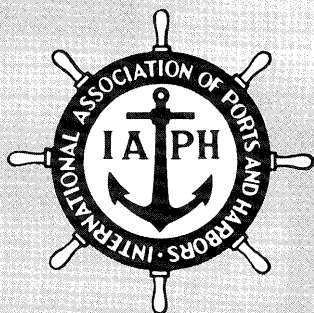


# Ports & Harbors

**November  
1989  
Vol. 34 No. 9**



**The Publisher  
The International  
Association of  
Ports and Harbors**



## **Port of Osaka**

***The Greater Osaka Region is one of Japan's largest production and consuming centers.***

***The Port of Osaka is endowed with a geographical advantage, up-to-date port facilities and a highly developed road network.***



# *Clydeport, Scotland*

## *The International West Coast Port*



• GLASGOW • GREENOCK • ARDROSSAN • HUNTERSTON •

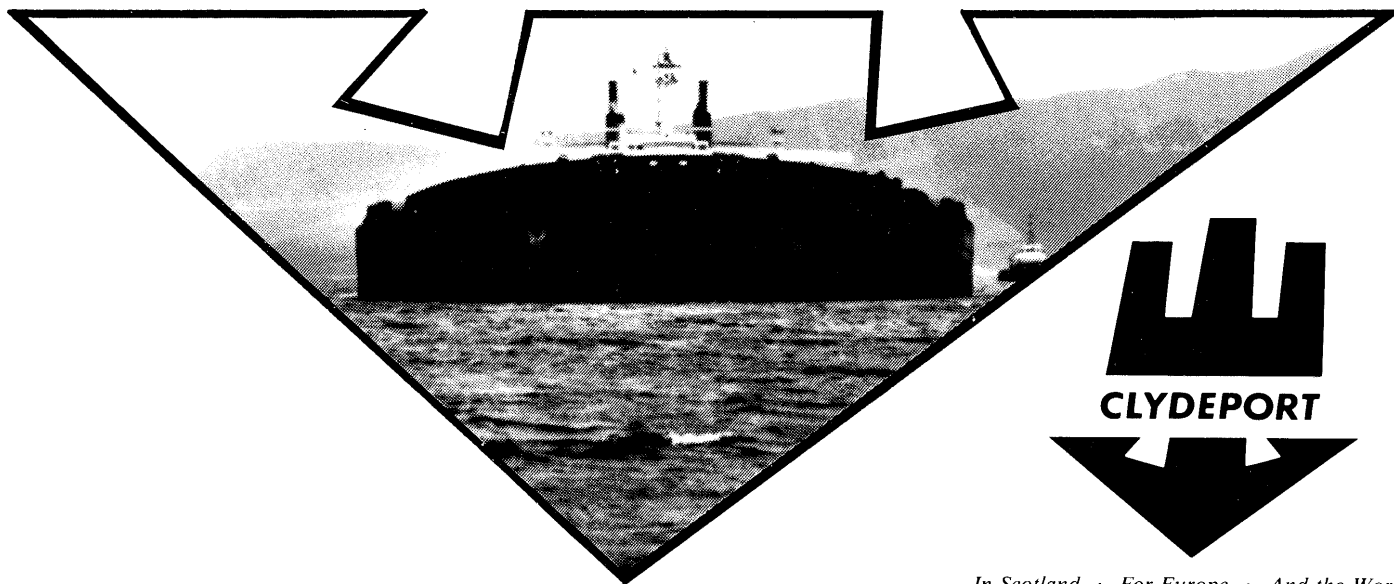
*Capitalise on the superb location and unrivalled facilities on offer within the Clyde Port Authority jurisdiction. Its uniquely navigable waters, both sheltered and deep, plus an abundance of well equipped docks and quays qualify it as one of Western Europe's premier ports.*

*We have a long standing seafaring heritage and the skills and experience to match.*

*And looking to the deregulation of economic trade barriers in 1992, Clydeport's significance as Europe's West Coast Port will be highlighted.*

*At each of our ports, you can take advantage of our attractive rates for cargo and bunkering services.*

*Clydeport — Commitment to quality and shipping services.*



*In Scotland • For Europe • And the World*

For Further Information contact: MARKETING DEPARTMENT, CLYDEPORT AUTHORITY, 16 ROBERTSON STREET, GLASGOW G2 8DS, SCOTLAND  
TELEPHONE: 041-221 8733 TELEX: 778446 "CPAGLWG" FAX: 041-248 3167

## IAPH Officers

**President:** J.H. McJunkin,  
Port of Long Beach  
Delegate with IAPH

**1st Vice-President:** J. Mather,  
Managing Director, Clyde Port  
Authority, U.K.

**2nd Vice-President:** Cheung Yeun  
Sei, Chairman of the Korea  
Shipping and Port Council,  
KMPA, Korea

**3rd Vice-President:**  
C.J. Lunetta, Port Director, Port of  
Miami, U.S.A.

**Conference Vice-President:**  
Fernando Palao,  
Director General,  
General Direction for  
Coast and Ports,  
Ministry for Public  
Works, Spain

## Contents

### IAPH ANNOUNCEMENTS AND NEWS

Port of Fremantle: Warm Welcome to EXCO and All Committee Members	
• WTCA, WTA Agree to Collaborate with IAPH	5
Contributions to the Special Fund	6
IAPH Endeavors to Improve Port Environment • MARAD Paper on US Port Development Published	7
IAPH Observes 34th Anniversary • Visitors to Head Office	8
Report by Bursary Recipient • CIPD Poster Circulated • Membership Notes	9

### OPEN FORUM

Container Terminal Productivity: A Perspective	14
--	----

### INTERNATIONAL MARITIME INFORMATION

#### WORLD PORT NEWS

International Conference: Ports as 'Nodal Points'	17
Diploma in Shipping & Port Management	18
IMO Conference Adopts New Salvage Convention	19
New Publications	20

#### The Americas

CPHA Voice of Canadian Port Industry • Development Plans Set for Cameron Island	21
Mrs. Frith President of Pacific Coast Association • Export Grain Movement in Western Canada	22
No Action Initiated to Recover Costs • Senior Executives of US Foresee Stronger EC	23
Mr. Mosbacher Stresses Quality Business • Houston Plans to Deepen Ship Channel • Tolls Eliminated on All Jacksonville Bridges	24
Speakers Bureau for Giving Info to Citizens • Cargo Trend at Port of Baltimore 'Encouraging' • Total Cargo Tonnage at Los Angeles 9.4% Up	25
South America: New Workshop of the World	26
Refurbished Maher Terminal Dedicated • Conference on Maritime & Port Security in Miami • Commissioners Approve WTI Training Program	27
NY&NJ, Rio Form Sister Port Relations • New President of Port of Oakland Commission • Preferential Agreement for MOL at Oakland	28
Oakland Makes Progress in Solving Dredge Issue • Charleston Named 1989 Quality Carrier	29
New Charleston Fenders Beneficial to Operators • USDA, Charleston Fighting 'Killer Bees'	30

#### Africa/Europe

Port of Helsinki in Profile • Ro/Ro Tractors at BLG: Innovative Development	31
Consulting Services for Surabaya Terminal	32
President of Toyota Visits Bremen, Bremerhaven • Continued Growth for EUROKAI Group • Development of HHLA Container Terminal	33
Automated Processing System for Port Dublin	34
Unicentre Braces Up for Next Century • Far East Trade via Port of Hamburg Booming	35
3 Cargo-handling Firms Merge to Form ECT	36

#### Asia/Oceania

Caution Urged Re Port Privatization • Big Push for Waterfront Reform	37
PMA in Support of ISC Recommendations	38
PMA's VTS 'First' for Australian Ports	39
Melbourne Registers 13% Increase in Trade • WWF Productivity Scheme a Winner	40
NTPA — Positive Move for Better Port System	41
PAF Suspends Security Checks on Export Cargo • New Standards for Containers: Implications for Shipping and Port Industry?	42
Laem Chabang Port Construction on Schedule	43
Port of Singapore Goes High-Tech with CIMOS • PAT to Purchase 3 More Gantry Cranes • Port Rashid Records Throughput Increase	44



# PORT -ability

The primary function of any port is to ensure the fast and efficient movement of goods.

To this end, Dublin Port boasts the most modern and sophisticated facilities.

From tugs, pilotage service, stevedoring and roll on/roll off services to oil bunkering, lift on/lift off and a direct rail link to the quayside with a full range of trans-shipment and bonding facilities.

Dublin port is Ireland's premier port handling 34% of all the country's international trade.

If you're moving goods in or out of Ireland, count on the ability of Dublin Port.



## DUBLIN PORT

Commercial Manager, Port Centre,  
Alexandra Road, Dublin 1.  
Tel: (01) 722777, 748771.  
Telex: 32508. Fax: 735946.



**“Our two great states share a port in the heart of the world’s largest market. Better located, staffed and equipped to deliver your cargo anywhere—at least two days faster.**

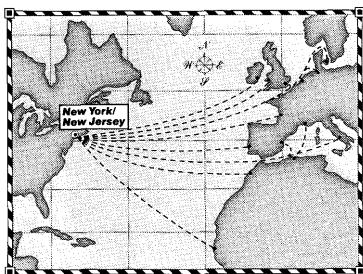
**A port so fast it has to be called...**



# EXPRESSPORT

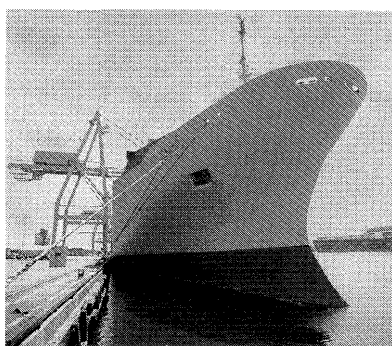
## First In.

The Port of New York and New Jersey has more direct service to and from destinations worldwide than any other east coast port. And Expressport has more ‘first in’ (and ‘last out’) from the North Atlantic range...cutting **at least 2 days** off your transit time! Your time-saving, money-earning journey through Expressport has begun. You’re far ahead of all the others!



## First Off.

Expressport has more cranes than any other U.S. port. And we **use up to 4 at a time per ship**, when necessary, to expedite unloading. Longshore labor is among the most skilled in the world and performance in all weather conditions is second to none. As a result, the off-load



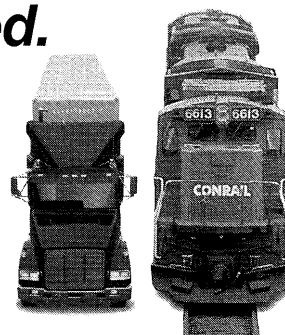
process is so efficient and so swift, there is virtually no waiting and no queue.

Thanks to Expressport, you’re maintaining your lead.

## First Delivered.

At your service are **5,000** trucking companies, a superb network of arterial highways and a modern and efficient trunk line railroad with a rehabilitated infrastructure.

Expressport, starting from the center of the world’s largest consumer market, can deliver your cargo to an additional 75 million consumers overnight. Indeed, chances are, your cargo will reach its midwest warehouse before the mother ship reaches its next port of call.



## First In Service.



Along with speed, Expressport offers service, superior service from a vast pool of specially trained, highly skilled experts on international trade and marine-related services.

At Expressport, we’re committed to giving you the best service while speeding your cargo **in, off and delivered** to its market. If time is money in your business, you should be doing business with Expressport. For more information call **1-800-PA-CARGO**.



First In. First Off. First Delivered. First In Service.

**THE PORT AUTHORITY  
OF NEW YORK & NEW JERSEY**  
One World Trade Center, 64E  
New York, NY 10048





## Marseilles-Fos

*Europe's Intermodal Superport  
on the Mediterranean!*

### **Marseilles-Fos : Europe's second port and the leading port of the Mediterranean**

Southern Europe's high performance port. Its widely comprehensive facilities offer the greatest flexibility for all types of traffic: general cargo, containers, heavy loads, dry and liquid bulk, chemical and oil products, etc...

### **Marseilles-Fos : the logistic crossroads of Europe and the Mediterranean**

A true "intermodal" port. With its direct motorways network, its daily express railway links and its river services, Marseilles-Fos provides the most suitable, the most rapid and the most economical "transport solution" for each product.

### **Marseilles-Fos : an ideal strategic position for international shipping lines**

200 regular shipping services link 273 ports serving 110 countries world-wide and pass through Marseilles-Fos, the centre for international transit between Europe, Africa and the Mediterranean countries.

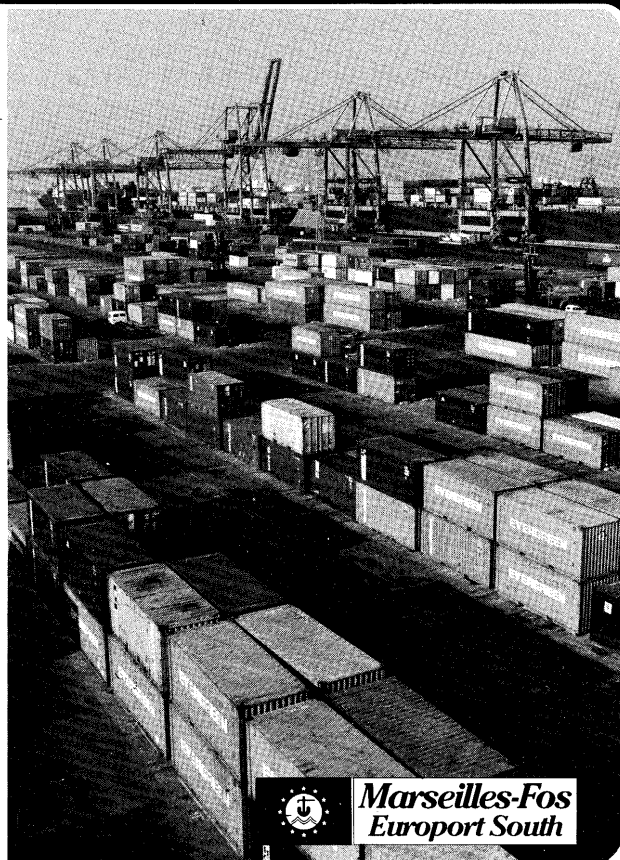
### **Marseilles-Fos : it is also the best place for your future investment in industry or transportation**

At Marseilles-Fos industrial and commercial investors will find the space, the technology, the logistic facilities and the industrial, commercial and human environment so essential for their development.

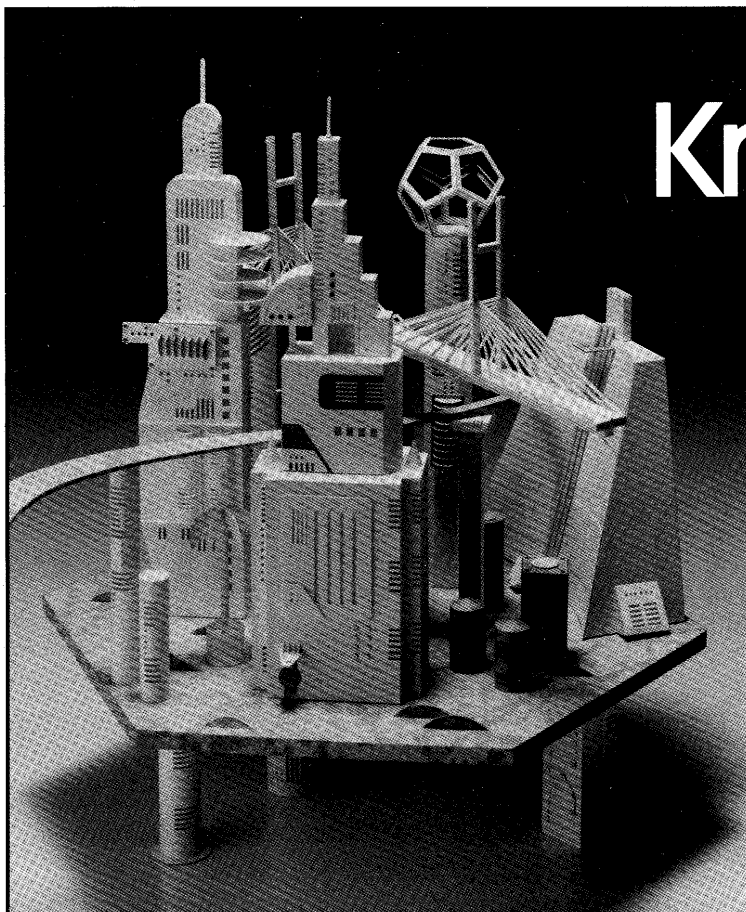
***Don't wait until 1993 to establish yourselves here!***

#### **Port of Marseilles Authority**

23, Place de la Joliette - BP 1965  
13226 Marseille Cedex 02  
Tél. 91.39.40.00 - Telex 440 746 - Fax 91.39.45.00



**Marseilles-Fos**  
**Europeport South**



# Knowledge is power.



**大成建設**

**TAISEI CORPORATION**

ARCHITECTS, ENGINEERS, CONTRACTORS & DEVELOPERS

Public Relations Dept.

P.O. Box 4001, Shinjuku Center Bldg. Shinjuku-ku, Tokyo 163, Japan

Cable: TAISEI TOKYO Telex: 232-2424 TAISEI J

Phone: (03) 348-1111 Facsimile: (03) 345-0481, 0482

# IAPH ANNOUNCEMENTS AND NEWS

## Port of Fremantle: Warm Welcome to EXCO and All Comm. Members

By Mr. Trevor Poustie, Chairman  
Fremantle Port Authority

The Port of Fremantle extends a warm welcome to members of the IAPH Executive Committee and the other Committees who will gather here in May next year for the mid-term meetings of EXCO, Internal and Technical Committees.

Fremantle, which is Western Australia's premier port and the gateway to the nation, considers it an honour to be able to host these meetings. Additionally, it believes that holding this major gathering in Fremantle will help the Port to play a role in strengthening existing ties with similar authorities around the world.

Also, it is an opportunity to further the valuable work which the IAPH carries out on behalf of all its members.

The IAPH policy of rotating its conferences and EXCO meetings between the different geographical regions on a regular basis provides the means to spread the Association's influence and assist in directly informing members more widely about operations and activities of international ports.

There is no doubt that the continuing global exchange of knowledge and information is essential if our port services are to reach their full potential of efficiency and effectiveness.

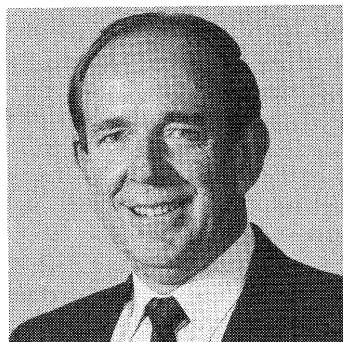
The IAPH provides such a forum and in doing so makes a most positive contribution to the development and improvement of port operations around the world.

Fremantle will become only the third Australian port to host an Association meeting since IAPH was formed in 1955 and this gathering will assist EXCO and all Committee members of IAPH to gain a greater understanding of the western third of the continent, its trade and commerce.

Currently, the Port of Fremantle handles more than 60 per cent by value of Western Australia's total trade and in 1988/89 set new records for mass tonnes of cargo, gross tonnage of shipping, numbers of containers and motor vehicles handled.

The Fremantle Port Authority is now completing a \$30 million harbor dredging project which has deepened the harbour by 2 metres to 13 metres and enables the biggest vessels likely to visit Australia to berth and depart fully laden.

As part of this project, the Authority has constructed a 30 hectare industrial park for lease to port-related industries



Mr. Trevor Poustie  
Chairman  
Fremantle Port Authority

as well as a commercial boat harbour.

These initiatives enable the Port to provide the best possible facilities for vessels on round-the-world services or for those linking to the international shipping hub provided by Singapore.

Additionally, the Port Authority is promoting the concept of, and facilitating the introduction of intermodalism to provide shippers with a "landbridge" link between Fremantle with Eastern Australia.

A committee comprising representatives of the Fremantle Port Authority and the Department of Marine and Harbors has planning under way for the EXCO meeting whose sessions will be held at the Esplanade Hotel which is situated in the historic City of Fremantle.

This planning committee is putting together pre- and post-EXCO tours which will enable delegates to see some of the economically important — and picturesque — regions of Western Australia.

The week of Technical, Internal and EXCO meetings will commence on Monday 7 May 1990.

Detailed information about the EXCO tours and the meeting programme, including timetable, will be published in a forthcoming issue of "Ports and Harbors".

In conclusion, be assured of a warm and sincere welcome from Fremantle for the mid-term EXCO meeting which I am sure will be fruitful and which will make a positive contribution to the conduct of world commerce and trade.

## WTCA, WTA Agree to Collaborate with IAPH

In response to the IAPH Secretary General's letter dated August 11th in which he proposed establishing links with the World Trade Centers Association (WTCA), World Teleport Association (WTA) and Airport Operators Council International (AOCI) respectively, the first two organizations had confirmed their full support for the proposed relationship by the end of September.

The first reply came from Mr. Guy F. Tozzoli, President of the WTCA. In his letter dated August 22, Mr. Tozzoli

says, "I warmly welcome your proposal to expand our ties of communications and to cooperate in the areas of mutual concern." Mr. Tozzoli further mentioned, "In anticipation of the growing importance of world trade, the WTCA has established a Committee on the Future. The task of this committee is to analyze the impact of social, economic and political factors on the growth of trade and forecast the likely effects of future trends on world trade and the WTCA." Mr. Tozzoli concluded his letter by commenting as follows:

"We are looking forward to coordinating our efforts on this project with IAPH, and some preliminary discussions towards this end have already been held. We will also be working closely with the International Airport Operators Council (AOCI) and the World Teleport Association (WTA). It is my hope that we will produce practical material in the fields of transportation, telecommunications, and trade services that will be the basis for business plans for the future of our Associations, the members of our Associations, and the companies and governments whom they serve."

A few weeks later, a letter was received from Mr. Robert E. Catlin, Secretary General, World Teleport Association (WTA), also supporting IAPH's initiative on the liaison arrangements. Mr. Catlin commented as follows:

"An essential element of the world teleport movement is the recognition that telecommunications infrastructure place an increasingly more vital role in economic developments throughout the world. The World Teleport Association's Committee on the Future, chaired by Robert Schmidt of Integration Communications International, has focused particular attention on what lies ahead for teleports and our association.

"Having noted the suggested exchange of information, let me mention that the World Teleport Association will shortly publish a comprehensive service guide compiling extensive data about teleports and our World Teleport Association membership. We will be happy to provide copies upon request."

Furthermore, Mr. O'Malley of Maryland Port Administration, who has agreed to serve as our liaison officer with the WTCA on an item basis, wrote to Mr. Kondoh of the IAPH Head Office on August 30th. Mr. O'Malley's comments were as follows:

"I look forward to participating with Lillian Liburdi, Director of the port department of the Port Authority of New York and New Jersey, and Z. van Asch van Wijck, Executive Director of the Seattle Port Authority, in this collaborative effort. Mrs. Liburdi is in the process of arranging a meeting to review these activities in September from which a report will be sent to you."

#### CORRECTION

There was an error in the announcement of the newly appointed Liaison Officer with the AOCI (Airport Operators Council International) on page 4 of the October issue of this journal. The officer, reported as Mr. Z. van Wijck, Executive Director, the Port of Seattle, should be revised to read:

**Mr. Zeger van Asch van Wijck (photo)**

We apologize for the error.



Head Office

#### Contributions to the Special Fund (As of September 30, 1989)

Contributors	Amount
Paid:	(US\$)
Associated British Ports, UK	3,000
South Carolina State Ports Authority, USA	1,000
Cyprus Ports Authority, Cyprus	700
Japan Port & Harbor Association, Japan	450
Toyo Construction Co., Ltd., Japan	234
Toa Corporation, Japan	500
Port Alberni Harbour Commission, Canada	200
Korea Dredging Corporation, Korea	300
Port Authority of New York & New Jersey, USA	1,000
Vancouver Port Corporation, Canada	1,000
Klang Port Authority, Malaysia	200
Saeki Kensetsu Kogyo Co., Ltd., Japan	250
Penta-Ocean Construction Co., Ltd., Japan	1,000
All French Ports by UPACCIM*	1,560
Shimizu Construction Co., Ltd., Japan	390
Taisei Corporation, Japan	390
Japanese Shipowners' Association, Japan	390
Port of Redwood City, USA	100
Puerto Autonomo de Barcelona, Spain	991
Port Authority of Thailand	100
Port Rashid Authority, UAE	500
Japan Cargo Handling Mechanization Association	390
Obayashi Corporation, Japan	400
Port of Copenhagen Authority, Denmark	1,000
Clyde Port Authority, UK	1,000
Public Port Corporation II, Indonesia	150
Toyama Prefecture, Japan	420
Georgia Ports Authority, USA	1,000
Port of Oakland, USA	350
Kuantan Port Authority, Malaysia	200
Port of Seattle, USA	1,000
Kajima Corporation, Japan	420
Port of Reykjavik, Iceland	500
Canada Ports Corporation, Canada	250
Nigerian Ports Authority, Nigeria	250
Port of Montreal, Canada	1,000
Ports Public Authority, Kuwait	1,000
Tanzania Harbours Authority	200
Junta del Puerto de Gijon, Spain	500
Sharjah Ports Authority, U.A.E.	500
Port of Yokohama, Japan	4,950
Port of Long Beach, USA	1,000
Mauritius Marine Authority	200
Chiba Prefecture, Japan	403
Dr. Frederik K. DeVos, Canada	100
Tokyo Metropolitan Government, Japan	3,941
IAPH members in the Netherlands**	3,209
Mr. Robert W. Innes, Canada	250
Autorite Portuaire Nationale (APN), Haiti	100
Hiroshima Prefecture, Japan	666
City of Kobe, Japan	4,438
Port of Houston, USA	1,000
Port Authority of Fiji, Fiji	300
Osaka Port Terminal Development Corp., Japan	697
<b>Total</b>	<b>US\$ 46,039</b>

\* Union of Autonomous Ports & Industrial & Maritime Chamber of Commerce

\*\* Directorate-General of Shipping & Maritime Affairs, Port Management of Rotterdam, Port of Vlissingen, Port of Delfzijl/Eemshaven, Port Management of Amsterdam



# **IAPH Endeavors To Improve Port Environment**

**By Mr. P.M. Fraenkel, Chairman,  
Port Planning Sub-Committee  
Mr. P.C. van der Kluit, Chairman,  
Port Safety & Environment Sub-Committee**

Mr. P.M. Fraenkel (London), Chairman of the Port Planning Sub-Committee, in collaboration with Mr. P.C. van der Kluit (Rotterdam), Chairman of the Port Safety and Environment Sub-Committee, has recently contributed an article on the port environment for "Ports and Harbors". Secretary General Kusaka comments that what was addressed in the article, which appears below, covers an extremely important aspect of our Association's future activities. Thus the writers' message will no doubt carry great significance for the majority of IAPH members and readers of this journal.

Care for the environment is increasingly a topic which appears on many agendas.

Unlike many issues which arise from time to time, are briefly "fashionable" and then disappear, the environment is a subject which cannot be dismissed as a mere whim.

We are now receiving serious warnings from experts of worldwide reputation that humanity is steadily exhausting its natural resources. The environment is deteriorating rapidly on a global scale and urgent action is necessary in order to ensure that future generations will have an acceptable environment to live in.

The report "Our Common Future" by the United Nations World Commission on environment and development calls on all responsible people to act and to act now. Their message addresses the global community as a whole. Ports are part of that global community and it is incumbent on them to ascertain how they can play a part in the necessary clean-up operations.

It is often said that care for the environment is costly and will consequently weaken the competitive position of ports. This may be true in the short term, but it certainly does not hold in the long term. Increasingly, port users put emphasis on reliability as well as price (and performance), and in our view only clean and safe ports can provide reliable service. Moreover, a clean port provides a positive image and, for the organisations working in that port, it will have a positive effect on their competitive position.

There is also a very practical reason why ports should strive for a clean environment. Ports earn money with the aid of two assets: the water area under their control and the land which they own. These resources should not be allowed to deteriorate and consequently to decrease in value.

In short, ports should try to impose their environmental conditions, not only to achieve a cleaner environment for

the benefit of us all but also to stay competitive.

Ports are important links in the logistic chain. Since the strength and, consequently, the quality of the complete chain is determined by the weakest link, ports should do their utmost not to be this weakest link.

The above arguments were discussed in detail at the 16th IAPH Conference in Miami during the last week in April of this year. Both in meetings of the Committee on Port and Ship Safety, Environment and Construction and in meetings of the Sub-Committees on Port Planning and on Port Safety and Environment, the environmental issue was discussed at length. This discussion resulted in amendments to the terms of reference, which now reflect the importance of pollution reduction in ports and environmental aspects of port planning and development. It was agreed that the Port Planning Sub-Committee and the Sub-Committee on Port Safety and Environment would in future work closely together on environmental issues. It was also decided to establish a group consisting of representatives of those committees and sub-committees which are involved in environmental issues in order to co-ordinate the various activities.

To supplement the Guidelines for Environmental Planning and Management in Ports and Coastal Area Developments prepared by the Port Planning Sub-Committee and submitted to and circulated at the IAPH Conference in Miami, it is planned to draft and add a chapter on practical guidelines on environmental planning and management to Chapter 3.1 — Port Planning and Design, of the IAPH guidelines on Port Safety and Environmental Protection.

## **MARAD Paper on US Port Development Published**

A paper entitled "Port Development in the United States" (Status, Issues and Outlook) by Mr. John M. Pisani, Director, Office of Port and Intermodal Development, Maritime Administration, U.S. Department of Transportation (MARAD), Washington D.C., has been published by the IAPH Head Office and circulated to all IAPH members recently. The printing of Mr. Pisani's paper and its free distribution to all IAPH members was arranged by courtesy of the IAPH Foundation\*.

In the paper, which was originally prepared for presentation to the IAPH Conference in Miami, the author examines the current status, discusses key issues and provides a future outlook for the development of U.S. Ocean, Great Lakes and inland waterway ports.

Additional copies of the publication can be obtained from the Tokyo Head Office upon request.

### **Note: The IAPH Foundation**

The Foundation was established as a Japanese corporation in 1973 to help IAPH financially. Since IAPH succeeded in achieving financial independence effective from 1982, the Foundation, under the new Agreement, has been continuing its support and assistance to IAPH through its various undertakings, which include the publication of both the Japanese and Spanish versions of IAPH News and Announcements for the members in these areas, financial assistance for the IAPH Award Scheme and the dissemination of literature and material on ports from Japan to foreign countries and vice versa.

# IAPH Observes 34th Anniversary

November 7, 1989 marks the 34th anniversary of the foundation of IAPH. Thirty-four years have passed since our Association came into being at the inaugural conference held at the Hollywood-Roosevelt Hotel in Los Angeles, California in November 1955.

It was at a conference of the Japan Port and Harbor Association (JPHA), which was marking its 30th anniversary in Kobe, Japan, in November 1952, that the idea of forming an association of world ports was first broached. At the initiative of the late Mr. Gaku Matsumoto (the then President of the JPHA), the late Dr. Chujiro Haraguchi (the then Mayor of Kobe) and Mr. Toru Akiyama (the then Vice-President of the JPHA), the Association had invited a number of foreign port directors to the Kobe Conference. They took the opportunity to forward their proposal for the establishment of a permanent international body to promote the exchange of information and mutual cooperation between the world's port authorities. Happily the proposal was accepted.

Following three years of groundwork, an international port and harbor conference was held in Los Angeles in November 1955, resulting in IAPH officially coming into existence.

An office in Tokyo already set up by Mr. Matsumoto to prepare for the establishment of IAPH was chosen to serve as the newly formed association's headquarters, and a board of directors was formed from the elected members of fourteen countries. Since then, sixteen conferences have been held with the last one being in Miami Beach, Florida, in April 1989. The next conference is scheduled for the first week of May in 1991, and this will take place on a cruise ship sailing between the Spanish Mediterranean Ports of Barcelona, Mahon, Palma de Mallorca, Ibiza and Valencia.

Thirty-four years after its inception, IAPH has almost 400 members (234 Regular, 121 Associate, 22 Honorary, 8 Founders and 8 Lifetime Members) from 83 maritime countries. The Association's Board of Directors, which started with 14 members in 1955, currently numbers 83 members. The Board consists of members who are elected by Regular Members from each country and is responsible for directing overall policy as well as generally supervising all proceedings. An Executive Committee, made up of 24 members representing the three geographically divided regions (Africa/Europe, Americas and Asia), is the chief executive body, whose remit is to implement the Board's policy and to generally direct all the Association's activities.

All domestic matters are handled by the Legal Counselors as well as by the three internal committees. These are the Finance, Membership and Constitution and By-Laws Committees.

In addition there are six technical committees, composed of volunteer Association members and experts appointed by the President and assigned to work on individual specified projects. These six committees cover the following areas: cargo handling operations, port & ship safety, environment, construction work, trade facilitation, international port development, legal protection of port interests and public affairs.

IAPH has had NGO consultative status with the United Nations Economic and Social Council (ECOSOC) since 1966, the International Maritime Organization (IMO) since 1967, the United Nations Conference on Trade and Development (UNCTAD) since 1973 and the Customs Cooperation Council (CCC) since 1982. Our Association actively participates in their programs and makes recommendations from time to time, either at the organization's request or on its own initiative, through specially appointed Liaison Officers.

The day-to-day work of IAPH is carried out through the Head Office in Tokyo in close contact with the President, Vice-Presidents, the Executive Committee, the Chairmen of the various internal and technical committees as well as the liaison officers. Since the Seoul Conference held two years ago, IAPH has operated a London Office. Mr. A.J. Smith serves as our European Representative, his main function being to strengthen IAPH's presence in the international maritime scene in Europe.

Starting from this year, IAPH has also allocated three liaison officers to the World Trade Centers Association, World Teleport Association — both headquartered in New York — and the Airport Operators Council International, based in Washington D.C. This new arrangement will enable IAPH to strength its involvement in the crucial areas of trade, telecommunications and sea and air transportation.

On the occasion of our 34th anniversary, which falls in the last year of the 1980s, it would be fitting to quote the following remarks from the inaugural speech of Mr. James H. McJunkin, our President, delivered at the IAPH Conference in Miami in April this year.

"The evolution of IAPH", he observed, "is much like the evolution of container ships: each generation of ship is larger. The Association's mission, challenges and opportunities with each passing year become larger. As we face the fourth - and soon the fifth - generation of container ships, we also face the next generation of port problems." So as to meet the challenges ahead, President McJunkin urged the members to "continue our great efforts by expanding the IAPH way of helping ourselves by helping each other."

There is every reason for us to believe that IAPH can contribute to the universally-held aims of peace and prosperity if we all work together by making wise use of our common resources, which the Association has succeeded in increasing year after year within IAPH's global family.

(By Kimiko Takeda)

## Visitors to Head Office

On September 1, Mr. Jack Firman, General Manager, Port of Melbourne Authority

On September 6, Mrs. Lillian C. Liburdi, Director, and Mr. Frank Caggiano, Deputy Director, Port Department, Port Authority of New York & New Jersey

On September 21, Mr. Kuo-Quan Chen, Deputy Secretary General, Association of Ports & Harbors, Taiwan

# Report by Bursary Recipient

**On my Attendance at the IPER – UNCTAD Seminar on “Port Finance”, 12 – 22 June, 1989, Le Havre, France**

**By Mr. I. Papaïacovou  
Cyprus Ports Authority**

“There is no wealth except in men” said Montaigne. This quotation emphasises the importance of human resources in the economy within its macro and micro economic context. The human resources of a port entity, irrespective of its size, structure or organization, are not only a fundamental factor of production but also, probably, the most valuable intangible asset. Having this in mind the Cyprus Ports Authority (CPA) sticks to the principle of the constant and systematic training of its staff. Training is organised in a number of different routes and methods. Seminars organised home and abroad, attachments and internal

courses are the most common methods of training at the CPA. Attendance at seminars organised, sponsored or covered by the Bursary Scheme of the IAPH is very effective and valuable in the promotion and enhancement of the theoretical knowledge and practical experience of CPA's staff.

Under the Bursary Scheme of the IAPH I have attended the seminar organised by the “Institute Portuaire d'Enseignement et de Recherche” (IPER) and UNCTAD, held in Le Havre between 12th and 22nd June 1989.

The seminar covered a wide spectrum of issues concerning the structure, organisation and the objectives of port entities, port finance, project evaluation techniques and the

*(Continued on Page 10)*

## Membership Notes:

### New Members

#### Regular Members

**Sea Ports Corporation (Sudan)**  
Address: P.O. Box 531, Port Sudan  
Telex: 70012 Rasmina SD  
Tel: 2910 & 2644

**Administração do Porto de Sines (Portugal)**  
Address: Apartado 16, 7521 Sines Codex  
Telex: 12027 SINMAR  
Tel: 351-69-625001  
Fax: 351-69-634466  
(Mr. Antonio Emilio de Castro, President)

**Maldives Ports Authority (Rep. of Maldives)**  
Address: Marine Drive, Faafannu Male  
Telex: 66109 MPA MF  
Tel: 32-5681  
(Mr. Abdulla Kamaludeen, Managing Director)

**Administracion Nacional de Puertos (Uruguay)**  
Address: Rambla 25 de Agosto de 1825, No.160, Montevideo  
Telex: NAVEANP UY 22351  
Tel: 96 01 85  
Fax: 95 95 35  
(Dr. Eugenio Baroffio, President)

#### Associate Member

**Port Advisory Services B.V. [Class A-III-3] (Netherlands)**  
Address: Kalfjeslaan 10, 2623 AH Delft  
Telex: 38329 PAS NL  
Tel: (015) 624747  
Fax: (015) 624491  
(Prof. Ir. H. Velsink, Managing Director)

## CIPD Poster Circulated

At the instruction of Mr. C. Bert Kruk (Port of Rotterdam), Chairman of the Committee on International Port Development (CIPD), the IAPH Head Office has produced a poster outlining the various IAPH aid schemes for the member ports in the developing countries which are administered by Mr. Kruk's Committee. All members who receive the poster, which was sent from the Tokyo Head Office with the previous issue of the journal, are requested to display it in an appropriate place within their own organization.

In spite of the frequent announcements of these schemes through the journal or the CIPD's reports, the requests for assistance under these programs from the ports in developing countries have been rather limited.

Thus Mr. Kruk once again invites those members seeking assistance to pay attention to what IAPH can offer to its members for the improvement of their ports. The schemes listed in the poster are:

### BURSARY SCHEME

A scheme of financial assistance to enable management in developing ports to send personnel for training at advanced IAPH member ports and training establishments.

### AWARD SCHEME

A competition open to all personnel in developing ports, held every two years on the theme “How to improve the efficiency of my port”.

### MONOGRAPH SCHEME

A joint initiative with UNCTAD to produce a series of booklets providing information on aspects of port management and operations.

### 57+ SCHEME

The idea of the 57+ Scheme is to attach experienced port personnel from a developed port to a developing port for a maximum period of two months to assist in the latter's practical day-to-day work.

### JOBMAR SCHEME

The CIPD supports the objective of JOBMAR to improve the practical management skills of middle/senior managers from developing ports by providing them with an opportunity to work “on the job” in countries with a more advanced maritime sector.

(Continued from Page 9)

structure of port tariffs.

The benefits derived from the seminar are numerous and significant and are mainly those that can be attained from the direct conduct and discussion of specific problems, current developments and the past experience of the lecturers and the other participants.

Such seminars not only provide to the participants the opportunity to consolidate their knowledge, but also contribute in the building up of their self confidence. In addition they stimulate the participants' interest in their job and thus promote self motivation and job satisfaction.

To be aware of what is going on in the rest of the world helps you spot your own weaknesses and problems, see how others went about solving their own problems and most importantly how to bring about changes that are required in order to survive in a market which indeed has become, to a great extent, a "buyers market".

Obviously the benefits of training can become an asset of the port entity only if, and provided that, the new techniques, experiences and information obtained from training are practically adopted and applied in the port entity's own procedures, operations and other practices of decision making.

An interesting area which was well elaborated and discussed at the seminar is the hot issue of "Port pricing and tariff setting" within the context of port financial and economic objectives. This topic, I believe, is of major importance to the CPA which has struggled ever since 1984 to change the structure of its tariffs.

A statement appearing in the Annual Report of the CPA for the year ended 31st December 1988 illustrates how critical the issue is for the CPA, "Due to the anachronistic nature of the various parameters on which port charges in Cyprus are currently based, the Authority's income continues to be eroded. Port development expenditure which is wholly covered by the Authority is expected to reach CY24 million over the next four years. The review and restructuring of port tariffs which would allow the Authority to implement a more national economic policy as well as to direct and control its activities more effectively was, for yet another year, unfeasible". From the above statement some areas of specific importance are pointed out:

- (a) Port Development expenditure is entirely covered by the CPA. In fact the CPA is not subsidised by the Government.
- (b) The basis of port tariffs is anachronistic.
- (c) The income of the CPA is being eroded because of the existing structure of port charges.
- (d) There is an urgent need of restructuring of port tariffs in order to enable the CPA to implement its financial objectives and to rationalise its economic policy.

The best alternative available to the CPA is the establishment of cost-related port tariffs, reflecting and incorporating the current economic and operating conditions.

In the next parts of the report we will discuss some basic issues in port pricing that have relevance to the CPA.

## Structure and Organisation of CPA

It is generally accepted that a port entity belongs to one or a combination of the following three categories:

- (a) Landlord Port - The Port Authority provides the basic infrastructure of the port like wharfs, quays and water shelters. The superstructure and other cargo related facilities like cranes, transit sheds and other services

are provided by the private sector (operators).

- (b) Tool Port — The port entity provides both the infrastructure and the superstructure. The actual handling of cargo is left to the private sector.
- (c) Service Port— Here all types of facilities and the majority of services are provided by the Port Authority. The Port Authority provides infrastructure, superstructure and all or nearly all services including stevedoring, cargo handling on quays, etc.

The CPA lies somewhere between (a) and (b). It provides the infrastructure and the basic superstructure such as gantry cranes, luffing cranes, most mobile cranes, transit sheds. Part of the remaining superstructure such as forklifts, transtainers, straddle carriers and trailers are provided by private operators. The actual handling of cargo (except of CPA crane operations) is provided by the private operators. This arrangement, despite its advantages relating to higher productivity and better efficiency, greatly inhibits the CPA in its efforts to exercise direct control on the aggregate cost of port operations and distorts its efforts in directing port activities according to predetermined economic and financial objectives.

## Existing Structure of CPA Tariffs

The existing tariffs of the CPA were reviewed in 1976, but still are based on the tariff structure which existed before the independence of the country in 1960. Since 1976 only minor amendments have been approved by the Government. The basic categories of the CPA's port charges are analysed in Diagram 1.

As expressly stipulated in its Law of Incorporation (38/73), the CPA's charges should be adequate to secure a reasonable annual rate of return on the average Net Fixed Assets in operation in accordance with the provision of the loan agreement made with the International Bank of Reconstruction and Development (IBRD). According to that loan agreement an appropriate rate of return should be realized annually (IBRD accepts 8% as an appropriate rate of return.) In addition, article 20(1) of the same Law of Incorporation stipulates that the CPA's annual revenue should be adequate to cover its operating expenses including depreciation, to pay for interest and the redemption of loans, to maintain adequate funds for the replacement and renewal of Fixed Assets and to maintain an adequate working capital. Finally, the balance should be used for the accumulation of other reserve funds adequate for the improvement and development of port facilities.

Obviously the basic objective of the CPA is that it should not only be a profitable, self-sustained entity but also capable of financing a significant part of its development expenditure, the difference being financed from external borrowings. Therefore the pricing policy of the CPA should aim at meeting this fundamental objective.

There are of course other significant and often contradictory objectives that have to be pursued as well, as for example the improvement of the Cyprus ports' competitive position in order to attract more transshipment cargo. This objective imposes a restrictive covenant on the former objective.

## Port Pricing and Tariff Structuring

Pricing is a technique of achieving management objectives. As indicated above usually there are more than one objective that have to be pursued by a port entity. The multiplicity of conflicting objectives and the interaction of

the interests of port users make the setting or revision of port tariffs a difficult task.

Generally, tariffs are established under one or more of the following principles:

- (a) They are copied from and applied by neighbouring competitive ports without consideration of the specific port circumstances and related cost conditions.
- (b) They are based on detailed and as far as possible accurate analyses of costs involved in the specific port activity.
- (c) They are based on what the cargo or ship is supposed to be able to bear.
- (d) They are established after taking into account the pressures imposed by the Government, shipping lines, shippers and other interests.
- (e) They are based on the estimated marginal cost of the specific port activities.
- (f) Based on the (CIF) value of cargo handled, i.e. they are ad valorem.

Most economists reject all the above methods except (b) for many reasons. For instance, the marginal costing method of port pricing is considered inappropriate. One of the reasons is that sea-ports have huge fixed costs. Charging on the basis of marginal costs (or variable costs) will leave depreciation, which is a substantial fixed cost, unrecovered.

Again ad-valorem tariffs, despite their advantages, are faced with a great deal of skepticism by many economists on the following grounds:

- They may import inflation to the country through exchange rate variations and other increases in the CIF costs of imports.
- They may cause variations in port revenues that are irrelevant to any cost or activity variations.
- They are irrelevant to operational costs and they may increase costs to port users dramatically, even if the port's efficiency is improved.
- They are regarded as a form of taxation. This may cause problems if the country has entered into international trade or customs agreements or if, for example, it is a member of the EEC.

### Cost-based Tariffs

It is generally accepted that this is the most sound basis of establishing or revising tariffs. Services should be charged with the full cost of providing them. No doubt ports are public entities offering public services. This no way precludes the Port Authority from being paid by the users for the services they receive.

It is necessary, therefore, to have a sound system of cost recognition and cost analysis in order to have full and reliable cost information. Total costs incurred should be allocated to the appropriate principal port activity or to a secondary or service activity. The principal activities represent each of the main services that are provided and charged by the port to its users. These are known as "Revenue/Cost Centres".

The service activities provide support to the principal port activities and are known as "Service centres". An example is the workshop providing maintenance services to other cost centres. Some costs can be allocated to each profit/cost centre directly (direct costs). Other costs cannot be directly allocated (indirect costs). These costs are allocated to the cost centres on a basis which may be different for each type of overhead. There are a number of different methods of allocation, such as:

- on the basis of revenues earned
- on the basis of direct labour costs
- on the basis of tonnage handled
- on the basis of hours of operation, etc.

Another classification of costs can be made between those costs that do not vary with the level of production (fixed costs) and those that vary or fluctuate directly with the level of production (Variable Costs). The higher the level of production, the higher the variable costs are.

In the case of the CPA, where we have two major ports and a number of other smaller ports, each port may be treated as a separate Revenue/Cost. Separate cost information should be kept for each port. Each port's own fixed and variable costs should be analysed as shown in Diagram 2. The headquarters' overheads should then be absorbed by the individual ports on the basis of the total port revenue, total port costs or some other reasonable basis. A master or aggregate cost analysis for all ports should also be prepared consolidating the separate port revenue/cost centres, which will show the overall total costs per principal port activity (Diagram 2). Extending even further we should break some principal port activities into their component elements so as to have a more detailed cost analysis. For example, General Port Charges on cargo may be sub-analysed in sub-cost centres for container cargo, bulk cargo, etc. This will enable us to establish our tariffs on the basis of such factors as the type of cargo, packaging mode and transport mode, and according to the specific conditions and productivity rates.

In the cost analysis of CPA we may recognise costs under ten principal activities or revenue/cost centres for each port. Service Centres can be classified into two main service centres, one for the headquarters' overheads and one for the port overheads, which in turn can be sub-classified into three or more sub-service centres. In Diagram 2 we have only shown the main cost and service centres for convenient presentation. Note that port and headquarters overheads are absorbed into the cost centres at different levels. It is important to include in our analysis all related costs, fixed or variable, direct or indirect, so as to establish our tariffs on the basis of detailed and comprehensive cost information for each port activity. Note also that depreciation is calculated on the replacement cost of fixed assets. By analysing costs into cost centres and service centres by port and then consolidating them, we have many advantages the most important being that we may have accurate cost details by port and by operation or activity, which will help us to pinpoint the causes of differences in efficiency levels between ports and also between port activities. Different tariffs may be required to be charged by different ports in order to promote specific economic and financial policies of the Authority. Each port could price its services on the basis of its costs. However, this proposition requires a more profound study to assess its repercussions in the economic or financial objectives of the Authority as a whole. But this option is still there as an alternative.

Cost analysis by cost-centre and by port is indispensable in an efficient budgetary control system, where clearly defined areas of responsibility for reporting can be created.

It is also worthwhile noting that cost analysis provides information required in cases where "Multipart Tariffs" are established. The characteristics of these tariffs is that they consist of two basic elements. A fixed element (representing fixed costs) and a variable element (representing variable costs). Some economists advocate "multipart tariffs" as

*(Continued)*



## Analysis of CPA Revenues from Charges

Diagram 1

Category	Basis of Calculation
1. General Port Charges on Ships	Ships' Net Registered Tonnage (NRT)
2. Pilotage, Berthing and Mooring	Ships' Net Registered Tonnage (NRT)
3. Refuse Collection Charges	Type of Ship
4. Cranage Charges	Time of Operation or Tonnage of Cargo Handled or Units of Containers Handled
5. General Port Charges on Cargo	Units or Category and Weight of Cargo Handled
6. Storage Charges on Cargo	Time and Weight of Cargo
7. General Port Charges on Passengers	Number of Passengers
8. Overtime Charges	Time and Kind of Service
9. Reefer Container Facilities	Time and Type of Container
10. Others, e.g. Royalties	Contracted

Special rates apply for transit cargo, export cargo and for certain ships' operations.

## Consolidated Cost Analysis (All Cyprus Ports)

Diagram 2

COST CENTRES													SERVICE CENTRES	
PERSONS CHARGED	SHIPS AGENTS/SHIP OWNERS					CARGO OWNERS/PASSENGERS				OPERATORS	OTHERS	NO CHARGE MADE		
	TOTAL	General Port Charges on ships	Pilotage Berthing Mooring	Refuse Collection from ships	Cranage Charges	General Port Charges on cargo	Gen. Port Charges on Passengers	Storage Charges	Reefer Containers Connections	Rents and Ro-yalties	Sundry Revenue	Port Overheads -Civ. Eng -M. Engin -Adm. Exp	Head-quarters Overheads	
COST CENTRES/ SERVICE CENTRES														
VARIABLE COSTS														
Wages														
Materials														
Maintenance														
Overtime, etc.														
FIXED COSTS														
Depreciation (Replac. cost)														
Salaries														
Inter on loans														
Insurance, etc.														
PORT OVERHEADS ABSORBED BY COST CENTRES														
TOTAL PORT COSTS														
HEADQUARTERS' OVERHEADS ABSORBED BY PORT COST CENTRES														
TOTAL COST														
PROFIT MARGIN/SURPLUS														
TOTAL REVENUE REQUIRED														

## Analysis of CPA Revenues from Charges

Diagram 3

Category	Bearer of Costs
1. Ships' waiting time	Charged to the ship
2. Ships' service time in port	Time in port
3. Port dues on the cargo	Charges borne directly or indirectly by the cargo interest
4. Hooking or unhooking cargo on quay	
5. Cargo handling at quay	
6. Storage Charges	
7. Delivery/Receipt for shipment	
8. Port dues on ship	Charged to the ship
9. Pilotage, towage, mooring etc.	
10. Stevedoring cost for loading or discharging	

Source: Port Pricing-Review of possible methodologies, M.G. De Monie

being preferable to the single part tariffs because they introduce the element of marginal costing.

As part of the budgeting process, detailed traffic forecasts should be prepared in order to help us estimate detailed variable costs for each port activity. Then by applying the required rate of return or profit margins on the total cost for each port activity or cost centre, the revenue target to be achieved is established. Then we fix or review our tariffs at such a level as to achieve the required revenue target, as shown in Diagram 2.

### **Cross-subsidisation**

An issue of major importance that arises at this point is cross-subsidisation. Should each port activity cover its costs and also earn the required return?

The theoretical answer to this question is "yes". But reality is different. Cross-subsidisation is unavoidable because of the many factors that are involved in the tariff setting process. Basically market conditions, pressures from groups of interests and subjectivity in the allocation of costs, make cross-subsidisation the rule rather than the exception. Most ports aim at recovering their total costs at the aggregate level and do not insist on recovering the costs of each cost centre as such. For example, cargo related charges are usually subsidising many other port activities and services.

### **Depreciation**

A substantial element of cost directly affecting the fixed costs of a revenue/cost centre is the depreciation charge. One of the definitions of depreciation is that it "reflects the distribution of use of an asset over its useful economic life". Cost-related tariffs must recover the operating costs of the port activities, which include depreciation. Adequate funds must be set aside in order to replace fixed assets. By the time an asset's economic life is ended, we invariably discover that the cost of replacing it is much higher than the original cost depreciated and the funds that might have been retained for the purpose, the reasons being inflation, technological improvements and so on.

In a competitive environment where the technological improvements are fast and constant and where the demand for higher productivity and lower port costs is perpetual, the port authority must be in a position to replace its assets and introduce new technology. It does not only need to maintain its operating capability and efficiency, but also to improve it if it wants to stay in the market in the long run. To maintain its operating capability the port authority needs to depreciate its fixed assets on the basis of their replacement cost. Most international lending institutions place much emphasis on that issue.

From rough calculation, it is estimated that the depreciation charge of the CPA, if it is calculated on the basis of the replacement cost of fixed assets, should be much more than the historic cost depreciation.

### **Port Tariffs in Relation to Total Port Costs**

Increases in port tariffs are always difficult to implement, because they invariably trigger opposition and lobby movements from many interest groups. A plain example of the resistance to increases in port tariffs is that of the CPA. Port users always and nearly everywhere complain that port tariffs are already high and should be reduced.

As shown in Diagram 3 the total port costs incurred in the case of liner services can be broken down into three main groups. The major cost group is the cost of ships' time

in port, which in many cases is well over US\$2,000 per day for each ship.

In fact it is striking that all studies have shown that port dues on ships and cargo, storage charges and such items as pilotage, towage and mooring represent only a small percentage of the total price of "delivered" goods.

The most important cost item is "ship's time in port" and the second most important is the "cargo handling" cost, which is directly influenced by port performance and the quality of port equipment and manpower used.

Some other analyses have shown that total port costs except for "ship's time in port" is about 25% of average freight. More surprisingly, an analysis of disbursement accounts from 1983 and 1984 (Published in BIMCO bulletins) shows that the agent's commissions rank between 10% and 70% of the total disbursement account. The average for agency fees, however, lies somewhere between 10% and 15% of total disbursements.

Of course the above statistics have been made from figures obtained globally and relate to international comparisons of port costs. However, in spite of the lack of accurate information we may establish easily that CPA charges represent only a small percentage of the total port costs including ship's time in port.

Consequently we may conclude that increases in port dues will have only a minor impact on the total port costs to port users. On the other hand, increased port revenues will assist the CPA to implement its development programmes and other projects aiming at improving port efficiency, which in turn will normally reduce the relative port costs to the national economy and also improve the CPA's competitive position in the area so as to attract more transshipment cargo.

### **Conclusion**

The changing environment in which ports operate requires considerable flexibility in the tariff setting and revision process. Technological advancement, changes in shipping modes, changes in cargo packaging, improvements in cargo handling techniques and other changes in the shipping environment require the port authorities to be always on the alert, able to cope with the changes and adjust their tariffs to the prevailing conditions.

Containerisation, for example, has not only forced the port authorities to invest in multimillion development projects (in both infrastructure and superstructure) but has also caused them many other problems, one of which is labour unrest and the social cost of massive redundancies of dock workers. Another problem that some port authorities have faced is the reduction in port revenues caused by the failure to adjust their tariffs accordingly.

Reports and other analyses have shown that port dues on ships tend to fall with containerisation. Care should be taken in order to ensure that the benefits from improvements in operating conditions accrue evenly and fairly to both the port users and to the port authority.

However, the tariff setting process is a matter of political significance. Full cost-related tariffs are still a myth in many ports. Nevertheless the trend of considering costs in the tariff setting process is increasing.

The trend is also changing in favor of contracted and consolidated tariffs which are regarded as a more efficient method of pricing port facilities. Consolidated tariffs are those where only one charge is made, covering the whole

*(Continued on Page 14, Col. 1)*

---

# OPEN FORUM

## Container Terminal Productivity: A Perspective

By Thomas J. Dowd and Thomas M. Leschine

**Acknowledgement by the IAPH Secretariat:** The article is reproduced from the "Port Management Series" of Washington Sea Grant Marine Advisory Services (Seattle, Washington, U.S.A.). This office expresses its thanks to Prof. Dowd and Washington Sea Grant for the permission to publish accorded to the IAPH.

### Introduction

"Productivity is important, but in perspective!"<sup>1</sup>

This paper provides a perspective on container terminal productivity — how it is measured, the validity of the measurements used, and the factors that affect the elements of productivity.

The tremendous capital outlays, coupled with the demands of shippers for faster, cheaper delivery of cargo, brought about increasing pressure for improved productivity and this led the National Association of Stevedores in April 1984 to ask the Maritime Administration (MARAD) to undertake a study of United States marine container terminal productivity. MARAD contracted with the Marine Board of the National Research Council (NRC) to undertake the study, which culminated in a report ("Improving Productivity in U.S. Marine Container Terminals") issued in the summer of 1986.<sup>2</sup>

The Sea Grant research project described in this paper was designed to explore the problems and prospects of using the container terminal productivity measurements identified in the NRC/MARAD study.<sup>3</sup> The cooperation of a multitude of U.S. and Canadian terminal operators, labor organizations, carriers, port authorities, shippers, the American Association of Port Authorities, and the

National Association of Stevedores in the research for this Washington Sea Grant funded project is gratefully acknowledged.

### Containerization

Containerization, the movement of cargo in containers, is a System. It has an ocean component and a land component.

It is a dynamic System within which the players (carriers, terminal operators, stevedores, labor, port authorities, shippers, railroads, truckers, government, and others) all interact. Each exerts influence over productivity and at one time or another may be the primary determinant or constraint on control of productivity at a specific terminal or within the entire System. As new players come into this System, the balance of power shifts. For instance when stack car unit trains came onto the scene, railroad operating requirements and scheduling caused significant changes, and railroads became a principal player in the System.

A major problem that faces the System is that each player reacts according to his own self-interests or what he perceives his best interests to be at any given moment—often with little or no concern for the System or, more exactly, for the efficiency of the System. In recent times with the advent of the logistically oriented carrier (e.g. American President Companies, CSX-Sea Land), the effect of this diffusion of self-interests has been lessened because a single organization controls a number of segments within the System.

Whenever someone looks at the Containerization System, there is an assumption that if the terminal works at its maximum efficiency, then the entire System benefits. According to our observations, it appears that maximizing terminal efficiency might only shift the bottlenecks to some other element within the System. For example, if terminal efficiency were increased to a point where all intermodal import containers were processed in half the current time, the real value of this increased terminal efficiency would depend on whether the intermodal transfer facility could accommodate the increased volume. In effect, the real value of an increase in terminal efficiency depends on whether it increases the efficiency of the entire System or simply creates bottlenecks in some other element of the System.

From the standpoint of terminal productivity, each player has his own self-interests. For the terminal operator, the main goal may be to reduce or stabilize the cost per container handled and thus maximize per unit profit; for the port authority, the main goal may be to

---

### Report by Bursary Recipient —

*(Continued from Page 13, Col. 2)*

range of port facilities from stevedoring to the final delivery of cargo.

Another contemporary concern is the change in emphasis towards private investments in ports with clearly defined financial objectives. Often private operators are now required to participate not only in superstructure but also in infrastructure investments. Operations in many ports are now becoming more commercially based, with services being charged at more economically efficient prices. But so far this is the exception rather than the rule. Many things have yet to be done, the most important being to allow ports to operate with greater autonomy — free from government intervention and subsidy.

increase the annual throughput per acre of its leased terminals and thus avoid having to build new facilities until all current facilities are fully/efficiently utilized; for labor the main goal may be to increase union jobs and total cargo handled by its members; and for the carrier, the main goal may be to minimize ship in-port time and/or facilitate the expeditious handling of all loads, especially "hot" containers. All these are laudable, but often conflicting, goals. It is within this arena of conflicting self-interests (goals) that container terminal productivity exists.

Quite often the terminal operator (a term that includes the stevedoring subsidiary of a carrier) is caught in the middle of this arena of conflict. To complicate this matter still further, the terminal operator's performance is normally judged by productivity measurements that are heavily dependent on factors over which he has limited or no control.

### **Container Terminal**

A container terminal is a facility that provides a package of activities/services to handle and control container flows from vessel to railroad, or road, and vice versa.<sup>4</sup> The container terminal is the physical link between ocean and land modes of transport and a major component of the Containerization System.

### **Productivity**

Container terminal productivity deals with the efficient use of labor, equipment, and land. Terminal productivity measurement is a means to quantify the efficiency of the use of these three resources.

### **Limiting Factors**

For every container terminal, there are limits as to how productive that terminal can be. These limits may be imposed by either physical or institutional factors, or a combination of both.

Physical limiting factors are such things as the area, shape, and layout of the terminal itself, the amount and type of equipment available, and the type and characteristics of the vessels using the terminal. For example, our observations suggest that productivity (moves per gang hour) is definitely affected by vessel type/characteristics. A vessel or vessel class that the terminal operator has experience with can usually be discharged and/or loaded more efficiently than one that is on its initial call to a terminal, or one that calls infrequently.

Of course there are more obvious physical limiting factors, such as a terminal that is run as an on-chassis or wheeled operation that lacks sufficient chassis. This causes the operator to "ground" containers in order to have sufficient chassis to put against the ship when it arrives — an action that obviously limits the productivity of the container yard.

Lack of cranes, insufficient land, odd-shaped container yards, inadequate berthage, inadequate gate facilities, and difficult road access are all physical limiting factors.

Institutional limiting factors are more difficult to define than physical limiting factors. Institutional factors may be imposed on a terminal operator by any of the players in the Containerization System. Institutional factors are such things as union workrules, import/export

mix, container size mix, container availability, stow of arriving vessels, customs regulations, intermodal train scheduling, safety rules, and last, but far from least, requirements imposed on the terminal operator by the carrier.

If there was one area whose effect on productivity we had initially underestimated, it was these institutional factors. Our research indicates that these institutional factors, especially the requirements of carriers imposed on the terminal operator, often have effects equal to, or exceeding those of, the physical factors.

For example, a carrier may require that the terminal operator accept containers at any time before the ship sails. This causes the operator to have to make provisions for late-arriving containers such as last minutes adjustments to the stow plan. Some foreign terminals that have exceptionally high productivity are able to limit delivery of containers to the terminal as much as 24 hours prior to the ship's arrival. This allows for more efficient preplanning of the terminal, and vessel loading and stowage. Another example of the carrier limiting terminal productivity is a requirement to expedite lifting off specific containers ("hot boxes") as soon as possible after the ship arrives. Such a requirement forces the terminal operator to establish initial crane placements to coincide with the locations of these "hot boxes." Normally, these containers are not block stowed, but are located in several places on the vessel — some on deck and some below deck. Only after these "hot boxes" are lifted off can a more efficient systematic crane placement schedule be undertaken.

Another example of an institutional limiting factor would be a union workrule that requires the entire gang to take coffee breaks and/or meal breaks as a group or at a specific time rather than allowing such breaks to be taken individually while work continues.

If a carrier allows its customer, without penalty, to deliver export containers to the terminal far in advance of ship arrival, or to leave import containers on the terminal long after the ship sails, thus increasing the terminal dwell time, this creates an institutional limiting factor.

### **Perspective?**

In many instances, these institutional and physical limiting factors can be mitigated or eliminated. However, it usually requires an increase in cost, or a rearrangement of priorities to do that. For example, if a labor workrule that limits productivity is amended or abolished, it may require an increase in manning, or in the compensation of the existing gang. There must be some consideration on the part of the carrier and/or operator as to the value of eliminating or amending that specific workrule versus the cost in money or adjusted priorities and its ultimate effect on the System.

The same is true for equipment. It may be possible to increase productivity by adding another piece of equipment, or by replacing a serviceable piece of equipment with a newer, more efficient model. But a decision to do so requires that someone (carrier and/or operator) must determine that such action is worth the added cost in dollars, or in an adjustment of priorities, and that such an action would benefit the System. It is in this context that one truly appreciates the meaning of the statement "Productivity is important, but in perspective."

## Productivity Measurements and Factors Affecting Container Terminal Productivity

Terminal operations elements	Important factors influencing productivity	Nature of influence on operations	Productivity measure	Productivity factor measured
Container Yard	Area, shape, layout Yard handling methodology Box size mix Dwell time	Extent to which containers must be grounded, stacked (inc. chassis)	TEUs/yr/gross acre TEUs capacity/net storage area	Yard Throughput Yard Storage
Crane	Crane characteristics Level of operator skill, training Availability of cargo Breakdowns Breaks in yard support Vessel characteristics	Operational delays	Moves/gross gang or crane hour -down time Moves/gross gang or crane hours	Net productivity  Gross Productivity
Gate	Hours of operation Number of lanes Degree of automation Availability of data	Extent to which weighing, inspection documentation checks are expedited	Containers/hours/lane Equipment moves/hour/lane Truck turnaround time	Net Throughput Gross Throughput
Berth	Vessel scheduling Berth length Number of cranes	Extent of berth utilization	Container vessel shifts worked/yr/container berth	Net Utilization
Labor	Gang size Work & Safety rules Workforce skill, training, motivation Vessel characteristics	General tempo speed of operations	Number of moves/man hour	Gross Labor Productivity

### Measuring Productivity

These physical and institutional limiting factors, when placed in the context of a component in a formula to measure terminal productivity, become variables. As such, these factors or variables influence productivity measurement and make it difficult (if not impossible) to strictly compare any two or more terminals, or establish valid standards for terminal productivity.

In addition to these limiting factors, there is yet another variable that affects the measurement of terminal productivity — semantics!

On the basis of our research, it appears that the measurement of container terminal productivity bears more relationship to an art form than to a science! The lack of uniformity in the data used in productivity formulas is enormous. For example, some terminals count rehandles and hatchcovers as “moves,” whereas others do not. This lack of uniformity in the definition of the elements of the various formulas used to measure terminal productivity makes it very difficult validly to compare productivity data of one terminal to that of another terminal or to establish any valid standards of productivity for international, national, regional, or portwide application.

### Productivity Standards?

Perhaps the most important single finding of this project is that it appears inadvisable to establish “standards” or “averages” for terminal productivity on an international,

national, or portwide basis. Almost since the advent of containerization, there has been support for the establishment of universal standards for terminal productivity. For example, ports supported this effort in order to have a benchmark that showed clearly that their facilities, whether operated by the port itself or by a terminal operator, were “efficient.”

A related subject that has also gained some support is the use of cross-sectional analysis of productivity — comparing the productivity of one terminal with that of another terminal, or the productivity of one port’s terminals with those of another port. This is usually done to claim a terminal’s or a port’s productivity superiority over its rival terminal or port. This project has also led to a finding that there is no universally valid way to compare productivity on a cross-sectional analysis basis. Such comparisons must be made carefully, and on a case-by-case basis. In many cases, it is more appropriate to compare productivity on a time-series basis, comparing productivity at a single terminal over two or more time periods.

Thus, when one attempts to quantify a single terminal’s or port’s productivity in order to compare it with that of another port or terminal, problems immediately arise! The same is true when one attempts to use this same methodology to set standards of productivity or to compute some form of industry or portwide average productivity.

*(Continued on Page 18)*



# International Maritime Information

# WORLD PORT NEWS

## PACEM IN MARIBUS XVIII

**An international conference:  
Ports as 'nodal points'  
in a global transport system**

**Erasmus University Rotterdam  
The Netherlands  
27-31 August, 1990  
The International Ocean  
Institute (IOI)  
in co-operation with  
Port of Rotterdam**

### PORTS AS 'NODAL POINTS' IN A GLOBAL TRANSPORT SYSTEM.

Modern ports constitute 'nodal points' in physical, economic and organisational terms.

In physical terms, modern ports are not limited to transport by (inland) water alone, but have a multi-modal transport/storage/ transshipment infrastructure. This infrastructure allows these ports to receive and store goods in massive quantities, to transship them to smaller vessels or other modes of transport and to distribute them overseas or over increasing inland distances.

In economic terms, concentration of transports via large vessels increases the size of ports. This process is enhanced by the growing location in the port area of industries needing accessibility for large vessels. The 'water front' of modern ports also forms a 'pull factor' for the service sector as a whole, as well as for residential and recreational uses.

In organisational terms, ports have developed from 'transport centers', via 'distribution centers', into 'logistic centers'. This gradual integration of all functions with respect to the movement and processing of (intermediate) goods has not taken the form of physical integration but of integration of information processing through Electronic Data Interchange (EDI)

The emergence of 'main' ports — expanding their operations to the regional level and beyond — calls for a global co-operation between 'main' and

major 'feeder' ports and their major users. This should first create some order in the chaotic global transport scene. In the longer term, it should enhance an efficient, equitable and sustainable global transport system.

A global transport system should not only involve 'main' and major 'feeder' ports, but also the 'vessels' linking these ports, the major sea routes they use and the tools to manage their traffic/transport. Furthermore, the bringing about of a global transport system would, given its transnational character, in the first instance be a matter of inter-governmental action.

Sofar parts of this system have primarily been brought into place by private initiatives of shippers/carriers or semi-public ones of port authorities. The fragmented totality of these parts includes some valuable first steps towards a global transport system. The availability of global transport and traffic tools, such as INMARSAT and GPS, makes it technically feasible.

### PROVISIONAL AGENDA

**Monday, 27 August, 1990**

09.00 — 10.45

Registration

11.15 — 13.00

Opening addresses

Outline of the Conference Agenda

13.00 — 14.00

Lunch

14.00 — 15.45

Changes in "world economy":

- global production, consumption and distribution;
- the view of the industrialised countries;
- the view of the developing countries.

16.15 — 18.00

Developments in "technology":

- transport of goods/information;
- navigation;
- social effects.

18.30 — 20.00

Welcome Reception by Mayor and Aldermen of Rotterdam

**Tuesday, 28 August, 1990**

09.00 — 10.45

Interaction with the "environment":

- competing uses/impacts on marine environment;
- enforcement by port states/regional co-operation;
- changes needed to safeguard environment.

11.15 — 13.00

Ports as "nodal points":

- in physical, economic and organisational terms;
- "main" and "feeder" ports, pricing policies.

13.00 — 14.00

Lunch

14.00 — 15.45

Ports as "nodal points" (continued):

- limits to centralisation, social and environmental.

Global transport system:

- needs: efficiency, equity and sustainability;

16.15 — 18.00

Global transport system (continued):

- inventory of valuable first steps;
- global transport/traffic tools (Inmarsat, GPS).

**Wednesday, 29 August, 1990**

09.00 — 10.45

Port of Rotterdam:

- changes in "world economy":
  - \* changing transport flows;
  - \* changing logistic concepts;
  - \* changing role of the Port of Rotterdam.
- developments in 'technology':
  - \* information technology, INTIS and Teleport;
  - \* transport technology, hinterland connections;

11.15 — 13.00

Port of Rotterdam:

- developments in 'technology':
  - \* safety technology, VTMS;
  - \* social effects.
- interaction with the 'environment':
  - \* from sea, spills and reception facilities;
  - \* in port, from transport, transshipment/refining;
  - \* from river, sludge storage and Rhine project.

13.00 — 14.00

Lunch

<p>14.00 — 20.00 Port of Rotterdam: — bus trip through port area; — visit to Maasvlakte; — return by boat, dinner.</p> <p><b>Thursday, 30 August, 1990</b> 09.00 — 13.00 Developing countries; cases of ports: — major characteristics; — case 1; — case 2; — case 3; — case 4; — comparative analysis. (parallel sessions)</p> <p>13.00 — 14.00 Lunch</p> <p>14.00 — 15.45 Developing countries; their role: — port/coastal states; — land-locked states; — UN regional commissions/regional banks.</p> <p>16.15 — 18.00 Developing countries; their needs for assistance: — by international organisations; — by non-governmental organisations;</p>	<p>— by ports of industrialised countries.</p> <p><b>Friday, 31 August, 1990</b> 09.00 — 10.30 Summary and Conclusions: — context; — theme; — adoption conclusions.</p> <p>11.00 — 12.30 Summary and Conclusions (continued): — port of Rotterdam; — developing countries; — adoption conclusions.</p> <p>12.30 — 14.30 Closing lunch, offered by the Erasmus University.</p> <p><b>GENERAL INFORMATION</b> The congress fee is Dfl. 950 (Dutch florins) and includes admittance to the congress and trade show; coffee and tea during the congress; lunches; receptions, drinks; visit to the Port of Rotterdam (including dinner); congress documents; trade show directory; congress proceedings. The working language will be English.</p>	<p>Hotel accommodation can be booked (prices varying from Dfl. 100 to Dfl. 250 per night).</p> <p><b>CONGRESS SECRETARIAT</b> Erasmus University Rotterdam Congress Office P.O. Box 1738 3000 DR Rotterdam The Netherlands Telephone + 31 (0)10 408 1098 Telefax +31 (0)10 452 0204 Telex 24421 ubrt nl</p> <p><b>Diploma in Shipping &amp; Port Management</b> The Port of Singapore Authority is proud to present a programme that has been developed in conjunction with the University of Delaware, USA, which should fill a need among the local shipping community. This is the programme leading to the Diploma in Shipping &amp; Port Management.</p> <p><b>THE PROGRAMME</b> <b>Objective:</b> This Programme is de-</p>
--	--	---

## Container Terminal —

(Continued from Page 16)

### Conclusions

To obtain the maximum value from productivity data, a terminal operator must link cost data with them. By linking the cost and productivity data, it is possible to form one or a series of profit centers that allow the terminal operator to truly manage the terminal.

If managing productivity is viewed as a process of shifting existing constraints on productivity from one area to another, then cost information can usefully guide these constraints to an area or areas that minimize the impact of these productivity constraints on overall cost.

On several occasions, we were informed that a terminal operator had made a concerted effort to improve productivity in a specific activity only to have that effort halted when expenses increased drastically. Yet only a very few terminals, mainly the larger carrier-operated terminals, have a sophisticated cost accounting system linked to productivity data.

We have found a number of projects to increase terminal productivity tied directly to increasing the efficiency of the intermodal activities. Thus, it would appear that for many carriers the intermodal activities are the driving force for increases in container terminal productivity. This is an indication that a Systems approach is being taken by the more progressive carriers and that productivity of container terminals is being considered within a System perspective.

Container terminal productivity is an important topic, but it must be considered in a System's perspective in order for it to be of maximum value to industry.

A forthcoming report will discuss a quantitative analysis of container terminal productivity at several terminals.

### About the Authors:

Thomas J. Dowd, FCIT, is a Sea Grant Port Industries Specialist and Affiliate Professor (Port/Marine Transportation Management) with the Institute for Marine Studies at the University of Washington in Seattle.

Thomas M. Leschine, Ph.D. is an Associate Professor with the Institute for Marine Studies at the University of Washington in Seattle.



Mr. Dowd

Support for publication of this report was provided in part by grant number NA86AA-D-SG044, project A/FP-7 (Marine Advisory Services) from the National Oceanic and Atmospheric Administration to the Washington Sea Grant Program. No part of this report may be reproduced in any form without permission from Washington Sea Grant.  
WSG-AS 89-5 March 1989

For information about additional copies of this report, contact: Washington Sea Grant, University of Washington, HG-30, Seattle, WA 98195

- /1 Robert Nolan, International Terminal Operating Co., Inc., New York, January 1986.
- /2 1987 Annual Report—Pacific Maritime Association.
- /3 National Academy Press, 1986 **Improving Productivity in U.S. Marine Container Terminals**, Washington, D.C.
- /4 Liberally drawn from the remarks of Joan Rijsenbrij, Europe Container Terminus, Rotterdam, January 1986.

signed for personnel in ports, shipping and related industries as well as PSA officers. The objective is to provide participants with an industrially relevant and academically sound programme in shipping and port management.

**Structure:** The programme comprises 5 modules of intensive lectures spread over a 10-month period interspersed with periods of self-study. Each module will be one week in duration. Lectures will be held from Mondays to Fridays from 0900 to 1700 hours and from 0900 to 1230 hours on Saturdays. The periods between modules will be devoted to projects and assignments. End of module examinations will be conducted at appropriate intervals.

**Schedule:** Lectures on the five modules will be conducted in Singapore at PSA's premises by well-qualified and experienced lecturers selected by the University of Delaware. The schedule will be as follows:-

Trade and marketing functions (15 Jan - 20 Jan 1990): Prof. E Cameron Williams

Accounting and financial considerations (19 Mar - 24 Mar 1990): Prof. John J Hampton

Governance, planning and design (14 May - 19 May 1990): Capt. D Stewart

Organisation and operations (09 Jul - 14 Jul 1990): Dr. Bernhard J Abrahamsson

Maritime law affecting shipping & ports (03 Sep - 08 Sep 1990): Prof. Gerard J Mangone

**Coverage:** The Programme will cover the following five modules.

#### **a. Trade and Marketing Functions**

- \* Introduction to world trade and marketing management.
- \* Organising the management function for a seaport.
- \* Researching maritime markets.
- \* Promotion strategies for seaports.
- \* Market segmentation and target marketing.

#### **b. Accounting and Financial Considerations**

- \* Transportation planning and model building.
- \* Economics of the vessel and voyages.
- \* Owning and chartering vessels.
- \* Role of ports and transshipment terminals.
- \* Valuation of shipping company assets.

#### **c. Governance, Planning and Design**

- \* Port systems and governance.
- \* Terminal planning and container handling.
- \* Terminal management and support operations.
- \* Design of merchant vessels and operations.
- \* Vessel management and future ship design.

#### **d. Organisation and Operations**

- \* Administrative structures.
- \* Intermodal arrangements.
- \* Business of shipping.
- \* Technology and corporate strategies.
- \* Port developments.

#### **e. Maritime Law Affecting Shipping and Ports**

- \* International law of the sea.
- \* Jurisdiction of maritime courts.
- \* Carriage of goods by sea.
- \* Rights of seamen and longshoremen.
- \* Collisions and salvage.

**Entry Requirement:** Candidates with a minimum of 5 GCE'O' levels may apply for admission into the Programme. Working experience in the port and shipping industries will be an advantage.

**Award of Diploma:** Participants who successfully complete the required assignment and who pass the end of module examinations in accordance with the standards set by the teaching faculty from the University of Delaware will be awarded the Diploma. The Diploma will be jointly issued by the Port of Singapore Authority and the University of Delaware.

**Application for Degree Course:** Participants who acquire the Diploma in Shipping and Port Management and who possess appropriate qualifications may apply for admission to the Graduate College of Marine Studies for matriculation as a candidate for a Master of Marine Policy in the Marine Policy Programme of the University of Delaware.

For further information on the Programme, please contact:-  
Manger (Training Administration)  
Port of Singapore Authority,  
7, Keppel Road,  
#02-28, Tanjong Pagar Complex,  
Singapore 0208,  
Telex: RS28676  
Telephone: 321-1825  
Telefax: (65)274-4677

## **IMO Conference Adopts New Salvage Convention**

The most significant change to international law governing maritime salvage for nearly 80 years was approved at a conference held at IMO headquarters in April.

The conference, which was attended by delegates from 66 countries, adopted the International Convention on Salvage, 1989, after a two-week meeting held from 17 to 28 April. The new Convention is intended to replace a convention on the law of salvage adopted in Brussels in 1910.

The 1910 Convention incorporates the principle "no cure, no pay" under which a salvor is only rewarded for his services if the operation is successful. This concept, which has been in existence for many years, does not take pollution into account. A salvor who prevents a major pollution incident (for example, by towing a damaged tanker away from an environmentally sensitive area) but does not manage to save the ship or the cargo gets nothing. There is therefore little incentive to a salvor to undertake an operation which has only a slim chance of success.

The new Convention seeks to remedy this deficiency by making provision, under article 14, for "special compensation" to be paid to salvors when there is a threat of damage to the environment. Damage to the environment is defined as "substantial physical damage to human health or to marine life or resources in coastal or inland waters or areas adjacent thereto, caused by pollution, contamination, fire, explosion or similar major incidents."

The compensation will consist of the salvor's expenses, plus up to 30% of these expenses if, thanks to the efforts of the salvor, environmental damage has been minimized or prevented. The salvor's expenses are defined as "out-of-pocket expenses reasonably incurred by the salvor operation and a fair rate for equipment and personnel actually and reasonably used." The tribunal or arbitrator assessing the reward may increase the amount of compensation to a maximum of 100% of the salvor's expenses, "if it deems it fair and just to do so."

The Convention allows for special compensation to be paid under article 14, if the salvor fails to earn a reward

in the normal way (i.e. by salving the ship and cargo). However, the compensation may only be paid if, and to the extent that, it exceeds the amount of a reward recoverable under article 13 of the Convention, which establishes the criteria for fixing a reward. These factors include the salvaged value of the vessel and other property; the skill and efforts of the salvors in preventing or minimizing damage to the environment; the measure of success obtained; the nature and degree of the danger and a number of other factors.

If, on the other hand, the salvor is negligent and has consequently failed to prevent or minimize environmental damage, special compensation may be defined or reduced.

Payment of the reward is to be made by the vessel and other property interests in proportion to their respective salvaged values. The Convention will enter into force one year after 15 States have consented to be bound by it.

### The Key Articles

Perhaps the most important articles in the new Salvage Convention are articles 13 and 14. They are reproduced here in their entirety.

#### Article 13

##### Criteria for Fixing the Reward

1. The reward shall be fixed with a view to encouraging salvage operations, taking into account the following criteria without regard to the order in which they are presented below:

- (a) the salvaged value of the vessel and other property;
- (b) the skill and efforts of the salvors in preventing or minimizing damage to the environment;
- (c) the measure of success obtained by the salvor;
- (d) the nature and degree of the danger;
- (e) the skill and efforts of the salvors in salving the vessel, other property and life;
- (f) the time used and expenses and losses incurred by the salvors;
- (g) the risk of liability and other risks run by the salvors or their equipment;
- (h) the promptness of the services rendered;
- (i) the availability and use of vessels and other equipment intended for salvage operations;
- (j) the state of readiness and efficiency

of the salvor's equipment and the value thereof.

2. Payment of a reward fixed according to paragraph 1 shall be made by all of the vessel and other property interests in proportion to their respective salvaged values. However, a State Party may in its national law provide that the payment of reward has to be made by one of these interests, subject to a right of recourse of this interest against the other interests for their respective shares. Nothing in this article shall prevent any right of defence.

3. The rewards, exclusive of any interest and recoverable legal costs that may be payable thereon, shall not exceed the salvaged value of the vessel and other property.

#### Article 14

##### Special Compensation

1. If the salvor has carried out salvage operations in respect of a vessel which by itself or its cargo threatened damage to the environment and has failed to earn a reward under article 13 at least equivalent to the special compensation assessable in accordance with this article, he shall be entitled to special compensation from the owner of that vessel equivalent to his expenses as herein defined.

2. If, in the circumstances set out in paragraph 1, the salvor by his salvage operations has prevented or minimized damage to the environment, the special compensation payable by the owner to the salvor under paragraph 1 may be increased up to a maximum of 30% of the expenses incurred by the salvor. However, the tribunal, if it deems it fair and just to do so and bearing in mind the relevant criteria set out in article 13, paragraph 1, may increase such special compensation further, but in no event shall the total increase be more than 100% of the expenses incurred by the salvor.

3. Salvor's expenses for the purpose of paragraphs 1 and 2 means the out-of-pocket expenses reasonably incurred by the salvor in the salvage operation and a fair rate for equipment and personnel actually and reasonably used in the salvage operation, taking into consideration the criteria set out in article 13, paragraph 1(h), (i) and (j).

4. The total special compensation under this article shall be paid only if

and to the extent that such compensation is greater than any reward recoverable by the salvor under article 13.

5. If the salvor has been negligent and has thereby failed to prevent or minimize damage to the environment, he may be deprived of the whole or part of any special compensation due under this article.

6. Nothing in this article shall affect any right of recourse on the part of the owner of the vessel.

## New Publications

### Panamax Bulk Carriers: Market Prospects to 1993

The Panamax bulk carrier sector has proved to be the most popular in terms of new investment since the beginning of the dry bulk market's upturn two years ago. In 1988 more than half of all contracting consisted of new orders for Panamax vessels. Yet the main conclusion of a new *Report — Panamax Bulk Carriers*, published by London-based Drewry Shipping Consultants — is that a continuation of the high rates of newbuilding and low level scrappage apparent in 1988 and 1989 is not warranted by the current outlook for demand in this sector and, at present, the prospects are for a rapid build-up of surplus tonnage over the next five years.

The *Report* demonstrates how a continuation of 1988 supply trends, including new ordering at 5.8% p.a. (of total fleet capacity at 1 January), scrappage at 0.2% p.a. and annual delivery of 60% of tonnage on order, would lead to 23% increase in tonnage capacity over the next five years, the fleet expanding to 56.5 million dwt by end-1993. A second case forecast, based on the observed supply trends of the last five years (which smoothes out the distortions created by last year's sharp rise in freight rates and capital appreciation of vessels) implies a fleet of 50.8 million dwt — an increase of 10.4% on end-1988.

*Panamax Bulk Carriers* is published by Drewry Shipping Consultants Ltd. as part of the Seaborne Trade and Transport series of Reports (10 issues). Individual copies of the Report are priced at £150. Alternatively, sub-

(Continued on Page 30, Col. 3)

## The Americas

### CPHA Voice of Canadian Port Industry

The Canadian Port and Harbour Association (CPHA) is moving on a broad front to address the issues of concern to its members and to impress upon the general public the key role played by ports in the economy of the country, members of the International Association of Great Lakes Ports were told at their annual meeting held recently in Duluth, Minnesota.

Speaking at a panel presentation entitled Port Associations: Structures and Strengths, Mr. John Jursa, Secretary-Treasurer of the Canadian ports group and Director of Public Affairs for the Toronto Harbour Commission, said: "It goes without saying that the strength of any association is in the quality and dedication of the members making up its board of directors.

"But the real strength," he went on, "is in an organization's committees, ones that are given direction and a wide range of freedom to carry out their mandates."

He pointed out that the Canadian Port and Harbour Association, founded in 1959, groups together organized ports and harbours of Canada into one, national association.

The original idea when the association was formed was to have its members sit down around a table and discuss mutual problems.

The secretary-treasurer indicated that the CPHA is at present the strongest it has been in its history. The board of directors and the association's seven committees are extremely active.

Mr. Jursa said in addition to the CPHA's regular newsletter which comes out six times a year, two committees are now issuing their own specialized newsletters.

The Constitution, Law and Legislation Committee prepares Monitor which follows and explains the progress of Federal legislation which could affect members.

He said the Marketing Committee is also doing a regular newsletter.

"Every committee is involved in putting together its own panel presentation for an annual meeting," he said.

"In addition, each has ongoing projects.

"Take the Operations and Environment Committee," he said. "It has undertaken pro-active work in identifying and resolving issues that are of concern to ports. Currently being examined is the extent to which the Canadian Coast Guard expects to recover costs when it is called in as a resource agency during an emergency."

He said the Public Relations Committee, which for so many years has led the association with new projects and new initiatives, is presently working on a marketing/public relations panel presentation for the annual meeting to be held in Thunder Bay in 1990.

"As one of its new projects," said Mr. Jursa, "it is preparing to do a survey of Canadian ports to examine their public relations programs to determine what works."

He then explained that the Operations and Environment Committee puts together a harbour masters/operations workshop every two years at which mutual problems and case histories are discussed.

"Topics could include," he said, "everything from hazardous or dangerous cargoes to dealing with abandoned vessels in port."

The Education Committee, he said, is presently working on developing a board member's handbook with special application to the appointed members of the CPHA. Mr. Jursa revealed that the CPHA, through its secretariat and members of the board, will be taking a more active interest in the Federation of Canadian Municipalities through the Standing Committee on National Transportation.

The federation, he said, is a splendid forum for the exchange of views on the myriad issues being addressed by local governments.

The other member of the panel, Mr. Erik Stromberg, President of the American Association of Port Authorities, reviewed the structure of his own association and gave a brief overview of the roles that regional port associations play.

In explaining the make-up of the CPHA, Mr. Jursa said the business of the organization is managed by a board of 10 directors comprised of the immediate past president, one director representing Transport Canada in Ottawa, and two directors chosen from the country's four geographical regions

— the Atlantic Region, the St. Lawrence Region which consists of the Province of Quebec, the Great Lakes Region which also takes in the Province of Manitoba, and the Pacific Region.

The board meets five times a year with the meetings moving across Canada depending on the location of the annual meeting which also moves back and forth across the country.

The corporate membership of the association consists of those Canadian ports and harbours under the administration of local harbour commissions, Canada Port Corporation Ports, and those harbour and government wharves which are the direct responsibility of Transport Canada's regional directorates. There are 27 members in all.

At present there are 10 associate members consisting of federal and provincial government departments and agencies involved in activities of the association, ports and harbours which cannot qualify as corporate members and which are not public harbours under the jurisdiction of Transport Canada but which are operated by provincial or municipal administrations, and public non-profit organizations established for the purpose of promoting the interests of one or more ports in the region.

*(Port of Toronto News)*

### Major Development Plans Set for Cameron Island

A \$45 — \$60 million commercial and residential complex will be built on Cameron Island in 1990.

The project, which is to include a hotel, was announced by the Nanaimo Harbour Commission and Mr. Nat Bosa, president of Bosa Development, of Vancouver.

"This is the exciting culmination of a great deal of hard work and we are delighted by the imaginative, high quality development in store for Cameron Island," Harbour Commission Chairman Howard Johnston said.

Bosa has a long-established and greatly respected reputation, particularly for waterfront developments. With active planning for Cameron Island, the public waterfront walkways and the visiting vessel pier all under way, this project should give added impetus to the resurgence of downtown Nanaimo, Mr. Johnston added. He



said between 500 and 600 man-years of construction work will be created by the project.

The company is currently developing residential properties on the east side of False Creek in downtown Vancouver and has completed major projects on the New Westminster waterfront, and at Whistler.

Bosa will pay \$3.3 million, plus a portion of development profits, for the 6.1 acres of Cameron Island. The Commission retains a portion of land south of the Gabriola ferry and the shoreline rights for a public waterfront walkway.

Mr. Johnston explained that the process began last year with a strong marketing effort directed at real estate development companies and investors.

"Along with many enquiries and expressions of interest received by the Harbour Commission, Bosa Development Corporation took the initiative and presented to the Port a strong proposal with a sense of commitment. Bosa's proposal met or exceeded all the criteria set down, and the Commission decided to act immediately.

Mr. Bosa said the next step in the project will be the participation of the city and the public as conceptual design gets under way. He said he is looking forward to public and civic input to the concepts which the architect for the project, Barclay McLeod, will be developing.

Mr. Johnston predicted the project will change the face of downtown Nanaimo. "When you look at what is happening to waterfront developments in Victoria, Vancouver, North Vancouver, New Westminster and Richmond, you can get some idea of what the future will be like.

"Cameron Island will be new, fresh, architecturally pleasing and people-oriented, a project in which we can all take pride and which will offer a real boost to our local economy," Mr. Johnston said.

*(Nanaimo Harbour News)*

## **Mrs. Frith President of Pacific Coast Assn.**

Mrs. Irene Frith, Chairman, North Fraser Harbour Commission, has been appointed President of the Pacific Coast Association of Port Authorities at that association's annual meeting held re-

cently in Redwood City, California.

The Pacific Coast Association of Port Authorities was founded in 1913. Port authority members consist of public, district, municipal, state and federal harbour boards or agencies, operating or having jurisdiction over one or more ports bordering on or having access by water to the Pacific trade areas. The port members of the Association represent ports along the Pacific Coast, including Alaska, British Columbia, Hawaii, and Guam.

## **Export Grain Movement In Western Canada**

Concern about the future grain movement in Canada prompted seven sponsors to commission a major study by the Canada Grains Council on the east/west grain movement.

The co-sponsors of the study are the Port Authorities of Thunder Bay, Montreal and Quebec, the Canadian Shipowners Association, the St. Lawrence Seaway Authority, the St. Lawrence and Atlantic Grain Elevator Association and the Western Grain Elevator Association.

The purpose of the Study was to analyze the factors which have led to the recent trend to move more of Canada's export grain through West Coast ports, than through the Eastern System, via the Port of Thunder Bay. For all major prairie grains, Thunder Bay's share of export grain fell from a high of 61.2% in 1982/83 to 47.6% in 1986/87.

Historically, Canadian grain exports were directed primarily to Europe. This situation has changed as countries in Asia now absorb major volumes of Canadian grains and oil seeds, these countries being best served by the West Coast ports rather than by Thunder Bay. Also, declining exports to Europe have been a major source of the reduction in shipments via Thunder Bay.

However, there has been an increased proportional use of the West Coast ports for shipment to Western Asia and Africa, which are efficiently served via Thunder Bay, and shipments to North, Central and South America, which have been the preserve of the eastern route, are now being shipped in increasing quantities via the West Coast.

Thunder Bay continues to dominate the shipment of wheat to the European

market and the U.S.S.R. and to service the major durum markets. The major shift to the West Coast came in barley, as markets in Western Asia expanded and the demands of Japan and China continued to be satisfied. The study's export data indicate that Canada is increasingly dependent on a limited number of markets for grain.

## **Grain Prices**

The Study dispelled some myths regarding price premiums. It was found that there was a price premium for No. 1 CWRS at the St. Lawrence ports over Vancouver. However, in most years this premium was not sufficient to overcome the additional movement costs from Thunder Bay. Cost of movement through Thunder Bay via the St. Lawrence ports was found to increase at a faster rate than that via ports on the West Coast. This contributed to the decline in the attractiveness of Thunder Bay for the export of grain.

## **Catchment Areas**

With the Thunder Bay hinterland for all the major grains collectively, lying to the east of the east/west freight rate dividing line, it becomes obvious that the West Coast ports are attracting greater volumes of grain than formerly. The source of this reality is the method-of-payment provided for in the Western Grain Transportation Act.

The rate, paid by the shipper (producer), is about one quarter of the total rate, the difference between that and the total rate being paid by the federal government. The low rate to the shipper makes the penalty for moving grain greater distances less onerous than would otherwise be the case, thereby encouraging inefficient use of the rail system.

The study also found that the economic reach of the West Coast ports would be reduced if total cost rates applied. In such an event, it is likely that exports through Thunder Bay would increase as markets previously serviced were regained. Furthermore, the study determined that if there was a \$2.00 mountain differential, the Thunder Bay catchment area shifted further out to the Alberta border.

## **Cross-hauling**

The study found that significant cross-hauling occurred, and that the

costs of cross-hauling and the size of the catchment areas for the West Coast ports and Thunder Bay are affected by the regulated rate structure of the Western Grain Transportation Act.

There are times, however, where cross-hauling is necessary to meet and maintain export sales. Under full cost rates, the cost of cross-hauling wheat in 1986/87 was \$35.6 million, and for barley it was \$67.8 million.

Comparative figures under the prevailing shipper rates were \$5.4 million and \$13.1 million respectively. Also, since farmers have paid only one quarter of the total rate, they have had little or no incentive to examine the true transportation costs.

#### **Ocean Freight Rates**

Ocean freight rates largely reflect the supply relative to the demand for shipping, the availability of return cargo and the facilities at the receiving port. The study found that they do not, however, provide a major cost advantage for movement via Thunder Bay, even to those overseas markets in closest proximity to Thunder Bay.

#### **Primary Elevator System**

The primary elevator operations have little, if any, effect on the direction of shipment. The study found, however, that the increased relative level of shipments through Prince Rupert has been at the expense of both Vancouver and Thunder Bay.

#### **Timing of Grain Shipments**

The study revealed that the data on monthly shipments fails to confirm the premise that exports through the West Coast increase when Thunder Bay is closed. Thunder Bay handles over 100 different grades of grain. Vancouver is a multigrain port shipping to a large number of destinations. Prince Rupert is a two-grain port shipping to a limited number of destinations. Prince Rupert is thereby able to enjoy a proportionately higher throughput relative to storage capacity. The mix of grains handled affects throughput. The study found indications that the additional grades of grain handled at Thunder Bay impact negatively on port throughput.

#### **Conclusion**

Grain exports are market driven. Changing demand patterns are reflected

in the internal direction of movement of grain. The cost of servicing the needs of these new markets exerts an influence on the direction of grain export flow and thus has an adverse effect on throughput at Thunder Bay.

The study indicates that the costs of cross-hauling and the size of the catchment areas for the West Coast ports and Thunder Bay are affected by the regulated rail rate structure. Assigning a greater share of the total cost to the shippers would encourage a more efficient operational system to the collective benefit of both the shippers and the railways. It would also improve the Thunder Bay/Seaway route's competitive position allowing it to regain lost market share to Western Asia. *(Transport of Thunder Bay)*

### **No Action Initiated To Recover Costs**

The Water Resources Development Act of 1986 requires that local interests pay some of the costs of navigation projects such as channel improvements and dredge material disposal. Section 208 of the Act allows non-federal interests to recover their share of costs by, for example, levying port or harbor dues on cargo and vessels.

The General Accounting Office reports that to date no non-federal interest has initiated action to use the cost recovery authority. GAO offers the following possible reasons: dues can only be charged after the project or usable segment is completed; dues cannot be charged to vessels that do not benefit from the project; charging dues may put a port at a competitive disadvantage; ports may be discouraged by the red tape involved in getting a schedule of fees through the federal process; and other easier-to-use methods of recovering project costs are available. *(NAS Newsletter)*

### **Senior Executives of US Foresee Stronger EC**

Executives of many major U.S. companies believe a single European market will help European member countries and create trade barriers against non-member countries, according to a recent survey.

Opinion is divided as to whether a

stronger European Community (EC) will mean a shift of world economic power to Europe, the survey showed.

**EXECUTIVES SURVEYED:** KPMG Peat Marwick polled 872 senior executives representing the United States' largest and mid-sized companies in the manufacturing, transportation, high technology and merchandising industries. Sixty percent of the respondents were chief executive officers.

Respondents were asked about the competitiveness of U.S. industries, as well as their own companies' preparedness for the completion of the single European market in 1992.

**IMPACT ON U.S.:** Forty percent of those surveyed predict the single market will have a negative effect on the U.S. economy, but half believe their own industries will not be affected.

"We're going to have three very, very large markets — Europe, North America and the Asian Basin countries," a respondent with a high-tech company commented. "I'm interested in seeing what kind of approach these three major markets are going to take in dealing with the rest of the world."

**DELAY EXPECTED:** Most respondents said they don't think the unified market will be in place by the target deadline of Dec. 31, 1992. However, most said they believed the market would be accomplished by the mid-1990s.

Half of those surveyed whose companies currently do business in EC markets said they planned to take advantage of the new, expanded business environment; 37 percent said they are assessing the impact the market will have on their companies.

**COMPANY PREPARATIONS:** The survey indicated that large companies — particularly those in the high-tech and manufacturing industries — are more likely to be actively preparing for 1992 than are mid-sized companies.

Executives in transportation and merchandising viewed timing as less critical for their organizations. "Every company faces a different hurdle when it becomes involved," said one respondent.

KPMG Peat Marwick provides accounting, auditing, tax and management consulting services through its 650 offices worldwide.

*(Port of Houston)*

## Mr. Mosbacher Stresses Quality Business

The private sector must lead the way in opening new world markets for U.S. goods and services by being increasingly quality-oriented, U.S. Secretary of Commerce Robert Mosbacher says.

Mosbacher recently addressed the international community of Houston as keynote speaker at the annual dinner of the Houston World Trade Association.

**TRADE PRIORITIES:** The commerce secretary discussed the Bush Administration's priorities for international trade and commerce. "The United States has always been the world's market," he said. "It's now time for the world also to be our market. Our great country must keep its competitive edge.

"Government is the trustee of this nation's economic security. But we look toward the American workforce for production of quality goods and services. This is of paramount importance, as the U.S. must offer highly competitive products in the world market," he said.

The United States and the world as a whole are entering a new period, with new relationships, new alliances and new rules, Secretary Mosbacher said. "The challenges are immediate and of critical importance," he noted. "The way in which we meet the challenges will determine how the country will fare in the next decade and the next century. Government and the private sector must work together in a close partnership to achieve national economic security."

**MEETING CHALLENGES:** Mosbacher cited Texas as an excellent example of Americans meeting the challenges. "Texas sells to the world, and Texans benefit because of it. There are more than 287,000 export-related jobs in the state, the third highest in the country," he said.

Houston is far more diversified than ever before and is one of the most exciting and vibrant cities in the nation, the secretary said. Energy, petrochemicals, medicine, aerospace and high technology are all strong economic sectors in Houston, he said, and the city has seen a tremendous upturn recently.

**OPENING DOORS:** The secretary

told the group that the nation's economic security is in their hands. "There are many opportunities ahead in the world marketplace. But it will not matter how many doors we open unless we are quality oriented. If we are not, those doors will slowly close."

The Houston World Trade Association soon will become a division of the Greater Houston Partnership. The partnership currently consists of two entities: the Greater Houston Chamber of Commerce and the Houston Economic Development Council.

*(Port of Houston)*

## Houston Plans to Deepen Ship Channel

The commissioners of the Port of Houston Authority (PHA) voted on August 24 unanimously to seek Harris County Commissioners Court approval for an election this fall for voters to approve funding for deepening and widening the Houston Ship Channel. The project is planned to benefit the Houston economy and create local jobs while providing important environmental protections and safety improvements for the Houston Ship Channel, according to Mr. Ned Holmes, chairman of the Port commission.

If approved by the County Commissioners Court, voters would be asked to approve a \$130 million bond issue for the channel modernization project, said Mr. Holmes. The vote would be added to the ballot for the regular election scheduled for November 7.

A total of \$121 million in funding would be sought from the federal government with Congressional approval and \$68 million would be provided in utility relocations by local industry.

Mr. Holmes said, "There are five important reasons that we need to proceed with the modernization of the ship channel":

- To be able to compete as a world renown port so in future years our area does not lose jobs and business to other ports that are deepening and widening their channels;

- To add jobs for the local Harris County economy during the construction phase and to protect other area jobs that depend on a strong and economically viable port;

- To allow an environmentally safe method for handling this project through the creation of a recreational island in Galveston Bay;

- To make the port safer for shipping; and

- To gain millions of dollars in federal funding for the project.

"We have been in the study phase of this project for over 20 years," added Mr. Holmes. "Now is the time to move forward and expand the port in a way that is vital to our area's future."

The Port Commission on the same day approved plans for an election on a \$130 million bond issue for deepening and widening. The project calls for deepening the Houston Ship Channel from 40 to 45 feet and widening the channel from 400 to 530 feet.

"This program is really a compromise," explained Mr. Jim Pugh, executive director of the PHA. "Originally, the scope of the project would have entailed deepening the channel to 50 feet and widening it to 600 feet. We are seeking public approval on this 45-foot-by-530 feet project. To move forward on anything larger, we would have to seek public approval again."

The program outlined by the PHA also includes almost \$37 million in environmental safeguards to protect Galveston Bay, said Mr. Holmes.

"We will be creating islands and wetlands to contain dredge materials from this deepening and widening project," said Mr. Holmes. "While it is a costly procedure, we believe that Galveston Bay is so important to Houston from a business and pleasure standpoint that we want to expend the additional money to protect the environment."

## Tolls Eliminated on All Jacksonville Bridges

Trucking cargo through Jacksonville just got cheaper and easier thanks to the elimination of tolls on all Jacksonville bridges.

The tolls were discontinued August 11, and the toll plazas were torn down, helping to speed traffic over bridges and surrounding roads where there once was gridlock.

Truckers with 18-wheel rigs now save \$5.25 in tolls and shorten their journeys by 11 miles by taking I-95 north and south instead of I-295. The route re-

duces driving time by about 20 minutes and reduces fuel consumption by approximately two gallons.

The toll removal not only benefits truckers passing through Jacksonville, but also benefits Jacksonville Port Authority (JAXPORT) customers, who use the three area interstate highways to speed their cargo to market throughout the United States.

### **Speakers Bureau for Giving Info to Citizens**

The Port of Los Angeles is offering the services of its newly-formed, 15-member WORLDPORT LA Speakers Bureau to inform citizen groups and civic organizations about the Port's expansion, operations and the demands of world trade.

Speakers Bureau members are employees who have been selected from a cross section of port assignments including engineering, property management, planning, government and community relations, international relations, purchasing and environmental management.

"The WORLDPORT LA Speakers Bureau has been formed to provide citizens with a clear perspective on the Port's mission and its position in the community," says Mr. Ezunial Burts, Executive Director of the Port of Los Angeles.

"Port expansion is impacting Los Angeles and its communities more positively than negatively," Mr. Burts adds, "and more people should learn how we are managing this citizen-owned facility to meet the challenge of unprecedented growth in Los Angeles."

### **Cargo Trend at Port of Baltimore 'Encouraging'**

The Maryland Port Commission announced that an 11 percent increase in exports helped the Port of Baltimore push its total foreign tonnage for the first six months of 1989 to 15.29 million tons.

Contributing to the gain were increases in export coal shipments, up 25.5 percent to 4.4 million tons, export auto shipments, up 88 percent to 64,314 tons, and export iron and steel ship-

ments, up 265.8 percent to 278,000 tons.

"This growth is a sign that the Port of Baltimore is helping American industry become more competitive in world markets," said Secretary of Transportation Richard Trainor, chairman of the Port Commission. "It also means that Maryland companies — whether they are in mining, manufacturing or transportation — are taking advantage of worldwide trends to strengthen our local economy."

Oceanborne general cargo through the port for the first six months of 1989 came to 3.2 million tons, 5.1 percent less than in the comparable period last year. This reflects the loss of a number of direct steamship line calls as compared to the previous year.

"We are, of course, concerned about the general cargo figures and are gearing up our marketing efforts to try and win back some of our former lines," said MPA Executive Director Brendan W. O'Malley. "We are also encouraging our existing roster of lines to funnel additional business through Baltimore."

The MPA defines oceanborne general cargo as all general cargo that moves by water through the port to or from overseas destinations. It includes military cargo, Puerto Rican cargo and containerized barge cargo.

"Although our own public terminals did not do as well as we want, we do have a broader mission to support all elements of the port community, including private terminal operators," said Mr. O'Malley. "Many of these were strong in the first six months, displaying perhaps the first signs of the generative effects of our channel deepening program."

Because of the channel deepening work and other port marketing and development programs, the Maryland Port Commission asked the MPA to develop a broader and more accurate picture of port activity encompassing both public and private terminals.

"The trend of the total cargo movements is encouraging," Mr. O'Malley said, "but Baltimore's growth in the oceanborne general cargo section has not yet occurred. We are confident that the startup of the Seagirt Marine Terminal, certain efforts underway to attract additional breakbulk and automobile cargoes hold considerable potential for some new business," Mr. O'Malley concluded.

The port's foreign cargo increase was 252,000 tons, a 1.7 percent increase over the 15,041 million tons handled during the first six months of last year.

### **Total Cargo Tonnage at Los Angeles 9.4% Up**

The Port of Los Angeles recorded an unprecedented 66.3 million metric revenue tons in fiscal year 1988-89, a 9.4% increase over the 60.6 million tons handled the previous year, according to preliminary, unaudited figures.

This total includes the movement of 35.1 million metric tons of general cargo, a 14.7% rise of 4.5 million tons from the previous fiscal year. General cargo includes the West Coast's highest container volume in history, a total of 1,850,135 TEUs in fiscal year 1988-89, a 16.7% increase of 265,068 TEUs from fiscal year 1987-88.

A comparison of 1989 and 1988 fiscal year statistics show that the Port's eight world-class container terminals recorded a cumulative 16.6% boost in loaded inbound boxes (894,467 TEUs compared to 767,133 TEUs) and a 14.1% rise in loaded outbound containers (581,423 TEUs compared to 509,394 TEUs). In June 1989 alone, the Port handled 172,504 TEUs, the highest one-month total in its history.

The total cargo tonnage also reflects 25 million metric tons of liquid bulk, a 2% increase of 500,000 tons over fiscal year 1987-88 and 4.6 million metric tons of dry bulk, a 15% boost of 600,000 tons over the previous fiscal year.

The Port of Los Angeles occupies more than 7,500 acres of land and water and is regarded as one of the world's largest manmade harbors. Its size and commitment to diversified operations enables the Port to accommodate all sectors of the maritime industry. The Port again outpaced the entire West Coast region in cruise traffic. The state-of-the-art World Cruise Center, capable of handling five full-size luxury vessels simultaneously, welcomed 583,000 passengers in fiscal year 1988-89, a 29.8% increase of 134,000 travelers over fiscal year 1987-88.

A revenue-generating department of the City of Los Angeles, the Port showed retained earnings in fiscal year 1988-89 totaling \$77.5 million, down

7.8% from the previous fiscal year. These funds will be used for future capital development projects, such as the creation of a 100-acre, dedicated container terminal for Japan-based Nippon Yusen Kaisha (NYK Line) at Berths 212-215, scheduled for completion in 1991.

The Port also recorded \$149.5 million in total operating revenues and \$101 million in shipping services.

The Port's fiscal year covers July 1 through June 30.

## South America: New Workshop of the World

South America presents some unusual opportunities despite the current monetary turmoil that grips the continent, says Mr. John Hyatt, traffic manager for the Irwin Brown Co. "I see South America as the new workshop of the world, displacing the Pacific Rim countries." Mr. Hyatt made the statement after a recent trip that took him to Brazil, Argentina and Chile with a client.

South America is struggling to emerge as an industrialized continent and is succeeding in many ways. Countries there have many natural resources in abundance. "A perfect example is Brazil. I was amazed at the fact they have the world's largest iron reserves in the Amazon region."

In 1968, a body of iron ore, estimated at 18 billion tons and assayed at 66 percent iron, was discovered in the Serra dos Carajas mountains in northern Brazil.

"That's going to take care of their steel needs for quite a few years," says Mr. Hyatt. "Because all these countries have rich natural resources, they are going into manufacturing."

### South American Advantage

Manufacturing is precisely the interest of Mr. Hyatt's client on this trip. He represents W.C. Bradley Enterprises, supplier of leisure-time outdoor cookware to customers such as Wal-Mart, Sears, Silo, K-Mart and other major chain stores.

"My client went to South America to source parts he was getting from the Far East and the Pacific Rim," explains the Irwin Brown traffic manager.

Bringing parts from the Pacific Rim means accepting some less-desirable aspects as well because of the distance involved. The goods are in ocean transit for a longer time and trips to the factory to handle problems require a long flight across many time zones, he points out.

For South America, the operational realities are brighter. "You might be talking about a one-hour time difference, but you can get anywhere (in South America) in seven hours. If you have a problem, you can address it right away," contends Mr. Hyatt. "That's why my importer went down to South America."

### Making Calls

In Brazil, the staff of Campanhia Maritima Nacional, which calls at New Orleans, helped Mr. Hyatt and his client connect with manufacturers and suppliers after Brazilian government trade representatives had failed to do so. "We went, in fact, to the housewares show in São Paulo, which was taking place that day, and made great contacts," Mr. Hyatt recalls. "It really helps to deal with the proper people, or otherwise you could be spinning your wheels."

"So many people go to Brazil looking for things that, if you're not IBM, they're not going to pay attention to you. In all these cases, you need to have an introduction by someone, somehow. You just can't go in there cold," warns Mr. Hyatt.

Visiting the show helped resolve some issues as well. "My importer is satisfied with the manufacturers down there. They can produce in the quantity and the quality that he wanted," says the Irwin Brown executive.

In Chile, the government was better organized. "Chile was the most aggressive of the three countries we visited," Mr. Hyatt declares. "Appointments were set up with manufacturers and suppliers, along with visits to factories. It was amazing. From the time we landed there they had everything programmed," he says enthusiastically.

### Challenges

But everywhere they went, the same problem dogged them. His client's customers needed a price guaranteed a year in advance. "To (give) guarantees, you have to get guarantees from the people who are supplying you with accessories, parts and components," explains Mr. Hyatt. "That's a little

tough out of South America, especially when you are talking about fluctuating currencies, even in a country as aggressive as Chile."

### Solutions

Mr. Hyatt notes that some companies trading in South America have created their own solutions to the monetary problems. "That may involve countertrade, which has been successfully done in some instances," he points out. "Or if you are an importer and exporter, and you have a subsidiary company that may be doing business in the country, you can work some kind of trade-off situation." Two U.S. companies doing business with subsidiaries in South America might be able to set up an alliance to work out a triangular countertrade situation.

In other instances, some firms "...are establishing offshore trading companies which act as the selling arm of manufacturers and suppliers in Brazil. U.S. currency is remitted to the trading company whether it is headquartered in Barbados, Bermuda or the Grand Bahamas," explains Mr. Hyatt.

### Getting in Position

Even though Mr. Hyatt's client came home without a contract in his attache case, he was satisfied, says Mr. Hyatt. "The president of his company sent him down there to get things started because the future is going to be in South America. The Pacific Rim is marking time right now. We need to establish a position down there before the rest of the guys come in."

"In the short term, the opportunities are limited, but by establishing contacts now, you're going to be in a very good position because they're going to get their economic house in order. That's going to be the new area for the 21st century as far as growth. Those people who establish their positions now are going to be the fortunate ones," concludes Mr. Hyatt.

*Mr. John Hyatt is one of the most active promoters of trade along the north-south axis in New Orleans, making many trips to Latin America. In this article, he shares the impressions he gained on his latest trip to Brazil, Chile and Argentina. Mr. Hyatt is traffic manager for the New Orleans-based customs house brokerage and international freight forwarding firm of Irwin Brown Co.*

*(Port of New Orleans RECORD)*



## Refurbished Maher Terminal Dedicated

Refurbished and modernized at a cost of nearly \$50 million, the new Maher Fleet Street Terminal at the Port Newark-Elizabeth Port Authority Marine Terminal complex on Newark Bay was officially dedicated on September 18 at ceremonies attended by New Jersey Governor Thomas H. Kean.

Chairman Philip D. Kaltenbacher and Executive Director Stephen Berger of The Port Authority of New York and New Jersey and Mr. Michael E. Maher, founder and Chairman of Maher Terminals, Inc., joined with more than 300 government, civic, labor and maritime industry officials and guests to hail the terminal as evidence of the New York-New Jersey Port's determination to provide facilities necessary to maintain its leadership into the next century.

Maher Terminals, founded in 1946 as a stevedoring firm, is the largest and most active public terminal operator in the Port.

Governor Kean told the assembled officials and guests, "An efficient intermodal terminal is vital if this region is to remain competitive. In the world of ocean shipping, we must be able to accommodate all types of cargo speedily, efficiently and at reasonable cost to steamship lines and shippers. This new terminal accomplishes that by offering minimum turnaround time for vessels and providing direct contact for truck and rail carriers."

At the ceremony Chairman Kaltenbacher noted, "This terminal modernization, representing a combined Maher-Port Authority investment of nearly \$50 million, ensures that the New York-New Jersey Port will remain the preeminent seaport in North America. We intend to continue investing and innovating in order to provide the highest level of service and efficiency.

"It is appropriate that in this Port, where the container revolution began, we carry on that pioneering tradition by applying tomorrow's technologies to meet today's increasing demands of an integrated, intermodal industry in a globalized economy," Chairman Kaltenbacher added.

"This terminal is a demonstration of the widened horizons that can be

achieved when each mode of cargo movement is supportive of the other modes and we continue to achieve higher volumes of trade and commerce for the region," he said.

Mr. Stephen Berger stated, "Today, we are recognizing the results of yet another successful partnership between the public and private sectors. These partnerships were forged to rebuild this great Port and to prepare it for the challenges and opportunities of the future. We have already invested a sizable portion of the half-billion dollar port component of the Port Authority's capital program. We are proud to have been Maher's partner in this endeavor."

Maher Terminal operations cover an area of 550 acres at the Port Newark-Elizabeth seaport. Maher began containerized cargo handling in 1970 and is now responsible for one-third of the New York-New Jersey Port's entire volume of container cargo.

Mr. Michael E. Maher noted, "With the growth of oceanborne activities comes the creation of many new businesses and jobs, which form a critical base of economic benefit in this Port and region. Maher is grateful to have contributed to this growth and to have grown with it."

Maher services 24 container ship lines from all over the world, some of which have been clients for more than 30 years.

"Maher's reputation," said Mr. M. Brian Maher, "of providing maximum speed, efficiency and flexibility in all aspects of cargo handling is well known throughout the international shipping community. But, the competitive challenges of the future demand constant innovative management.

"In our planning for this new terminal," Mr. Maher continued, "we have taken into account the varied needs of all who will use it. We have redesigned, restructured and re-equipped to provide the finest terminal handling facility in the world — Tomorrow's Terminal Today."

## Conference on Maritime & Port Security in Miami

Sponsored by the International Association of Airport and Seaport Police and the U.S. Maritime Administration, the International Working Conference on Maritime and Port Security will be held in Miami, Florida from January

3 to 5, 1990.

The conference's dual focus on drug interdiction and international terrorism will provide a timely look at the critical nature of port security operations in today's world. New and useful information will be presented by top-level experts in all areas of maritime security.

The extensive agenda of the conference will begin with invited keynoter William Bennett who will discuss the Bush Administration's drug control policies. Other prominent guests invited to speak at the conference include: the Commandant of the U.S. Coast Guard, the U.S. Customs Commissioner and the Ambassador-at-Large for Counter Terrorism of the U.S. State Department.

Four workshops will be held allowing free exchange of ideas; the workshops will focus on:

- Shipping and Port Enforcement Response to Drug Smuggling.
- Impact of International Terrorist Acts of Violence on the Maritime Industry.
- Importance of Maritime/Port Security Training worldwide.
- International Cooperation in Combating Narco-Terrorism.

A nominal registration fee of \$75.00 is being charged for the conference and attendance is limited to 65 people.

For further information, please contact:

Secretariat: 580-2755 Loughheed Highway, Port Coquitlam, B.C. Canada, V3B5Y9

Telephone: (604)942-2132

Fax: (604)942-1755

Telex: 053-3723

## Commissioners Approve WTI Training Program

The World Trade Institute, the international education service of the World Trade Center New York, will train officials from Argentina, Belize, Kenya, and Trinidad and Tobago under agreements authorized by the Port Authority Board of Commissioners.

Under the agreements, the Institute will develop and conduct specialized training programs for governmental agencies of each nation. The programs will focus on investment promotion and the administration and operation of free trade zones.

"The World Trade Institute is making

its mark internationally," said Port Authority Chairman Philip D. Kaltenbacher. "By establishing positive relationships with these and other nations, the Institute promotes our region. As a result, when these nations look to do business with the United States, they may well come to this region first for the goods and services they require, as well as the training," he added.

"Because trade is a key to expanding our region's economy, it is especially important to introduce nations such as these to the advantages of doing business in the New York-New Jersey region," the Chairman noted.

For each program, WTI instructors will travel to the contracting nation. All expenses will be paid by the clients.

The programs covered under the agreements are: free trade zone administration and operation for the Trinidad and Tobago Free Zones Co., Ltd.; and investment promotion for the Banco De Cordoba in Argentina, the Belize Export and Investment Promotion Unit, and the Kenya Investment Promotion Centre.

In 1988 the WTI presented more than 600 courses, seminars and international training programs for more than 8,000 business persons from throughout the world. The programs included seminars on international taxation, finance and marketing as well as special forums covering areas such as trading with the Soviet Union and Eastern Europe.

The bistate agency's Commissioners last July authorized a training program for officials of the Taipei Department of Rapid Transit Systems (DORTS), which is constructing a major new metropolitan rail transit system. The officials are receiving training in the operation and management of U.S. mass transit systems.

## **NY&NJ, Rio Form Sister Port Relations**

A "Sister Port" relationship between Brazil's Port of Rio de Janeiro and the Port of New York-New Jersey was inaugurated in a ceremony held at the World Trade Center.

Mr. Stephen Berger, Executive Director of The Port Authority of New York and New Jersey; Ms. Lillian Liburdi, the bistate agency's Port Department Director; Mr. Carlos Theo-

philo De Souza e Mello, President of the Brazilian Ports Corporation; and Mr. Marcio de Carneiro Macedo, Director-President, Port of Rio de Janeiro signed a proclamation establishing the "Sister Port" relationship between the two ports to promote increased trade and closer commercial, social and cultural exchanges.

At the ceremony Mr. Stephen Berger said, "Brazil, a strong and diverse country that is looking to the future, has the eighth largest economy in the free world. It produces steel, automobiles, machinery, clothing and food on a par with any industrialized country. It is blessed with a bounty of natural resources. Like the United States and the New York-New Jersey region, Brazil has the human resources and expertise committed to its continued success in the global marketplace.

"Today, almost half of this Port's Latin American trade is with Brazil. Nearly one-fourth of all Brazilian oceanborne trade with the United States is with the New York-New Jersey Port. Last year this amounted to four million long tons of cargo valued at \$2.3 billion," Mr. Berger stated.

Mr. De Souza e Mello noted, "Brazil, with a population of 135 million, is the largest nation in South America and the fifth largest in the world. In the past 30 years, we have witnessed an amazingly rapid rate of industrialization and growth in Brazil. Today we mark the commitment of two powerful partners to foster the success of each other and nurture the growth of trade between them."

Ms. Lillian Liburdi stated, "Oceanborne trade between this Port and the Port of Rio de Janeiro last year reached nearly one million long tons valued at \$300 million. Both ports are investing in new facilities to meet the emerging demands of the marine cargo industry. We are two ports on the move. Together, we can assist each other in assuring that both move together to greater prominence."

Mr. Macedo told the officials and guests, "Sister-Port status will strengthen our relationship, promote international trade and is a solid investment in the future of our respective ports and regions. With all Brazilian flag steamship lines calling at the marine terminals here, the Port of New York-New Jersey and the Port of Rio de Janeiro are truly Sister Ports."

## **New President of Port Of Oakland Commission**

Ronald W. Brady, senior vice president of administration for the University of California, has been elected president of the Oakland Board of Port Commissioners for 1989-1990.

Carole Ward Allen, who served as second vice president during the past year, was elected vice president of the board.

Brady, who was appointed a Port commissioner in June, 1988, holds a doctorate in economics from Ohio State University. He previously served as an administrator at Ohio State, Syracuse University, and the University of Illinois.

Other members of the Port Commission are Douglas J. Higgins, R. Zachary Wasserman, Thomas J. Sweeney, Celso D. Ortiz, and James B. Lockhart.

The Oakland Board of Port Commissioners oversees the operations of the Port of Oakland, the Oakland International Airport, and extensive industrial and commercial properties.

## **Preferential Assignment For MOL at Oakland**

Noting a "long and beneficial association" with Mitsui O.S.K. Lines (MOL)\*, the Oakland Port Commission on August 15 approved a preferential assignment with the line for new container facilities in the Seventh Street marine terminal area. The facilities are scheduled to be operational by January 1, 1990. The assignment reflects Oakland's growing importance in the Japanese-flag carrier's service network, Port officials said, and represents the first step toward a long-term assignment at a larger facility.

Under the pact, which is for a term of two years with two, one-year extensions, MOL will be preferentially assigned to Berth 35, an 839 foot (256 meter) long wharf, with some 12.6 acres (5 hectares) of upland area. The facility will feature a new gate complex exclusively for MOL traffic. It will be operated by Trans Pacific Container Service Corp., a wholly owned MOL subsidiary. The company will coordinate terminal operations with Marine Terminal Corp., operator of the Seventh Street Public Container Terminal

adjacent to Berth 35. Three gantry cranes now serve both facilities, to be augmented by two, post Panamax units slated for erection in Spring, 1990.

The agreement also calls for the Port to make a number of improvements as part of an overall upgrade of the Seventh Street terminal area complex, including installation of new scales and fencing, demolition of unneeded buildings and dredging of Berth 35. Improvements unique to MOL's operations will be at the carrier's expense. Key economic provisions include an MOL guarantee of 300,000 revenue tons and at least 50 vessel calls annually in exchange for negotiated reductions in wharfage and dockage.

Mr. Douglas J. Higgins, President of the Port Commission, noted that MOL was one of the first container lines to call at Oakland, starting service in 1968. "MOL has supported the Port of Oakland for more than 20 years," stated Higgins. "Because of that strong relationship, it is a great pleasure to announce this agreement, which gives MOL its own independent terminal facility in Oakland."

\* An Associate Member of IAPH

## Oakland Makes Progress In Solving Dredge Issue

The Port of Oakland advanced another step toward gaining final approval for its plan to dredge the Oakland Inner Harbor Channel to -38 feet at mean lower low water and to use the dredge material to reinforce levees on Twitchell Island and Lower Jones Tract in the San Joaquin Delta.

The Central Valley Regional Water Quality Control Board voted 5-0 to approve the project, subject to review of detailed final operating procedures for the disposal program and of monitoring and contingency operating procedures.

The Port, as Phase 1 of its dredging program, would bring approximately 440,000 cubic yards of dredge material to the Delta islands and agree to monitor the runoff from the levees for as long as necessary in order to guarantee that there will be no adverse impact on water quality. The Port has also proposed a contingency plan to cope with any unlikely problems that might arise.

Ultimately, both the Inner and Outer

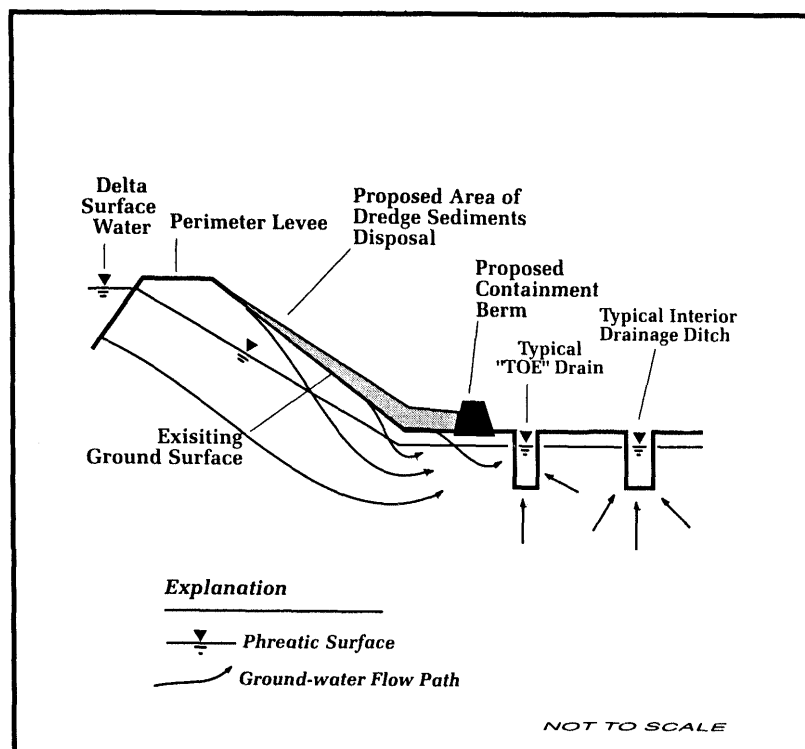
Harbor Channels will be deepened to -42 feet at mean lower low water in order to accommodate fourth generation container ships that have a draft of up to 40 feet fully loaded. The present depth of Oakland's channels is 35 feet.

Both Maersk and American President Lines are bringing the big container ships into Oakland now, but they can't do it with a full load and they sometimes must wait for high tide before entering the channels.

"We are delighted by the unanimous vote of the Central Valley Regional Water Quality Control Board endorsing the Port of Oakland's plan," said Mr. Douglas J. Higgins, President of the Board of Port Commissioners.

"This vote affirms the Port's position that the dredging program and the disposal of the dredge material on these two islands will have no adverse impact on the quality of drinking water that originates from the Delta."

The Port originally planned to dispose of the material at a Federally authorized site in the Pacific Ocean, some 26 miles south of the Golden Gate, but protests from fishermen who claimed it would destroy their fishing grounds led the Port to seek an alternative site.



**Typical Cross Section of Levee And Drainage System**

Both the U.S. Army Corps of Engineers and the Environmental Protection Agency are currently conducting studies that will lead to identification of permanent disposal sites that can accommodate the additional 6.5 million cubic yards that must be dredged to bring the channels down to -42 feet.

(Port Progress)

## Charleston Named 1989 Quality Carrier

The Port of Charleston, in Charleston, S. C., has been named a "1989 Quality Carrier" by *Distribution* magazine.

The magazine's "Quest for Quality" survey canvassed 70,000 shippers in the U.S. and Canada. Leading shippers in both countries rated the Port of Charleston as outstanding in service, price, convenience, and sales force effectiveness. The Port of Charleston was one of six deep-water ports to earn the award and had the highest comparative score among Southeast Atlantic ports.

The ports were judged on the quality of their service which included transit times, routing, and equipment; con-

venience as to billing, tracing, EDI, and claims settlement; price, and the knowledgeability and competence of the ports' sales staff.

"Quality service is something we continually strive for at the Port," Mr. W. Don Welch, executive director of the South Carolina State Ports Authority, commented. "Recognition by our customers confirms the success of our efforts."

For the fourth year running, container tonnage through the Port of Charleston has grown by more than 20 percent. Container tonnage for Fiscal year 1989 increased 25.7 percent over FY '88 to a total of 6.16 million tons. Over the past four years, container tonnage has grown 115 percent.

The Port, second only to the combined ports of New York and New Jersey in container tonnage on the East Coast, is the Southeast's leading load center. Breakbulk, project, and heavy-lift cargoes receive the same high quality service which earned the Port its Quality Carrier recognition.

The announcement of Quality Carriers was made in the August issue of *Distribution*, a professional transportation and logistics magazine. *Distribution* is published monthly by Chilton Co.

### **New Charleston Fenders Beneficial to Operators**

High-tech rubber fenders installed recently at the Port of Charleston's Columbus Street Terminal are changing the face of the piers to the benefit of container vessel operators.

Positioned along the terminal's two container berths, the Trellex-Morse MV 500 x 1000 Fender System provides higher energy absorption along the wharf while lowering pressures on ships' hulls. The rectangular fenders, which have a limited stand-off of 25 inches, also help to maximize the outreach capabilities of the Port's container cranes.

The ability to diffuse the pressures exerted on a ship's hull over a larger area diminishes the potential for damage by structures along the pier. For container ship operators like Sea-Land Service Inc., the largest U.S. flag carrier, the potential advantages are significant.

"The absorption characteristics of a properly designed fender system returns

a minimum of reaction force to the hull of a ship," said Mr. John Macko, manager of facility engineering at Sea-Land in Edison, New Jersey. "This reduces damage to the vessel structurally and superficially. If you protect something better, your maintenance costs will be lower."

The Port of Charleston plans to install 67 fenders at 25-foot intervals along Berths One and Two at Columbus Street. The \$664,000 system, including installation costs, is a separate investment from the \$15 million upgrade in progress at the terminal.

### **USDA, Charleston Fighting 'Killer Bees'**

The Port of Charleston and the U.S. Department of Agriculture (USDA) are working together to prevent the so-called "killer bees" from invading Charleston.

The Port, in cooperation with the USDA, has set out special traps on container cranes and waterfront structures to lure the bees from ships on which they've stowed away. The bees will be exterminated after establishing a nest.

The "killer bees" are African honey bees imported to Brazil in the 1950s for breeding purposes. Some of the bees were accidentally released there and prospered in the South American jungle. Their expansive population growth has resulted in a northward land migration into Central America that is expected to reach the U.S. in the 1990s. Efforts by the Port and the USDA are designed to prevent any accidental importation of bees via sea-going vessels. The insects have been known to stow away on ships at South and Central American ports as well as those in the Panama Canal.

African bees are more aggressive in defending their nests. This trait has been passed on to hybrid bees — "African honey bees" — the result of African bees mating with the more common European honey bee. Although the USDA says that an individual sting is no more or less dangerous than a European bee sting, the fact that they are more hostile to intruders is cause for concern.

Another potential hazard is the damage to the honey industry. European bees produce honey in quantity

while remaining fairly easy to handle. The introduction of the African traits — aggressiveness, less honey production, and shorter occupation of a hive — may spell trouble for beekeepers, according to the USDA. The African and Africanized bees may also carry

(Continued on Page 44, Col. 3)

### **Panamax Bulk Carriers —**

(Continued from Page 20, Col. 3)  
scription to the whole series is available at £660.

For further information about *Panamax Bulk Carriers* please contact Gail Bradford or Peter Rowbotham, Drewry Shipping Consultants Ltd., 11 Heron Quay, London E14 9YP. Tel: 01-538 0191 Tlx: 21167 HPDLDN G Fax: 01-987-9396.

### **The Guide to Food Transport**

The full coloured book describes 100 of the most important products in the fruit and vegetable category. It gives advice and information regarding:

- Standards and regulations for transportation
- minimum requirements for storage
- storage life
- perishability
- treatment
- ideal and recommended temperature conditions
- sensitivity to storage temperature, humidity and ethylene
- heat production
- specific heat
- specific weight

In addition, the book discusses important subjects such as:

- refrigeration
- packing and stuffing
- atmosphere control
- chilling injuries
- mixed loads
- ventilation
- code of good transporting practice

The Guide to Food Transport is intended to help all interested parties by providing guidelines to follow so that costly food cargoes reach their intended destinations in the best shape possible.

260 pages. Price: DKK 500.00, US\$75.00.

Mercantila Publishers, 3 Malmoe-gade, DK-2100 Copenhagen, Denmark.

Tel.: 31 26 06 21

Telefax: 31 26 16 21

## Africa/Europe

### Port of Helsinki in Profile

#### Finnish Foreign Trade

In terms of overall volume, Finnish imports fell by around 1% on the previous year, though the value of imports was up by some 2%. Imports continued to be weighted towards consumer and investment goods and raw materials for industry. Fuel imports accounted for only 3% of the aggregate total.

Exports also experienced a modest dip in volume terms, down 1%, though they rose in value by around 4% on the 1987 figures. The increase was due solely to strengthening of deliveries to Western countries, as CMEA exports were slightly down on the previous year's level. The main growth-area was in the metals & engineering industry, with firm support also coming from paper industry exports.

The overall value of imports of merchandise was 88,200 M FIM (+2%), while exports stood at 90,900 M FIM (+4%), thus expanding the annual trade surplus to around 2,700 M FIM (1987: c. 900 M FIM).

Maritime traffic continues to hold a dominant position in the transporting of Finland's foreign trade. Measured by tonnage, roughly 86% of all shipments are carried by sea, accounting for 80% of the total value of foreign trade. The quantity of goods transported to and from Finnish harbours grew to 55.3 million tons, an increase of 1.6 million tons on the previous year. Import shipments stood at 31.9 million tons, while exports accounted for 23.4 million tons.

#### Port Traffic

In terms of the volume of traffic passing through the Port of Helsinki, 1988 was another very favourable year. Growth on the previous period was recorded in all sectors with the exception of coastal traffic. The aggregate goods traffic total remained at the record level reached in 1987, close to 7.9 million tons. The figures would have been appreciably higher were it not for the reduction — by around 250,000 tons

— in coal deliveries to the power stations of the Helsinki Energy Board. General cargo imports and exports together totaled 4.63 million tons, showing an increase of around 5% on the previous year. The figure is the largest in the Port's history. Unitized container, truck, and trailer traffic maintained the advances made in previous years, rising

once more by around 10%.

The popularity of travel by sea has been increasing from year to year, ever since the introduction in 1971 of regular all-year passenger ferry services. Passenger traffic rose more than 7% on the year, largely in response to strong growth on the Helsinki-Stockholm ferry route.

#### Key Facts

Finances (M FIM)	1988	1987
Total revenue	229.0	213.0
Total expenditure	191.4	184.7
Gross margin	108.7	97.3
Result	37.6	28.4
Financing surplus	64.3	54.6
Return on fixed assets	14.4%	14.0%
Investments	44.1	43.1
Value of fixed assets	1,138.3	1,031.8

Traffic	Change %		
Cargo traffic, million tons	7.88	7.86	+ 0
Imports	4.53	4.49	+ 1
— bulk cargo	2.12	2.25	— 6
— general cargo	2.41	2.24	+ 8
Exports	2.22	2.17	+ 2
— bulk cargo	0.03	0.07	— 54
— general cargo	2.19	2.10	+ 4
Coastal traffic	1.13	1.20	— 6
Containers, TEU	213,938	188,562	+10
Lorry and trailer traffic	118,021	105,713	+12
Vessel traffic, vessels nrt	24,608,779	23,842,576	+ 3
Passenger traffic, passengers	2,951,314	2,749,531	+ 7

(The Port of Helsinki, Annual Report 1988)

### Ro/Ro Tractors at BLG: Innovative Development

The Bremer Lagerhaus-Gesellschaft has recently made news with a further interesting development to Ro/Ro tractors. In close co-operation with the manufacturers, the firm has effected a series of decisive improvements to the vehicles and lifting gear used in the ports of Bremen and Bremerhaven. These improvements cover economic and ecological aspects as well as working safety.

In this connection the expression "working safety" stands for two basic conceptions. The first concerns safety at the workplace in consideration of the high handling speeds at modern container and Ro/Ro terminals, and presents a special challenge. In the second place, however, "working safety" means the fast and reliable transport of goods in the port — that

is, a qualitative demand for the efficiency which is an essential precondition for survival in the climate of fierce competition obtaining among the big ports.

As a result of close co-operation with Terberg, the manufacturers, the Bremer Lagerhaus-Gesellschaft has been able to make further important improvements to the Ro/Ro tractors used in Bremen and Bremerhaven.

The main problem with this development was the requirement that the tractors had to be optimised for a greater variety of different tasks, whereby at the same time the safety factor had also to be increased. Truly a complicated task, for the tractors had not only to move the BLG's own articulated trailers, but also those of the port users as well as the shipping companies' own chassis trailers for container transport — to say nothing of a variety of trailers of all kinds, many

of them unequipped with brakes. All these trailer types have to be moved quickly and safely on sloping Ro/Ro ramps. In the past, experience showed that further developments were necessary. Furthermore, the driver would have to be provided with an optimal working place having the same conditions for forward and reverse operation. Another special problem was that the tractors were also to be used in traffic on level surfaces as well as for Ro/Ro operations. A combination of two basically different demands on the same tractor had therefore to be worked out.

The report of the working group entrusted with this task includes, in its essentials, the following basic constructional points:

### 1. Operation in Ro/Ro Traffic

The Ro/Ro gear is manually engaged and effects a direct four-wheel drive. In this gear the bearing plate can be raised to over 1.7 metres, so that any awkward angles in the floor of the ramp can be negotiated. Furthermore, the bearing plate can be moved forward by 350 mm, in order to ensure enough axle-load to maintain stability, with the bearing plate raised, on uphill slopes.

### 2. Operation in Level-surface Traffic

In this gear position the transmission is automatic; there is a differential lock on the rear axle with 25 percent tolerance; the height of the bearing plate is limited, and its forward movement blocked. A construction feature important for safety is a load-independent brake on each axle.

### 3. Safety at the Driver's Working Position

- Access to the driver's cabin by wide steps, easy to see on entering or leaving.

- Improvement of driver's field of vision in forward or reverse operation through increase in the size of window panes.

- Smooth exterior lines of the vehicles, easier on driver's sight when manoeuvring.

- Well-sprung rotating driver's seat, with indicators and controls built into the arm-rests.

- Logical positioning of control elements for easy access as required by working procedure.

- Double security device for locking the king-pin.

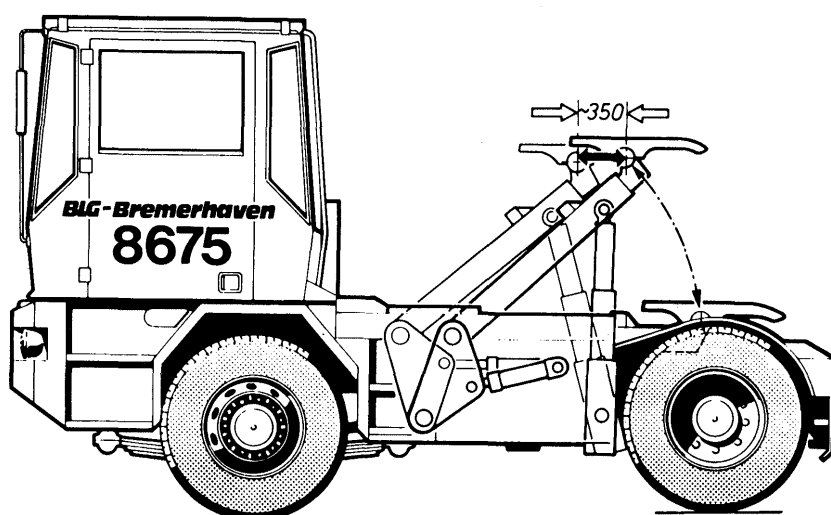
In the realisation of these developments a tractor has now been developed which completely fulfils the demands and considerations of efficient port handling today. These new constructional features permit a marked increase in handling efficiency, combined with a decided improvement in working safety.

On account of the exemplary character of this development, the Mutual Assurance Association (Wholesale and Warehousing) has given its official approval to those co-operating in this project and has issued an award for their work.

## Consulting Services for Surabaya Terminal

With the recent signing of a new contract from Indonesia, the Port and Transport Consulting Bremen (PTC), consulting subsidiary of the Bremer Lagerhaus-Gesellschaft (BLG), has been enabled to take on a new task. According to PTC's director, Mr. Peter Hoffman, work in Surabaya commenced in August.

The contract involves consulting services for the container terminal, currently still under construction, in





Surabaya. This is to start operating in the second half of 1990. The project will be financed by a credit to the Indonesian Government from the Asian Development Bank (ADB).

To ensure the trouble-free operation of the new terminal, flanking consultation measures for technical assistance were put out to international tender. The Bremen port consultants were themselves able to decide on the nature of these tenders. The consultation, which will also be financed by the ADB, includes basically the planning and introduction of operations, storage systems, and documentation, as well as the planning and introduction of workshop procedures, spare part stocks, and the relevant documentation. In addition, personnel training and a development programme for container tariffs are included in the package.

As a supplement to the components of this contract the PTC is also to advise Surabaya about administrative procedures in the area of conventional traffic.

As foreseen, this will involve a comprehensive service relating to cargo handling, storage and documentation, workshop organisation and machinery disposition, as well as to financial management and personnel training.

The PTC will send six colleagues to Surabaya. The consultation team will be joined there by two experts from their Indonesian contract partner. PTC director Peter Hoffman estimates that the work should be completed by the autumn of next year.

For almost seven years now Indonesia has been a crucial point for the Bremen consultants. The project now beginning is therefore a logical continuation of the consulting activities in the Indonesian ports of Jakarta and Surabaya and their associated harbours. The principal aim is to ensure the efficiency of the Indonesian ports by the establishment of an up-to-date and unified system for operations and management.

## Continued Growth for EUROKAI Group

1988 was again a year of expansion for the EUROKAI Group. The continued growth of trade with the Far East was the driving force behind a further increase in the volume of containers handled. An increase of over 20% in 1987 was followed by another significant rise in 1988.

In 1988 the number of containers handled rose from 200,644 to 256,658. Thanks to this increase of 28%, EUROKAI was able to improve its share of the Port of Hamburg's container-handling business from 18% to 21%.

This increase in cargo handled — an increase also seen in container packing and general cargo handling — was the basis for a growth of turnover from 90.7 m in 1987 to DM 114.3 m in 1988.

1989 has been characterized by a renewed increase in the volume of containers handled — up 9.5% by the end of July.

Thus, this year has again shown that the EUROKAI Terminal's container-handling business has grown faster than that of the Port of Hamburg, thus increasing our market share to 21.9%.

This favourable trend in cargo handling is continuing and has culminated in a new monthly container-handling record of 26,300 containers for August 1989 — an extremely positive monthly result.

This has put EUROKAI back in the black since June 1989 after the first few months of the year had been marked by unsatisfactory results.

Thanks to this development we are expecting EUROKAI to record favourable operating results for the whole of 1989.

## Development of HHLA Container Terminal

August 24, 1989 marked a special phase in the 22-year development of the HHLA Container Terminal Burchardkai. On this day, and according to schedule, Berth 9 at Athabaska-Ufer went into service with dispatch of the m.v. *Laust Maersk*.

This resulted in the berth capacity being extended by 700 m to 2,600 m, and the operations surface by 63,000 sqm to 1.5 million sqm. Burchardkai now has 8 to 10 berths (according to



## President of Toyota Visits Bremen, Bremerhaven

On the occasion of his visit to Bremen Dr. Shoichiro Toyoda, the president of the Toyota Motor Corporation, Tokyo, inspected the harbour facilities of Bremerhaven. In recognition of the trustful cooperation of many years the chairman of the executive board of the Bremer Lagerhaus-Gesellschaft, Dr. Rolf Fastenau, presented the distinguished guest from the Far East with a silver salver. The picture shows in the left foreground Dr. Toyoda and Dr. Fastenau, as well as Mr. Egon Herbert Harms, senior partner of E.H. Harms GmbH & Co., Bremen, Dr.-Ing. Dieter Naumann, and Dr. Günter Boldt, both of BLG, in the second row from left to right.



ship lengths) for containerhips of the 2nd and 3rd generation. At the same time the terminal is equipped to take future units of the 4th generation. This applies also to the water depth of 16.50 mean level at berths 8 and 9 and to the technical facilities.

Simultaneously the 12th container crane became operational. Over and above this, within a few weeks construction of container crane No. 13 will get under way. Both cranes accord with top world standards. Burchardkai will then feature, among other things, 4 container cranes with "post-panamax" dimensions. Crane No. 12, developed by Noell of Würzburg in conjunction with Tax of Munich, has a maximum outreach of 44.5 m and a load capacity of 70 t. The clearance with between the columns is 17.5 m, so that containers with dimensions up to 53 feet can be handled.

The efficiency data of the new crane are remarkable. For instance, the operating speed during the lifting process is 3 seconds from zero to 120 metres per minute, which is 50% faster than that of the other cranes. The entire crane controlling and regulating operations are effected with modern digital techniques. Incorporated in the crane configuration and control components are the research results of ISETEC (Innovative Seaport Technologies). They are geared to optimum straddle-carrier control within the framework of overall terminal logistics.

At the same time 12 more highly-

modern "three-tier-high" straddle-carriers are being acquired. Four of them increase the fleet to 55 straddle-carriers, while 8 replace older "two-tier-high" vehicles which are being taken out of service.

The fact that there is a growing worldwide trend towards the straddle-carrier system shows that with its terminal concept based on straddle-carriers operations the HHLA backed the right horse.

Thanks to all these measures, Burchardkai is once more a step ahead of all demands, from a qualitative as well as a quantitative point of view.

In view of the steadily growing container volume, planning of this "North Terminal" — where until as recently as 1987 iron and steel shipments were handled — had already begun in 1986. In this connection, from the very outset everything was based on fresh dimensions. This applies to the quay wall data as well as to the configuration of the container cranes and of the van-carriers, including the logistics concepts.

How necessary and realistic the generously proportioned expansion is becomes evident from developments in container handling at Burchardkai, which rose in 1988 by 14% to 807,393 TEUs, and in the first half-year of 1989 already shows a plus of 13%. This considerably exceeds the forecasts on which the planning was based. The containerisation degree at HHLA meanwhile stands at 82%, and its market

(Photo by Schulze-Alex)

share in the port of Hamburg at more than 50%.

One does not have to be a prophet to predict that next year Burchardkai will reach the dream figure of 1 million TEUs per annum; this is 15-fold the figure of 1970, or two-a-half that of the year 1980.

However, with the capacity which has now been made available Burchardkai is in the position to handle far more than 1 million TEUs per year.

Despite this, more investment and new technological solutions are already being planned to increase this capacity even further.

## Automated Processing System for Port Dublin

The decision of Customs and Excise to proceed with an Automated Entry Processing system (AEP) is very welcome in Dublin Port, where such a system has been strongly advocated for a number of years. The AEP document produced by Customs in March 1989 provides a basis for the Customs clearance system which will come into effect nationally on the 1st January, 1991. The system itself will be available to the trade for testing and training purposes in the latter half of 1990.

The proposed system will accept and validate entries for both imports and exports providing speedy processing

of SADs, especially at peak time, certainly about Customs clearance times and reduction in paper movements. It will lead to improved efficiency across the transport chain benefitting importers and exporters alike. Access to the new system will be on a store and forward basis through a managed network with the promise from Customs that response times will be very fast.

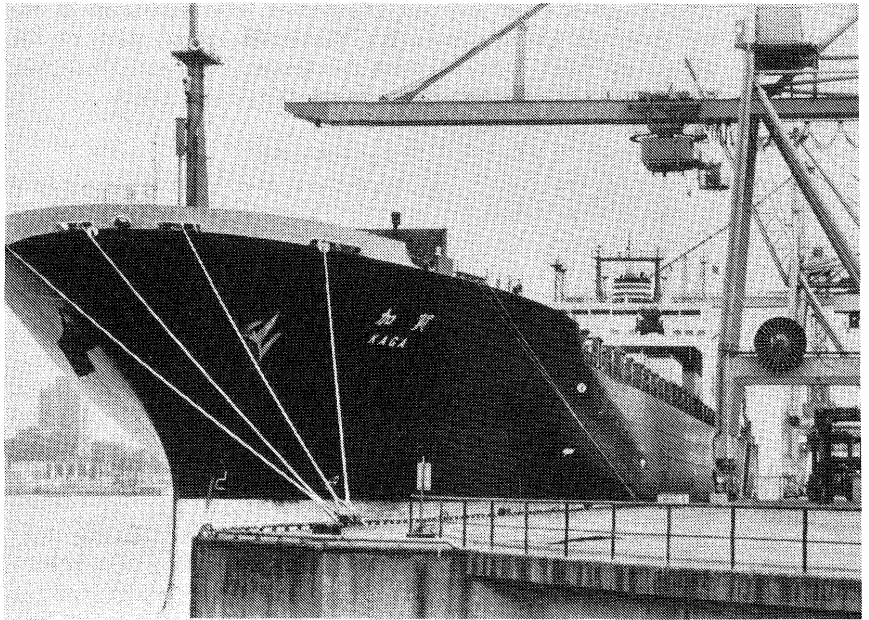
At present almost two million entries, including both imports and exports, are processed annually in Ireland. Nearly half a million of these are processed at Dublin Port, and consequently we are most anxious that an efficient system capable of future upgrading and enhancement should be provided. The system provides a unique opportunity to the freight industry as a whole, including ports, to maximise the efficiency of their operations, and will prove beneficial to Irish exporters in their efforts to maintain the export boom of recent years.

Inventory control and electronic data interchange as well as the ability to access major freight-related data bases are just some of the extra benefits which Irish importers and exporters need in their efforts to remain competitive. These will assume critical importance in the post-1992 situation when Ireland's geographical location must be overcome if we are to maximise the opportunities which the integrated market will provide. (*Port Times*)

## Unitcentre Braces Up For Next Century

By Chris Klaassen

*The container-handling company Unitcentre, part of the transport concern Pakhoed Holding NV, expect their operations to grow deamatically over the next few years. This is why they made a start as early as last year on the expansion of their location in the Waalhaven by purchasing Müller-Thomsen's buildings on Pier 6 and taking over the lease of the site on which they stand. This gave Unitcentre a large additional site that could easily be linked to the existing facilities on Pier 7. This was the first phase of a three-phase expansion project. Unitcentre will be able to move into the next century as a fourth-generation terminal with the most modern equipment, a large enough site and deep-water quay (13.5 metres).*



## Far East Trade via Port of Hamburg Booming

The strong growth of containerized general cargo trade via the Port of Hamburg is continuing. This especially is due the very positive results which HHLA, the leading Hamburg port operating company, has achieved. Allover growth rate in terms of TEU with HHLA during the first six months of 1989 amounted to 11.2%. The company with its main terminal "Burchardkai" has improved its share to approx. 53% of total handling for all relations not including the activities by UCT, a second terminal which early this year has joined HHLA. Hamburg traditionally serves as the loading center in Europe for Far East trades. Growth rates in this trade via HHLA during the first half of 1989 as compared with the previous year reached a level of nearly 16% plus. HHLA in total this year expects to exceed the mark of 1 mio TEUs in container handling. Container terminal Burchardkai which applies most advanced operating systems and which recently started operation with its twelfth gantry is expected to handle some 900,000 TEUs this year.

The Rotterdam city council recently agreed to an application from the Rotterdam Municipal Port Management for an investment of 54.4 million guilders in phases II and III. The Port Management is responsible for all infrastructural works in the port of Rotterdam and leases quays and sites to the cargo-handling companies. The companies themselves invest in the suprastructure — such things as buildings and cranes.

### Expansion of the Piers

Phases II and III of the Unitcentre expansion include the construction of a quay for feeders and barges on the south side of Pier 7, the extension of the sea quay on the south side of Pier 6 and the filling in of a large part of the dock to the north of this pier.

The filling in of part of the dock

between Pier 6 and Pier 5 will create 24 hectares of new port site. Work will start this year on filling in 16 hectares, half of which will be leased to Unitcentre. The other half will be leased to the Rotterdam company Morcon, a subsidiary of the Belgian-Russian joint venture Transworld Marine Agencies. Unitcentre have been given an option on the last eight hectares, which can be added to the new site at a later stage.

All this means that Unitcentre will be able to increase their handling capacity significantly. It also means that the company's deep-sea handling operations will be located as far as possible at one site. At the moment, they have to be split between the main location on Pier 7 and a second terminal on the Heijplaat. Half of this latter terminal is to be exchanged for Hollandia's scrap terminal, so that Unitcentre will also

get the rest of Pier 6. On the other half of the Heijplaat terminal, Unitcentre will continue to operate Geest Line, a short-sea line that sails daily between England and Rotterdam and accounts for a volume of around 50,000 containers a year.

Unitcentre's commercial manager John C. Krabbendam expects that the company will be able to grow rapidly to a volume of 750,000 containers after the expansion. He can't say offhand how many TEUs this is. "I'm not paid in TEUs, at least not for handling. It's the same price for a forty-foot container and a twenty-footer." Further enquiry reveals that converting the 488,000 containers Unitcentre handled last year into TEUs gives a figure of 657,000. After the expansion, Unitcentre will probably be able to top the one million TEU mark.

#### **New Cranes**

Unitcentre themselves are investing about 105 million guilders in the expansion and modernisation of the terminal. They have bought four new post-Panamax cranes from Nelcon in Rotterdam. These cranes can handle today's container vessels and the container vessels of the future. Two of them are now installed on Pier 6. Four transtainers have also recently been ordered from Liebherr. Two of these stacking cranes will be installed on the feeder/barge quay, so that containers can be taken from the ship and placed straight on to the stack or vice versa.

Mr. Krabbendam stresses the modernisation, which was already in hand before the expansion. Last year, for example, the Tandem computer was replaced by a new one with six times the capacity. "This means that the ship brokers can also be connected to our system. They can see the status of their containers in real time on their own monitors. The location the computer gives is always the actual location of the container. As soon as the spreader of a crane releases a container, the position of that container is recorded. For this purpose, our terminal is divided into three-dimensional coordinates (x, y, z). If, for example, container A has to be moved to give access to container B, which is being collected by a customer, the exact position of container A is always known," explains Mr. Krabbendam.

He says that Unitcentre are involved

in discussions with stevedores in the other Western European ports on the joint development of an EDI system for exchanging stowage data.

#### **Barge Terminal**

As we have said, there will be a special quay for lighters and inland vessels on the south side of Pier 7. About 20 percent of the containers Unitcentre handle relate to short-sea traffic. Some of this is trade between Rotterdam's hinterland and countries like Great Britain, Ireland and Scandinavia, but an ever greater proportion is feeder cargo for the large transcontinental scheduled shipping lines.

Unitcentre expect to see major growth in this area. "Particularly after Europe's internal borders disappear in 1993. Shipowners will then be even less inclined than they are now to put into a large number of ports in Northwestern Europe. Once the border formalities are eliminated and cargo for West Germany, for example, can be cleared through customs in Rotterdam as easily as in Hamburg, the mainport idea will gain even more ground. This will automatically lead to larger feeder operations," says Mr. Krabbendam.

Things are also looking up for inland shipping. Rotterdam has an outstanding water link with the hinterland — the Rhine. There are already 37 inland container terminals along the river. The just-in-time philosophy means that the fact that a barge is slower than a truck is no longer so important. Just as long as it arrives in time.

Inland shipping is cheaper than road transport and much less harmful to the environment. In the future, this latter fact could well bring about a further growth in container transport on the Rhine. The various national governments in Europe are clearly becoming aware of the environmental problems that the unrestrained growth of road transport can cause.

Container shipping on the Rhine has already grown dramatically in recent years, independently of any government encouragement. Mr. Krabbendam compares the modal split of the incoming and outgoing containers last year with the 1982 figures. "In that year, road haulage carried 83 percent, inland shipping 10 percent and rail 7 percent. Last year, rail's share was the same, but barges carried 18 percent as against the truck's 75 percent. This does not,

by the way, mean that road haulage has had less work. The absolute growth in container transport has been higher than the relative decline for road transport. You can say that inland shipping has managed to attract the lion's share of the growth."

The quay for feeders and barges is scheduled for completion in 1992. Unitcentre will not really start to grow until the year before this. All the work that is being done also relates, after all, to a modernisation, a move and a rationalisation of the existing facilities. "In Unitcentre we talk about a 'replanning' — a cross between replacement and expansion," says Mr. Krabbendam. "60 percent of the whole operation relates to the improvement and modernisation of the existing facilities, while we will not be seeing an expansion of the present capacity until 1991. When all is said and done, we still have to wait for a large part of the site to be filled in. This will probably happen quickly, but after that the ground has to settle for at least eighteen months before you can build on it."

*(Port of Rotterdam Magazine)*

### **3 Cargo-handling Firms Merge to Form ECT**

On 1 July the Rotterdam cargo-handling companies Europe Container Terminus (ECT), Quick Dispatch and Müller-Thomsen merged to form a new company, Europe Combined Terminals (also known as ECT). The way had been cleared for the proposed merger by favourable recommendations from the works councils and unions involved.

The new ECT has taken over all the operations of the companies involved in the merger. These operations are carried out at eight terminals — five in the Waalhaven area (for containers, semi-containers, container vessels, ferries, forestry products, steel, general cargo/CFS and refrigerated cargo), one in the Botlek district (for cars), and two on the Maasvlakte (for containers).

645 million guilders will be invested in the new company up to the end of 1993. Europe Combined Terminals' turnover will amount to about 400 million guilders this year. Turnover is expected to rise to 450 million guilders by 1993.

*(Port of Rotterdam Magazine)*



## Asia/Oceania

### Caution Urged Re Port Privatization

Beware the temptation to yield to the fashionable clamour for "port privatisation."

The warning was one of the key elements contained in a recent address (to the Brisbane branch of the Australian Chamber of Shipping) by the Executive Chairman, Port of Brisbane Authority (Mr. A.J.W. George).

Mr. George said the real and greatest danger in the complete privatisation of a port was that the assets could fall into the hands of overseas interests.

Local port users could be "squeezed" and the profits transferred overseas.

There follows a precis of Mr. George's remarks:

"Brisbane is the most privatised of all the capital city ports in Australia.

"The Authority provides the basic infrastructure while private enterprise provides the operating assets, and takes the most significant amount of revenue from the total port operation.

"Generally, I believe that any support for further privatisation of the port should be based on real economic benefits to the community, rather than the fashion of the moment.

"Remember, the Authority aims at maximising throughput with minimal cost to the users (subject to full cost recovery).

"A fully privatised operation would concentrate more on profit, which doesn't necessarily coincide with minimising cost to the users in a monopoly situation.

"It would not be very difficult for an operator to increase charges considerably, and still retain the majority of the trade.

"It should be pointed out that the Interstate Commission implied that a statutory authority, controlled by a commercially orientated board, is probably the ideal structure for the Australian conditions, and recommended that the other states look towards adopting such a structure.

"This is what we have in Brisbane. It is not hard to see why these recommendations were made.

"Not only has the port's total trade increased by 70% since the inception

of the Authority, but the Authority has kept the same level of general harbour dues rate for the past seven years.

"When measured against the consumer price index, it means a decline of about 60% in real terms.

"While the trade has been increasing, the total number of Authority employees has declined. Total staff today is a very lean 251, as opposed to 1,800 in Melbourne, and over 2,500 on the pay roll of the Maritime Services Board of New South Wales.

"The best mix of public/private ownership in the port system needs to be very carefully considered from the view point of the customers of the port, and not just the providers of the port's services."

Professor H.M. Kolsen, recently retired professor of Economics, University of Queensland, also urges caution on the application of the privatisation theory, particularly when dealing with a "natural monopoly," e.g., a port authority.

Having studied in-depth the progress of the privatisation of major public bodies from decision-to-operation in the United Kingdom, he asserts:

"Natural monopolies happen because it is cheaper to produce, or to operate, as a single entity rather than several.

"Therefore, it would be cutting off your nose to spite your face to split up such an arrangement only to find that the three or four competitive firms, then doing the job, had average costs that were far higher than those charged by the original, natural monopoly."

Prof. Kolsen said aspects of pricing for former natural monopolies (now privatised) in the United Kingdom, had "turned into a disaster."

For instance — British Telecom in 1986/87 had "rebalanced" its various pricing structures to give a return of 22% on assets.

In the United States, the maximum return was pegged at 12%.

Prof. Kolsen said the slower Australia was to take up "privatisation" the better off she would be.

The country could use the time to learn from the British, and how to avoid the obvious mistakes that they had made, he added.

**N.B.:** On behalf of the Queensland Port Authorities Association, Prof. Kolsen currently is reviewing the pricing policies of all Queensland ports.

This will form part of a review by the State Government in response to a proposal included in the Interstate Committee recommendations.

*(Brisbane Portrait)*

### Big Push Needed for Waterfront Reform

Queensland Waterfront Task Force Chairman (Mr. Paul Houlihan) believes that the Federal Government and the national employees are "hedging and fudging" over the implementation of the findings of the Interstate Commission's report.

He said the time had come for the shipping and port industry to "raise its voice in protest."

Mr. Houlihan, who also is a leading industrial advocate, questioned the wisdom of the decision which saw the employer-union representatives conferring to find solutions for the waterfront malaise.

"These are the groups that caused the mess in the first place," he added.

He was addressing an industry seminar, organised to hear a progress report on the investigations of a special task force which was appointed by the State Government to look into the problems of the "local" waterfront following the findings of the Interstate Commission.

(Queensland is the only state to have established a waterfront task force.)

Bad practices on the waterfront, which employed 5,000 people, were costing — according to the Interstate Commission — \$650 million a year, said Mr. Houlihan.

That worked out at \$130,000 for every worker.

Mr. Houlihan also reminded the audience that because — per head of population — Queensland was the largest export state, its waterfront losses were disproportionately high.

Premier (Hon. Mike Ahern, M.L.A.) also spoke.

He said the momentum for the badly needed reforms to the Australian waterfront was in danger of being lost unless the Federal Government pushed for a "total plan" concept with an immediate contingency implementation arrangement.

The big "push for change" had to come from the Federal Government because most of the important legis-

lation and awards covering the industry were federal.

"And, they must consult with the states on a regular basis on reform areas," he added.

Mr. Ahern said two of the keys to reform were:

- enterprise employment on the waterfront, as opposed to a pool arrangement.

- management must have the right to hire-and-fire and to employ labour on an "as needed" basis.

Mr. Ahern promised government support for those employers and port users who took legal action under 45D secondary boycott regulations to overcome waterfront anomalies.

Maritime Services Minister (Hon. Don Neal, M.L.A.) also called for "direct remedial action."

Mr. Neal said the "in principle" operational agreement, now being negotiated by the major employer and union parties, had been under discussion only since July 1 — even though the Interstate Commission report was delivered four months ago.

Every month's delay in bringing about reform — based on I.C. figures — was costing the nation \$60 million, he said.

For its own part, the Queensland Government was continuing its efforts to improve the commercial performances of the state's port authorities.

With the support of the Queensland Port Authorities Association, a port pricing review was under way, he added.

Executive Chairman, Port of Brisbane Authority (Mr. A.J.W. George) urged other states to follow Queensland's lead and set up task force bodies to examine waterfront problems.

Such a move was imperative if the states wished to have a positive influence in waterfront reform.

Industry support and public awareness had to be maintained, he added.

The Authority's Marketing Manager (Mr. D. Bayne) said the waterfront debate needed new, positive impetus.

There also was a suspicion, up until now, that importers and exporters — those most likely to gain or lose in the situation — were being locked out of the decision making process.

That had to be changed, he said.

If proper reforms were introduced, another 810 people could be employed in the Brisbane region alone, he added.

More than 100 people from across

the total spectrum of the port-shipping scene attended the seminar.

An overwhelming majority supported a two-pronged motion, put by the Chairman of the Queensland Port Authorities Association (Mr. G. Chenery) that Brisbane port users urge the task force to:

- (a) take whatever action possible to improve productivity on the Queensland waterfront.

- (b) take whatever action is necessary to ensure that the industrial movement came to realise that a large number of jobs and members are being lost each year through the attitude and poor productivity of people on the waterfront. *(Brisbane Portrait)*

## **PMA in Support of ISC Recommendations**

The Inter-State Commission handed down its final report on waterfront reform in Australia earlier this year. Its recommendations promise to radically change the face of the country's ports. The PMA is taking an instrumental role in this reform process.

In December 1986, the Inter-State Commission was asked by the Federal Government to formulate a long-term integrated industry plan to ensure the efficient handling, storage and movement of cargo through Australia's ports.

In March this year, the ISC released its conclusions and recommendations in its final report.

It's been a long two and a half years of investigation and deliberation with the Port of Melbourne Authority actively involved in making submissions to the Commission.

The PMA's initial response to the final report has been submitted to the Ministry of Transport (MOT) with further analysis of the report's implications continuing.

Overall, the PMA is strongly supportive of the thrust of the Commission's recommendations.

The ISC concluded that the waterfront industry is in urgent need of fundamental reform. The plan: to create a more competitive environment to ensure that improved efficiency and effectiveness is achieved.

Proposals for the restructuring of the stevedoring industry are at the heart of the recommendations with the ISC asking this industry, unions and Gov-

ernment to enter into an in-principle agreement. But the ISC reform plan covers all aspects of the waterfront industry, including container depots, bulk terminals, road and rail infrastructure, port authorities and shipping services.

The ISC has recommended that the plan be implemented over a period of three years with an implementation authority to supervise this process. Most of the ISC plan was endorsed in early June by the Minister for Transport and Communications, Mr. Ralph Willis. Mr. Willis specified that details of the in-principle agreement were to be worked out over three months of employer and union negotiations. The major ISC recommendations relating to the stevedoring industry are:

- present industry-wide employment arrangements should be replaced by enterprise employment, giving employers responsibility for all employment issues except for basic award matters;

- the waterfront workforce be rejuvenated by the recruitment of 1,000 new workers under the wage of 30;

- a retirement and redundancy program should allow the exit of 3,000 existing employees with half the funding provided by the Federal Government and half by the industry (total \$290 million);

- comprehensive reviews of work practices and skills should be carried out and new training programs developed;

- supplementary workforces should be established on an enterprise basis to deal with demand fluctuations;

- port authorities should consider developing integrated workforces in smaller ports;

- constraints on container depot competitiveness should be eliminated and productivity improved by introduction of new work practices;

- bulk terminals should be considered as single enterprises;

- agreement on industrial relations matters should be reached, including renegotiation of awards, insertion of stand-down provisions and commitment to disciplinary and dispute settlement procedures.

In its initial response, the PMA gave strong support to these proposals and to the aims of increasing competitiveness, reducing shipping costs and ensuring that all parties accept responsi-



bility for the quality of their performance.

The PMA has urged continuing review of the size of the labor force required and careful consideration of the details of the proposed supplementary workforce to ensure that the new arrangements are effective. It also acknowledged the possible application of the proposal for an integrated workforce at Western Port and its intention to take a more active role in port-wide industrial and safety issues.

The recommendations with the greatest direct impact on the PMA are those relating specifically to port authorities. It has expressed its support of the ISC's view that these authorities have an important role to play in promoting competition and regulating monopolies.

Specific ISC recommendations on port authorities (italicised) and initial PMA response are as follows:

- \* *the allocation of responsibilities between government and port authorities should be reviewed.*

The PMA expressed some concern about the recommendations on the division of responsibilities between the two. It was pointed out that existing arrangements are generally satisfactory and that the PMA's role in dealing with broad planning issues and coordination with other transport authorities was emphasised. A more formalised role for the PORTEX Committee (with representatives from the MOT and Victorian port authorities) was suggested.

- \* *port authorities should be substantially autonomous with State Government's monitoring performance against corporate plans;*

- \* *Ministerial control of major investments, pricing guidelines and rates of return should be maintained; and,*

- \* *port authority legislation should include a charter and annual corporate plans should be produced.*

The PMA supported the concept of port authority autonomy and the importance of a clear charter, although the need for legislative definition was questioned. It was noted also that the PMA is currently developing a corporate plan as recommended.

- \* *port authority Board membership should be based on expertise rather than representation.*

The PMA acknowledged the importance of Board expertise but sug-

gested that this may be compatible with retaining the representative capacity of members.

- \* *standing and ad hoc advisory bodies should be established.*

Strong support was given to the importance of consultation with stakeholders and the need to establish appropriate consultative frameworks.

- \* *appropriate measures of performance should be established and published.*

The PMA supported the recommendations on port performance measures and noted that a range of measures is currently being developed for inclusion in the corporate plan and business unit plans.

- \* *shorter-term, non-transferable leases and the provision of facilities to encourage new operators should be considered.*

The PMA acknowledged the need for a review of current leasing practice and noted its own efforts to rationalise leasing in the Port. Support was given for a consideration of lease terms and the inclusion of performance requirements. The PMA supported the view that the provision of common user facilities by port authorities may assist in promoting competitiveness.

- \* *port pricing should be based on "user pays" principles and place less reliance on wharfage charges.*

The PMA offered strong support for the Commission's pricing recommendations which closely follow the PMA's own pricing restructuring proposals.

- \* *port authorities should adopt appropriate components of the stevedoring industry plan, particularly with concern to staffing levels.*

The PMA responded to the recommendation on staffing levels by referring to its efficiency and effectiveness reviews. The PMA's continuing commitment to improving work practices and the training of its employees was stressed.

The PMA has given support to the Commission's recommendations in a wide range of other areas, including the need for greater influence of importers and exporters, the importance of a multi-modal approach to land transport access to and from the port, the introduction of a national communication network and the need for reviews of towage and pilotage services.

The PMA's role in the formulation of its response to the ISC report has also involved a wide range of PMA

personnel. Two staff seminars were also held in May this year to familiarise staff with the recommendations. The first seminar discussed the potential implications of the ISC recommendations for the PMA and working groups made suggestions for PMA strategies.

The second seminar featured guest speakers from industry and unions with a view to informing staff on the wider implications of the ISC report. Overall, the PMA has welcomed the ISC report and with its influence as Australia's major container port, the PMA will be seeking to cooperate in the implementation of the plan, using the recommendations as a basis for continuing efforts to improve its own performance.

(Port of Melbourne Panorama)

## **PMA's VTS "First" For Australian Ports**

The term "radical" is not one that sits easily with the conservative image of the shipping public sector.

But it is really the only description for the latest technological advances being implemented by the Port of Melbourne Authority in its navigation system.

The PMA's radar-based vessel traffic tracking system (VTS), now in the final stages of its acceptance test, is both a first for Australian ports and establishes the Port of Melbourne's navigation system as one of the best in the world.

But its implications are even broader. The system, developed jointly by the PMA with Krupp Atlas Elektronik (Australia) at a cost of \$1.25 million, has a 75 percent Australian design and manufacturing content. This home content is particularly significant given that this VTS is considered to be a forerunner of the new generation of its type. It also means that the new PMA system is fully supportable in this region of the world and will be marketed to ports within this region.

The ongoing involvement of the PMA in developing the system was also an innovation. This arrangement with Krupp Atlas meant that the PMA was directly involved at every stage of development including system research, design and manufacture, equipment selection, operating principles, operator interface, system fault alerts and

maintenance.

Mr. Robert Reid, the PMA's Principal Design Engineer Electrical and Mechanical, has been the man at the helm of this ongoing project and the implications of direct PMA involvement in design were particularly significant, he said, because it served to overcome the interface problems between designer and user.

That is, that the VTS provided a special case of what can be achieved when the would-be operators are major contributors to the design.

Briefly put, the new radar-based system is designed to monitor shipping in the Port of Melbourne and Port Phillip Bay and out into Bass Strait, an area of approximately 3,700 square kilometres, and will dramatically enhance operational efficiency and navigational safety for the estimated 6,000 annual shipping movements of the largest general cargo port in the Southern Hemisphere.

The VTS will be integrated with the present system which incorporates VHF ship-to-shore radio communication, UHF data communications, a meteorological system, the Navigation Beacon Monitoring System and tidal data.

The main system components of the VTS comprise three Krupp Atlas radars, X-band radars at Williamstown and Point Nepean and an S-band radar at the PMA Harbor Control Tower.

Radar video, plot extracted and control data from each radar scan will be transmitted by a combination of radio and land-line links and integrated at Harbor Control.

The high resolution color graphics display console at Harbor Control will then be capable of providing a "picture" of the overall situation within Port Phillip Bay and about 20 miles into Bass Strait or may "zoom" in on any part of this area, down to a range of one nautical mile.

The ability to provide a total picture, as it were, is important because the VTS had to also be capable of providing functions other than just that of detection and display of ships in the port area, said Mr. Reid. This meant accounting for the needs of other Government Departments such as Customs, Police and maritime safety authorities.

According to Mr. Reid, these functions include:

- Safety: monitoring of all ship

movement and ships at anchor.

- Control: ships into and out of port.

- Advice: ship movements.

- Information: ship positions and times of arrival.

- Security: detection of unauthorised ships.

- Scheduling: port services.

- Warnings: potential collisions; ships entering unauthorised areas; ships leaving predetermined courses.

The implications for Customs monitoring work is evident, along with the potential aid for pilots working in the Port of Melbourne. Another significant result will be for police involved in search and rescue work. In Melbourne, particularly in the summer months, boats often go missing on the bay. The VTS system will be another aid in helping to locate and rescue them.

On an operational front, the VTS is extremely flexible and expandable, said Mr. Reid. The system has been developed to link in with ship and berth data presently held in the PMA main computer, so that up-to-date information on planned and current shipping movements can be accessed by officers of the PMA's Navigation Department in the World Trade Centre and also by shipping companies. In addition, the operator interface into the system has been developed to minimise the time and actions necessary to obtain information from the system using screen-based menus. This enables the control officer to quickly gain, without having to change his field of view, data such as a ship's course, speed and ETA, which may have been requested by another pilot or Harbor Master.

The system also has the capability to cover other Victorian ports, providing information at Harbor Control as well as at local control centres.

One other feature of the system, said Mr. Reid, is what is known as a berthing map. This means that when a ship completes its voyage, it is assigned a berth map and each number represents a berth in a particular area of the Port.

When the system is finally developed and an operator accesses that berth, he will get all the berth attributes such as length, depth of water, telephone numbers and so on.

The breadth of this project's scale is evident from what has been written above.

It is one of precedent, not only because it is a technological forerunner

in its area but because it also highlights how the correct conception and application of technology into port projects can revolutionise the efficiency and effectiveness of facilities and operations across the board.

*(Port of Melbourne Panorama)*

## **Melbourne Registers 13% Increase in Trade**

1988-89 is shaping up as another year of excellent trade growth for the Port of Melbourne.

Year-to-date (to end of April) figures show a 13 percent increase in total trade for the same period in 1987-88.

Year-to-date total trade stands at 20.4 million revenue tonnes, a substantial improvement on equivalent 1987-88 figures of 18.1 million.

This should place the PMA up around the 24 million mark by the end of the financial year.

Total commodity trade (which excludes empty containers) is up from 16.1 million to 17.9 million revenue tonnes, representing a healthy 11.4 percent in year-to-date terms.

Within total trade, overseas exports are up 4.5 percent with overseas imports up 20.7 percent.

Coastal imports rate a 14.8 percent year-to-date increase on last year with exports up 8.3 percent.

*(Port of Melbourne Panorama)*

## **WWF Productivity Scheme a Winner**

The Waterside Worker's Federation (WWF) can claim a victory in its achievement of dramatic productivity increases at several of the port's packing depots.

Poor productivity was a chronic fact of life at packing depots around the port for as long as anyone can remember. Streams of complaints from customers awaiting delivery of cargo had become a daily occurrence for shipping agents and terminal operators.

Union leaders became increasingly concerned about continued reports of poor performance at the depots, which created a negative image of their members and generally hampered the efficiency of the waterfront in Australia.

The WWF decided to take the matter into their own hands two and a half

years ago and developed a profit-sharing incentive scheme which they believed would substantially lift productivity levels at the packing depots.

The scheme is relatively simple. Packing companies estimate that the charge on each LCL container received and unpacked is \$600. One quarter of this figure — which works out to \$5 per person per box — is shared among a team of workers (comprising laborers, clerks and foremen) for every container over a fixed limit that is processed in the depot. This provides them with an extra incentive to unpack as many containers as possible during their shift.

The scheme was given its first trial run at the Conaust Ltd. packing depot in 1987. It proved so successful that Strangs and Patricks adopted it shortly afterwards.

The turnaround in productivity and output is remarkable, according to WWF President Jim Beggs.

"Productivity has increased by over 200 percent — conservatively speaking — at most of these depots," Jim claimed recently.

As a result of the staff's speedy work, truck queueing at the depots has also been minimised.

"Trucks no longer have to start queueing up at 2 a.m. to wait for goods to be unpacked," Jim said.

"We can now offer a 24 to 48 hour service, whereby a customer can receive the goods within two days of the goods arriving at the depot.

"We just wanted our men to learn to do seven hours work for seven hours pay," Jim remarked.

Workers' attitudes have changed for the better, indicated by a marked reduction of sick leave taken and injury compensation claims made by workers.

In fact, Jim said, only one worker has filed a workers' compensation claim in the last two and half years.

Jim tells an amusing anecdote to further illustrate how popular the scheme is with depot staff. At a recent visit to the wharves, the Minister for Transport, Mr. Kennan, was told by one packer, "You know, Mr. Kennan, we're all born-again workers."

Other profit-sharing schemes are successfully operating in other ports around Australia including Geelong, Mackay and Stanley, all of which have boosted productivity.

"One of the recommendations in the Inter-State Commission Report is that

more productivity and incentives schemes should be set up on the waterfront and I believe our union will continue to make progress in this area," Jim said.

"We've done a lot of good for our country within our own port. Our union is very proud of what we've achieved."  
(*Port of Melbourne Panorama*)

## **NTPA — Positive Move For Better Port System**

In March 1988 the State Government sought the views of Tasmania's port authorities on what they intended to do about the development of strategies for increasing the co-operation and co-ordination between Tasmania's ports, and strategic plans for the development and operation of those ports.

Because of the competition and parochialism between the ports, the port authorities were unable to respond to the Government.

The proposal to amalgamate arose out of the intense debate which took place during the search for an answer to the questions raised by the State Government.

Initially, the Port of Launceston Authority, Port of Devonport Authority and Burnie Port Authority were involved in the development of the proposal but Devonport later withdrew.

The main objective of the formation of the Northern Tasmanian Ports Authority (NTPA) is to participate in the creation of a port system which better serves the shipping and cargo interests using that system. At the same time, this initiative by the Northern port authorities enhances their ability to deal with some serious problems affecting each port, including:

- Issues arising from the Interstate Commission Waterfront Industry Plan;
- Scarcity of development funds arising from the severe reduction or even complete absence of access to loan funds because of the nation's Current Account deficit; and,
- Vulnerability of existing operations in which a substantial percentage of revenue comes from one source.

### **Basic Proposal**

The NTPA is to be a statutory authority established under a new act of Parliament.

It will have a board, the members

of which will be master wardens, deputy master wardens and one extra warden from each of the boards of the existing Port of Launceston Authority (PLA) and the Burnie Port Authority (BPA).

The NTPA will take over all of the port administration functions of the existing PLA and BPA and therefore will be administering two sets of wharves as one integrated port operation.

The existing PLA and BPA will be retained to provide for local area requirements such as operation of the Burnie (Wynyard) Airport, participation in the Tamar Region Master Planning Authority (TRMPA) and "Clean Up the Tamar" programmes.

Board members for the PLA and BPA will continue to be elected from the respective areas just as they are now.

There will be no public elections for NTPA board members as board members of the PLA and BPA automatically become board members of the NTPA.

The legislation to establish the NTPA will provide scope for other Tasmanian port authorities to join at a later date.

The board of the NTPA will have an administrative structure, headed by a general manager, reporting to it.

All staff now employed by the PLA and BPA will become the employees of the NTPA.

There will be no loss of entitlement to superannuation, long service leave or any other conditions of employment. Nor will there be any redundancies.

The combining of the Launceston and Burnie administrative structures into one functional organisation will occur during a transition period of about 21 months.

Ultimately, all Tasmanians benefit.

The formation of the Northern Tasmanian Ports Authority contributes to this by:

- Avoiding the higher costs resulting from unnecessary duplication of facilities;
- Funding port developments from operational cash flow rather than loan funds;
- Securing the on-going financial viability of the port system by reducing the vulnerability of the system to fiscal shock (originating from technical or commercial sources) and by broadening the business base of the organisation; and,
- More effectively responding to

changes in the business environment (such as the Interstate Commission Waterfront Industry Plan).

The base business of the ports of Burnie and Bell Bay will remain unchanged by the formation of the NTPA. Those ports will continue to serve the needs of their clients and, in fact, the services and facilities provided are expected to be improved at a faster rate than would have been possible without amalgamation.

On-going works will continue with the NTPA concentrating on improving container-handling facilities in both ports. In Burnie, developments will be programmed to cope with the expanding North West Coast minerals trade. In the Tamar, continuing channel developments will allow Bell Bay to accommodate larger vessels catering for BHP-UTAH's ferro alloy plant (TEMCO) and new production from Southern Aluminium's wheel plant.

A feature of the two wharf areas operating under the one administration is the ability to readily provide backup facilities for disaster contingency without adverse impact on revenue.

There are three real benefits —

- Cost savings,
- Greater combined income for capital developments, and
- By joining together, the ports will build on their own strengths and complement each other, particularly in the personnel area.

There will be substantial cost savings by rationalisation of services and capital developments. The net annual cost reduction is estimated at more than \$2 million, with the major savings arising from rationalising capital expenditure.

The importance of this is that in the past much money has been wastefully spent by the ports trying to compete with each other. Without amalgamation, that will continue.

#### **Broader Business Base**

The savings result from the avoidance of capital servicing charges by eliminating capital expenditure which Tasmanians cannot afford.

The creation of the NTPA will result in a broader business base which will lead to a more financially robust organisation.

As well, the combined income of the organisations will make it a lot easier to fund the large investments needed to keep up with the demands of modern

## **New Standards for Containers: Implications for Shipping and Port Industry?**

*(Produced from 'PORT KLANG,' the quarterly official publication of the Klang Port Authority)*

Three decades after the advent of the freight containers, and just as developing countries are beginning to benefit from their heavy capital investment in providing the infrastructure for containers, a new threat has emerged with pressure from the developed countries to change the structure of the unit load itself.

Efforts are intensifying to change the existing standard sizes of containers. Proposals to increase the dimensions and cargo capacity of containers were made at an International Standards Organisation meeting in 1985 but these were rejected because of strong opposition from third world members. Consequently the compromise solution was to upgrade the 20-footer's capacity from 20 to 40 tonnes. However, there is now renewed pressure from influential shippers and multimodal transport operators from the developed countries to adopt new standards for freight containers.

In 1987, ISO set up two working groups to study the proposals for bigger containers and the findings of the groups will be presented at the ISO meeting in London in late June this year.

What are the implications for developing countries such as Malaysia should the proposed specifications be adopted as international standards?

The existing ISO specifications for dimension and capacity of containers

shipping.

The NTPA will also have the ability to exercise greater 'clout' with industry and government.

The formation of the NTPA will provide greater personnel skill and depth of experience and enhance the career path prospects of employees.

### **PAF Suspends Security Checks on Export Cargo**

The Ports Authority of Fiji decided to suspend its present stringent security checks on export cargo and waive se-

were adopted in 1967. This was the so-called ISO 668 container which has a standard height of 8 feet (later changed to 8 feet and 6 inches) and with lengths at 40, 30, 20 and 10 feet. Capacity ratings for these containers were: 30 tonnes for 40 footers; 25 tonnes for 30-footers; 20 tonnes for 20-footers; and 10 tonnes for 10-footers.

Other specifications spell out structural designs of the containers such as for corner fittings and testing; methods of handling and securing; and coding, identification and markings.

Although the ISO standards have been the accepted norms in the container trade for over three decades, changing patterns of trade in recent years have exerted considerable pressure for new standards. Consequently, there has been increasing usage of non-ISO standard boxes to cater for specific trades, for example, low density-high volume cargo.

However, shipowners, terminal and land operators either refuse to handle such containers altogether or treat them as "specials" i.e., delivering such boxes on a door-to-door basis if possible, or stripping them first at the terminal and charging higher rates for such services.

Such containers in use were small in number before 1985 but the number have steadily increased and inevitably, pressure is being exerted on the ISO to adopt the dimensions of these boxes as standard.

The proposed specifications are:

**Height** — to increase from 8 ft. 6 in. to 9 ft. 6 in. for 40-, 30- and 20-footers;

**Length** — to introduce longer con-

curity charges on exports with effect from 1 June 1989.

The suspension of security checks and the waiving of the security charges are part of the Government's efforts in boosting exports and the revival of the economy.

The suspension apply to export cargo only. Imports will continue to be subjected to normal security checks and appropriate security charges.

However to ensure that this relaxation is not abused, PAF may institute random checks as and when it wishes.

*(PAF WAVU)*

tainers with lengths at 45, 49 and 52 feet;

**Ratings** — from the recently ratified 24 tonnes for a 20-footer to a new rating of 30 tonnes; and

**Width** — from 8 ft. to 8 ft. 6 in.

What would be the implications for terminal and transport operators, shippers and shipowners if the proposed standards are adopted?

Any change in the size of the container would hit terminal operators the hardest.

Wharf gantry cranes in use in most developing countries can handle boxes of up to a length of 45 feet and have a safe working load of 35 tonnes. However, to lift any length beyond 45 feet or to frequently handle containers of 30 tonnes would impose unacceptable stress on such equipment.

Similarly, straddle carriers and yard gantries which are designed to handle existing ISO standard boxes will have difficulty in handling bigger boxes while even the configurations of container yards would have to be changed in order to enhance selectivity in stacking and retrieval operations.

In a nutshell, the introduction of new ISO standards for containers would mean, at best, expensive modifications to existing equipment (assuming this is technically feasible), and at worst, obsolescence of very expensive — and relatively new — equipment. To compound this problem, planning and investment will certainly become more difficult given the fact that long-term and high capital investment can virtually become white elephants overnight because of fast-changing developments in the container trade.

Existing road and rail infrastructure in most developing countries can handle ISO boxes but with the proposed new sizes, upgrading of roads, overhead bridges and tunnels would be required.

Existing height clearances for overhead bridges range from 4.5 to 4.8 m while the new box dimensions would require clearance of 5.2 m. Width limits of tunnels are still confined to 2.5 m while axle loads are limited to eight to nine tonnes per axle.

Though the problem of overhead bridges and tunnels can be considered a temporary one as improvements are being made to road networks in most developing countries, there is still a question of the time required in completing them. Immediate introduction

of the new ISO standards can only mean additional financial pressure on the countries concerned.

Railways would be particularly hard hit as they are already operating at a loss or barely breaking even in most countries. For the railways to make modifications to their rolling stocks or to purchase new ones to cater to the bigger boxes would impose tremendous financial strain on the operators.

The ones to benefit most would be the shippers. Gains for shippers would include the following:

- more choice in types of boxes to cater to their specific requirements;
- savings in transport costs as haulage rates are the same whether a box carries 24 or 30 tonnes (upgrading of ratings for a twenty-footer from 24 to 30 tonnes means pure gain for the shipper);
- as handling charges are based on per box basis and not on weight, there is, again, tremendous savings for the shipper (to use four 45-footers would translate into a displacement of one 20-footer);
- once the proposed specifications become the new standard, terminal operators can no longer treat such boxes as 'specials' with all their trappings of higher charges.

Shipowners, on the other hand, would encounter the same problems as the terminal operators though they probably would not be as hard hit as the latter. However, even though shipowners too would face the problem of modification to or replacement of their fleet, the cost factor might not be the major constraint it would be on others as they are well organised and most operate on a consortium basis.

The reaction of shipowners to the proposed standard would be interesting. Indications are they would resist initially. However, considering the benefits to them in terms of space optimisation and maximisation of savings — and the need to retain their competitive edge — major shipowners are certain to lend support to the proposed specifications. Once the majors are in, the others would have to follow if they want to survive.

There is no denying that there are many advantages to be obtained from the introduction of the bigger boxes. The movement towards new standards for freight containers is irresistible in the long term given the changing pattern

of international trade. What it all boils down to for countries such as those in ASEAN is a question of time.

Though tremendous capital investment would be required to cater for the next generation of freight containers, there would also be tremendous returns from such investment in the long run.

Faced with an apparently no-win situation, the obvious compromise for most developing countries would be to buy time to prepare for the inevitable.

In a recent meeting in Manila, ASEAN port authorities took a joint stand to resist immediate implementation of the new freight containers to allow ports in the region to get ready without having to be rushed into it. In the meantime, non-ISO boxes would continue to be treated as "specials."

Meanwhile, the outcome of the London meeting would be something all concerned are waiting for.

*This article is based on paper presented by Assistant Traffic Manager (R&D) S. Poopalasingam at the recent ISO TC 104 meeting in London.*

## **Laem Chabang Port Construction on Schedule**

The construction of Laem Chabang Commercial Port, Thailand's new deep-sea port which is aimed at stimulating the development of the Eastern Seaboard and accommodating larger ships that cannot enter the Bangkok Port, has been under way on schedule with 45 percent of the work finished.

The Port Authority of Thailand (PAT) has been assigned as the implementing agency for the development of the Laem Chabang Port Project. The 2,029 million baht construction work started in December 1987 by a joint venture of 4 contractors led by Italian-Thai Corp. and due to be completed within 48 months or December 1991.

Upon completion, the Port will comprise three container berths, one multi-purpose berth, two agricultural bulk cargo berths, one coastal berth and one berth for service craft. The multi-purpose is scheduled to be operational by the end of next year.

## Port of Singapore Goes High-Tech With CIMOS

By Michael Loh  
Public Relations & Marketing  
Department

The Port of Singapore Authority (PSA) is spending some \$40 million to install a Vessel Traffic Information System (VTIS), which will be commissioned in late 1990. A Norwegian firm, Norcontrol Surveillance Systems A/S (NCSS) was awarded the principal contract to design, supply, install, test and commission the VTIS. The VTIS is part of the Computer Integrated Marine Operations System (CIMOS) developed by PSA.

"The VTIS is an electronic and computer-based system for monitoring vessel movements," said Mr. Goon Kok Loon, Deputy Executive Director and Director (Marine) of PSA. "Phase I of VTIS will monitor vessel movements in the approaches to our port waters and in the Singapore Strait. Its basic functions are to establish effective procedures for identifying vessels coming into port waters and to monitor vessel compliance with the Traffic Separation Scheme," he added.

"The VTIS will enable better management of port waters and approaches to the Port. The radar system will be installed at St. John's Island, Bedok, and PSA's lighthouses at Pulau Satumu (Raffles), Sultan Shoal and Pedra Branca (Horsburgh)," said Mr. Goon. Phase II, which is being planned, will be configured to monitor vessel traffic within port waters. About \$30 million will be spent to install more radar systems under this phase. To complement this, a CCTV system may be installed to visually monitor vessel traffic in critical areas. For Phase III, another \$20 million will be spent for other components of CIMOS, bringing the total expenditure to \$90 million.

The Singapore Strait is one of the busiest shipping channels in the world, with one ship transiting every six minutes. The Port of Singapore handled 71,891 vessel arrivals and departures totalling 790.7 million Gross Registered Tons in 1988, a significant increase of 15% over 1987. The variety of vessels range from cargo freighters to containerhips to VLCCs.

The large volume of shipping traffic inevitably imposes a greater need for

higher standards of navigational safety. The grounding of the supertanker *Showa Maru* at Buffalo Rock in 1975 and the recent *Exxon Valdez* at Prince William Sound in Alaska are grim reminders of the dangers of shipping tragedies. For this reason, the Traffic Separation Scheme was implemented on 1 May 1981 for the Singapore Strait. The VTIS is another giant step forward in this direction.

CIMOS consists of three core components and six supporting components. The core components comprise the Vessel Traffic Information System; the Port Traffic Control System; and the Computerised Vessel Communications System. The six supporting components are the Pilots Deployment System; Marine Craft Deployment System; Marine Emergency Action System; Ship Handling Simulator; Hydrographic Information System; and Real-time Current Monitoring System.

With CIMOS, there will be efficient and safe use of the anchorage space and at the same time improved services provided to port users. It will serve as a navigational information service for vessels using the Singapore Strait, providing grounding prediction warnings, collision prediction warnings and channel violation warnings.

(PSA News)

## PAT to Purchase 3 More Gantry Cranes

The Port Authority of Thailand has received approval from its Board of Commissioners to purchase three more gantry cranes to add up with the six existing cranes.

The three cranes to be purchased from Metalna of Yugoslavia cost about Bht 228 million. Each unit has its loading-unloading capacity of 20-25 TEUs/hr., weighing total of 32.5 tons. Contract was signed in August 1989 and the cranes are to be delivered in November next year.

In compliance with the installation, PAT has allocated a sum of about Bht 700 million to purchase other handling equipment to enhance the port's capacity to meet the forecasted container throughput of about 1 million TEUs which is expected very soon.

PAT has earlier procured ground mechanical handling equipment including 15 tractor trailers, 8 container

stackers and 5 empty container shifters. PAT has also expanded its container stacking area of about 120,000 sq.m. and will further another 70,000 sq.m. this year.

## Port Rashid Records Throughput Increase

Port Rashid has announced a substantial increase of about 24.29 percent in total throughput during the first six months of the current year over the same period in 1988.

The total throughput rose by 4.32 million freight tonnes between January and June in 1988 to 5.37 million freight tonnes in the same period of this year.

In the comparative period, exports showed an increase of about 31.6 percent from 409,276 freight tonnes to 538,745 freight tonnes; imports rose by around 24.23 percent from 2.26 million freight tonnes to 2.80 million freight tonnes; and transshipments went up by approximately 22.5 percent from 1.65 million freight tonnes to 2.02 million freight tonnes.

Total container (TEU) throughput also recorded a sizable rise of about 22.91 percent from 270,306 TEUs in the first half of the previous year, to 332,237 TEUs in the same period of the current year.

Sea-air cargo throughput handled by Port Rashid increased by about 9.67 percent to 8.74 million kgs handled during the first six months of the current year as against 7.97 million kgs handled in the same period of last year.

(Gray Mackenzie News)

## Fighting 'Killer Bees' -

(Continued from Page 30, Col. 3)

parasites which could spread through indigenous bee populations.

"This is the best technology available," said Mr. George LeFave, officer-in-charge, Animal and Plant Inspection Service, USDA. "Research is continually being done to find improved methods of trapping and prevention."

As a port of entry for ships and cargo from around the world, the Port of Charleston works closely with the USDA and other government agencies to prevent intrusion by a variety of foreign pests.

(Port News)



# Would you pass him by?

## Some did...

In 1986, this child was rescued by a merchant ship but only after other ships had passed him by. Today and everyday, there are other children like him, adrift in the South China Sea, in danger of death from drowning or other perils.

It won't cost your ship in time or money if it stops to rescue refugees in distress. UNHCR can ensure prompt disembarkation and reimbursement for expenses incurred.

For copies of our "*Guidelines for the Disembarkation of Refugees*" please contact us at the address below.

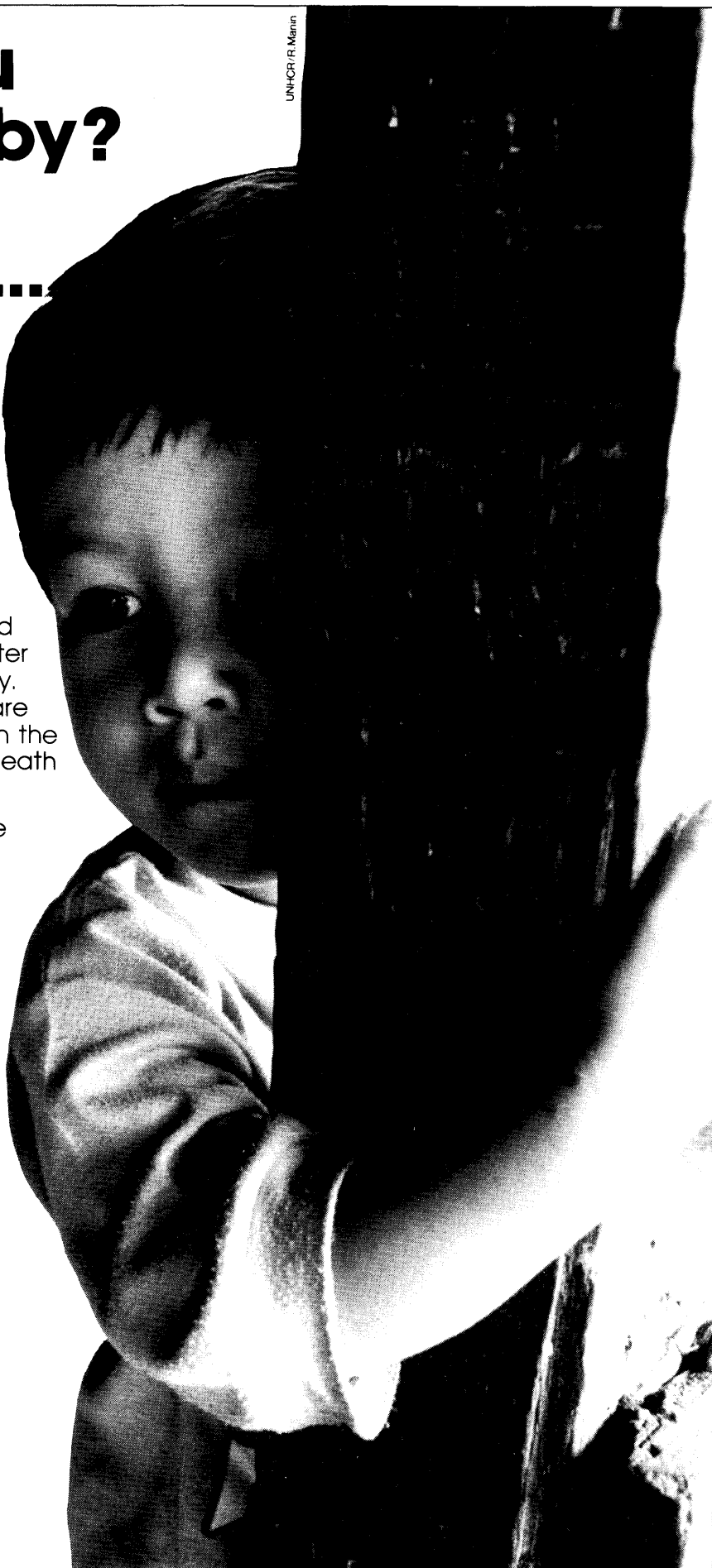
Whenever your vessel encounters refugee boats, **PLEASE STOP** – the refugees need your help.



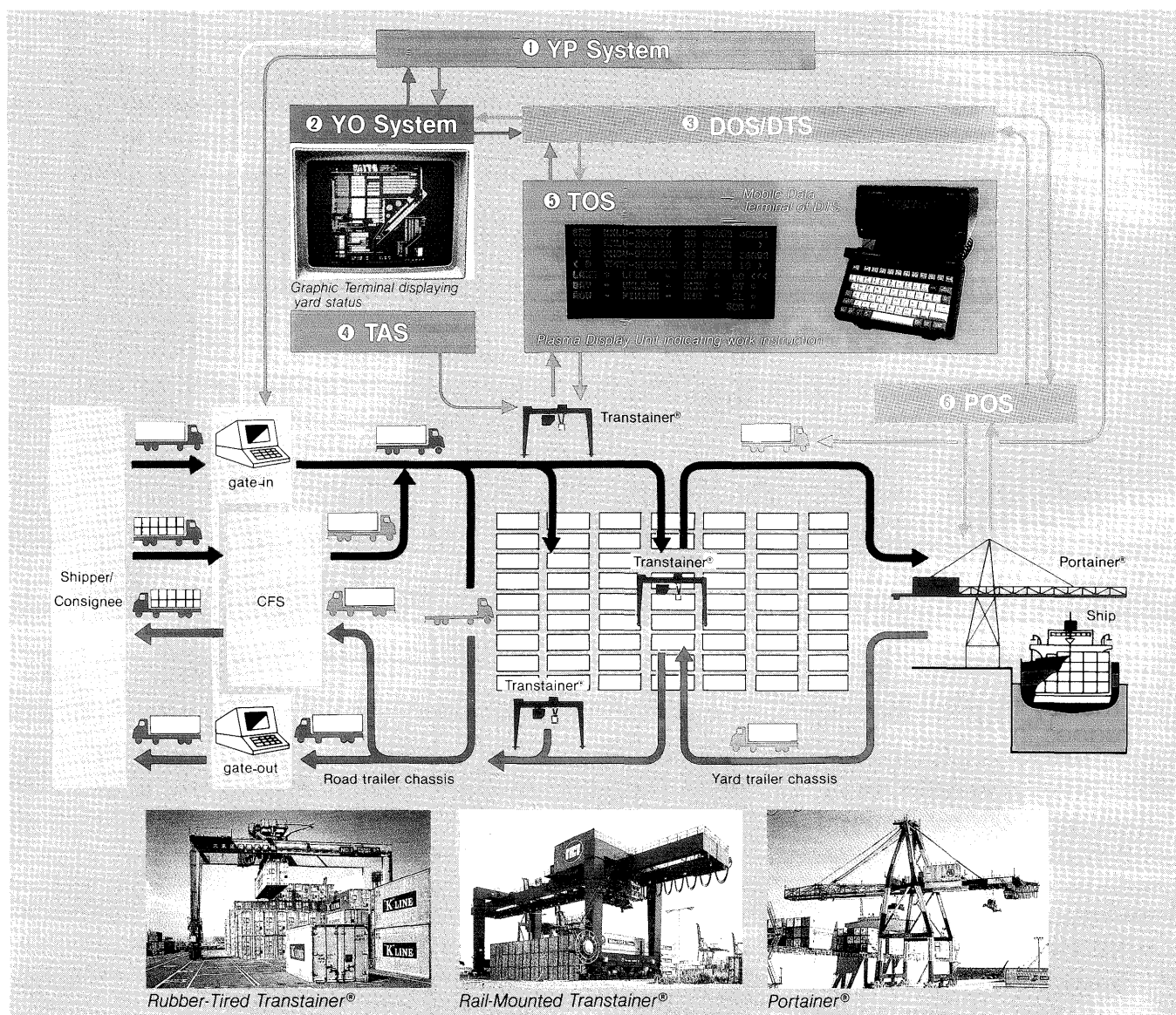
### UNHCR

United Nations High Commissioner  
for Refugees

P.O. Box 2500  
CH-1211 Geneva 2 Dépôt  
Switzerland  
Tel: 39 81 11  
Fax: (22) 31 95 46  
Tlx: 27 492 UNHCR CH



# 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.

6-4, Tsukiji 5-chome, Chuo-ku, Tokyo, 104 Japan Telex: J22924, J22821 Engineering Division Tel. (03) 544-3800