commission.

Mr. Caddo has also succeeded Mr. Gingell, as an IAPH Director from Canada. Currently, Canada is represented by Mr. D.J. Taddeo, General Manager and Chief Executive Officer, Port of Montreal, and Mr. Caddo on the IAPH Board.

## Mr. Green of Maryland Appointed Finance Member

President Wong has recently appointed Mr. Robert R. Green, Deputy Port Administrator, Maryland Port Administration, U.S.A., as a member of the Finance Committee. This appointment is as a result of the recommendation of Mr. Robert Steiner, Deputy Director, Port Department, Port Authority of New York and New Jersey, who currently chairs the IAPH Finance Committee, to fill the vacancy created by the resignation of Mr. Gingell from the Committee.

Chairman Steiner comments that with the addition of Mr. Green to the Committee it now has a Canadian member and one each from the West Coast and East Coast of the U.S.A., which he finds ideal for the handling of the Association's financial matters.

## New Edition of the IAPH Brochure Published

The revised version of the brochure outlining the organization and activities of IAPH was published in mid-October and sent out to all members of the Association and ad clients for the "Ports and Harbors" magazine from the Tokyo Head Office. In order to boost the membership campaign and to provide a better introduction of IAPH to a wider range of people, the Head Office staff directed their

efforts to making the IAPH brochure much more readable and appealing. For this purpose, the new edition has been produced in color and with its size enlarged.

The eye-catching front cover page portrays the IAPH name and symbol in marine blue below which an illustration of a future port has been crafted into the shape of the four letters "IAPH" as part of the wording "Invitation to IAPH". Turning to the first page of the brochure one finds the Message from President Wong Hung Khim, and in the following pages IAPH activities, an organizational chart, scenes from meetings and conferences held in various venues throughout the world and information on IAPH publications and IAPH officials, accompanied by their portrait photos.

The Head Office staff welcome all opportunities for the newly published introduction pamphlet to be read by any new members or ad clients and for this purpose would appreciate any assistance our members might be able to give in promoting IAPH among people outside the Association. If members need more copies, they may be obtained from the Tokyo Head Office on request.

## Seoul Conference Proceedings Completed

The Proceedings of the 15th Conference of our Association, held in Seoul, Korea, from April 25 to May 1, 1987, were completed and were sent out from the Head Office to all members of the Association and relevant organizations in late November.

The publication comprises the minutes of all sessions such as plenary and working sessions, the Secretary General's report on financial affairs, bills and resolutions and other reference material. Its front cover page and the first 10 pages carry gravures of the various scenes from the Conference.

Secretary General Kusaka hopes that this record of the successful Seoul Conference may be of use not only to those who attended the event, but also to those who were unable to be with us there. He concludes his introductory words to the Proceedings with his thanks to our host at KMPA for their support and assistance which continued until the Head Office were able to receive the various records and minutes of the sessions and without which the compilation of the Proceedings by the Head Office Staff would have been impossible. Mr. Kusaka also states, "Personally, the Seoul Conference turned out to be a special event for me as it was there that I took over from Dr. Hajime Sato as Secretary General of IAPH. It is my sincere hope that I will be able to serve the Association members for the furtherance of the objectives that my predecessors have sought to achieve."

## 1988 Edition of IAPH Membership Directory

The 1988 edition of the IAPH Membership Directory was completed and was sent to all members from the Tokyo Head Office in late October. Regular Members and Associate Members of Classes A (Grade One), B and C are entitled to receive 3 copies per unit (one copy out of which has been airmailed, with the remaining copies sent by surface mail), and other members one copy per unit.

## Former IAPH President, Mr. den Toom, Decorated

Recently the Tokyo Head Office has received some delightful news from Amsterdam. It was from Mr. K. d'Angremond, Managing-Director, the Port of Amsterdam, on the recent presentation of a Royal Decoration to Mr. J. den Toom, Mr. d'Angremond's predecessor at the Port of Amsterdam and the immediate past President of IAPH. To share our feelings of gratitude to our former President Mr. den Toom and Mrs. den Toom we reproduce here the news and pictures received from Amsterdam.

"On July 1, 1987, Mr. J. den Toom, Managing-Director of the Amsterdam Port Management, retired at the age of 61. Mr. den Toom has been Managing-Director of the Amsterdam Port Management for 22 years. During the reception in Amsterdam on June 4, which was held in his honour, he was decorated 'Ridder in de orde van de Nederlandse Leeuw' ('Knight in the order of the Dutch Lion') by the Mayor of Amsterdam, Mr. E. van Thijn, on behalf of her Majesty the Queen of the Netherlands. Mr. den Toom received the decoration in recognition for the work he has done for the Port in the widest sense."



(Above)  
Mr. E. van Thijn, Mayor  
of Amsterdam (left) and  
Mr. J. den Toom.



(left)  
Mr. and Mrs. den Toom.

The Directory lists the names and positions of member ports' officials as well as the volume of cargo handled by the respective ports. Only IAPH members are eligible to receive this publication. Should any IAPH member require more copies, they can be obtained upon application to the Tokyo Head Office.

Efforts were made during the proofreading stage to incorporate as many as possible of the alterations received after the closing date set at July 31, 1987. However, information which it was not possible to include in the Directory will be published in the "Membership Notes" column of the appropriate issue of "Ports and Harbors".

## Mr. Halpin Consultant on '89 Miami Conference

Mr. Carmen J. Lunetta, Port Director of Miami, the Conference Vice-President and the host of the 16th Conference of IAPH, and his staff have already been active in preparing for the forthcoming conference to be held in Miami in April 1989. Tokyo Head Office recently received the following news release from Ms. Lori A. Goodman, Public Relations & Marketing Assistant of the Port:

### Port of Miami names consultant on IAPH Convention

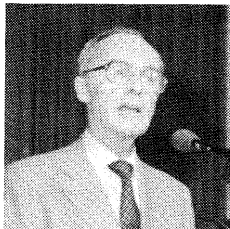
Miami, Fl — Greg Halpin, former East Coast port administrator, has been named by the Port of Miami to organize the business program of the International Association of Ports and Harbors, April 22-28, 1989, in Miami.

A 26-year veteran of the Maryland Port Administration, which includes Baltimore, Halpin has been marketing and promotional consultant to Atlantic and Gulf Coast seaports since his retirement in 1985. He is a past chairman of the American Association of Port Authorities, a past U.S. director of the IAPH and has participated in IAPH conferences since 1965.

Said Port of Miami Director Carmen J. Lunetta in announcing Halpin's selection, "Greg is a top-notch administrator and the obvious choice to organize this prestigious convention. We're delighted to be working with him."

The meeting will be held for the first time in Miami and is expected to draw as many as 1,200 delegates from around the world to the Fontainebleau Hilton Resort & Spa. It is being hosted by the Port of Miami, with Lunetta serving as convention chairman.

"We've got a strong, early start", said Halpin, who is presently involved in developing a conference theme and programs for the five working sessions. "This is an indication of the Port of Miami's enthusiasm and commitment in hosting this important convention."



Mr. Halpin

## Obituary

### Mr. Leslie Still, Jr. of Long Beach

The Head Office learned from the AAPA Advisory (dated October 15, 1987) that Mr. Leslie E. Still, Jr., a former Deputy City Attorney of Long Beach and former IAPH Legal Counselor, died on October 6, 1987.



The late Mr. Still

Throughout his term of office as Deputy City Attorney of the Port of Long Beach, Mr. Still enthusiastically supported the activities of IAPH. From 1965 until the 11th Conference of IAPH in Deauville, France in 1979, he served as IAPH Legal Counselor under the chairmanship of Mr. Kerwin Rooney, who retired from the Port of Oakland some years ago. Those who participated in the biennial conferences or Exco meetings during the '60s and '70s became familiar with the marathon performance of Mr. Rooney and Mr. Still at the respective meetings.

Secretary General Kusaka has sent a letter of condolence to the bereaved family of Mr. Still through the office of Mr. J.H. McJunkin, our First Vice-President in Long Beach.

## The Rhine Research Project Report

### By the Port of Rotterdam to combat the Pollution of the River Rhine and its Consequences

#### Notes by the Head Office

*The following report is a summary of the Report on the Rhine Research Project, which was originally produced by the Port of Rotterdam. This report was brought to the attention of the IAPH Committee on the Legal Protection of Port Interests (CLPPI) by their colleague Dr. K. Jurriens, Head, Legal Department, Port of Rotterdam when it met in Cork, Ireland, on September 29, 1987.*

*It was the Committee's view that the report should be made known among other members of IAPH through the journal for the benefit of those who might be faced with similar problems. For this purpose, Chairman Valls prepared a summary of the report covering the main aspects of the problems involved, since the original version is rather too voluminous for accommodation in full in one issue.*

*Chairman Valls comments that the Report would be of considerable use as a guideline for those members in IAPH who find themselves faced with similar problems, more specifically those related to the storage of polluted dredging soil and the reduction in quantities of such substances.*

*IAPH members who wish to obtain a copy of the original version of the report or further information are requested to contact:*

*Dr. Kick Jurriens*

*Head, Legal Dept., Port of Rotterdam, Europoint III, Galvanistraat 15 P.O. Box 6622, 3002 AP Rotterdam, The Netherlands*

### Summary of the Report on the Technical and Legal Findings By Paul Valls, Chairman, the CLPPI, IAPH

The aim of the project is to achieve the cleaning up of the flows of effluent in the Rhine, by means of consultation on the basis of data resulting from technical research and possibly by legal steps. A clean-up will lead to improvements in the quality of port sludge.

This aim fits into the Port of Rotterdam's long term policy for the storage of polluted dredging spoil.

The report discusses the results of the investigations and activities carried out in the first phase of the project:

1. Identifying the dischargers of one or more of the heavy metals (cadmium, chromium, copper, lead and zinc), and drawing up a provisional balance sheet for these heavy metals;

2. Providing an analysis of the municipality's (owners of the Port) legal position with regard to the dischargers, who are not all of the same nationality. (i.e. they are Swiss, French, German & Dutch).

3. Interviews with Dischargers.

4. Public Relations.

The report is a result of close cooperation between experts in the fields of technology, law and publications. Those involved consistently tried to approach dischargers

*(Continued on Page 10, Col. 2)*

# Co-operation Among Developing Countries in Shipping, Ports and Multimodal Transport

*Organized by the United Nations Conference on Trade and Development (UNCTAD) and held at Geneva from 21 to 25 September, 1987*

By C. Bert Kruk

Chairman

Committee on International Port Development (CIPD)  
Liaison Officer with UNCTAD

## Introduction

In my capacity as Chairman of the CIPD I have also been accredited as IAPH Representative to UNCTAD as Liaison Officer.

For this reason I was invited to participate in the Meeting of the Ad-hoc Intergovernmental Group of Senior Officers on Co-operation among Developing Countries in Shipping, Ports and Multimodal Transport which was held in Geneva from September 21 to 25, 1987.

The reason to convene this meeting has been described by UNCTAD as follows: "The Fifth Ministerial Meeting of the Group of 77, which convened in Buenos Aires in 1983, adopted a declaration on shipping in which the developing countries expressed their strong belief in the need for co-operation because of the complementarities available among themselves. Subsequently, the Conference, in Resolution 144 (VI), requested the UNCTAD Secretariat to prepare a draft programme of action for co-operation among developing countries in the area of shipping, ports and multimodal transport. The relevant report (TD/B/C.4/273) was submitted to the Committee on Shipping at its eleventh session. The Committee adopted resolution 53 (XI) by which it invited the Secretary General of UNCTAD to convene a meeting for one week in early 1986 of an ad-hoc intergovernmental group of senior officials to consider the draft programme of action and to make appropriate recommendations to the Committee at its twelfth session".

For various reasons the Meeting was finally scheduled for September 1987. The recommendations of the Meeting will be considered by the Committee on Shipping at its thirteenth session. The ad-hoc Meeting of Port Experts which took place in February 1986 and on which I reported earlier also made recommendations on co-operation among developing countries.

## Agenda

The Agenda of the Meeting was as follows:

1. Election of Officers
2. Adoption of the Agenda and organization of work
3. Co-operation among developing countries in shipping, ports and multimodal transport
4. Other business
5. Adoption of the Report of the Ad-hoc Intergov-

ernmental Group to the Committee on Shipping.

Agenda item 3 was covered by various documents prepared by the UNCTAD Secretariat. These documents were handed out to the Delegates prior to the Meeting and are available from the UNCTAD Secretariat at Geneva.

TD/B/C.4/273 — Draft programme of action for co-operation among developing countries in the area of shipping, ports and multimodal transport

TD/B/C.4/AC.9/2 — Co-operation among developing countries in shipping, ports and multimodal transport

UNCTAD/ST/SHIP/3 — Ways and means of establishing shipbroking centres in developing countries on a regional basis

TD/B/C.4/AC.7/4 — Co-operation between ports

## Delegates

Delegates from member states were present as well as

## Rhine Research Project Report

*(Continued from Page 9, Col. 2)*

of polluting waste water in an open and proper manner.

In addition to direct contacts with dischargers, contacts were also established - in the same open manner - with coordinating organizations of industry, at home and abroad, together with Governments. It was consistently emphasized that Rotterdam wishes, via consultations, to see a considerable reduction in pollution at the source.

The central aspect of the long-term policy was the focal point of departure in all discussions:

A dyke-protected artificial island has been constructed for polluted spoil and is expected to be full in the year 2002. The quality of dredging spoil should by then have been improved to the extent that the spoil can be either discharged into the sea or reused on a large scale. Rotterdam can certainly not afford to construct a second artificial island.

The view taken on this matter is, of course, that the polluter should pay.

In the event that consultation is not successful, the legal analysis discusses the grounds on which the Municipality can take legal steps to achieve its goal.

This legal path would be taken on the grounds that Rotterdam is suffering damage as a result of the pollution being discharged. Publicity can, of course, also be used to exert pressure on dischargers.

Simultaneously new techniques were tested for making independent quantifications of discharge.

The first phase of the project has attracted a great deal of attention in both the Federal Republic of Germany and in the Netherlands. Virtually the whole of the press has taken a very positive position.

The project has also attracted the attention of a number of experts and organizations. The Ministries of Transport and Public Works and of Housing, Physical Planning and the Environment, are providing support for reducing local pollution and preventing it from spreading. The Rhine Waterworks Commission is making know-how and a labour force available for the projects, while legal and technical support is also being provided from abroad.

The Report stresses that fundamental results must be achieved in the Rotterdam area, in the effort to reduce pollution, so that Rotterdam can be considered a credible partner for contacts with foreign dischargers.



representatives of  
 EEC — European Economic Commission  
 CONMINMAR — Ministerial Conference of West and Central African States on Maritime Transport  
 AFS — Arab Federation of Shipping  
 OECD — Organization for Economic Co-operation and Development  
 OAU — Organization of African Unity  
 OIC — Organization of the Islamic Conference  
     representing the Intergovernmental Organizations,  
 CEE — Economic Commission for Europe  
 ECLA — Economic Commission for Latin America and the Caribbean  
     representing the United Nations, and  
 ICC — International Chamber of Commerce  
 ISO — International Organization for Standardization  
 ICHCA — International Cargo Handling Co-ordination Association  
 IAPH — International Association of Ports and Harbors  
 FIATA — International Federation of Freight Forwarders Associations  
 MSAN — Multiport Ship Network  
 CASA — Central American Shipowners Association  
 IOC — International Ocean Institute

### Report on the Meeting

At the beginning of the Meeting, Opening Statements were delivered by:

- Mr. K.K.S. Dadzie — Secretary-General of UNCTAD
  - Dr. Ola Adegbenyi — Chairman, UNCTAD, Committee on Shipping
  - Mr. M.T. Adebajo — Director of the Division for Economic Co-operation among Developing Countries
  - Mr. A. Bouayad — Director, Shipping Division of UNCTAD outlining the purpose and their expectations of the outcome of the Meeting.
- Almost from the start of the Meeting, the Delegates contributed to the discussions via spokesmen of the United Nations groups:
- Group B — Developed market-economy countries and territories
  - Group D — Socialist countries of Eastern Europe and Asia
  - Group of 77 — Developing countries and territories
  - People's Republic of China

After initial opening statements by several Delegates, also the Observers were given the opportunity to deliver their

statements. At that occasion I expressed the views of the IAPH regarding co-operation between ports and the work the CIPD is intending to execute in this respect as a result of the Conclusions of the CIPD Meeting held during the IAPH Conference at Seoul. As to the full text of this statement, I would like to refer to the attachment below.

Besides attending the Meeting, during which I was able to voice the views of the IAPH on co-operation among Developing Ports, I also had the opportunity to discuss various IAPH/CIPD matters with several Delegates, but in particular with Mr. Eric Williamson, Chief Ports Section of UNCTAD and Special Adviser to the CIPD.

### Statement by the Observer for the International Association of Ports and Harbors (IAPH)

Mr. Chairman,

In the first place I bring you and this Meeting the greetings of the Secretary General of the International Association of Ports and Harbors.

I am attending this meeting in my capacity of Liaison Officer of the IAPH at UNCTAD. I also am the Chairman of the Committee on International Port Development (CIPD), which is one of the six Technical Committees of the IAPH.

The CIPD in particular links the developing member ports with the developed ones. Through schemes such as the Bursary Scheme, the Monograph Scheme (which is executed in co-operation with UNCTAD), the Essay Competition, etc., the CIPD tries to make the experience of developed ports available to the developing IAPH member ports.

A new initiative, which I first announced at the biennial IAPH Conference which was held in Seoul, Korea this year, is called REGIONAL PORT CO-OPERATION SCHEME.

Through the CIPD we try to identify the common problems of Port Co-operation Associations.

Next, with possible assistance of IAPH and of International and bi- or multimodal funds or expertise, we try to find solutions to the problems. We may also try to link these Associations through the IAPH.

In the IAPH in general and in the CIPD in particular, we are convinced of the great importance of Regional Port Co-operation.

That is why we hope that the discussions of this Meeting will enable the IAPH to increase its activities in this field.

Thank you.

## Visitors to the Head Office

— On October 2, 1987, Mr. R.P. Leach, President of the Port of Houston, accompanied by Mr. R.P. Armbruster, Market Research Manager of the Port, visited the Head Office and was received by Mr. H. Kusaka and his Head Office staff.

Mr. Leach was on the way home from China after attending a port seminar and exhibition held in Shanghai. The Port of Houston has been affiliated with the Port of Dalian as a "Friendship Port" since September 24, 1985.

— On October 8, 1987, at a ceremony commemorating the opening of Aomi Cargo Distribution Center at Tokyo Port, Mr. James D. Dwyer, Executive Director, Port of

Seattle was a guest of honor to deliver a speech of congratulation on the inauguration of the large-scale commodity distribution complex with which the Port of Seattle is affiliated in a "Business Cooperation" agreement.

Also among the guests of honor was Mr. Richard D. Ford, the immediate past Executive Director of the Port, who served on the IAPH Committee on International Port Development during his tenure. Mr. Ford is now a lawyer associated with Preston, Thorgrimson, Ellis & Holman in Seattle. Mr. R. Kondoh and Ms. Kimiko Takeda of IAPH met them and spoke about the current situation of the

(Continued on Page 12, Col. 1)

(Continued from Page 11, Col. 2)

Association.

— On the evening of October 5, 1987, **Mr. Philip D. Kaltenbacher**, Chairman of the Port Authority of New York and New Jersey, at a seminar-type function attended by some four hundred representatives of leading business circles, presented the current situation of the Port Authority's facilities and its future development plans, including those for airports, marine terminals, and mass transit systems as well as the New York Teleport.

Among the delegation from New York were **Mr. Chuck Hirsch**, Executive Assistant, **Mr. Carl Kleeberg**, Special Services Division, and **Ms. Mary Tierney**, Manager, External Trade Division. **Mr. R. Kondoh** of IAPH met **Mr. Kleeberg** who used to work for the Port Department and was a New York delegate to IAPH's 7th Conference held in Montreal in 1971, and informed him of the current situation of the Association.

The event was jointly organized with the Port of Tokyo as one of the programs of the sister ports affiliation concluded since May 1980 between the two ports.



An item of folkcraft was presented to Mr. Kaltenbacher by Mr. Shunryu Takahashi, Director General, Bureau of Port & Harbor, Tokyo Metropolitan Government

— On October 13, 1987, **Mr. Hubert Raoul-Duval**, Chairman of the Board of Directors, **Mr. Pierre Bellier**, Equipment and Operations Director, the Port of Le Havre, accompanied by **Mr. J. Monnin**, Tokyo Representative of



L to R Front row: Ms. K. Takeda, Mr. H. Raoul-Duval and Mr. Kusaka; Rear row: Mr. J. Monnin, Tokyo Representative, Mr. P. Bellier and Mr. R. Kondoh

the Port, visited the Head Office and met **Mr. Hiroshi Kusaka** and his staff. At the meeting, referring to the forthcoming Exco meeting to be held in Abidjan next April, **Mr. Raoul-Duval** commented that **Mr. J. Smagghe**, General Manager and the Port of Le Havre would be prepared to help with making necessary arrangements.

The visitors then proceeded to Osaka to attend a ceremony commemorating the foundation of Osaka Port and the trade-fair type functions organized jointly by them under the framework of the sister ports affiliation concluded between the two ports.

— On October 14, 1987, **Professor Jae Ha Kim**, Industrial Administrative Research Institute of Jeonju University, Korea (Associate Member), visited the Head Office and was received by **Mr. Hiroshi Kusaka**, Secretary General. He was visiting Japan in his capacity of the vice president of the Korea Port Economics Association to deliver a paper at an annual meeting of the Japan Port Economics Association held in Shimizu.

— On October 14, 1987, **Mr. Huh, Tack**, Director General, Busan District Maritime & Port Authority, and **Mr. Gap Sook, Lee**, Director, Operation Service Division, Port Management & Operation Bureau, Korea Maritime and Port Administration, visited the Head Office and were received by **Mr. Hiroshi Kusaka** and his Head Office staff. The visitors then proceeded to Osaka to attend a ceremony commemorating the foundation of Osaka Port and the conclusion of the sister ports agreement between the ports of Osaka and Pusan.

Both **Mr. Tack** and **Mr. Lee** played active roles at the 15th IAPH Conference in Seoul. **Mr. Tack** received all the delegates to the Port of Incheon as Director General of the Port at that time. **Mr. Lee** led the staff members of the Conference Organizing Committee.



L to R Front row: Mr. Kim, Maritime Attache in Tokyo, Mr. Lee and Mr. Tack; Rear row: Mr. R. Kondoh, Mr. H. Kusaka and Ms. K. Takeda

— On October 19, 1987, **Mr. Cho Kay-Shek**, Head/Senior Researcher, Korea Maritime Institute, visited the Head Office and was received by **Mr. Rinnosuke Kondoh**, Dy. Secretary General to discuss the current situations of port development and containerization in the region. He was visiting Japan to attend a conference on container shipping.

— On October 21, 1987, **Mr. Son, Hyun-Kyu**, Specialist, Port Management Division, Port Management & Operation Bureau, Korea Maritime and Port Administration, **Mr. Lee, Sang-Dae**, Director, Port Operation & Control Division,

Incheon District Maritime & Port Authority and **Mr. Kim, Yong Il**, Radio & Communications Officer, Port of Pusan, visited the Ports of Tokyo and Yokohama.

At the Port of Yokohama, the visitors were met by Mr. T. Satoh, Director, Port Promotion Department and his staff and received a lecture on the current situation and future development plans of the Port.

— On October 24, 1987, **Mr. Luis Alfonso Castillo Nino**, UPESUROESTE of Venezuela (a newly established corporation for the development of shipping and navigable waterways of the River Orinoco), **Mr. Andres Hugo Nieto Trenche**, Civil Engineer, National Administration of the Ports of Uruguay, and **Mr. David A. Constable Ortega**, Panama Canal Pilot, Panama Canal Commission, visited the Head Office where they were received by Mr. R. Kondoh, with whom they discussed the current situations of port development in Japan.

Prior to their visit, on October 17, 1987 **Mr. Raphael Unity Kumedzro**, Chief of Personnel and Administration, Ghana Ports Authority, and **Mr. Jose A. Arean**, Chief, Planning Division, Maritime Works Directorate, Ministry of Communications and Transport, Mexico, visited the Head Office and were also received by Mr. R. Kondoh.

Concerning IAPH's first trial project in the 57 + Scheme (as reported by Mr. C.B. Kruk of CIPD in the July-August 1986 issue), Mr. Kumedzro commented highly of the outcomes of the recommendations and suggestions laid down by the experts dispatched under the Scheme. He mentioned that the Board has been monitoring on a regular basis how the phase-by-phase improvement plans have materialized and that this type of technical assistance should be considered more and more.

The visitors were in Japan to attend a port seminar organized by the Japan International Cooperation Agency (a special institution dedicated to the enhancement of international technical cooperation) jointly with the Ministry of Transport of Japan.



*L to R Front: Mr. R.U. Kumedzro, Mr. Jose A. Arean and Mr. R. Kondoh; Rear: Mr. Sakata, MOT, and Ms. Takeda*

— On October 28, 1987, **Ms. Joy D. Cameron**, Commissioner, Nanaimo Harbour Commission, British Columbia, Canada, together with **Mr. Larry W. Hume**, President, and **Mr. Merv W. Unger**, Vice-President of the Greater Nanaimo Chamber of Commerce, visited the Head Office and were received by Mr. Hiroshi Kusaka, Secretary General, and his staff. The visitors, along with other members of the Chamber of Commerce, were visiting Japan to attend a ceremony concluding a friendship affiliation between the respective chambers of commerce and industry of Nanaimo and Akita, located in the northern part of Japan.



*A Port of Nanaimo Plaque was presented to Mr. H. Kusaka by Ms. Joy D. Cameron*

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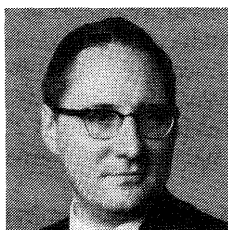
# OPEN FORUM

## Some Remarks On Productivity In Seaports

*Lecture given at Institute of Management Services Shipping and Port Operations Specialist Group Conference, London, 22nd October, 1987*

By Fernand Suykens

General Manager  
Port of Antwerp



Mr. Suykens

When one wants to discuss productivity in seaports, one has to put this matter in the framework of the exceptional growth and rapid change of those ports since the Second World War.

### The Revolution in Seaport Operations

Few sectors of the economy remained so traditional for so many decades as did shipping and port activity. If we leave the means of propulsion, steam or oil, on one side, the seagoing vessels which were built immediately after the First World War with their many hatches, decks and derricks, did not vary so very much from the ships which came into service after the Second World War.

In seaports too traditional port sheds, typical West European quay cranes, the large dock labour force and so on remained virtually unchanged except for details over the years.

It is thus understandable that an American economist once said that physical distribution, i.e. the transport, storage and distribution of goods, for many years remained the last weak link in the chain of the entire economic cycle.

All of this was affected by the sudden great change which took place after the Second World War. We are all witnesses to the tremendous growth of international trade as a result of which cargo has quadrupled in most West European ports within the last two or three decades.

### Maritime Cargo Turnover in the Port of Antwerp

Year	in 1,000 tons
1938	23,579
1953	28,183
1963	46,600
1973	72,296
1983	80,322
1984	90,338
1985	86,246
1986	90,200

The result of this has been the urgent necessity to expand the capacity of the ports and gigantic port complexes have been constructed, the like of which could never have been imagined before the Second World War.

In those ports where capacity was not adapted to the increase in the traffic, which has frequently been the case in not a few developing countries, bottle-necks have arisen which have rightly been the subject of comment in various publications dealing with port congestion.

The increase in scale of world trade above all in the transport of oil has led to a hitherto unprecedented increase in the dimensions of seagoing vessels. Whereas in 1954 a 45,000 tonner was still almost a sign of megalomania, today ships of up to 250,000 dwt have become the norm in tanker transport.

We should however not only think of super- or mammoth-tankers or ore-carriers. The average size of all other ships has also increased tremendously: forest products come in vessels of 35,000 dwt or even more. Car-carriers bring 6,000 medium sized cars. Container vessels are already in their fourth generation.

### Maritime Traffic in the Port of Antwerp

Year	Number of Ships	Tonnage in BNT or GRT	Average Tonnage
1938	11,762	24,144,705 BNT	2,053
1953	13,010	30,460,332 BNT	2,341
1963	17,856	52,276,067 BNT	2,928
1983	16,214	108,991,764	6,722
1984	16,802	116,829,141	6,953
1985	16,420	119,631,146	7,285
1986	16,446	126,982,286	7,721

### Draught of Vessels Calling at Antwerp (with more than 11 metres)

Draught	1978	1980	1982	1984	1985	1986
11.0 m-11.5 m	59	66	81	64	66	75
11.5 m-12.0 m	73	106	87	71	54	84
12.0 m-12.5 m	100	100	93	61	61	90



12.5 m-13.0 m	72	74	44	36	39	50
13.0 m-13.5 m	23	55	42	37	43	25
13.5 m-14.0 m	1	5	30	52	48	46
14.0 m-14.5 m	—	3	18	41	31	44
14.5 m-15.0 m	—	—	3	6	12	15



*Larger vessels call at the ports*

#### Vessels of More than 40,000 DWT Calling at Antwerp

	1984	1985	1986
40,000 to 50,000 dwt	201	221	326
50,000 to 60,000 dwt	262	270	207
60,000 to 70,000 dwt	177	219	171
70,000 to 100,000 dwt	78	117	126
+ 100,000 dwt	—	105	112

Perhaps even more impressive has been the **introduction** of many new **cargo handling techniques**. The English expression "general cargo" ships reflects very clearly the extent to which ordinary cargo for many years included the most varied of goods which were transported in a fairly traditional way and were handled in a labour intensive manner in seaports.

Here too, under the influence of many different factors, a real industrial revolution has taken place.

Already only a few years after the end of the Second World War the mechanization of cargo handling has been influenced by the increasing use of forklift trucks. This quite quickly led to an increasing use of pallets and to the formation of unit loads, in other words an effort was being made to make the maximum use of the maximum lifting capacity of the quay cranes and forklift trucks while at the same time more or less standard units came into being which could be stacked and which at least during the port handling cycle, but for preference over the entire transport cycle, did not need to be broken up.

The ideal aim is, of course, to form a unit load which corresponds to the maximum carrying capacity of the smallest link in the chain of transport i.e. the lorry.

In fact the **lorry** too is a factor which has influenced the operations of seaports. Formerly the inland means of transport such as barge, rail and road, brought the goods to the port. There they were unloaded and expertly stacked in sheds to await the arrival of the ship. This meant that the goods had to be handled and came to rest. The same thing happened on arrival in the overseas port.



*Lorry too is a factor which has influenced the operation of seaports*

With the increasing importance of the lorry a study was made to see whether it would not be possible, especially in view of the increased labour costs, to drive the lorry itself onto the ship and carry it to the overseas destination. Naturally the most expensive part of the lorry, viz, the truck, was left on shore and only the trailer expedited overseas.

When it turned out that all too much space was being lost on these **roll-on/roll-off vessels** bound for distant destinations the wheels were removed and the body itself designed for stacking, which marked the birth of the container.

Of perhaps even greater importance has been the **specialization** in cargo transport and handling.

It has already been pointed out that the most varied of cargoes used to be carried by liner vessels. Whenever the quantity of one particular type of cargo increased to such an extent that an entire ship's cargo can be made up of it alone then there is a marked tendency to put specialized vessels into service for it. Here one should have the typical general cargo products in mind which are now transported in massive quantities so that in some port they speak of "bulk general cargo" and in other of "neo-bulk cargo".

Formerly virtually no ship called at the Port of Antwerp which did not take on some quantity or other of iron and steel products. Today there are ships of 3,000 tons and even more which carry exclusively semi-manufactured steel products on a sort of semi-regular line. As a result of this specialization by the erection of suitable installations and by the construction of specialized steel terminals outputs of 10,000 tons per day in two shifts when loading or unloading are by no means exceptional. Antwerp stevedores achieve outputs per 7 2/1 hour shift and per gang of 3,000 tons of coils, 400 to 700 tons of pipes and 1,000 to 2,000 tons of steel plates.

Forest products such as paper, paper pulp and bundled wood now arrive in ships of from 25,000 to 50,000 dwt which only remain two or three days in the port, whereas formerly coasters with a tonnage of a few thousand tons carrying unbundled wood took 10 or more days to unload their cargoes in the port.

Car-carriers have capacities of up to 6,000 cars. In the case of successive unloading and loading, i.e. the handling of thousands of cars, the vessel remains at most two or three

days in port. In Antwerp on specialized car carriers outputs of up to 2,000 vehicles per shift are achieved.

Similar examples of specialization can be given for the transport of chemical products, artificial fertilizers, non-ferrous ores, grains, fruit, frozen products, etc.



*Specialized terminals have an increasing importance e.g. steel terminals*

Within the framework of such specialization the **chain of transport is viewed as one whole**. This means that the transport of the cargo by the seagoing vessels is not viewed separately from its handling in the seaport and subsequent transport into the interior. Intermodal transport is the word of the day. Viewed from this perspective of "physical distribution" the **storage function** of seaports takes on a new significance.

We all remember how in the 16th century the trade and storage functions of seaports developed rapidly in order to deal with the discontinuity between the irregular arrival of sailing ships from overseas and the regular supply of market outlets. This entrepot trade was for several centuries characteristic first of Antwerp and then of Amsterdam, London and Hamburg.

When as the result of the improvement in communications this trade gradually moved into the interior the entrepot function lost much of its importance.

Today once again the discontinuity, which is making itself felt between on the one hand the arrival in seaports



*Storage function takes on a new significance*

of gigantic quantities in ever larger and larger vessels and on the other hand the slower removal of the cargo by smaller inland carriers, has to be dealt with in seaports.

This is leading to the increasing importance of the storage function of seaports and to great requirement of sites in or in the immediate vicinity of the port. The surface of the covered space in sheds and warehouses in the Port of Antwerp reaches some 3,000,000 sq.m. which is supposed to be double the surfaces in the second biggest storage port in Europe. We continue to develop new areas for building physical distribution centres.

The **conclusion** of these remarks is no doubt that from labour intensive the ports have become capital intensive and most of all space intensive. New functions are coming up such as warehousing and distribution which can include in certain cases repacking and even industrial transformation. It is however not possible to go into detail here on the industrial function which has influenced some of the continental ports in a spectacular way.

It can be stated that without mechanisation, the introduction of the unit load and the stress on intermodality it would not have been possible to handle the increasing amounts of cargo with which the European ports were confronted. The increase of productivity in the ports was not a fashion, but a necessity in order to cope with increasing trade, bring prices down and speed up the vessels' turnover.

### **Port Performance Comparison Study**

To measure the productivity and to compare it between ports or even between different terminals in one port is a very delicate matter. Indeed **no one port is the same as another**. There are naturally great differences with respect to the **location** of the seaports and this sometimes has an influence on their technical structure. There are seaports located on the coasts where there is a considerable tidal range thus necessitating the construction of locks which are not required in other coastal ports. Very many ports, indeed most important ones, are situated along large rivers and sometimes at a considerable distance in the interior. Ports in the beautiful bays of the Mediterranean have less dredging problems but are often surrounded by hills or mountains which render further expansion and/or transport to the interior sometimes very difficult.

In the case of most port cities it was the presence of the port which was at the origin of the growth of the city so that the city gradually grew round the port. This means that as time went by considerable problems of town planning were involved if the port was to be expanded. These geophysical aspects are of great importance precisely at this time when as a result of the revolution in maritime shipping ports require more and more space and many old quays and "finger piers" become obsolete. When I visit Great Britain and particularly London I have sometimes the impression that the obsolescence of older port facilities presents great opportunities for real estate development.

The differences with regard to **modes of transport** also vary considerably from port to port. In Germany the term "Verkehrswertigkeit" is used to express this, i.e. the extent to which a port functions as the meeting point for various

modes of transport such as maritime shipping, inland navigation, road and rail transport, pipelines and, perhaps tomorrow, the aeroplane.

Good connections with the Rhine and via this waterway with the heart of Europe are certainly a big advantage to the so called ARA (Antwerp, Rotterdam, Amsterdam) ports. This is not only true for bulk transport but increasingly also for container traffic.

The traditional **economic functions** of a seaport can be classified as follows:

- the commercial function which is increasingly developing into a storage and physical distribution function;
- the cargo handling or transport function which can be called the basic function of a port;
- the industrial function which has influenced above all the great continental seaports since the Second World War.

In certain ports one or other of these functions will dominate or exercise an important influence on the traffic.

In addition there are also many variations with regard to the actual content of each of the above mentioned functions. Thus, for instance, in the case of the transport function a difference can be made depending upon the type of cargo predominating in the port, the usual distinction which is made being between general cargo, dry bulk cargo and mineral oil.

Another very important factor is whether the cargo arriving in or leaving from the port is bound for or coming from the port's immediate **hinterland** or whether it is a case of transit traffic to or from neighbouring countries, which often means that precisely for this kind of traffic there is keen competition.

However that may be, the fact that as a result of their geographical location and historical development most ports differ greatly one from another in some cases with regard to their technical structure, in order with regard to the economic region they serve, must urge great caution upon us when comparing the productivity of one port with that of another.

A port which operates for a local regional market naturally has completely different requirements with regard to productivity to those of a world port a large proportion of whose cargo handling operations involve international transit traffic. In an industrial port and in a port where the commercial function is important the traffic flow will naturally be more closely tied to the port itself than in a port where the storage function predominates.

Under influence of the growing European Common Market **international transit traffic** has been increasing in the Port of Antwerp due to the fact that the influence of the national borders disappears gradually. As a consequence at this moment 47.5% of total cargo turnover (or nearly half of it) and 67.5% of general cargo handled (or about

2/3) are no longer destined for, or originate in the Belgian Luxemburg Economic Union but are bound for or come from other countries.

This means that for this international hinterland which can also be served by other ports of the range or by ports in other ranges competition is very strong and port productivity can play an important role.

#### Transit Traffic in the Port of Antwerp (in 1,000 tons)

with	1953	1963	1973	1983	1984	1985	1986
Western							
Germany	2,606	3,341	9,052	10,316	12,444	12,441	13,913
France	2,696	3,319	5,347	6,684	8,300	8,106	9,387
Netherlands	408	751	1,713	2,953	2,851	3,212	3,253
Great Britain	365	872	1,513	3,953	3,828	4,342	4,226
Switzerland	840	404	632	1,695	1,808	1,640	2,101
Italy	291	313	392	639	767	439	857

#### Some Facts and Figures Illustrating the Change in Productivity in the Port of Antwerp

At a first place it would seem to be very easy to compare the increase in productivity in a port by just simply dividing the number of tons handled by the number of dockers working in the port.

It is however obvious that liquid bulk, which needs no dockworkers and dry bulk which needs only a limited amount should be left out. A first difficulty is however that we do not know how many dockers work in the dry bulk trade.

Moreover it is not correct to take only the number of dockers. We should take into account the number of shifts they worked or even better the number of hours, as over the years the intermittent unemployment can vary a lot and in the last decades the number of working hours in a year has been reduced. Whatever the inexactitude, the following table gives a rough idea of the changes which occurred over the years.

#### Relationship Between General Cargo Handled in the Port of Antwerp and the Number of Registered Dockers Employed

Year	A Total general cargo in 1,000 t	B Number of dockers	Relationship between A and B
1950	10,338	14,329	721
1960	15,453	14,354	1,077
1970	23,011	12,090	1,903
1975	25,231	12,289	2,053
1980	30,039	9,530	3,152
1985	37,464	8,415	4,452

General cargo more than doubled (even trebled compared to 1950) and employment of dockers was halved. The result was about a quadrupling of "productivity". There are few industrial sectors achieving such results.

This macro-economic statement can also be illustrated in a micro-economic way by analysing the changes in a few major trades.

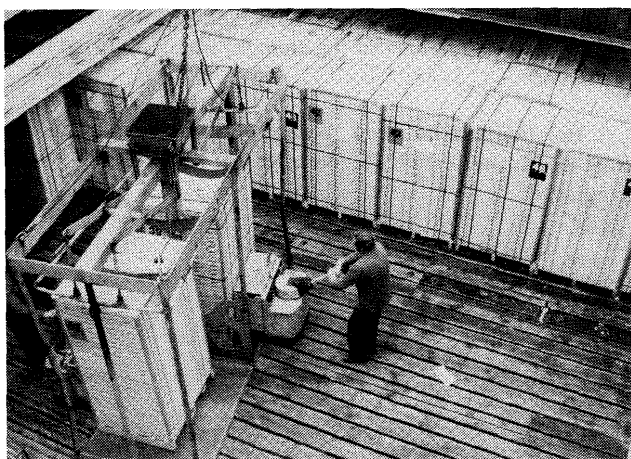


*The influence of containerisation*

**a. the influence of containerisation**

When handling traditional general cargo (of what was called in the port a department store ship) some 200 tons were handled by 14 dockers in one shift. 75% of the price were wages. A containership loads or unloads some 250 TEU of some 13 tons per shift and needs 4 to 5 dockers per gantry. The result of this example is that 3,250 tons are handled by 4 to 5 men: 15 times as much cargo is handled by 1/3 of men. Although wages still make up some 48% of the bill the investment is of course very high on a container berth and we should also take into account the additional work by blue collar (maintenance) and white collar (E.D.P.) employment.

b. When some British and Dutch ports are convinced that in a few years from now only containers and ro-ro will be left the same opinion is not heard in Antwerp where considerable investments have been and are being made in specialized general cargo facilities.

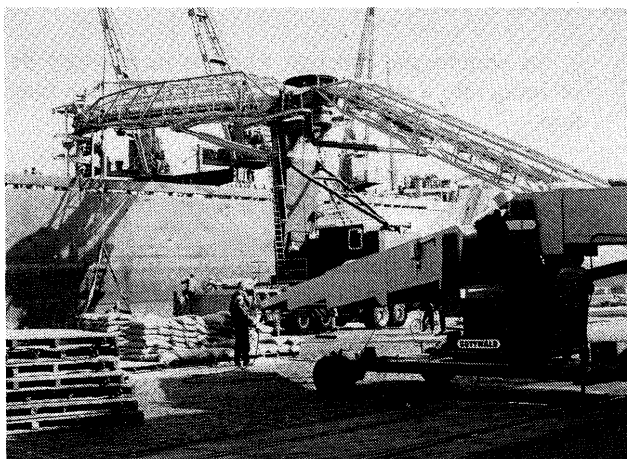


*The pallet is a market friendly unit load in the fruit trade*

A typical example is the **fruit trade** where the pallet is a market friendly unit load. It can indeed be handled in and is adapted to the need of any supermarket. Antwerp has become over the years Europe's major fruit port with more than 1 million tons in 1986 and a 30% increase during the first six months of 1987. Unloading a traditional

break-bulk fruit vessel by means of 12 + 1 dockers some 15,000 boxes were noted per hold and shift.

Unloading from a pallet friendly vessel some 550 to 600 pallets each containing 60 to 70 boxes of 15 to 16 kilograms can be reached with a gang of 6 + 1 dockers. You need of course more equipment such as handjacks or forklift trucks. On the other hand side you don't need a gang for sorting the cargo. The result is anyway that a double throughput with only half the personnel is needed or a fourfold productivity increase.

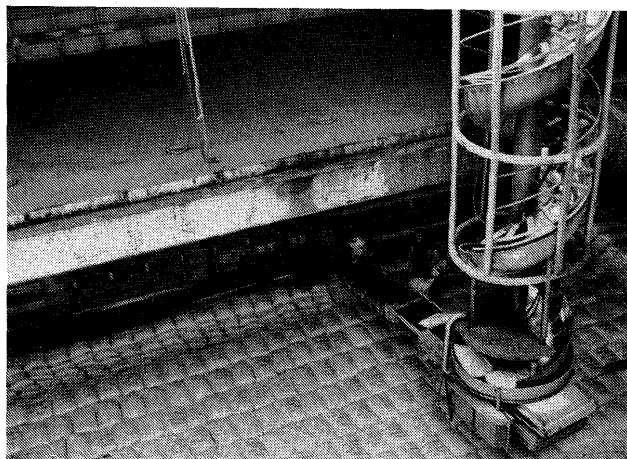


*Refined sugar in bags*

c. **Refined white sugar in bags** became over the years an important commodity exported via the Port of Antwerp and originating as well from Belgium as from France, the Netherlands or Germany. Up to 2 million tons were handled per year.

In the traditional way 22 dockers could handle some 400 tons per shift from railroadwagon into the hold of the vessel. With a modern spiral bag-loader, fed by transporting belts reaching into the railwaywagon 9 men handle some 750 to 800 tons. A bit less than half the men handle double the volume.

d. Being an important port for **fertilizer exports** (2.5 million tons per year) an increasing amount of spiral bag-loaders are in service (some 9 at fertilizer loading facilities). Previously a gang of 28 people (including people at the bagging machine) handled 350 to 375 tons per shift.



*Spiral bag loaders for fertilizer*



With the spiral bagloader a throughput of 750 to 800 tons per shift is considered normal and 1,000 tons exceptional. For two tobogans you need some 26 men (bagging personnel included). Here too it can be said that thanks to the high investment made the productivity can be doubled with only half the number of dockers.

The **conclusion** can be that in recent years in most ports the productivity increased more than fourfold not only on the container terminals but also in the handling of general cargo such as fruit on pallets or commodities in bags. High investments were however needed. Not only the financial aspect should be considered but also the risk involved. The more one specializes in a port, the higher the risk becomes in case new shipping technologies are introduced (e.g. bilo vessels for sugar or containers for fruit) or trade patterns change (quotas on steel in the U.S.A., the European Agricultural Policy).

### Comparing Productivity between Ports

It has already been said that it is a dangerous venture to compare handling rates between ports as every port is rather unique and numerous aspects have to be taken into account.

Notwithstanding these difficulties it should be appreciated that the British have shown that they are profound thinkers and that they have tried to compare the performance of the major European ports. In this perspective should be mentioned the **comparative study of the productivity in the European seaports** which was carried out by the General Council of British Shipping, the British Ports Association and the National Port Council some ten years ago. The results should therefore be studied in perspective.

This was a unique experiment in which over a period of 12 months from 1.5.1976 to 30.4.1977 an examination was made of the manner in which the ships of the six principal British shipping lines were handled in 7 British and 4 continental ports.

Over 1,300 reports of loading and unloading operations with regard to general cargo into and out of seagoing vessels were studied.

A total of 2 million tons of outgoing cargo and 670,000 tons of incoming cargo was involved, which is undoubtedly a representative example since we also know that the cargo was carried on regular lines coming from or leaving for the Mediterranean, the Persian Gulf, South Africa, West Africa, East Africa, the Red Sea, India, the Far East, Australia, New Zealand, Central America, etc.

With regard to **loading operations** in the first place the **number of tons of cargo per net man hour** which were handled in the various ports was calculated.

Here Antwerp is in the lead with 2.8 net tons per man hour, followed by Rotterdam with 2.4, while for Bremen and Hamburg the figure was 1.8 tons. The results for British ports were also given, as it was the purpose to compare British with continental ports. On the continent we were not interested in this comparison as in first instance the competition between continental ports is of greater importance.

With regard to the speed of handling, which is measured by expressing the **number of tons of cargo** which are loaded **per hour** during the stay of a ship at the quay, Antwerp is once again at the top with 28 tons of cargo loaded per hour at the quayside, as opposed to 22 in Hamburg, 20 in Bremen and 19 tons in Rotterdam.

Similar calculations were also made for **incoming cargo** which revealed that in Antwerp an average of 2.9 tons **per net man hour** was attained. In Hamburg the figure was 2.2 tons, in Rotterdam 1.9 tons and in Bremen 1.8 tons per net man hour.

**Per hour that the ship remained at the quay** 31 tons of cargo were unloaded in Antwerp as against 28 tons in Hamburg, 22 tons in Bremen and 20 tons in Rotterdam.

Although, as has been said, these figures should be studied with caution it remains a fact that the same vessels plying in the same shipping routes and therefore carrying more or less comparable cargoes have been analysed. They show that cargo handling productivity differs even between the major continental seaports.

Similar surveys were also made as far as **container handling** is concerned by German and Scandinavian ship-owners.

A Europe-Far East container service published the following table beginning of 1984.

Name of port	Nett Production	Gross Production	Berth Production
Antwerp	34.5	25.6	64.8
Rotterdam	21.6	19.8	37.6
Bremerhaven	20.7	17.4	33.3
Hamburg	22.1	14.5	30.7

Nett production: total number of container moves divided by net gang hours

Gross production: total number of container moves divided by gross gang hours

Berth production: total number of container moves divided by total time at berth

Another approach could be found in "Containerisation International Yearbook 1987" which gives the number of containers handled in TEU per container gantry in the port for the year 1985.

### Containers in TEU Handled per Container Gantry

Antwerp	57,780
Rotterdam	50,017
Bremen	44,830
Hamburg	38,200
Zeebrugge	27,820

### The Enormous Importance of Cargo Handling Productivity

It will be immediately apparent to everyone reading

the figures given above that high productivity when handling cargo naturally has very important consequences, not least of all for the cost price of loading or unloading.

If a greater tonnage per docker is handled in one port than in another, then this means that in fact the handling will cost less there. However, this reasoning must be treated with the necessary reserve since higher productivity is usually also expressed in the higher wages which dockers earn in one port compared to another. A Dutch report (Kleinveld, Kraayenhof) indicated that wages were higher in Antwerp than in Rotterdam, but that there was less indirect employment in staff functions, etc. making Antwerp cheaper than Rotterdam.

Neither must it be forgotten, as will be pointed out later, that **the use of mechanical aids**, the cost of which **has to be recouped**, will considerably influence the dockworker's productivity.

However, at this point it is interesting to take note of the detailed analysis which was commissioned by the French Ministère de l'Équipement. This analysis reveals that in dealing with the "coût de passage de la marchandise par un port" i.e. the overall costs involved in cargo handling in a seaport, two major components must be distinguished, viz. the cost price of the actual handling and the cost price of immobilizing the seagoing vessel for the period of its stay in port. The latter costs are not always taken into consideration but this item becomes greater as the ship becomes more expensive and crew costs increase.

### **Main Factors Influencing Port Productivity**

It is clear that there is a great number of factors influencing the cargo handling productivity in every seaport. The infrastructure and the equipment are no doubt very important. We should not neglect certain social aspects which sometimes include the psychological climate. Historical traditions have their role to play.

For certain ports this can be a historical rent i.e. an advantage which they have since time immemorial. For others this can be a burden of the past.

### **The Organization of Dock Labour in Antwerp**

That people in Antwerp are fully aware of the fact that the quality of dock labour is one of the port's principal assets is clearly revealed by a small detail.

Beside the City Hall in Antwerp the statue of a docker by Constantin Meunier has been erected. By erecting this statue beside City Hall the City Authorities clearly wanted to express everything that Antwerp throughout the course of its history has owed to the dockers who have always given of their best for their job and their city.

Dock labour is, from a social point of view, a profession with a certain prestige in Antwerp.

I am not unaware of the fact that much has been written, especially recently, about the social prestige of various professions. It has been pointed out correctly that besides

monetary reward a number of other factors have a role to play. Be that as it may, it is a fact that for many decades the Antwerp docker has been one of the best paid workers of the region. They are moreover workers who have a great deal of job-satisfaction and who are proud of the performances which they achieve in their daily work. The quality of their work still plays a great role. The freedom of choice which they enjoy with regard to employer, type of work and, to a certain degree, working hours gives them a feeling of independence of which they are proud.

Dock work is no temporary job in Antwerp. I am aware that in many other ports labourers who leave agriculture first turn to the port while waiting to find a suitable job in industry. In Antwerp a man becomes a docker and remains one for the rest of his life.

The following data with regard to the organization of dock labour can be considered to give an adequate picture of the situation in the Port of Antwerp.

With the exception of the executive personnel and some specialists who are in the full-time employment of one and the same employer, all dockers are in principle recruited from day to day. However, it is possible for an employer to retain a docker for a following shift (at least 10 to 16 hours after the previous shift). In this case the docker does not need to report to the recruiting office.

Naturally all the principal firms have a nucleus of workers whom they retain from day to day except in exceptional circumstances. The result is that only a limited proportion of the labour force reports to the recruiting office on any one day, viz. those who have not been retained.

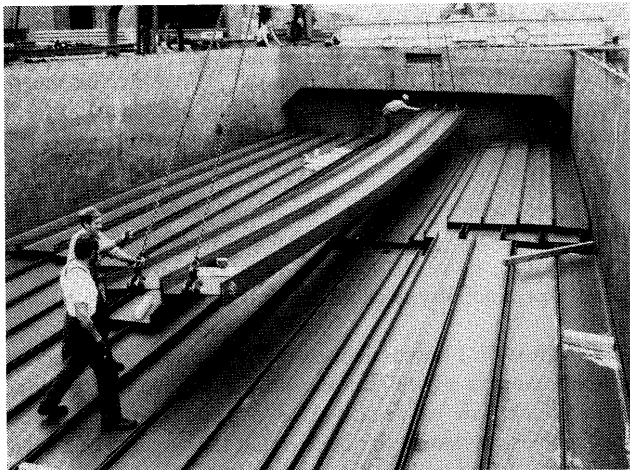
In accordance with legal requirements-law of June 8, 1972 - all dock work in the port zone is reserved for recognized dockers. A Royal Decree lays down clearly what is to be understood by "dock work", "the port zone" and a "recognized docker".

**Conditions of work** in the port are laid down by the **National Committee of the Port of Antwerp**, a body on which the most representative employers' and employees' organizations are jointly represented. These conditions of work are contained in a code which is regularly kept up-to-date and in which all details concerning number of working hours, pay, bonuses, make-up of the gangs, etc. are laid down.

These conditions are binding upon all employers and employees in the port. An important point, however, is that within the National Committee of the Port of Antwerp there is a **permanent commission** which does not only supervise strict adherence to the conditions of work, but in addition tries to settle any differences which may arise amicably on the spot. The decisions of the permanent commission are binding on both parties but are only valid for a specific case on board a particular ship.

Repeatedly in the past we have appreciated the usefulness of the existence of this permanent commission which makes it possible in cases of a dispute to reach an immediate decision without the danger arising that difficulties on board one ship will lead to union action which could spread like wildfire throughout the entire port.

The percentage of **union membership** is very high among the dockers and the majority of them may be said to belong to one of the three representative trade unions viz. the Belgian Transport Workers Union, which is socialist in inspiration, the Christian Federation of Transport Workers, which is christian democrat and the General Federation of Liberal Trade Unions, which is liberal.



*The quality of labour continues to play a role in the ports — dockworkers loading steel*

Together these three unions have formed an "interunion council for the port" and the chairman of this body is the spokesman for the trade unions in the Joint National Committee of the Port.

The employers too have entrusted the promotion of their social interests to an **Employers' Federation of the Port of Antwerp** (Cepa — Centrale der Werkgevers aan de haven van Antwerpen) which was set up as early as in 1929.

In addition to promoting the interests of the employers Cepa has various other tasks such as paying out wages, seeing to the implementation of social security arrangements and collective labour agreements as well as paying out various sums such as family benefits, paid holidays, guaranteed minimum wage, intercompany health service, etc.

As has already been said, every dock worker, apart from executive personnel, crane drivers, mechanics, warehouse men and other specialists, who has not been retained by an employer, must report daily to the **recruiting** office at one of the recruiting sessions, i.e. the one to which he has been assigned.

For the first five days of the week there are four recruiting sessions, one for each of the shifts. For the first ten minutes there is a system of free recruitment, i.e. the employers' representative, a member of the executive personnel, is free to choose his workers and likewise the docker may choose the employer for whom he wishes to work.

If after that time the labour requirement has not been met the State Department of Employment allocates the necessary workers. Dockers who have not been taken on have a right to unemployment benefit paid by the Department of Employment as well as a supplementary benefit paid by the Compensation Fund for a Guaranteed Minimum Wage of the Port of Antwerp.

The total of these two payments amounts to 70% of the basic wage. Probationary dockers have no right to the supplementary benefit.

Belgian **social security** legislation provides for a number of benefits which all Belgian employees enjoy and which at the present time have become common to most of the West European countries.

In addition to these general social security benefits laid down by law there are also special benefits for dockers such as a golden handshake when they reach retirement age, an annual bounty for pensioners, an allowance for dockers who are medically unfit, an allowance for safety clothing, an allowance for working clothes and shoes, clothes for rainy weather, etc.

It has already been indicated that by natural severance the number of registered dockers decreased considerably and at the present moment unemployment reaches 20 to 25 % of what is called the contingent.

### **The Importance of Space in a Port**

Everyone in Antwerp agrees that the quality of dock work is one of the essential elements influencing productivity in the Port of Antwerp but they will immediately add that other factors too have a part to play.

In the first place there is the lay-out of the quays. Antwerp does not have the "finger piers" which are typical of so many ports. On the contrary, it has berths where there are broad quay aprons, precisely for handling iron and steel products and where, in view of the fact that much iron and steel is brought to the port by rail, at least three to four railway lines have been laid.

It is obvious that these broad quay aprons remain extremely useful now that cargo handling techniques such as unit loads or partial loads with containers are being introduced.

In view of the fact that Antwerp is a typical general cargo port where besides rail inland navigation also plays an important role, all quays have always been built at the same level without loading ramps; so much so that the municipal regulations talk of quay surface areas and covered quay surface areas and make it clear that nothing must interfere with the horizontal handling of cargo on a quay.

Finally, at all quays in Antwerp, there is a lot of available space. I should like to make the following observation in this respect.

In Antwerp monthly statistics are kept by the Port Authority so that we can check the amount of cargo loaded or unloaded per running metre of quay at the various berths. In this way we have the productivity figures which enable us to follow closely the use that is made of their berths by certain shipping lines or cargo handlers.

Now it is a fact that these figures do not only fluctuate as the result of the influence of the economy or of improvements in productivity, but that they seem to be inherent to the quay installations present or to the period when the

quay was built.

From this point of view we can distinguish between four large periods of expansion in the port. Firstly there is the period before the First World War, then that between the two wars, then the new quays built in 1960 and finally those which were inaugurated in 1970.

The normal length of a regular berth of a shipping line amounted

in 1900 to c. 100 m  
in 1930 to c. 125 m  
in 1960 to c. 150 m  
in 1970 to c. 175 m

Gradually we have seen how the productivity per metre of quay wall has increased precisely as a result of the modern design and lay-out of these regular berths.

For a quay which was built in about 1900, **500 tons** of cargo handled per metre of quay wall is a good average. An example of this would be a berth at one of the quays along the river Scheldt which were equipped with hydraulic cranes which had a capacity of from 1.5 to 2 tons and a restricted outreach.

In the case of quays which were built between the two world wars productivity rose to about **800 tons** per metre of quay. As has already been mentioned, these were berths with a c. 40 m apron equipped with 3 level luffing cranes with an outreach of up to 28 metres.

Productivity at a modern general cargo quay which was built after the Second World War at the end of the fifties and the beginning of the sixties rose to **1,250 tons** per metre of quay. These are berths with a broad apron sometimes as much as 50 m in width and equipped with cranes with a capacity of at least 5 tons and an outreach of at least 32 m.

At a modern berth equipped for handling containers and bulk general cargo such as steel products, forest products, etc. and which was inaugurated in the early seventies, productivity rose to **3,000 tons** per metre of quay wall. Here we naturally find container cranes with a capacity of up to 40 tons and an outreach of up to 40 m. or quay cranes with a capacity of from 10 to 20 tons and an outreach of up to 45 m.

At first sight we are here confronted by a very nice evolution of productivity per metre of quay wall which has gradually increased in accordance with the nature of the installations and the time of construction from 500 tons to 800 tons, then on to 1,250 tons and now 3,000 tons.

However, when the depth of the quay is included in these calculations and in this way an idea of the surface area of the berth is obtained we reach a different conclusion.

A quay that was built in the years around 1900 only covered a site that was 60 m. in depth which means that with 500 tons of cargo handled per metre we obtain a productivity figure of **8.3 tons per m<sup>2</sup>** of the surface area of the berth.

A quay built between the two world wars in Antwerp has a minimum depth of c. 100m. which means that with 800 tons of cargo handled per metre the productivity is **8 tons per m<sup>2</sup>**.

While the productivity at a berth built in the sixties rises to 1,250 tons per metre of quay wall, it must not be forgotten that the depth of the quay is usually 150 m., viz. 40 m. of quay apron 60 metres of shed and 50 m. of long term storage area on the far side of the service road. However, this means that 1,250 tons of cargo handled with a quay depth of 150 m. gives a productivity figure of **8.3 tons per m<sup>2</sup>**.

A container terminal which has only recently been constructed and which handles 3,000 tons of cargo per metre of quay has, however, a depth of c. 360 m., which again gives a productivity level of 8.3 tons per m<sup>2</sup>.

Although I have deliberately refrained from giving overall average figures for the port and have only quoted data which can be regarded as a good average, it can nevertheless be deduced from this that the capacity of a berth is directly influenced by the surface area which is available at the site.

At the most modern dock in the port, the Delwaide dock, the depth of the land behind the berth reaches 800 m. This means that at a new container berth with a length of 250 running metres and a depth of 800 m. some 20 ha or 50 acres are available.

It is a general rule that in modern ports increasing amounts of space are required and that it is difficult to talk of productivity with regard to general cargo handling unless the lay-out of the quay and the space which the cargo handler has at his disposal are also taken into consideration.

In this context I have not taken that factor into consideration which I mentioned at the beginning, namely the fact that as seagoing vessels increase in size so a problem of discontinuity arises between the arrival and departure of cargo in the large vessels and the slower arrival and departure of it by inland carriers as a result of which more space is required in ports in order to cope with this discontinuity.

Space is also required for physical distribution and warehousing which are very important factors for the future growth of a port and for increasing the value added per ton of cargo passing through the port.

### Technical Installations and Private Investments

Already in the previous section it was pointed out that over the years the installations at berths of regular shipping lines have undergone a considerable change.

It is sufficient in this respect to refer to the introduction of forklift trucks, mobile cranes, tractors, trailers, etc. to obtain some insight into the enormous developments which have taken place over the past few years in the field of port installations.

Unfortunately we do not have, as far as Antwerp is

concerned, detailed data about the number of mobile lifting and transporting vehicles. However, everyone will agree that the introduction of larger and more powerful forklift trucks will considerably affect the amount of cargo handled per ton/hour and per man/hour so that people are not now talking of a maximum cargo handling capacity but an optimum capacity i.e. a cargo handling capacity which is accompanied by a minimum of costs.

In each individual case it will be necessary to consider whether the introduction of additional mechanical equipment, which automatically involves an increase in costs, will result in an increase in the speed of cargo handling so that it will be possible not merely to load and unload a ship as fast as possible but also as cheaply as possible.

In this perspective I should like to point out that the number of cranes in the Port of Antwerp has changed over the past few years as follows:

Year	Number of Cranes	
	Municipal	Privately owned
1950	325	—
1960	363	33
1970	306	181
1981	207	234
1987	163	253

These figures refer only to quay cranes and **do not include** specialized machinery for handling **bulk goods** or **container gantries**. The first thing the figures reveal is a quite considerable increase in the number of cranes but above all that the number of cranes erected by the municipal authorities at traditional general cargo berths has gradually decreased, whereas the number of cranes purchased by terminal operators, cargo handlers and stevedores has grown fairly rapidly. These are mostly specialized cranes adapted to the traffic which these firms handle. Whereas the number of cranes increased between 1950 and 1970 from **325 to 439**, we obtain a completely different picture if we multiply the number of cranes by the maximum lifting capacity (expressed in tons) of each of them.

**Lifting capacity in tons**  
(number of cranes x maximum lifting capacity)

Year	Municipal cranes	Privately owned cranes
1950	1,047.6	—
1960	1,290.5	316
1970	1,315	1,595.3
1981	1,188	2,278.5
1987	1,074	2,919.3

This shows that the growth is faster than that of the number of cranes taken by itself since the total lifting capacity in tons of all the quay cranes in the port rose from 1,047.6 tons in 1950 to 3,400 tons in 1981, i.e. it trebled.

However, we must in fact add to these figures the number of container gantries which, of course, have a high lifting capacity and a great outreach.

The 15 container cranes in the Port of Antwerp represent an overall maximum lifting capacity of over 600 tons.

The higher productivity of the general cargo berths in the Port of Antwerp and the high productivity of our dockers are without any doubt greatly influenced by the great efforts which have been made to adapt and modernize the superstructure.

I would also like to draw your attention to the fact that I distinguish in the table given above between the municipal and privately owned cranes. As can be seen the privately owned cranes now surpass the city owned ones. As the reader might know the Port of Antwerp is a municipal port and up to the Second World War all equipment as well as warehouses were owned and operated by the municipality. When however after the second World War very specialized and expensive equipment had to be bought the possibility was given to private enterprises to build and equip their own terminals on the basis of a longterm lease which gives them a priority but not an exclusivity for the use of their terminal.

In this way more hard needed money became available for the port authority to extend the infrastructure and gradually all investments for the superstructure were left to private stevedores or cargo handling operators. From an "operating port" Antwerp gradually became a "landowner port". In this way Antwerp followed the experience which existed for many years in the Dutch ports although it should be said that also the "neue Hafenordnung" in Hamburg limits the investment of the public sector to the infrastructure and the private sector has to take the risk and gets the benefit of the investments in the superstructure.

In this way whilst still maintaining the municipal operation of the port a greater responsibility has been given to private enterprise. This changeover took place gradually in order to allow private firms to grow bigger and to generate enough cash flow allowing them to make new investments.

## CONCLUSION

As can be seen from the figures given above productivity increased considerably in most West European ports.

This increase was obtained not only by the introduction of the container system, but also by the rapid mechanization of cargo handling and the introduction of specialized ships and berths.

There are still big differences in port productivity even between continental European ports. Labour no doubt plays an important role but modern ports need sophisticated equipment. In the Port of Antwerp this cargo handling revolution was facilitated by inducing private investment in cargo handling terminals. In this way a harmonious co-operation between the public authority and private enterprise was obtained.

Space is nowadays one of the major factors in ports. Although roughly the same amount of cargo is being handled per m<sup>2</sup> much higher results were obtained per running metre of quay by providing more space behind the newly equipped terminals.

Amongst other things, a modern port, having a high productivity, needs less men but a good labour force and organization, more capital and more space but above all a willingness to adapt constantly to the rapidly changing requirements of world trade.

# Economic Impact of PORT OF HOUSTON

(Extracts from "The Economic Impact of the PORT OF HOUSTON for the Port of Houston Authority, September 1982")

## Executive Summary

The Port of Houston Authority retained Booz, Allen & Hamilton Inc. to evaluate the economic impacts generated by port activity at Houston. The analysis measures impacts generated by port activity at the public facilities operated by the Port of Houston Authority, as well as activity at the private facilities located along the Houston Ship Channel, extending from Bayport, Texas, to the Houston Turning Basin. The impact study is particularly timely in that "new federalism" policies will result in a shift of some or all of the port dredging costs from the Federal level to the local level. An understanding of the beneficiaries and benefits of port operations is essential in order to plan for this event. Furthermore, an understanding of the relative impacts on economic activity generated by various types of commodities and facilities will provide a tool for future Port of Houston development plans.

For the purposes of this study, economic impacts are considered to include:

- \* The jobs created or related to port activity
- \* The revenue generated by organizations involved with port activity
- \* The personal income received by individuals employed as a result of port activity
- \* Tax payments to state and local governments by individuals and firms that are involved with port activity
- \* U.S. Customs collections.

In this report, economic impacts are estimated:

- \* By sector of the Texas economy, e.g., maritime service sector, surface transportation sector, etc.
- \* By commodity group
- \* By eight specific counties surrounding the Port of Houston, as well as for the remainder of the state of Texas. Impacts on the national economy are also estimated, but in a less rigorous method than are state impacts.

In the balance of this chapter, the major findings and conclusions are presented.

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1. About 160,000 jobs in the State of Texas were in some way related to shipments and receipts of cargo through the Port of Houston in 1981

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The 159,130 Texas jobs related to port activity consist of three levels of job impacts.

- \* 31,699 Texas residents are employed directly as a result of port activity and these jobs would be discontinued if the Port of Houston ceased to exist.
- \* As a result of the purchases of goods and services

by the 31,699 Texas residents employed by port activity, an additional 16,521 jobs in Texas were created. If port activity ceased, these jobs, too, would be discontinued.

- \* An additional 110,910 jobs are related to port activity in a less direct way than the preceding job impacts. The majority of these 110,910 jobs are with the local steel, chemical and petroleum industries that use the Port for receipt and shipment of raw materials and products. If the Port of Houston were not available to these firms, short term employment dislocations would not be likely, although in the longer run, these firms would likely suffer economic penalties of varying degrees, primarily in the form of increased transportation costs.

The maritime service sector generates nearly 40 percent of the 31,699 jobs; and the majority of these maritime service sector jobs, 66 percent, are with stevedores and terminal operators, longshoremen, steamship agents and charter brokers, and foreign freight forwarders and customhouse brokers. In addition, about 30 percent of the jobs are with shippers/consignees totally dependent upon the existence of the Port of Houston.

Nearly 90 percent of the 31,699 individuals reside in Harris County.

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2. In 1981, activity at the Port of Houston generated nearly \$3 billion in total revenue, including \$742 million in personal income that was received by individuals directly employed as a result of Port of Houston activity. An additional \$890 million of income was generated in Texas due to re-spending

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As shown in **Table I-1**, the surface transportation sector received the largest revenue impact from port activity, followed by revenue accruing to firms providing maritime services. The large revenue impact generated by the banking and insurance sector reflects the importance of Houston as an international financial center, especially serving the Gulf Coast region.

**Table I-1**  
**Total Revenue Generated by the Port of Houston in 1981**

Sector	Revenue (Millions)	% of Total
Surface Transportation	\$1439.1	49%
Maritime Service	\$585.6	20%
Banking and Insurance	\$510.0	17%
U.S. Customs	\$391.0	13%
Port of Houston Authority (Net)	\$22.0	1%
Total	\$2947.7	100%



(1) Petroleum and petroleum products generated the largest revenue impact, but automobiles generated the greatest impact per ton

As indicated in Table I-2, the 55.8 million tons of petroleum and petroleum products handled at Houston generated the greatest total economic impact, as measured by revenue generation. However, while automobiles created a relatively small total revenue impact, on a per ton basis, automobiles generated the greatest impact.

**Table I-2**  
**Summary of Revenue Impacts by Commodity Group, 1981**  
**(Revenue and Tons in Millions)**

Commodity Group	Total		Revenue
	Revenue	Tons	÷ Tons
Petroleum and Products	\$707.3	55.8	\$12.70
Grain	458.3	11.7	39.20
Breakbulk	458.2	5.0	92.40
Other Dry Bulk	327.1	12.8	25.70
Containerized Cargo	273.3	2.7	101.20
Steel	153.6	5.5	27.90
Other Liquid Bulk	116.3	4.9	23.80
Automobiles	50.1	0.3	192.70
Rice	12.3	0.3	42.70

While the use of revenue is an indication of total economic activity generated by the Port of Houston, it may not be the best measure of port-generated economic activity in the State of Texas, since a portion of the revenue is distributed beyond the state. For example, a portion of a firm's revenue that provides agency service to vessels in Houston may accrue to its home office in New York or San Francisco, while another portion may be distributed as earnings to owners located in other states besides Texas. Based on survey results, about \$1.7 billion of revenue, or 56 percent of the total revenue impact, remains in Texas.

It can be argued that personal income received by Texas residents employed directly due to activity at the Port of Houston is a better measure than total revenue of the economic value of a port to the state and local economy, since this monetary impact is specific to the state and corresponds to the employment impact.‡ Personal income represents, however, a conservative estimate of the economic impact because the distribution of dividends and purchases of goods and services from Texas firms are not included.

(2) Port activity at Houston created about \$1.6 billion of income for Texas residents

As a result of the direct employment of the 31,699 Texas residents by the Port of Houston, \$742 million of income was generated. The \$742 million is distributed among the five impact sectors as follows:

- \* \$292.3 million was received by employees of firms providing maritime services.
- \* \$221.5 million was received by employees of private firms using the Port of Houston, and these individuals were totally dependent upon the use of the Port.
- \* \$174.6 million was received by individuals employed as a result of transporting cargo to and from the Port of Houston.
- \* \$38.6 million was earned by employees of the banking

and insurance sector.

- \* Employees of the Port of Houston Authority and Houston Port Bureau, Inc. earned about \$15 million.

It was further estimated that for every dollar earned in the state of Texas, an additional \$1.20 of income would be generated due to respending throughout the state. As a result, a total income impact of \$1,632.5 million was created by activity at the Port of Houston in 1981.

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3. About \$47 million in state and local taxes accrued to Texas as a result of Houston port activity

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Four different tax impacts resulting from port activity were estimated and are detailed in Table I-3. As indicated by this table, the state sales tax applied to individual spending of port-generated income created the largest tax impact, followed by other state and local taxes, primarily property taxes, paid by the 48,220 individuals totally dependent upon port activity (including both direct jobs and induced employment). Businesses serving the Port paid about \$8.2 million of state and local property taxes, franchise taxes, sales taxes, and other local taxes. Finally, \$3.4 million in fuel tax was generated by trucks serving the Port, while an additional \$2.3 million in fuel taxes was paid by the 48,220 Texas residents totally dependent upon Port of Houston activity.

**Table I-3**  
**Summary of Texas State and Local Tax Impacts, 1981**

Tax	Payment (Millions)
State Sales Tax	\$18.8
Other State and Local Personal Taxes	\$14.1
State and Local Business Taxes	\$8.2
State Fuel Tax	\$5.7
Total	\$46.8

It can be argued based on the data presented above that the Port of Houston is one of the leading industries in Texas. Approximately 102,000 individuals in some way related to port activity work in Harris County, which represents nearly 10 percent of the total employment in that county.‡‡ Furthermore, the 160,000 Texans in some way related to the Port of Houston represent about 3 percent of the total employment in the State of Texas, and port activity at Houston generated about 1 percent of total Texas tax revenues collected in 1981.

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‡ Revenue and income should not be confused. The initial \$742.0 million of income is a portion of the \$3 billion in revenue, so income should not be added to revenue to estimate economic impact.

‡‡ It is estimated that 27,582 jobs directly generated by port activity are held by residents of Harris County. In addition, about 74,000 jobs related to Port of Houston activity are with the steel, petroleum, chemical, and shipbuilding industries located in Harris County.

# Port of Halifax Port Days '87: Panel Conclusions — A Delicate Balance

The Business Sessions held during Port Days '87 brought together a panel of experts who discussed the implications of transportation technologies of the 1990s. While they all agreed that there is an element of Crystal Ball gazing when speculating on the future, some trends and directions are evident.

**Mr. Michael Sclar**, Vice President of Temple, Barker and Sloane, talked about North American intermodal developments. He said there will be a slowdown in annual growth rates in the Far East trade, but the strongest growth seen in that area will be displayed by the Newly Industrialized Countries (NIC). Mr. Sclar said that in the major U.S. container trades there will be a strengthening of exports and softening of imports. The result of these and other shifts in cargo movements is the growing imbalance of actual containers.

Mr. Sclar, in discussing the U.S. intermodal developments, chief among them the carrier controlled double-stack train, stated that less than a third of total operating costs is related to vessel operations. Thus there is a strong incentive to leverage fixed landside costs by increasing domestic and international intermodal container volumes, thereby lowering systemwide per container costs. He said that the compelling economies of moving domestic freight in containers as backhaul cargo in order to offset imbalances in international container flow, will continue to result in growth in this market.

The challenge for Halifax, Mr. Sclar feels is the competitive implications of double-stack technology that will produce savings on movements of heavy 20-foot containers along with increasing penetration of double-stack in U.S. East Coast ports. He said if higher profit margins can be obtained by routing a Canadian container via the U.S. due to lower inland costs, there may be a reluctance to serve the midwest via Halifax. Lowering the inland container transportation costs may prove to be a critical component of any strategy aimed at addressing this situation.

**Mr. Joan Rijsenbrij**, Director of Engineering, Research and Development for Europe Container Terminus in Rotterdam, gave participants a detailed picture of all the elements that impact on developments in cargo handling and port and terminal technology. He said that the terminal's objective is the maximum utilization of capital and labour investments in transportation systems and organization.

He stated that future trends to consider are: volume; market changes; shipping line characteristics; mainport influences; labour conditions; and developments in information technology. After elaborating on the foregoing, he said these trends must be absorbed by terminal management; however it is clear that some of these trends will "definitely be in conflict with the drive towards further productivity."

The terminal operator is looking for a balance between service level and costs, a difficult equilibrium that is influenced by peak demands, clashing of vessels, labour restrictions, production guarantees, realtime information exchange and a need for back-up facilities.

The development of intermodalism will set new criteria for future terminal designs. The domination of quay-side operations will diminish; fast and reliable receipt and delivery to the landside modes is becoming more important. Service to railroads can be improved by on-deck rail facilities, as is the case at Halterm and Cerescorp here in Halifax. Barge terminals could be provided adjacent to marine terminals, and trucking can be better served by extended hours and simplifying administrative and inspection procedures.

**Mr. Charles Cushing**, President of C.R. Cushing, internationally based marine architects and engineers, dealt with trends in vessel design and construction. He stated that the one element most evident in the near future will be the interrelationship between the very large line haul ships and the cargo gathering feeder vessel. That some of tomorrow's ships will be "jumbos" is a foregone conclusion. What must be a companion development is the feedership. Figures for slot economies on jumbos are dramatic. For example, one extra tier on deck may represent a 5 to 10% reduction in unit slot cost. It also represents an additional 10% in revenue without a significant increase in operating costs.

Among the considerations inherent in "jumbo" containerships are stability. Vessels with 13 containers athwartships and 4- to 5-tier-high deck loads, require considerable ballast when their beams are Panamax (106 ft. or 32.3 m). Wider vessels, with 15 to 16 containers athwartships require no ballast for stability. Other problems with over stacking above deck are visibility, container securing, wind loads, increased draft and height restrictions.

The standard container is evolving with changes in height, width and length, which will demand more flexibility in handling equipment and container stowage systems. Since fuel costs represent a large portion of transport costs, any increase in speed will require technical breakthroughs in the reduction of hull resistance and increases in propulsion efficiency. Fuel costs represent 50 to 75% of operating costs of typical liner vessels. To address this, improvements in diesel engine design and cleaner fuel, through on board treatment plants will be of paramount importance.

Crew sizes will continue to decrease. The Japanese are experimenting with crewless ships wherein a mother ships will guide three crewless bulk carriers in a trans-Pacific service.

Cargo handling remains one of the greatest areas of opportunity for innovation and development.

**Dr. Donald Liu**, Vice President of the American Bureau of Shipping, summarized the presentations made during the business sessions. He agreed with all the speakers and praised their efforts; however, playing the devil's advocate, Dr. Liu said that solving the future problems facing the shipping industry will be no easier than solving the present ones. He said that the terminal has the biggest problem. How do we finance new equipment needed for the new "jumbo" designed vessels and new sizes of containers? Who pays for vessel redesign of existing fleets to accommodate new box sizes?

**Mr. John Gratwick**, Executive Director of the International Institute for Transportation and Ocean Policy Studies at Dalhousie University, was the moderator for the Business Sessions.

*(Port of Halifax)*

# International Maritime Information

# WORLD PORT NEWS

## Le Havre JC to Organize European Ports Congress

The Le Havre Jaycees will be organizing on April 7, 8 and 9, 1988 in Le Havre an European Ports Congress: INTERPORTS 88.

The Congress will be the first of its kind in France: it will bring together representatives and members of maritime and port professions from throughout Europe, with guests from other continents on the theme: "Public and Private Initiatives in the Management of Modern Ports."

Reception points for ships and merchandise, ports are indeed an essential link in the transport chain and service international commerce. They do not work alone: on the contrary, they are deeply affected by decisions taken, not only by their users but also by national and international authorities.

At a time when major technological changes are emerging or becoming increasingly important (containerization, automation, computerization), it is interesting to review the situation and compare experiences on the coordination of public powers and the private sector towards an improved efficiency for ports.

To cover the theme of INTERPORTS 88 in all its breadth, three work groups will be set up during the Congress.

### Group 1: Public and Private Initiatives in Ports

This group will handle the so-called theme of the Congress, and will enable comparison of the various opinions of its participants on the following questions:

- \* what is required from a port?
- \* how is a port judged?
- \* how to promote ports?
- \* secondary ports
- \* structural comparisons in the various countries of the E.E.C.
- \* public and private investors

### Group 2: Relationships Between the Port and the Public at Large

This group will discuss relations between a port, an economic entity and the population.

It will open the Congress to the public at large and will establish an important debate on the following subjects:

- \* is the population fully informed about port activities?
- \* what means of information are available to the public?
- \* how can the population be mobilized around the life of a port?

### Group 3: Training Towards New Technology

The problems connected with technological progress in ports will be raised during this work group:

- \* what is the future of port professions faced with new techniques?
- \* are we heading towards a complete robotization of handling equipment?
- \* security aspect
- \* further education

Through the organization of the Congress, without precedent in France, the members of the Le Havre Junior Chamber are aiming for two things :

- \* firstly, to establish a debate where highly specialized participants will discuss the reality of port activities on a European scale
- \* secondly, to offer companies significant means of promotion with stands, advertisements in the Congress promotional material.

With over 500 Congress members: port authorities, forwarding agents, consignees, handling agents, shipping companies, loaders, transporters are awaited in Le Havre for this event which will be presided by Mrs. Nicole PERY, First Vice-President of the European Parliament.

For further details or information, please contact:

Jeune Chambre Economique du Havre  
Le Havre Jaycees  
Palais de la Bourse  
76600 Le Havre  
France

## 7th DMS Course for Shipping, Management

The 7th DMS Course for Shipping and Port Management by the International Maritime Transport Academy, Den Helder, the Netherlands is of eight

months duration and runs from October 1988 up to and including May 1989. It provides a systematic coverage of the management skills and specialised knowledge essential to shipping and port management, managerial techniques required to cope with new developments. The course is highly intensive and essentially post-graduate/post experience in nature.

Applicants for the course should possess a degree of a recognized University or a completed H. BEC/H. TEC diploma. The minimum age is 23 years.

The tuition fee for the DMS course is f 7,200 for EEC students and f 13,500 for non-EEC students. The fee covers lecturing fees, excursions such as Rotterdam, London, culture contact course "Meet the Dutch", etc...

In case your employer/organization can not fully pay the fee please contact the nearest Royal Netherlands Embassy or apply for sponsorship of the United Nations, World Bank, EEC (Common Market).

Please inform the I.M.T.A. to whom you have sent your apply for sponsorship, though we can support you as much as possible.

For further information please write to:

I.M.T.A.  
P.O. Box 137  
1780 AC DEN HELDER  
The Netherlands

## MIT Spring Program for Port Planners, Engineers

The Advanced Study Program of MIT's Center for Advanced Engineering Study is offering a 16-week graduate-level program for practicing port planners and engineers directed by Dr. E.G. Frankel, Professor of Ocean Systems, a well-known port planner and engineer, Senior Advisor on Ports to the International Maritime Organization, and formerly Port and Shipping Advisor at the World Bank. The program allows concentration in the broad areas of Port Planning, Port Management, Port Development, Port Construction Management, Port Engineering, and Port Maintenance.

Activities are tailored to the background and needs of each participant.

MIT offers over one thousand courses. Electives will be chosen after consultation with Professor Frankel and other faculty members. Courses may be taken for credit or as an auditor.

The Program provides study offices, a project facility, computer facilities, videotape library and viewing facilities, and social activities for participants. Participants share classrooms, libraries, athletic and other facilities of MIT with regular students. The Program also provides opportunities for participants to develop or improve their skills using microcomputers and to review basic subjects such as microeconomics and mathematics.

The fee for the Program is \$9,300. The fee does not include books or living expenses.

The Program starts on February 1, 1988 and ends on May 18, 1988. A certificate is awarded for satisfactory completion.

For general information, description of subjects, a brochure on the Advanced Study Program and an application form, please call or write:

Dr. Paul Brown, Director, Advanced Study Programs  
Center for Advanced Engineering Study, Room 9-335  
Massachusetts Institute of Technology  
Cambridge, MA 02139  
Telephone: 617-253-6161  
Telex: 92-1473  
Telecopier: 617-258-8831

If you have questions about the appropriateness of the Program for you or about selecting your candidate please call or write:

Dr. Ernst Frankel, Professor of Ocean Systems  
Department of Ocean Engineering, Room 5-222B  
Massachusetts Institute of Technology  
Cambridge, MA 02139  
Telephone: 617-253-6763

## **New FIATA Combined Transport Bill of Lading**

A New FIATA Combined Transport Bill of Lading, or FIATA FBL in short, and instructions for ordinary FIATA members regarding its issuance and use were presented during the XX. World Congress of the International Federation of Freight Forwarders Associations (FIATA) in Antwerp/Belgium (September 13 to 17, 1987).

The new FIATA FBL (8.87) shall be introduced effective January 1, 1988.

The FBL is based on and complies with the "Uniform Rules for a Com-

bined Transport Document" of the International Chamber of Commerce (ICC publication No. 298).

ICC document No. 396/72 dated 1978-05-26 reads as follows:

"At its 129th session, the Council gave the Secretary General advance authorization to approve the Combined Transport Document submitted to the ICC by the International Federation of Freight Forwarders Associations (FIATA), after the document was examined by an approval committee set up under the Joint Committee on Intermodal Transport."

## **Panama Canal Keeping Pace with Changes**

As the Panama Canal celebrated 73 years of service to world shipping this year, it is worthwhile to reflect on the many changes in Canal traffic over the years and the improvement programs that have enabled the waterway to keep pace with rapidly changing demands.

During the first year of operations, a miniscule 1,058 oceangoing vessels transited the Canal. Traffic grew steadily until the depression of the 1930s but did not resume growth until after World War II. Although maintenance programs were very much in effect, the Canal then was pretty much as originally constructed.

With the strong growth that began in the early 1950s, the necessity to not only continue maintenance but also incorporate many new plant and equipment items using new technology became apparent. In response, Canal improvements over the last several decades have included a widened Gaillard Cut, high-mast lighting at all locks, additional and more powerful tugs and locomotives and a significant revitalization of the basic infrastructure of the waterway.

As in the past, the Canal is fully committed to meeting traffic demand and ensuring that the waterway remains a competitive transportation artery well into the 21st century. (*Spillway*)

## **ADB Loan Approved For Vanuatu Port Project**

The Asian Development Bank has approved a loan of SDR 4,450,000 (about \$5.75 million equivalent) for a project designed to provide a new earthquake-resistant wharf for overseas ships at Santo Port, Vanuatu, as well as ancillary works in the port area.

The loan is from the Asian Development Fund. It is repayable over 40

years, including a 10-year grace period, and carries a service charge of one per cent per annum.

In addition, the Bank has approved a technical assistance grant of \$325,000 for provision of consultant services for institutional strengthening of Vanuatu's Public Works Department (PWD), including training of staff in project and construction management.

Santo Port is located in Vanuatu's main copra-producing region. It handles 75 per cent of all copra exports. The existing overseas wharf, however, is in a severely deteriorated condition, mainly due to earthquake damage, and its structure has already started to fail.

The Bank-assisted project consists of the construction of a new 130m earthquake-resistant wharf, ancillary works in the port area, and consultant services for evaluation of tenders and construction supervision.

The main quantifiable benefits expected from the Project include avoidance of the capital and recurrent costs of setting up and operating lighterage facilities, saved ship service time, and avoided cargo damage.

The total project cost is estimated at \$7.18 million, of which \$4.95 million is the foreign exchange cost and \$2.23 million the local currency cost. Today's Bank loan, the fourth for Vanuatu, will finance the entire foreign exchange cost and about 36 per cent of the local currency cost.

The executing agency for the project, which is expected to be completed by mid-1990, will be the Public Works Department.

## **New Publications**

### **Changes in Sea Level**

*Responding to Changes in Sea Level: Engineering Implications.* By the Committee on Engineering Implications of Changes in Relative Mean Sea Level, Marine Board, National Research Council. (Washington, DC: 1987). 148 pages. Tables, figures, references, appendices, index. Order from: National Academy Press, 2102 Constitution Avenue, NW, Washington, DC 20418. Phone: (202) 334-2665. Price: \$19.95.

A general, worldwide rise in sea levels could have catastrophic consequences for coastal areas and structures including, of course, ports and port facilities. In recent years, warnings have been voiced that the warming of the atmosphere through the so-called

"greenhouse effect" could increase the rate at which the sea level is rising. This study was undertaken to consider the engineering implication of relative mean sea level change. Topics discussed include:

- recent sea level trends
- projections of continuing relative change over the next 10 years
- shoreline response
- consequences for engineering works and bulk facilities
- methods for protecting structures from erosion and flooding, as well as adapting to shoreline retreat, and
- the need for new technologies for mitigation.

It concludes, among other things, that "the risk of accelerated mean sea level rise is sufficiently established to warrant consideration in the planning and design of coastal facilities." It advises that this prognosis "should not be a cause for alarm of complacency." Nevertheless, "long-term planning and policy development should explicitly consider the high probability of future increased rates of sea level rise." Obviously, these considerations have great bearing on future port development. Port planners and engineers, in particular, should give it a careful reading.

(AAPA Advisory)

### World Shipping Industry

*The World Shipping Industry* by Frankel, E G

ISBN: 0-7099-1087-8

Published Price: £35.00 hbk

CROOM HELM Ltd Publishers

Provident House Burrell Row

Beckenham KENT

BR3 1AT

### Islamic Transport Directory

A NEW directory highlighting transportation details on member countries of the Organisation of the Islamic Conference (OIC) has been published by Lloyd's of London Press.

*The Islamic Transport Directory 1987* covers all 44 member countries of the OIC, established in 1971 and dedicated to economic and commercial cooperation between members.

The Directory, distributed free of charge to *Lloyd's Loading List* subscribers, is also available to purchase, price £16, from Lloyd's of London Press, Customer Enquiries, Sheepen Place, Colchester, Essex, CO3 3LP. Or, telephone Steve Wright on (0206) 772092.

## The Americas

### Port of Nanaimo Changing, Growing

The Nanaimo Harbour Commission was established in 1961 to provide port management and expanding services for the port of Nanaimo. Although operating within the authority of the Federal Harbour Commission Act, the Commission is not a Crown Corporation nor an agent of the Crown. Neither are its operations subsidized in any way by tax revenue. It is completely self-supporting through its business activities.

The Commission's duties range from the control of local shipping and navigation to the operation of moorage facilities for commercial and pleasure vessels, as well as harbour patrol. It also acts as a major dock operator and foreshore landlord.

Efficient management of these responsibilities, backed by the Port's excellent reputation, has made the Commission an important contributor to the local economy.

A natural deep seaport, Nanaimo has altered and prospered since its early days more than a century ago. Then it was a renowned coal-exporting centre. Today, the Port is a leading exporter of lumber, pulp and newsprint. From its four wharves, 40.5 hectares (100 acres) of storage area, and large warehouses of over 10,800 square me-

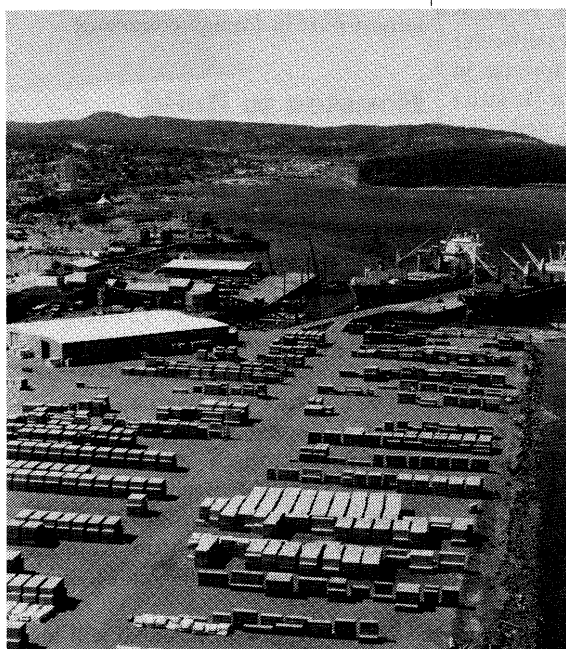
tres (116,000 square feet), the forest products of British Columbia are shipped to destinations around the world.

Fast, efficient dock facilities, sound management and effective administration—all have contributed to its success. With an eye to future needs, the newly opened Duke Point industrial project includes a 28 hectare (70 acre) shipping terminal facility with one completed berth and another under construction.

Duke Point also houses the largest all-purpose loading ramp in the Pacific Northwest. Used for containers, forest products and heavy equipment, it is capable of carrying loads in excess of 90,720 kg (200,000 lbs.) with a safety factor of 45,360 kg (100,000 lbs.). The expanding Port of Nanaimo is already demonstrating its efficiency. In a recent 7-day period, a record 41,179 cubic metres (21,700,000 board feet) of lumber was loaded for the Sanko Line. Growing in capacity and broadening in scope, the harbour appeals to the numerous commercial and private fishing boats. Pleasure vessels too, of all sizes, from throughout the Northwest, are attracted by the competitive rates offered at the Commercial Inlet Basin.

Living up to its progressive reputation, the Nanaimo Harbour Commission has now completed Phase 1 of what is probably the most innovative waterfront project in Canada.

The Commission's investment of over \$1.2 million is supported by



*Assembly Wharf — On the right is Newcastle Island Provincial Park. On the left and in the background is the Port of the City of Nanaimo.*

\$300,000 from the Federal Government.

The changing face of the waterfront is already obvious. The Lagoon area harnesses tidal flow to create waterfalls, and features three attractively lighted "water curtains" and a footbridge. There are green spaces and parks, landscaping that blends the natural terrain and the water. Walkways and paths to stroll, and places for children to play. There is a newly opened restaurant and pub. A seaplane terminal with space for 12 aircraft at any one time. Today, and in the future, Nanaimo's new waterfront will always be, first and foremost, a place for people.

### **Dredging Project at Port of Corpus Christi On Schedule**

The dredge work that will complete the deepening of the channel to a depth of 45' and allow the Port of Corpus Christi — presently the deepest on the Gulf — to handle larger vessels like the Mia Margrethe is on schedule. And the work is being performed in a manner which poses no threat to the delicate ecological balance of the area, thanks to the use of an electric dredge.

The Dredge California, a Great Lakes Dredge and Dock vessel, is powered by a large electric cable connected to a power source on shore. Electric dredges have been proven to be much cleaner and to cause little or no harm to the air or water of areas in which they are used. This particular dredge has been approved for use in California, a state known for its strict anti-pollution requirements and ecological controls.

### **Houston Ship Channel Named Historic Civil Engineering Landmark**

The American Society of Civil Engineers (ASCE), the oldest engineering society in the United States, has declared the Houston Ship Channel a National Historic Civil Engineering Landmark. The Society presented a bronze plaque to the Port of Houston Authority during a ceremony September 30.

ASCE's national historic civil engi-

neering landmark designation is bestowed on historically significant civil engineering structures that have contributed to the development of the nation and to the engineering profession.

The Houston Ship Channel is a 50-mile-long waterway that stretches from the Gulf of Mexico inland to Houston and Harris County, TX. It received ASCE's landmark designation because of the significant role it has played in the economic development of Houston, Texas and the southwestern United States.

In 1909, Harris County citizens formed a navigation district (an autonomous governmental body charged with supervising the Port) and issued bonds to fund half the cost of dredging the channel. With a depth of 25 feet, the port opened to deep-water navigation on November 10, 1914. Over the years the channel was deepened to 40 feet and widened to 400 feet for most of its length.

When the Houston Ship Channel opened in 1914, there were few industries located on its banks. By 1930, eight refineries had located there, and today, the channel and surrounding area form the second largest petrochemical complex in the world.

Port of Houston activity directly affects some 32,000 jobs in the area and pumps \$3 billion into the area's economy each year. In addition, the port and its industries generate another 160,000 jobs throughout the state. Currently, it is ranked the nation's third largest port in tonnage and its second largest port in foreign commerce.

### **Houston to Build Automated Terminal**

The Port of Houston Authority awarded a contract for a new automated bagged goods terminal — the first of its kind in the United States — to be built at Jacintoport, a 125-acre site located on the north side of the Houston Ship Channel in the Channelview Area.

The contract was awarded to Houston Transmodal Owning Co., a consortium comprised of Continental Marine Terminal, Bechtel Corp., and Ryan-Walsh Stevedoring Co., announced Port of Houston Authority Commission Chairman Archie Bennett, Jr.

The \$110 million terminal will load

sacks of grain and other bagged goods aboard ships faster and at a lower cost than conventional methods.

"The port commission is excited about bringing the first terminal of this type in the U.S. to Houston," said Mr. Bennett. "This facility is expected to draw new business to Houston and create more than 160 direct jobs. Ports operate in a competitive environment and this will give Houston the competitive edge on the Gulf Coast."

The facility is expected to handle 2.5 million tons of breakbulk cargo per year, although it has a design capacity of 3.6 million tons. Studies indicate that the facility can increase the port's market share of targeted cargoes substantially.

Mr. Bennett said the new port facility is expected to generate directly and indirectly \$11.6 million of annual revenues during the construction phase and \$458.2 million per year when fully operational.

Mr. James D. Pugh, executive director of the port authority, explained the advantages of the new facility to the Port of Houston.

"The automated facility utilizes proven technology that is a magnet for bagged and boxed cargo. It will greatly increase our capability for handling imported produce," said Mr. Pugh. "Also, development at Jacintoport gives the port an additional 60 acres of usable land to rent and allows us to preserve space at the Barbours Cut Container Terminal for containers and other cargo."

In addition to creating 160 to 180 new permanent jobs, the terminal will generate up to 1,600 jobs for ship crews, truckers, railroad workers and others in related businesses.

According to Mr. Pugh, construction on the project is expected to begin in January, 1988, and be completed by 1990.

### **Brunswick Given Approval on FTZ**

One of the United States' newest Foreign Trade Zones has been awarded to a Georgia city. The U.S. Department of Commerce has issued a grant to establish and operate a Foreign Trade Zone within the port of Brunswick.

Operating under "Brunswick Foreign Trade Zone, Inc." it is Georgia's third FTZ. Number 26, in Atlanta, and



Number 104, in Savannah, already enjoy the benefits provided under the Foreign Trade Zones Act of 1934.

Foreign or "free" trade zones are secured areas legally outside a nation's Customs territory to attract and promote international trade and commerce. Zones are operated as public utilities by states, political subdivisions, or corporations chartered for that purpose.

The Foreign Trade Zones Act of 1934 created a Foreign Trade Zones Board to review and approve applications to establish, operate, and maintain Foreign Trade Zones. The Board consists of the U.S. Secretaries of Commerce, the Treasury, and the Army. The Board also regulates the administration of Foreign Trade Zones and the rates charged by Zone grantees.

Foreign and domestic merchandise permitted in a FTZ may be stored, sold, sampled, exhibited, broken up, repacked, assembled, distributed, sorted, graded, cleaned, mixed with foreign or domestic merchandise, otherwise manipulated, destroyed or manufactured. No retail trade in foreign merchandise may be conducted in a Foreign Trade Zone.

Customs duty and IRS tax, if applicable, are paid when merchandise is transferred from a FTZ to the Customs territory for consumption. While in a Zone, merchandise is not covered by a Customs bond or subject to U.S. duty or excise tax. Goods may be exported from a FTZ free of duty and tax, with a minimum of Customs procedural requirements.

Merchandise may remain in a FTZ indefinitely, and the user may elect to pay either the duty and taxes on the foreign material placed in the zone, or on the article transferred from the zone. Because merchandise value may change as a result of manipulation or manufacture in the Zone, the importer pays the lowest duty allowable on the merchandise. In addition to the currently planned full service Zone, Brunswick Foreign Trade Zone, Inc. plans to work with the Georgia Ports Authority and several local businesses to establish subzones within the Port of Brunswick. Subzones are special purpose zones established on site of existing operations, but limited in scope to specific functions.

*(Georgia AnchorAge)*

## **Liability Insurance Limit For Vendors Lowered**

Port of Los Angeles Executive Director Ezunial Burts announced on October 20 a reduction from \$1 million to \$500,000 in the Harbor Department liability insurance limit for vendors providing services including labor and materials through the Port's purchasing office.

Effective immediately, the change encourages the participation of minority and women's business enterprises (MBE/WBE) and small firms in the Port's purchasing process. Current premium standards for the one million dollar coverage often excludes MBE/WBE or small companies from bidding on Harbor Department contracts, thereby limiting the competition for Port business.

Mr. Burts emphasized, "This significant reduction substantiates the Harbor Department's commitment to being a viable force in fostering MBE/WBE and small business participation in the maritime industry."

## **Another Record Year For WORLDPORT LA**

WORLDPORT LA Executive Director Ezunial Burts has announced another record year for the Port largely due to expansion of facilities, improved services, and continued increases in shipping activity.

According to the Port of Los Angeles' financial overview for the fiscal year 1987, revenue tonnage billed totalled 55 million tons, a 7.6 percent increase or 3.9 million tons over last year. A breakdown of the total 1987 throughput shows 28.7 million tons in general cargo, 3.5 million in dry bulk and 22.8 in liquid bulk.

The Port has seen a significant growth in tonnage in the Far East trade route where volume has risen 20 percent or 4.1 million tons to 25.1 million. Container traffic has also increased, with a record 1.5 million TEUs reported.

Operating revenues increased 10.5 percent or \$12.2 million to \$127.6 million. Sixty-five percent of the increase is attributed to rental revenue which rose mainly due to the construction of the Intermodal Container Transfer Facility (ICTF) and the Cabrillo Marina, which became fully operational early in fiscal '87, explained

Mr. Burts.

Financial strength at the port was also demonstrated with \$67.2 million in retained earnings for reinvestment, a 15.9 percent increase or \$9.2 million over last year. Such revenue is vital to continue the Port's developments which are projected to exceed \$700 million from fiscal 1988 through fiscal 1992.

"With the Harbor Department's strategic planning and sound financial management, we are confident that the Port will be well-equipped to handle the tripling of the world trade that we expect in Southern California's harbors in the 21st century," said Los Angeles Mayor Tom Bradley. He added that trade is particularly expected to increase with the initiation of a new joint program between the City of Los Angeles and the Export-Import Bank of the U.S., designed to provide technical assistance and loans to qualified local businesses interested in entering or expanding their efforts in the export trade market.

## **MPA Begins Work on Dredged Material**

The Maryland Port Administration has begun to develop a long-range plan to provide for the proper disposal of material dredged to meet the shipping and navigational needs of the Port of Baltimore.

The plan will estimate the amount of material to be dredged in the period 1990-2010. A wide range of options will be evaluated to manage both clean and contaminated material. Sites other than the MPA's containment facility at Hart-Miller Island will be identified and evaluated for future use.

"Once the 50-foot project is completed, dredging in our port's access routes in the Chesapeake and Delaware Canal and the Chesapeake Bay will require maintenance dredging," said Mr. David A. Wagner, Maryland Port Administrator. "Additional dredging is needed occasionally to create new access channels, and to deepen and widen existing channels and port facilities such as anchorages and turning basins."

"This long-range plan will identify appropriate sites so that the Port of Baltimore's dredging needs will be met," he said.

The dredged material plan will examine a variety of options such as

creating wet lands, shoreline control and other beneficial uses of dredge material.

The MPA has formed two advisory committees to assure that the long-range plan addresses the concerns of regulatory agencies, affected public and private sector interests and the general public. One committee is composed of representatives of federal, state and regulatory agencies involved in processing project applications for permits and monitoring permitted projects. The other committee is composed of representatives of environmental groups, maritime interests and local governments.

The long-range plan will result in a preliminary draft by late 1988. A public hearing on the draft plan will be held prior to the MPA's adoption of it.

### **Massport's Maritime Department Reorganized**

In order to better serve the local port community, Massport's maritime department has been reorganized internally into three streamlined sections — operations, administration, and sales and marketing — each headed up by a deputy port director reporting directly to Maritime Director Anne Aylward. As deputy port director for operations, Mr. Dennis Kay will be responsible for vessel and terminal operations, equipment and facility maintenance, labor relations, billing/collections, insurance claims, and tenant relations. Mr. Rino Moriconi, deputy port director for administration, will handle budget items, tariff/port pricing matters, federal relations, inter-and-intra-port-relations, and insurance claims. As deputy port director for sales and marketing, Mr. Frank Sheehan assumes responsibility for carrier sales, customer service, market and economic analysis, port promotion, special events, and special projects. This restructuring is expected to increase efficiency and allow more opportunity for long-range planning.

### **Task Force Trying To Attract More Cruise Ships to La.**

Being a leader in tourism may tip the scales for New Orleans as a group of energetic business, state and local officials hustle to attract more cruise

vessels to the city.

Those officials are members of the Cruise Ship Task Force, which has a creative plan to draw more cruise ships into one of America's most popular and appealing cities.

Louisiana Lieutenant Governor Bobby Freeman, an active member of the Task Force, said, "Louisiana is the hottest state in the nation on tourism. People want to come here, especially to New Orleans." He said inquiries from prospective tourists had increased over 500 percent from last year's records. That strongly suggests that cruise ship owners would find a tremendous number of people interested both in visiting New Orleans, and in cruising from the city to other exciting destinations.

"People want to see New Orleans," said Mr. Warren Reuther, head of the New Orleans International Cruise Terminal. "Other competing ports and cities will bring people in and ship them out, but the people generally aren't interested in spending time in those cities." According to Mr. Reuther, New Orleans' distinct advantage over other cities, is that people want to spend at least two days in New Orleans before or after a cruise. That can have a great impact on the local economy.

The Task Force is developing a creative plan to bring cruise vessel owners to the city to see what the Port, city, and state have to offer to prospective cruise clients. The tentative date for inviting a prestigious contingent of cruise vessel owners is in the middle of October.

"We are leaving no stone unturned in our desire to consolidate the efforts of the maritime community in trying to attract more cruise ships," said Chairman Joffray. "The interest is there on the part of a number of cruise vessel owners. We are going to do everything possible to expand upon this interest. Having more cruise ships coming into New Orleans will complement the strong tourism efforts in our area."

The Task Force's main thrust is unity and commitment by all facets of the maritime, business and tourism community. The group is surveying travel agents to determine what destinations would be most desirable for cruises from New Orleans. The Task Force is working with many people locally to make concessions that would make cruise marketing programs more attractive. *(Port Record)*

### **NY-NJ Port Authority To Train Executives of China's Major Ports**

Executives from five of China's major ports will be trained in management and operations by a team from The Port Authority of New York and New Jersey under an agreement signed in Beijing (Peking). Chairman Philip D. Kaltenbacher of the bi-state agency announced the training program after his return from a two-week trade mission to the People's Republic of China, Hong Kong and Japan.

Chairman Kaltenbacher headed a delegation of port agency officials and business people representing port equipment manufacturing firms in the New York/New Jersey region.

"The mission's goal was to reinforce and strengthen the New York-New Jersey region's relationship with China and to promote our expertise in several areas of business that are relevant to China's economic development," Chairman Kaltenbacher said. "In that regard we feel the mission was quite productive."

Chairman Kaltenbacher said the visit to China, the Port Authority's third trade mission to the People's Republic, "was intended to reinforce the groundwork we've already laid in promoting the New York/New Jersey port and metropolitan region as the premier gateway to the United States for the movement of both people and cargo. Total trade between our region and the People's Republic of China last year amounted to some 300,000 long tons of cargo, valued at more than \$1.6 billion."

The agreement between the bi-state agency and the China Science and Technology Exchange Center of the State Science and Technology Commission was signed in the American Embassy in Beijing on September 28.

Following the signing of the agreement, the delegation met with the Vice Premier of China, Mr. Yao Yilin, in the Great Hall of the People—the Chinese equivalent of the White House — for further discussion of the agreement.

In a letter to Vice Premier Yao, confirming the agreement, Chairman Kaltenbacher cited other "mutually beneficial" areas which the Chinese and New York/New Jersey officials have identified for future cooperative efforts,

as follows:

- encouragement of U.S.-financed research in China, which could lead to Chinese production of resultant products;
- licensing of Chinese patents and know-how in the United States;
- advising on port and airport design, construction, operation and financing;
- evaluation of plans for major infrastructure projects; and
- introducing small and medium-sized high technology companies" through XPORT, the Port Authority's trading company, and its trade mission program.

The five Chinese ports that will participate in the Port Authority training course are: Shanghai, Ningbo, Dalian, Qingdao and Tianjin. "They will submit case studies on their port operations and plans for future development and we will design the courses based on the information they provide," Chairman Kaltenbacher said.

The courses in China will be administered by the World Trade Institute, the educational arm of the World Trade Center in New York that offers courses and seminars in international business and world trade. The Institute was established in 1970. About 7,500 people participate in the Institute's educational programs annually.

"The Port Authority is fully prepared to make available to China our technical expertise and assistance in the planning and development of modern land, sea and air terminal and transportation facilities," Chairman Kaltenbacher declared. "Over the past two decades, we have responded to requests from countries throughout the world in developing container ports, airports and mass transportation facilities".

### **Port Week Observed At NY-NJ Port**

National Port Week was observed in the New York-New Jersey Port by civic officials, maritime industry executives, labor leaders and more than 100 guests during a harbor cruise aboard a Circle Line vessel on October 6.

National Port Week has been observed annually since 1974 when it was initiated by Presidential proclamation to remind Americans of the importance of the port industry of the United States.

Mr. James J. Kirk, Port Director for

The Port Authority of New York and New Jersey, pointed out to the participants that this Port is a vital asset to this region's economy, accounting for approximately three percent of the Gross Regional Product.

"Ever since National Port Week was established, we have taken time out on this week of the year to remind America of the importance of the Port to our national life and the economy of our region," said Mr. Kirk. "The Port of New York-New Jersey generates \$14 billion annually in economic activity and contributes almost 200,000 jobs to the region," he added.

The annual celebration focused this year on the role of towboats and harbor carriers and the contribution of working vessels to the successful operation of the Port.

Mr. Michael P. Huerta, Commissioner of the Department of Ports, International Trade and Commerce for the City of New York, spoke of the importance of this industry.

"It is fitting that this celebration pays tribute to the towboat and harbor carriers of our great Port," said Commissioner Huerta. "Our preeminence as a world port has always been based on more than just numbers and cargo statistics — it's based on the hard working support industries that make our many successes possible," he stated.

### **PAIRED Implemented in All US Customs Service**

The PAIRED program was implemented in all U.S. Customs Service Districts July 29 to speed the clearance of imports. PAIRED is Custom's acronym for its Ports of Arrival Immediate Release and Enforcement Determination program.

Under PAIRED, importers can file entry documentation at one port of entry to determine if a cargo examination is necessary, Customs explained. If no examination is needed, the importer's merchandise can be released when it arrives at the discharge port, even if it is not the port where the documentation is filed, Customs said.

Importers' voluntary participation in the PAIRED program will expedite the delivery of merchandise and reduce congestion at the port of arrival, Customs said. About 80 percent of all

entries under PAIRED are released immediately without the need for cargo examinations or in-bond transportation to another port—another Customs entry procedure.

The import clearance system benefits Customs, the agency said, by reducing the costs and expenditures of manpower and other resources for maintaining the in-bond system, which is still available for use, giving importers two options if they want merchandise transferred from the port of entry to another port.

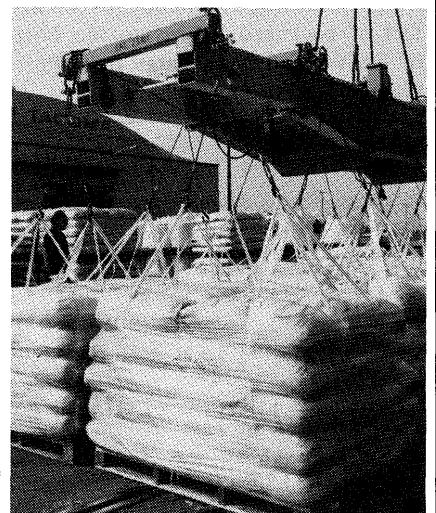
*(Gateway)*

### **Wheat Seed Shipped To Saudi Arabia**

More than 12,070 metric tons of Washington-grown wheat seed was sent from the Port of Tacoma to Saudi Arabia in a recent shipment.

The wheat seed, called yecoro rojo, is a high technology strain developed originally in Arizona for use in "dry type" farming. It is now grown in Eastern and Central Washington, and has been going to Saudi Arabia for the last five years.

"One of the reasons the Port of Tacoma was selected to handle the wheat seed shipments is that we are highly capable and have several facilities to handle break-bulk cargoes," said Port director of trade development Finn Wollebek. "These facilities have large clear span warehouses for pre-staging and are also available for charter vessels.



*Wheat seed destined for Saudi Arabia is loaded at the Port of Tacoma's Pierce County Terminal.*

## Lumber Still Significant Commodity for Redwood

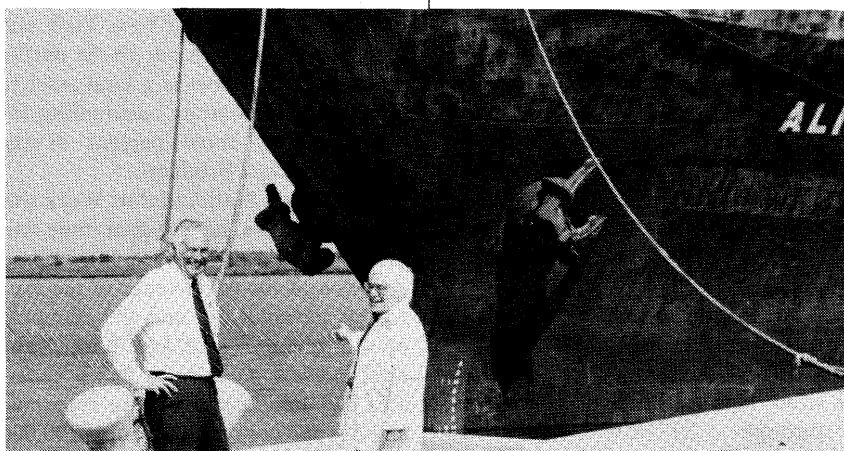
Loaded to a depth of 33 feet with over 28,000 metric tons of shredded steel scrap, the Maltese registered motor ship *Alinda* recently sailed from the Port of Redwood City. On hand to note the well-loaded ship was the port's director of operations and sales, Mr. Jim Faber (left), and Mr. Don Shaw, operations manager for the vessel's agents, Strachan Shipping Co. Chartered by Claredon, Ltd. of Stanford, Conn., the *Alinda's* cargo is destined for Paradip, India.

The port and Redwood City have derived their names from the movement of redwood which was logged in the coastal mountain range to the west and south of the port starting in the 1840s.

Hauled from the redwood groves by oxen, the logs were floated down a waterway which inevitably was named Redwood Creek. It flowed through what is now the city which was originally called Mezesvil, before being renamed.

Prized then and now for its high resistance to water and insect damage, the redwood was barged north where it became the principal building material for the population explosion which characterized San Francisco after 1849 — with repeated fires including the famous 1906 earthquake and conflagration.

While the port — second oldest federal navigation project in California — now handles a greater variety of commodities, lumber is still significant in its cargo mix. Currently, Pope and Talbot is moving 50 million gross board feet of packaged lumber to the Port of Redwood City by barge from Port Gamble on Puget Sound.



## 2 Container Cranes To Port of Seattle

PACECO, Inc., recently shipped two 50-long-ton capacity ship-to-shore container cranes to the Port of Seattle, bringing the total number of Portainers\* at the Port to six.

Fabricated at PACECO's 100-acre manufacturing complex in Gulfport, Mississippi, the cranes were designed specifically to service the new generation "Beyond Panamax" ships which call for faster speeds, a longer outreach, more clear underspreader height, and more lifting capacity.

The Portainers, which are the largest of their type, include an outreach of 145', a backreach of 50', a span of 100', and a total lifting height of 145'. The hoist speed with the load is 165 fpm and 385 without. The trolley speed is 500 fpm while the cranes' gantry speed is 150 fpm.

The photo below shows the recent 1,250-ton barge shipment from PACECO's 100-acre manufacturing facility in Gulfport to the Port of Seattle. Structural components of the

two new generation PACECO Portainers were included in the shipment.

\* Registered Trade Name

## New Bridge Crane Added to Charleston

A new 80,000 lb. capacity traveling bridge crane has been added at the Port of Charleston's North Charleston Intermodal Terminal.

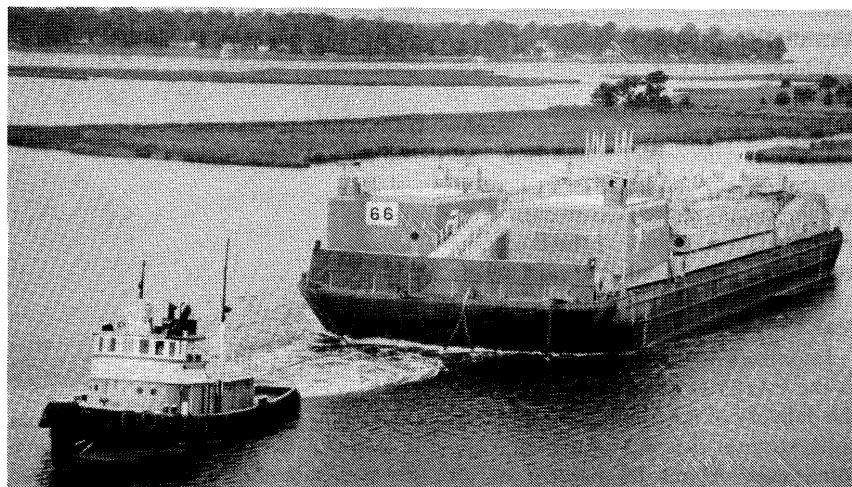
The model 800-C Mijack Translift crane is one of four traveling bridge cranes being added at the Port of Charleston during the current fiscal year, as a part of the S.C. State Port Authority's ongoing expansion and physical facilities improvements.

The new container handler at North Charleston, a state-of-the-art machine, incorporates a diesel and electro-hydraulic power system and features a telescoping spreader that can accommodate 20 ft. and 40 ft. length containers.

The high-speed unit has a hoist capacity of 75 fpm (feet per minute) under load and 150 fpm with only the empty spreader attached.

Designed for adaptation to future (drawing board) automation systems, the 800-C can work one container over a four high stack and span six rows of stacked containers. The bridge crane has a gantry travel speed of 440 fpm and an across-the-track trolley speed of 170 fpm.

During the Port Authority's latest fiscal year, ended June 30, the Port of Charleston became the first seaport in the U.S. South Atlantic or Gulf Coast area to break the 4-million-ton mark in container freight handling in a single year. The Port has 10 container cranes, five traveling bridge cranes and 22 front-loading container handlers.



### New Cross-Channel Terminal at Le Havre

The Port Authority has brought a new passenger building into service at the Britain Terminal, which is operated by Townsend Thoresen. Standing where port and city meet, it has been built to a remarkable design which successfully marries the backdrop of the port to the city all around through an elegantly powerful framework, lightened by the oblique lines of the concrete shafts, the height of the metal masts (35m/115ft) and the diagonal lines of the stays and glass areas.

It has a total floor area of about 2,000 sq m/22,000 sq ft laid out in a highly functional manner to provide passengers with such amenities as a nursery, facilities for the handicapped, and vast conveniences.

There are three levels:

- the ground floor, with a 1,200 sq m/13,000 sq ft entrance hall, comprising a waiting area for passengers, the booking office, toilets, immigration and Customs checkpoints, a baggage collection and dispatch area with an airport-style moving belt system, and office space for the company's own use.
- an upper level, with a 330m/3,500 sq ft panoramic embarkation hall linked to the vessel by a glass-enclosed walkway.
- a terrace open to the public providing a panoramic view of the port and town and a close-up of the ferries coming in to berth.

The new building is the outstanding feature of a major investment programme carried through by the Port Authority at the Britain Terminal for cross-Channel traffic. Altogether, some 3,800 sq m/41,000 sq ft of additional parking areas have been laid out, while in July 1986 a twin-level linkspan was brought into service to give cars and lorries simultaneous access to the ferries' upper and lower garage decks. In October, a walkway was added, similar to those found in airports, to enable passengers to go straight from the terminal building to the waiting vessel.

The Port Authority's overall invest-

ment of 70 MF in improvements to the terminal has made both the port and the ferry company still more competitive in the cross-Channel trade through the extended range of services provided for passengers and freight in what is a remarkably functional and high-grade setting. (*Port of Le Havre Flashes*)

### Le Havre-Amiens Motorway to Be Built

The government has given the green light to a new motorway programme to be carried out over the next 10 years. As the Prime Minister, Mr. Jacques Chirac, stressed at the end of the interministerial Planning Committee meeting devoted to the question, it will help to put France in a good position to face the challenge of the European Market due in 1992.

The programme falls into several parts, one of which is of major interest to the Port of Le Havre, as a motorway is to be built between Le Havre and Amiens, in northeast France, together with a dual carriageway between Amiens, Saint-Quentin and Reims, linking up with the motorway network in eastern France (Paris-Strasbourg and Calais-Dijon).

With the opening of the Channel Tunnel looming nearer, improving communications between Le Havre and northern and eastern France has become a matter of urgency.

(*Port of Le Havre Flashes*)

### Port of Rouen Seeks To Consolidate Inland Waterway Traffic

Rouen is taking steps to strengthen its position as one of the key centres of inland waterway traffic in France.

The port, which is the French sea port with the highest concentration of inland waterway traffic, has begun a programme of investment in new cranes with sufficient reach to be able to carry out transshipment operations between ships and inland waterway vessels.

Two cranes of this type were brought into service last year and the port is awaiting delivery of four more, which will have a maximum reach of 40 metres. These cranes will be able to lift up to 12 tonnes at maximum reach and up to 35 tonnes at an intermediate position.

The port has decided to proceed with this investment, despite the downward trend in inland waterway traffic in the last two years.

Inland waterway traffic at the Port of Rouen fell 15 per cent in 1986 to 4.27 million tonnes. In 1985, traffic fell from the 6.40 million tonnes total of 1984 to 5.02 million tonnes.

The port authority takes the view that inland waterway traffic is a key factor in the port's ability to maintain a strong competitive position in the bulk traffic sector, and in the cereals sector, in particular.

Rouen has the good fortune to be situated on the River Seine, with its canal links to other regions of France. In addition, it has a rich industrial and agricultural hinterland, and inland waterway fleet comprising a wide range of vessels, ample berthing and suitable handling equipment.

The waterways offer the lowest cost per tonne-kilometre of all the different transport modes and are particularly suited for the transport of bulks and exceptional loads.

Rouen's inland waterway traffic falls into three main categories:

Pure inland waterway traffic, unconnected with the sea port and including, most notably, the transport of building materials coming from quarries along the Seine;

Inland waterway traffic to and from industrial plants, such as oil refineries, which are situated in the port area and which have been initially supplied by sea;

Traffic, such as cereals exports and coal imports, which is loaded or unloaded directly into or from seagoing vessels or storage facilities within the port.

Inland waterway vessels play a major role in the transport of seagoing traffic in this latter category. In 1986, they loaded 775,000 tonnes of coal, compared with the 1.31 million tonnes which arrived at Rouen in seagoing ships. Similarly, barges carried 23 per cent of the port's cereals export traffic and 37 per cent of its flour exports.

It should be added that the figures given above apply to inland waterway traffic handled within the sea port of Rouen. Rouen also has a separate inland waterways port, which is under the authority of the Seine navigation service and which handled 153,000 tonnes of traffic last year.

(*Rouen Port*)



## Limerick Eyes Volume Of Over 5 Million Tons

The forecast for 1988 suggests that traffic through the port and harbour of Limerick will achieve a volume of over 5 million tonnes for the first time ever in the port's history, moving it to the top bracket of the Irish port industry.

This was revealed by Mr. G.E. Russell, at the recent Annual General Meeting of Limerick Harbour Commissioners, where he was reelected Chairman for the 22nd successive year unopposed. Mr. Tom O'Dowd was unanimously reelected Vice-Chairman.

Declared Mr. Russell:

"Since first elected as Chairman in 1966, I have been privileged to act in a period of remarkable growth in the port and harbour. In 1966 trade through the port amounted to 450,000 tonnes. The most recent returns for the year ended 30th September last achieved a record level of 4.78m tonnes — more than a ten-fold increase in volume over the 21-year period.

"This performance is an outstanding achievement by any standards and is a lasting tribute to the foresight, dedication and loyalty of the members of the Harbour Commissioners who served during that period together with their staff and workers."

*(Shannon Shipping News)*

## Cargo Transshipment at Rotterdam Drops

In the first half of this year, 121.5 million-tons of cargo entered and left the port of Rotterdam in sea-going vessels. This is 5.7% less than the average amount transported via Rotterdam over a period of six months in 1986. Cargo imported was 7.6% lower whereas cargo exported was 1% higher.

The transshipment of bulk cargo fell by 6.5%. This was principally caused by the reduction in the amount of ore (-10.6%) and crude oil (-9.6%) which was predicted by the Municipal Port Authority at the beginning of this year. The transshipment of coal, on the contrary, rose by 2.7%. The decline in general cargo was limited to 2.1%. The greatest decline was in the transshipment of Lash-barges (-16%). The transshipment of vehicles increased by 13.2%.

## Autonomous Port of Valencia Responsible for Management of 3 Ports

The Autonomous Port of Valencia is the Public Body responsible for the Management of three ports situated along a line of 85 kms. on the western border of the Mediterranean: Valencia, Sagunto and Gandia.

The Port of Valencia offers perfect reception conditions to vessels and has ideal Pilot, Tug and Mooring services.

All along its more than 7 kms. of quays, with drafts between 7 and 16 metres, there are 65 shore cranes distributed, of which more than a third have a capacity of over 12 tons.

Among the specialised quays, we must point out those destined to bulk cargoes and containers, with more than 1,000 mts of berthing line each, as well as the 10 berths for Ro/Ro traffic.

It has a surface area of over 2 million sq. mts., of which more than 900,000 are solely for deposit, with 73,000 sq. mts. under cover. There are also 400,000 sq. mts. reserved for future expansion of its exploitation surface.

Out of the facilities and services offered by the Port, the following are the most important:

- Public Container Terminal, in service 24 hours a day, every day of the year.
- Special facilities for loading and discharging of bulk cargoes.
- Pier for the discharge of petrolierous products.
- Silos for storing bulk cargoes.
- Reefer Warehouses.
- Shipyard for building and ships repairs.
- Bonded warehouse.
- T.I.R. truck clearance area.
- Passenger Terminal.

A team of almost 400 people are in charge of the Management, Administration, Exploitation and Maintenance of the Port's services, including Vigilance and Control of the Port area.

Loading, discharging and cargo handling are carried out by specialised stevedoring personnel.

A wide commercial infrastructure attends to 280 shipping lines calling regularly in Valencia, with 4,000 annual entries and serving a traffic which reached some 9 million tons in 1986, of which over 70% is destination or originating from other countries. The Mediterranean, Atlantic Coast of N.

America, North Sea, Mexican Gulf as well as the Arabian Gulf and Red Sea are the geographical areas, whose trades were the most significant through our Port.

Valencia's privileged geographical situation, coupled with a constant investment effort to improve and expand its facilities and equipment allows the Port to satisfy the most demanding requirements, not only in the trade from its hinterland, but also in international transshipment traffic.

Excellent first-class roads, motorways and railways incorporated in the European network, as well as an international airport ensures the continental connections of the Port of Valencia.

## Tractors Ordered for Southampton Terminal

Southampton Container Terminals Ltd. (SCT), a subsidiary of the country's largest port operator, Associated British Ports (ABP) has placed a £1/2 million order with F.L. Douglas Ltd. of Cheltenham for new container handling equipment.

The order for ten "Douglas Tugmasters" Type NS8/200 is part of a major re-equipment programme for Berths 204/205/206 in Southampton by new terminal operators SCT this year.

The tractors, due for delivery in December, are based on a standard fifth wheel towing unit specially adapted to meet existing drawbar operations on the Southampton Container Terminal and between the FreightLiner Maritime Rail Head.

The units will be capable of towing loads of up to 70 tons comprising typically of an existing 40 ft. trailer carrying two 20 ft. containers.

SCT Managing Director Peter Doble stated, "The new equipment on the terminal will help to sustain our commitment to our customers. We expect to place further orders for other equipment in the near future."

Southampton Container Terminal covers 38 hectares of land and has nearly 1,000 metres of deep water quay. It is one of the U.K.'s major container terminals and is capable of handling the largest container ships in the world. Regular services operate to Europe, the Middle and Far East and Southern Africa.

## ABP to Investigate River Berth Plan For King's Lynn

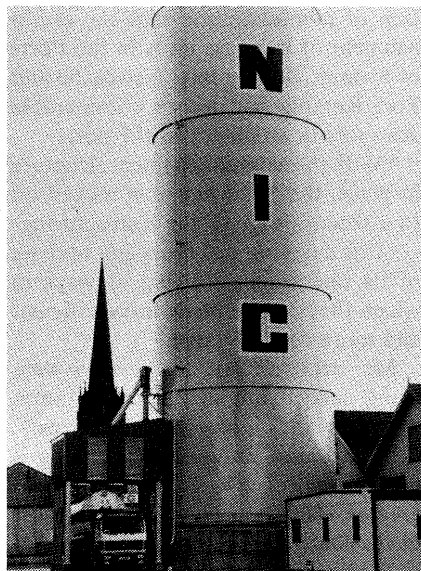
Associated British Ports, who own and operate King's Lynn docks, are to investigate the possibility of constructing berths on the port's riverside frontage in order to meet the growing demand for increased port capacity at King's Lynn.

ABP have placed a contract with a sister company, ABP Research & Consultancy Ltd., for hydrographic work and hydraulic model tests in order to find the best design for the new river berths which would, if constructed, accommodate the largest vessels able to trade to the Wash ports.

Mr. David George, ABP's Port Manager at King's Lynn, commented:

"Ports must reflect the demands of their customers and need to plan for the foreseeable requirements of shipping and cargo interests. The scheme now being investigated is a response to the commercial success of recent years and would provide the Port of King's Lynn with facilities to cater for further growth of trade into the 21st century.

## New Silo for Cement In Operation at Goole



A new 3,000-tonne capacity silo for the handling of bulk cement has come into operation at the ABP port of Goole.

The silo and terminal area has been developed by Damac Bulk Handling Ltd., in cooperation with ABP, for the

exclusive use of NIC Ltd. NIC is importing Polish cement in the bulk carrier mv *Nicco* for onward road delivery to U.K. customers.

The silo, situated alongside Stanhope Dock, incorporates a 50-tonne weighbridge. The latest probe and level detection equipment has been installed. The cement is transported by means of an air slide to a screw conveyor capable of handling 180 tonnes an hour.

The electrical equipment is connected to the weighbridge computer which allows the operator to extract individual customer information as well as giving an exact reading of the contents of the silo. The complete installation can be controlled by a single operator.

At a ceremony on 2nd October to declare the installation open Mr. Martin Pudden, ABP's Assistant Managing Director (Commercial), said, "We are very pleased that NIC and the Damac Group chose Goole, whose geographical position is ideal for their markets, for the development of this new facility."

## Port of London Authority in Profile

The PLA is a public trust constituted under the Port of London Act 1968 and a Harbour Revision Order of 1975.

The PLA Board comprises a Chairman and up to ten non-executive members appointed by the Secretary of State for Transport and up to six executive members appointed by the Board.

### FINANCE

The PLA has no equity capital. Finance for capital works has traditionally been obtained from normal commercial sources and from the Government by way of Harbours Act loans. However, since July 1978, the Government has provided grants, mainly to meet the costs of manpower reductions in the Port of London, and supported the raising of private sector loans.

### PRINCIPAL ACTIVITIES

The PLA is responsible for conservancy of 150 kilometers of the tidal River Thames and owns much of the river bed and foreshore to the high water mark. It provides navigational services for ships using the Port, including the maintenance of shipping

*(Continued on Page 38, Col. 1)*

## Asia/Oceania

## Interim Report on Australia's Waterfront Strategy Presented

Extensive consultations within industry are creating a more favourable climate for improving the efficiency, productivity, reliability and industrial relations record of Australia's waterfront, Commonwealth Minister for Transport and Communications, Senator Gareth Evans, said on 20th October after tabling in Parliament the Inter-State Commission's first report on the Waterfront Strategy, announced by the Federal Government in December 1986.

"The Commission provides a useful view of the progress being made by the Waterfront Strategy groups," Senator Evans said.

"This initial report draws together for the first time the network of studies and investigations taking place and outlines the Commission's future work program.

"Under the Waterfront Strategy industry participants are working together in four groups: the Stevedoring Industry Review Committees; the Waterfront Industry Committee; the Australian Transport Advisory Council's Standing Committee on Transport; and the Import/Export Panel.

"The Inter-State Commission's role is to oversee the work of these groups, determine appropriate indicators to measure the performance of the industry and develop a long-term integrated plan for the future of the industry.

"The Commission is involved in the most wide-ranging review of shore-based shipping activities ever initiated. Its investigations will result in a greater appreciation of the economic and market forces at work in the industry and the economic implications of changes to present industry structures.

"Shore-based shipping covers complex matters incapable of quick solutions, and it is vital that investigations be thoroughly carried out."

The Inter-State Commission will provide a major report on its investigations in May 1988.

## Adelaide Linked Directly With Western Australia

Following a trial call in early September at the Port of Adelaide, the Western Australian Coastal Shipping Commission (Stateships) has announced a regular shipping service to link South Australia with Western Australia, the Northern Territory and Papua New Guinea.

The Stateships service will operate with two multiflex vessels, *Pilbara* and *Koolinda*.

These 12,000 dwt vessels handle containerised and break-bulk cargoes, heavy lifts, and dry bulk and liquid cargoes. They also have ro-ro capabilities.

The *Pilbara* and *Koolinda* will call into Adelaide on a three-weekly schedule, then sail on to Fremantle, Pilbara Ports, Darwin, Papua New Guinea, Melbourne and Tasmania, before returning to Adelaide.

In addition, the 22,000 dwt *Irene Greenwood* which operates on a monthly frequency between Fremantle, Bunbury, Hobart, Burnie and Mel-

bourne, will occasionally call into Adelaide. (*Shipping & Sports Journal*)

## Australia Ratifies MARPOL 73/78

Australia has ratified an international convention designed to protect the marine environment from pollution caused by ships, the Australian Minister for Land Transport and Infrastructure Support, Mr. Peter Duncan, announced on 18th October.

The convention, the International Convention for the Prevention of Pollution from Ships, known as MARPOL 73/78, will enter into force in mid-January 1988.

"From that time, discharges of oil and noxious liquid substances, including those resulting from ship operational discharges such as tank cleaning and deballasting, will be more strictly controlled and totally prohibited in some areas, including the Great Barrier Reef region," Mr. Duncan said.

"In fact, the convention provides particular protection for the Great Barrier Reef by defining its outer edge as 'nearest land,' which means that the discharge of any oil whatsoever from the cargo spaces of ships will be prohibited within 50 miles of the reef.

"The pollution of the world's oceans resulting from operational discharges is far greater than that caused by maritime accidents such as groundings and collisions.

"Clearly, there is a need for tough controls in this area, and MARPOL certainly provides these.

"Significantly, the MARPOL Convention departs from previous conventions of this type in that it addresses all forms of pollution from ships, including discharges from ships carrying noxious liquid substances in bulk. This acknowledges the growing international chemical tanker fleet and corresponding increased threat to the marine environment.

"The MARPOL Convention is the most important international initiative ever undertaken to control pollution from seagoing vessels, and will result in much improved protection for Australia's beautiful but often fragile sea and coastal environment."

## Maritime Services Board Management Overhauled

The Minister for Public Works and

Ports, Mr. Laurie Brereton, announced a major overhaul of management and work practices within the NSW ports authority, the Maritime Services Board.

Mr. Brereton said the review would reduce operating costs in the ports by at least \$20 million a year as well as increasing the level of efficiency and service to the shipping and export industries.

"The increasing efficiency of the ports has enabled the MSB to hold port fees and its commercial coal-loading charges to one-quarter of the rate of inflation over the last 3 1/2 years," he said. "Charges have actually been reduced in some areas.

"The shipping and export industries in NSW have saved more than \$100 million as a result, and the current freeze on port charges is now expected to continue at least until the end of the 1987/88 financial year."

Mr. Brereton said the improved performance of the State's ports results from the major restructuring of the MSB over the last three years.

"Like port authorities around the world, the MSB is facing the vital task of meeting the growing needs of the shipping and export industries at a cost the industries can afford," he said.

"As a result of the restructuring instigated by the Government in 1984, the NSW ports are in the forefront of this process."

Mr. Brereton said the decentralisation of administration and the establishment of business units in the Ports of Sydney, Botany Bay, Newcastle and Port Kembla had led to considerable advances in efficiency in the ports.

"With the new management structure in place, the MSB has now moved on to a second stage of the restructuring.

"It is carrying out thorough reviews of its operations, looking at ways in which they can be made more efficient and more cost-effective."

Mr. Brereton said the reviews were being carried out in full consultation with relevant unions and employees.

"The union movement is taking a positive approach to the need to achieve greater efficiency in this vital sector of the State's economy," he said.

"The willingness of all parties to work co-operatively rather than seek confrontation is greatly appreciated by the Government."

In Sydney, a joint union/management steering committee including the NSW Labor Council is overseeing a total of

## Port of London

(Continued from Page 37, Col. 2)

channels and moorings. Other responsibilities are the licensing of watermen and lightermen, employers of registered dock workers, river works and structures, and the registration of craft.

At Tilbury Docks, the PLA owns and operates facilities for the handling of containers, roll on/roll off traffic, bulk grain, passengers, forest products and general cargo. The Port of London Authority Police Force, which is a constabulary maintained by the PLA under its statutory powers, is also based at Tilbury and has responsibility for the security of the docks.

Through its property subsidiaries, the PLA undertakes the development of a large number of sites no longer required for traditional port activities. These are located mainly in the London Docklands and the developments include residential schemes, light industrial workshops and offices.

The PLA also provides consulting services in the field of maritime port management and operations through its wholly-owned subsidiary company, Placon Ltd. (*Report and Accounts 1986, Port of London Authority*)



45 projects reviewing specific areas in the Port of Sydney and MSB Head Office.

The projects are aimed at overcoming inefficient work and management practices, reducing overmanning in some areas and replacing outmoded and inefficient equipment.

Mr. Brereton said there would be no forced redundancies of current MSB staff as a result of the efficiency drive.

"Staff whose jobs are abolished as a result of the review will be offered a voluntary redundancy package or offered alternative jobs in vacant positions within the MSB," he said.

Mr. Brereton said that, as the review process continued, there would be significant reductions in MSB costs.

"This year alone the program will cut the MSB's operating costs in the Port of Sydney and Head Office by \$12 million," he said.

"In a full year the saving will be \$16 million. These savings will be passed on to the commercial clients of the NSW ports by the extension of the current freeze on charges."

Similar efficiency drives being carried out in the other ports are expected to produce a further \$4 million in savings.

A major restructuring of the maintenance workforce at Port Kembla, introduced in consultation with the affected unions, resulted in considerable savings in costs. The changes have also increased the flexibility of management to allocate resources where they are most needed.

In the Port of Newcastle, staff numbers have dropped, principally due to natural attrition, following a review of manning.

*The Maritime Services Board tug Ted Noffs, the first of three constructed for firefighting and emergency duties in the ports of New South Wales, hits the water for the first time at its launching at Carrington Slipways near Newcastle.*

The port recently introduced five-day rosters in place of the former seven-day rosters, under which employees were paid penalty rates on weekends even when there was little or no work to be done. The change is expected to produce significant savings in labour costs.

The Port of Botany Bay has established a consultative task force, involving the Labor Council, union and port management representatives, to improve the efficiency of operations in the port.

"The drive for efficiency in the State's ports system will be a continuing process, and there will be considerably more savings in the long run," Mr. Brereton said.

"It will enable the Government to keep the lid on port charges while producing a higher standard of service for the State's vital shipping and export industries."

### **\$750,000 Program For Dealing with Oil Spills in Botany Bay**

The Minister for Public Works and Ports, Mr. Laurie Brereton, announced a \$750,000 program to improve facilities for dealing with oil pollution in the Port of Botany Bay.

Announcing the Maritime Services Board's capital works program for 1987/88, Mr. Brereton said \$450,000 would be spent on the provision of a new tug jetty at the oil spill compound

within the Port.

The MSB would also install a new gantry crane to improve the response time for vessels to deal with spills.

"This is part of a continuing program by the Port of Botany Bay to improve its ability to prevent and contain oil spills," Mr. Brereton said.

The Port of Botany Bay will take delivery soon of a new \$3 million emergency response vessel.

Mr. Brereton said the vessel, which was recently launched at Carrington Slipways in Newcastle, was equipped to deal with ship fires and all forms of potential emergencies in the Port.

"As one of Australia's busiest ports, and our major oil port, Botany Bay merits the highest level of protection," he said.

"These measures will help to protect and preserve the environment of the Bay from the hazards that are a part of modern society."

Mr. Brereton said more than \$550,000 would be spent on the construction of a new maintenance depot for the Port. The work includes the upgrading of utility services in the area.

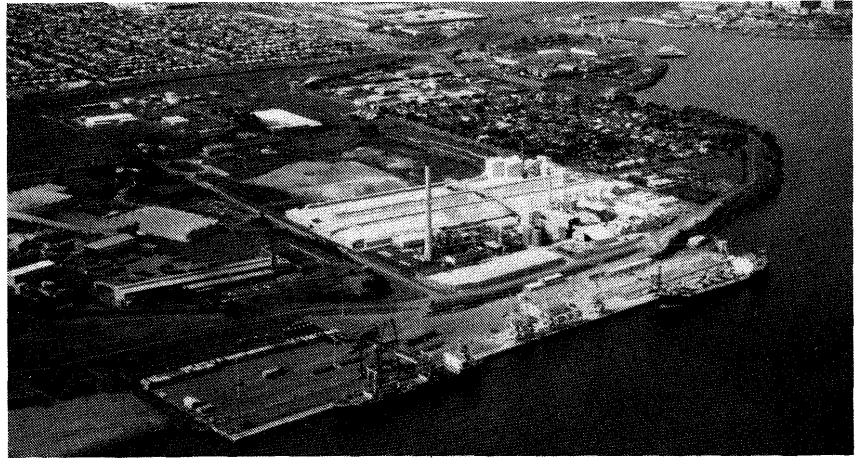
In the last 10 years, the Government has invested more than \$105 million on the development of the Port of Botany Bay.

Mr. Brereton said the Maritime Services Board was carrying out design work for two major new projects in the Port of Botany Bay: a new crude oil berth, to reduce the risk of pollution, and a second bulk liquids berth.



# Port of Geelong — Photo News

Aerial view of the Port of Geelong showing Corio Container Terminal and Lascelles Wharf dry bulk berths in the foreground, also Corio Quay general cargo berths and Bulk Grain Pier in the background.



## Bulk Grain Pier

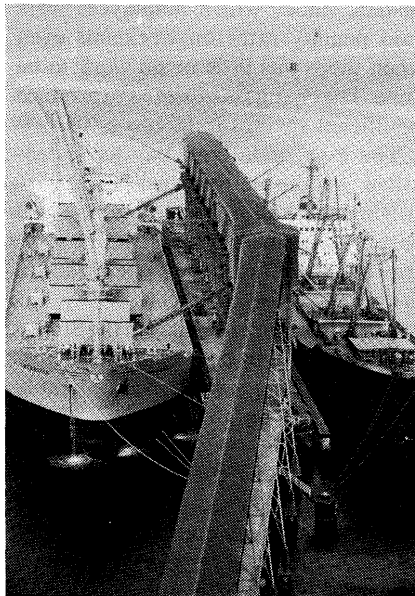
The Geelong Grain Elevators Board terminal which was opened in 1939 is the major grain storage and shipping terminal in Victoria. This terminal has been upgraded and expanded over the years and the capacity is now 830,000 tonnes. Grains of various types and grades can be received by both road and rail for shipment overseas. (Photo right)

### Highlights of the Terminal

- \* Largest export terminal in Victoria.
- \* Largest grower receival facility in Victoria.
- \* Second largest shipping terminal in Australia.
- \* Geelong horizontal sheds (600,000 tonnes capacity) are among the largest in the Southern Hemisphere, the largest horizontal shed is 366 metres long and 91.5 metres wide.
- \* About 70% of Victoria's grain is exported through Geelong.
- \* Geelong is the largest barley receival point in Australia.
- \* Geelong is the largest rice export

terminal in Australia.

- \* Bulk grains exported through Geelong include wheat, barley, oats, rice, sunflower and maize.
- \* Grain can be shipped, received from road and received from rail simultaneously.
- \* Although originally designed to



handle 10,000-tonne ships, a pier extension in 1964 has permitted ships exceeding 30,000 tonnes to be loaded, the largest tonnage loaded was 44,540 tonnes on the M.V. "Favorita" with a length of 219 metres.

- \* Although ships can be loaded simultaneously, it takes only five minutes to transfer loading from one vessel to another vessel on the adjacent berth.
- \* The method of loading is via a single pier, two berths, four conveyor belts and 18 spouts.
- \* Approximately 110 ships are loaded annually.
- \* The average time taken to load each ship is slightly less than two days.

## Refinery Pier

The four-berth Refinery Pier that is owned by the Port of Geelong Authority is the most sophisticated bulk liquids and gases shipping and receiving facility in Australia. It services the Shell Co. of Australia Ltd. and Terminals Pty. Ltd.'s facilities in North Geelong. The two companies are connected, but only by trade and their shared use of Refinery Pier.

In 1951, because of a growing need for oil products in Victoria, the decision was taken to build an oil refinery at Geelong on a large tract of suitable land under the control of the Government and the Geelong Harbor Trust. Shell now owns the 120 hectares of the refinery site proper plus a further 125 hectares of adjacent land for expansion and buffer zone.

The Geelong Refinery has grown steadily over the years and is currently processing up to 5 million tonnes of crude oil per annum. (Photo left)





## Siwertell Dust-free Unloader

The Port of Geelong Authority has Australia's first Siwertell dust-free bulk cargo unloader.

The Siwertell was partly fabricated in Sweden before being shipped to Geelong where Australian Engineers completed the unloader.

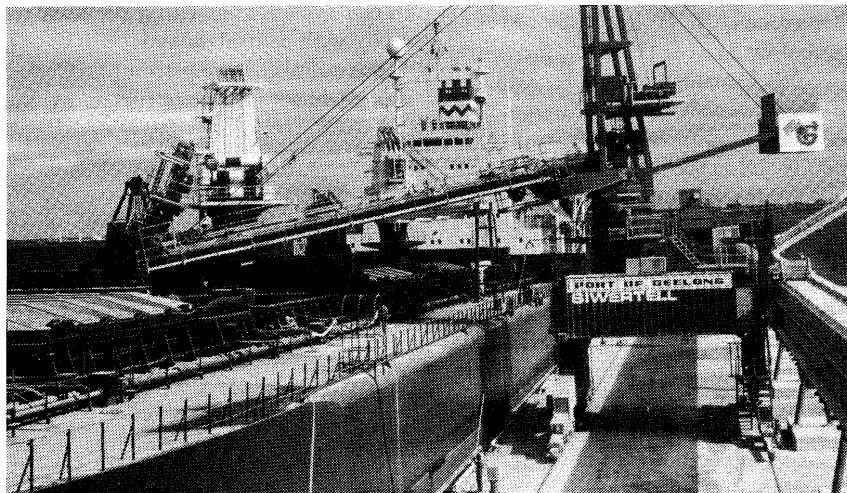
The giant Siwertell has an unloading capacity of 600 tonnes per hour and can handle bulk cargoes from the finest powder to material the size of half a house brick.

During unloading the bulk material moves through and along fully enclosed

conveyor belts so that dust is virtually eliminated.

Unloading is achieved by an enclosed vertical screw conveyor with a special inlet feed device that feeds a horizontal screw conveyor that moves the material being unloaded to the main structure of the unloader which sits on rails on the wharf.

The material then drops down a vertical chute to another horizontal screw conveyor which feeds an enclosed elevated conventional belt-type wharf conveyor. Products such as Phosphatic Rock, Sulphur, Potash, Bentonite and a range of dry bulk commodities can be handled with this machine. (Photo below)



## Corio Container Terminal

Situated in an ideal geographical position with natural advantages as a harbour and manufacturing centre, the Port of Geelong has the facilities and services not readily available at some other Australian ports, nor does it suffer from lack of space, or congestion problems.

The Port of Geelong already has an established road and rail transport system which promotes rapid access to all existing and proposed major growth centres. North Geelong where Corio Container Terminal is situated is within forty-five minutes of Melbourne's western suburbs.

In a world where containerisation is the norm, the Port of Geelong has all the facilities, adequate wharf areas, a 40-tonne single lift container crane and appropriate heavy-duty back-up. Currently there is in excess of 60 hectares (150 acres) where we handle, store

and service containers of all types, including refrigerated, bulk and tank-tainers.

The land back-up is free from the limitations experienced by other Australian ports, and will be further enhanced by further developments of paved areas for container operations, as need arises. (Photo below)



## Hong Kong Plans 2 More Terminals

The unprecedented growth in container throughput in the past few years has spurred the Government here to consider the location for Terminals Eight and Nine.

At present five are operating at full capacity while the sixth is at an advanced stage of construction.

The site for Terminal Seven has been earmarked and bidding from contractors to reclaim 31.5 hectares of seabed is to be invited within weeks. The successful tenderer will be known by April next year.

According to the Financial Secretary, Mr. Piers Jacobs, planning for additional terminals to cope with the rapid growth, the rate of which was 15 per cent last year, has become an ongoing exercise for the Government.

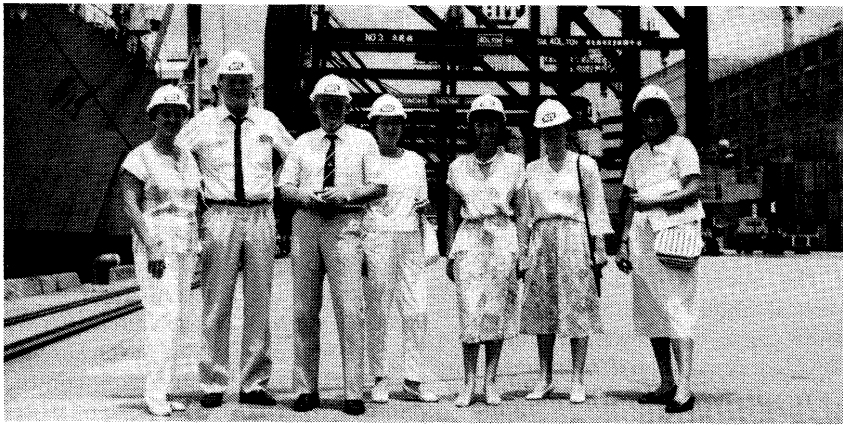
"We need to keep pace with our regional competitors and must remain competitive," Mr. Jacobs said.

He said it was not only domestic cargo that made demands on Hong Kong's container port — the world's second busiest after Rotterdam — but also transshipment.

"As Rotterdam is the transshipment port for Europe, Hong Kong has become the transshipment port for the region and for south China in particular," he said.

"The transshipment business represents about 25 per cent of our throughput."

The increasing demand in the past few years, particularly since 1985, reflected both the resurgence of domestic trade and trade with China. Mr. Jacobs noted. (The Week in Hong Kong)



From left: Mrs. Rosquist, Mr. Ostrand, Mr. Rosquist, Mrs. Ostrand, Mrs. Mel Richardson, Ms. K. Svensson and Mrs. Kipp (Picture supplied by the Marine Department)

## Swedish Politicians Visit Hong Kong Port

On September 3, 1987, Mr. Birger Rosquist and Mr. Olle Ostrand, Members of the Swedish Parliament, on their recent mission trip to Hong

Kong and Thailand visited the Marine Department of Hong Kong. Accompanied by Mrs. C.H. Kipp, the Acting Swedish Consul, and Ms. K. Svensson of the Swedish Trade Mission, they were received by Mr. D.A. Hall, J. P., Acting Director of the Department, and briefed from him on the functions of the Marine Department and general operations of the port.

After inspecting various port facilities on a harbour tour, they called on the HIT (Hong Kong International Terminals) to hear about the current operations system and future expansion programmes to meet Hong Kong's increasing demand for container terminal space.

## Mr. Firman Named PMA Chief Executive

Mr. John (Jack) Firman has been appointed General Manager and Chief Executive of the Port of Melbourne Authority.

"Mr. Firman has an engineering background and is currently Executive Manager, Metropolitan Operations, Melbourne and Metropolitan Board of Works," Mr. Peter Rocke, Chairman of the PMA, said.

"In this position, he has the responsibility for 3,200 personnel in five regions combined with considerable budget responsibilities."

Transport Minister, Mr. Tom Roper, welcomed the appointment. He said:

"Mr. Firman's experience, background and knowledge will be a positive contribution to the PMA."

"The Port of Melbourne Authority is undergoing a radical restructuring process in order that it can meet the demands of a modern port operation and Mr. Firman will have a key role in implementing the changes."

"The Authority's corporate strategy will be finalised by the end of the year so the PMA can plan its future with confidence."

"I am certain that together with the recently appointed Chairman, Mr. Rocke, Mr. Firman will administer the PMA efficiently and effectively."

## Cargo Distribution Center Inaugulated at Tokyo Port

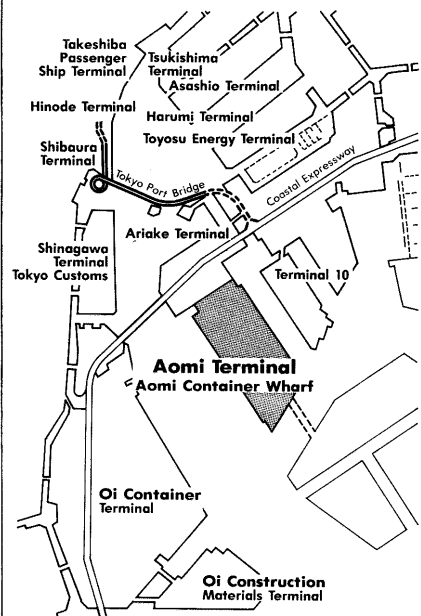
October 8, 1987 was the opening day of the "Aomi Cargo Distribution Center" (ACDC), constructed on some reclaimed land known as Lot 13 of Tokyo Port. The Center is composed of two separate buildings each of which comprises three levels ranging from 11,500m<sup>2</sup> to 12,300m<sup>2</sup> for communal cargo distribution, storage and commodity displays on levels 1 to 3 respectively, as well as four connected floors for office space measuring 1,550 m<sup>2</sup> each.

The Center was developed to meet the acute need for space for office use, storage and distribution in Tokyo. The space provided has been fully rented out, and the second-phase construction plan involving even bigger floor plans has already been put into action. The Center is sandwiched by the Aomi Container Terminal and the liner berths

for conventional ships and is directly connected with a motorway. The premises are about 6 kilometers in linear distance from the central part of the City, although they are currently separated by waterways and are only accessible by the motorway or roads which entail considerable extension of both time and distance. The facility faces the Ohi Container Terminal Complex from across the channel.

Next to the premises is the site for various waterfront development projects for Tokyo including the Tokyo Teleport, conference and exhibition halls, hotels, offices, housing, and recreational areas. Also planned are a new road bridge and a medium mass transit system connecting the area directly with central Tokyo.

The Aomi Cargo Distribution Center was planned and constructed by the



"Aomi Cargo Distribution Center Co., Ltd." under the auspices of the Tokyo Metropolitan Government, as the managing body of the Port, and the Japan Harbour Transportation Association (JHTA) as the representing organization for the 33 different private firms (basically stevedores, warehouse operators and forwarders) which constitute the newly-established company.

A notable difference in the Aomi set-up as compared with other similar terminal facilities at port, is that the management responsibility is to be taken up by the ACDC instead of terminal companies which came under the direct control of shipping companies. This is a totally new arrangement in

(Continued on Page 44, Col. 1)

## Hiroshima Port Symbol

The illustration hereunder reproduced is the new symbol of the Port of Hiroshima, which was officially announced in a recent news release of the Port. According to the bulletin the new design was selected out of nearly one hundred competing entries in an open nationwide contest organized by Hiroshima Prefectural Government, the body responsible for ports in the Prefecture.

The upside-down "omega" shape signifies a Japanese phonetic character pronounced "hi" which is the first syllable of "Hiroshima". Furthermore, the virtually enclosed space within the design symbolizes the water area protected by two images of the sea-god Neptunes providing space for people



to meet and communicate with one another and securing the safe navigation of ships.

Hiroshima, situated on the western part of Honshu, the main island of Japan, and facing Shikoku Island separated by the Seto Inland Sea, is known widely as the birthplace of Mazda motor cars and as a hub of the regional transport system, on top of its grim worldwide fame due to the atomic bomb disaster.

The Port of Hiroshima, being designated as a major port, might be ranked on a level immediately below the upper twenty top ranking ports in Japan. It handled some 24,971 thousand tons of cargo in 1984 (domestic: 17,502, oceangoing: 7,469). The traffic volume of containers has been increasing steadily reaching 13,592 TEUs (export: 13,592, import: 1,509) in 1983, and it is estimated to rise to the 60,00 - 70,000 level this year. A second container berth will be commissioned shortly.

On an amalgamated prefectural basis, the number of passengers carried by the ferries commuting to the several tens of small nearby islands and Shikoku and Kyushu Islands, as well as Miyajima, which is renowned for the Itsukushima Shinto Shrine, is the high-

est in Japan. The number of ferried passengers in 1984 was 3.445 million, while the number of ferry boats entering to the 44 ports located on the coast of the prefecture and its islands was about 527,000. The total gross registered tonnage amounted to 117 million tons.

(By R. Kondoh, IAPH)

## KPA Simplifies Documentation for Delivery, Shipping

The Kelang Port Authority has simplified documentation and procedures for delivery and shipping of goods through Port Klang. The simplified documentation introduced reduces the number of documents or forms required for delivery and shipping from a total of 29 to 15.

Three new "integrated" documents for import and export cargo have been introduced. They are: Integrated Import Document, Integrated Export Document, and Integrated Shipping Document.

Port Klang is the first Malaysian port to introduce the new integrated documentation. Other ports are expected to follow suit soon. The simplification exercise is part of the government's efforts to deregulate and simplify trade documentation and procedures.

The Integrated Import Document and the Integrated Export Document were introduced on August 1 this year. The Integrated Shipping Document will be implemented in January 1988.

(WARTA LPK)

## ROK Budget for Port Development

The Government of Korea is planning to invest 194.55 billion won during 1988 for the development of Korean ports. This is an increase of 28.9 percent from last year's budget.

According to the KMPA's 1988 budget bill proposed by the government, revenues will amount to 149.93 billion won and expenditures are estimated at 223.68 billion won. These are an increase of 13.4 percent and 22.9 percent, respectively, over last year.

The development expenses for the

port of Pusan for next year are set 46.52 billion won, a rise of 113.8 percent, compared with 21.74 billion won appropriated in 1987.

The dramatic increase in the budget for the port of Pusan is due to the fact that the government has decided to invest intensively in the third phase of the development project of the port.

The budget for the third phase of development plan, which is the construction of an exclusive container terminal, has been appropriated at 43.53 billion won. This is a 130 percent increase compared with the 20.42 billion won appropriated in 1987.

The third phase of the development plan was begun in February this year with the aim of developing the port of Pusan into a large scaled container port. The work will be completed by 1990.

The completion will increase the loading and unloading capacity of vessels in the port from 1,206,000 TEUs to 1,940,000 TEUs.

(Korean Maritime News)

## Mr. Ng PSA's New Executive Director

Mr. Ng Kiat Chong, 39, is the new Executive Director of the Port of Singapore Authority (PSA) as of September 1. He replaces Mr. Wong Hung Khim, who was Chief Executive from February 1979 to August 1987.

Since his graduation from the University of Singapore with a 1st Class Honours Degree in Economics in 1970, he has served 17 years in various government ministries and departments, including two years as Alternate Director on the Board of the International Monetary Fund. He was last seconded from the Labour Ministry to the National Productivity Board in 1983 as its Executive Director.

Mr. Ng brings with him varied experience in, among other areas, economics, business, labour relations and productivity. With his track record and experience and under the guidance of the Chairman, Mr. Lim Kim San, and members of the Authority, Mr. Ng is now entrusted with the responsibility of managing the world's business port. In this, he is backed by the current team of established and proven PSA managers and staff and the unions.

## S'pore Databox System Network Expanding

The Shipping Information Databox System introduced in September last year has been very well received by users. The number of companies subscribing to the system is steadily rising. To date, there are 22 subscribers to the system. Ship watchers, ship chandlers, surveyors and oil companies find that early access to information on ships' arrivals, their whereabouts and other information vital to their business, gives them a competitive edge.

Based on feedback from our current and potential users, we have enhanced the facility to make it more user-friendly. The system can now provide the following:

1. List of vessel departures.
2. More information in the arrival list such as flag and intended location.
3. Option to print arrival and departure list.
4. Retrieval of backdated copies of arrivals and departures. (PSA News)

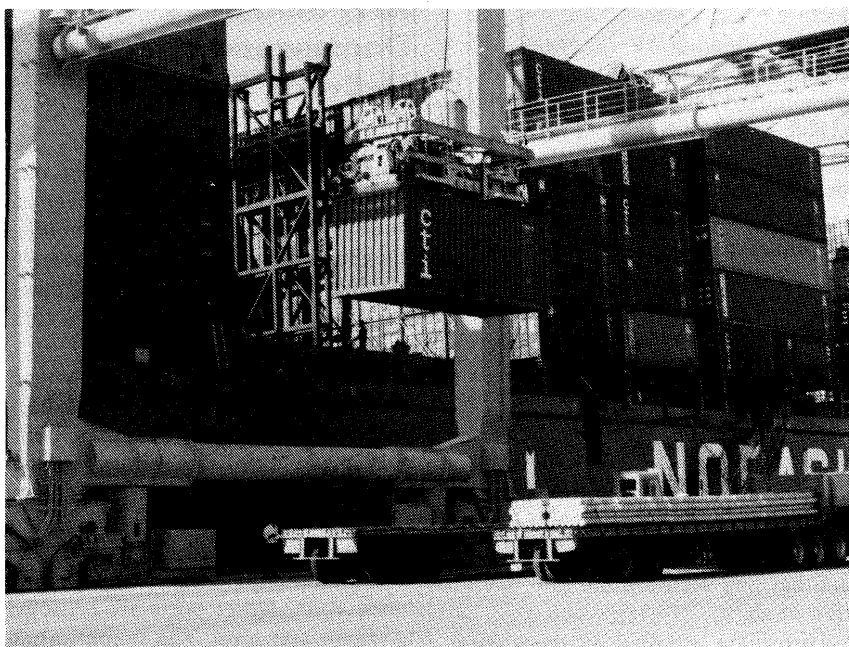
## Port Workers' Accidents Decrease in Singapore

The number of accidents involving port workers fell by 12% from 242 in 1985 to 212 in 1986. This downward trend in accidents could be attributed to more safety training courses con-

ducted, enforcement of safe work practices and active promotion of safety. With the support of organisations such as the Singapore Stevedoring Contractors Association (SSCA), the Singapore Stevedores Union (SSU) and the Singapore National Shipping Association (SNSA), these efforts have succeeded in increasing safety awareness among port workers.

Safety training was made compulsory for all port workers performing steve-

doring work since 1985. A stevedore is required to undergo relevant safety and training courses before he can obtain an entry pass into the port. Mr. Lay Hwee Kheng from M/s Kwek Sam Hong who had attended the Safety Liaison Officer Course said, "The course made me more aware of the important role of supervisors in ensuring safety. I now know where and how to conduct safety checks and what to brief my foremen. (PSA News)



## Jebel Ali Handles Millionth Ton of Aluminium

Dubai's port of Jebel Ali was witness recently to a record-breaking event when the *Norasia Al Mansoorah* called as part of her regular itinerary to load the millionth tonne of aluminium produced by Dubai Aluminium Company.

Seen here is the container carrying the millionth tonne actually being loaded on board on the vessel, which called at Jebel Ali Port's modern container terminal to discharge containers from Europe, and to load containers for the Far East, where much of Dubai's product is sold. The *Norasia Al Mansoorah*, one of *Norasia's* "Ships of the Future," was in port only nine hours, a fact essential to maintaining *Norasia's* precise schedule between Europe and the Far East. Such speed was accomplished by the efficient handling in the port which achieved over 570 unit moves in less than nine hours.

Dubai Aluminium Company, or Dubal, started operations in 1979 to

produce aluminium from imported raw material using one of Dubai's most abundant resources — energy. Since it was commissioned, Dubai has been producing some of the world's highest grade aluminium, much sought after in today's high-tech manufacturing industry.

Around 95% of Dubai's production is exported from Dubai in containers, all of which are loaded within Jebel Ali Port, the world's largest man-made port and home to the Middle East's first and most successful Free Zone. On the outskirts of Dubai, the Free Zone, together with the port, forms an integral part of Jebel Ali's huge industrial complex, which is leading Dubai's growth into greater industrial diversification. With the Free Zone attracting over 130 companies in less than two and a half years, and with such notable production records such as Dubai's being established, Dubai's plans for a thriving and growing industrial zone are well on target.

## Cargo Distribution Center

(Continued from Page 42, Col. 3)

Japan. It is being suggested that the service industries of the harbor transport business have opened up a new business area for themselves.

Also noteworthy is the fact that ACDC made an agreement on "Business Ties" with the Rotterdam Municipal Port Management in March 1987 (concluded between the Mayor of Rotterdam and Mr. S. Takashima, ACDC's CEO and the President of JHTA), following the signing of another affiliation agreement on "Business Cooperation" with the Port of Seattle in September 1986 (concluded between Mr. J.D. Dwyer of the Port of Seattle and Mr. S. Takashima). The author assumes that this active participation in international business ventures reflects the Center's mottoes of "A new gateway to Japan" and "Planning for Today and Tomorrow".

(By R. Kondoh, IAPH)



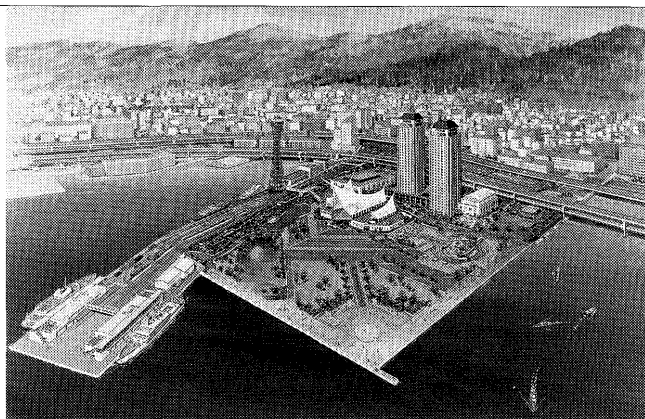
# Kobe Maritime Museum to be opened in April

The Kobe Port debuted in 1868 as an international port. Its 120th anniversary will soon be celebrated. Kobe has grown to be one of the world's major ports through modernization of cargo-handling facilities including containerization and development of pier-facilities for large ships. For further development of the port city of Kobe it is necessary to provide an opportunity for the people to learn more about the port and to understanding the sea and ships.

## AN OUTLINE OF MERIKEN PARK PLAN

Naka Pier and Meriken Pier have always been popular among people as the origin of the modern development of Kobe Port and also as a landing spot for inland tours.

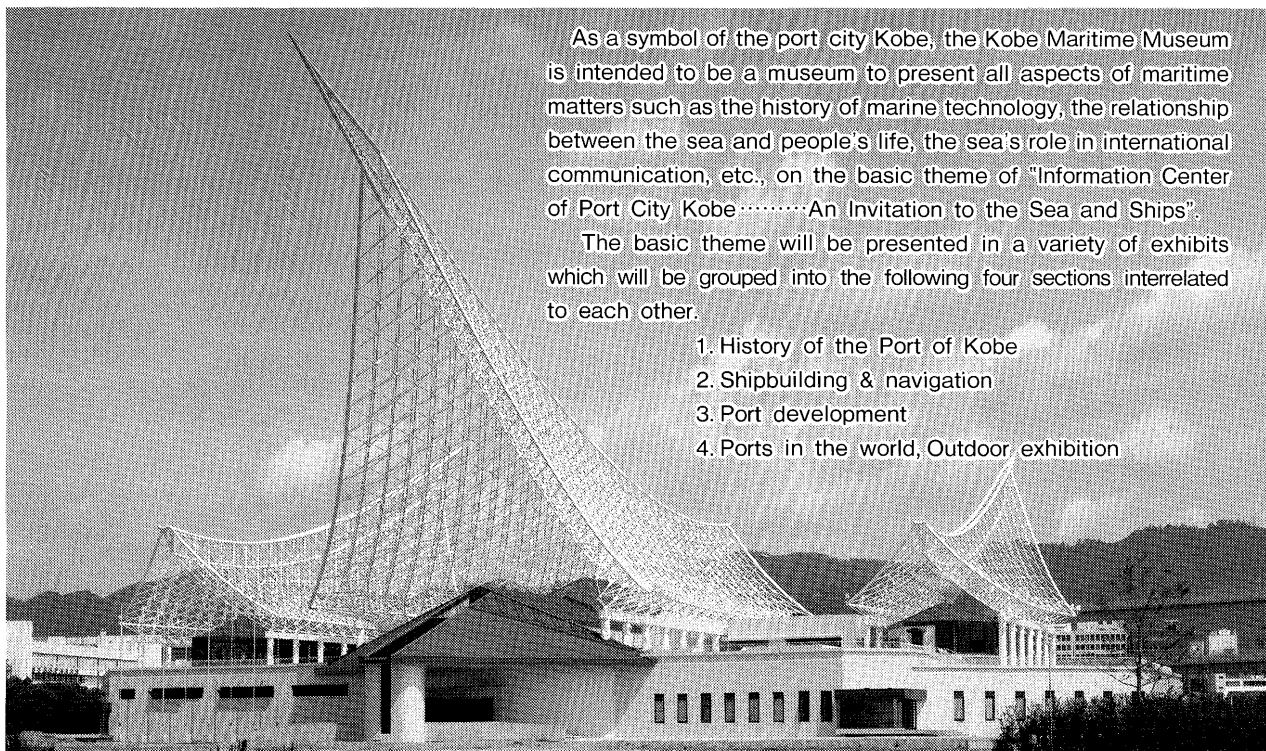
To increase sightseeing opportunities and add resort facilities for the urban people, the "Meriken Park" will be built by reclaiming the surface area between the existing Meriken Pier and the Naka Pier. This "a park on the port" will contain park areas, the Kobe Maritime Museum and other facilities for sightseeing.



As a symbol of the port city Kobe, the Kobe Maritime Museum is intended to be a museum to present all aspects of maritime matters such as the history of marine technology, the relationship between the sea and people's life, the sea's role in international communication, etc., on the basic theme of "Information Center of Port City Kobe.....An Invitation to the Sea and Ships".

The basic theme will be presented in a variety of exhibits which will be grouped into the following four sections interrelated to each other.

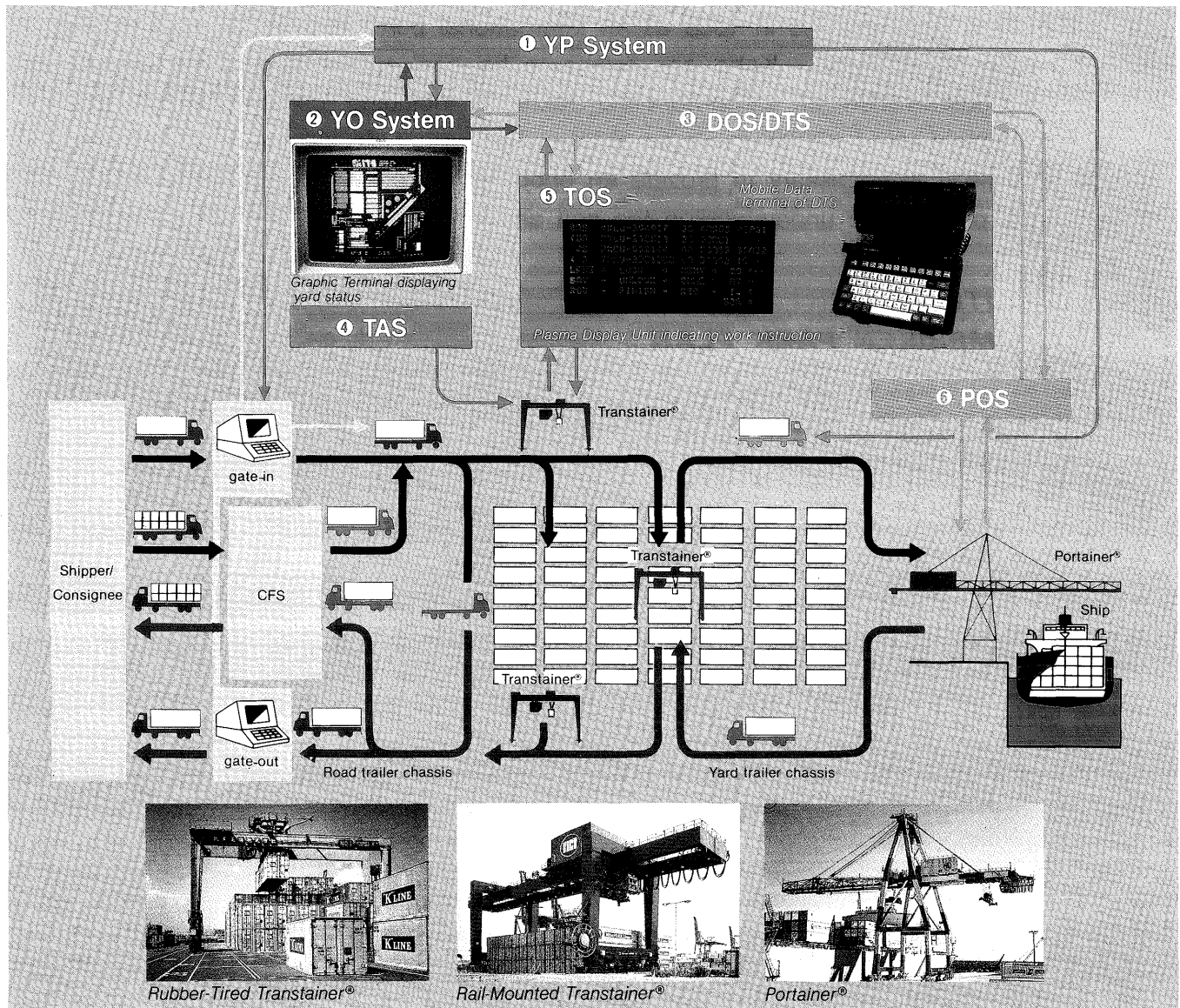
1. History of the Port of Kobe
2. Shipbuilding & navigation
3. Port development
4. Ports in the world, Outdoor exhibition



## KOBE PORT PROMOTION ASSN.

5-4, HATOBA-CHO, CHUOH-KU, KOBE 650, JAPAN. PHONE : 078-391-6751

# MITSUI Automated Container Terminal System



- ① **YP System:** Yard Plan Computer System
- ② **YO System:** Yard Operation Computer System
- ③ **DOS:** Data Transmission & Oral Communication System (Inductive radio)  
**DTS:** Data Transmission System (Radio)
- ④ **TAS:** Transtainer® Automatic Steering System
- ⑤ **TOS:** Transtainer® Operation Supervising System
- ⑥ **POS:** Portainer® Operation Supervising System

**MES** MITSUI ENGINEERING & SHIPBUILDING CO., LTD.

Head Office: 6-4, Tsukiji 5-chome, Chuoku, Tokyo, 104 Japan Telex: J22924, J22821  
 Material Handling Machinery Division Tel. (03) 544-3650

**MSR** Mitsui Zosen Systems Research Inc.

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