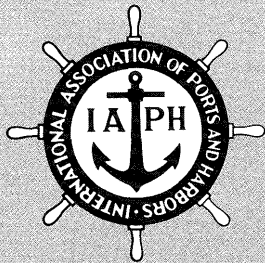


Ports & Harbors

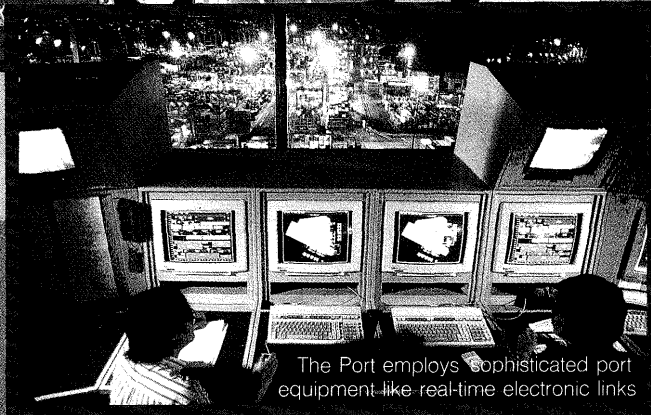
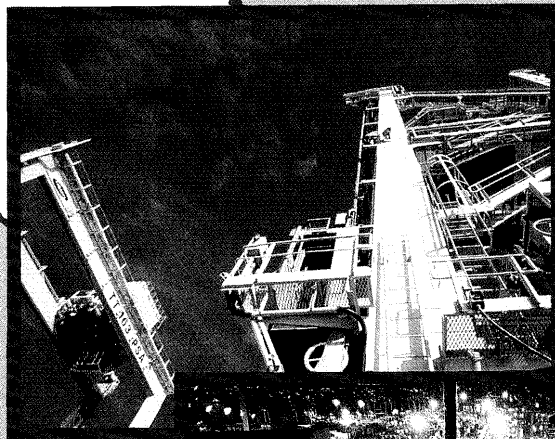
October
1994 Vol. 39 No. 8



The Publisher The International Association of Ports and Harbors

A One-Stop shipping centre offering a comprehensive range of services

It invests in the use of
state-of-the-art technology
in its operations



The Port employs sophisticated port
equipment like real-time electronic links

Port of Singapore



The Port of Singapore—a container gateway

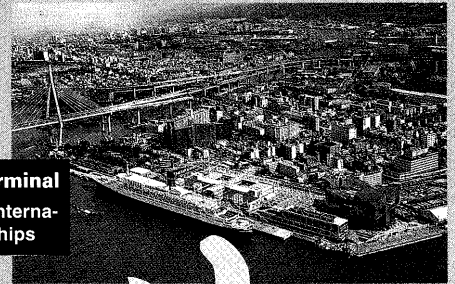
Did You Know?

Osaka Port: The Gateway of Japan Open to the World

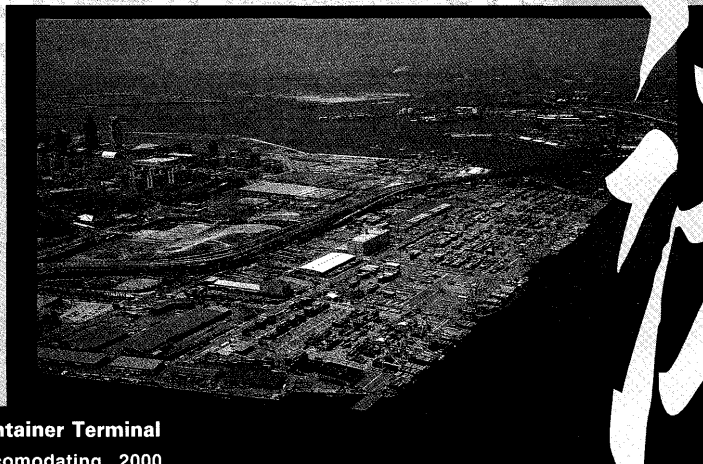
Comprehensive Distribution Terminal

Osaka: a metropolis virtually at Japan's center representing along with Tokyo the Japan of today. Osaka port: the gateway of Japan and pillar of the Osaka economy linked with 100 countries and 400 ports around the world. Featuring a full complement of port facilities including container, passenger and ferry terminals, and directly connected by a highly developed traffic network to the massive hinterland and the 24-hour Kansai International Airport open September 4th of this year, it forms a comprehensive distribution terminal uniting sea, land and air. Those who know, know.

Passenger Terminal
Terminal for international cruise ships



Container Terminal
Accommodating 2000 full-container ships a year



Ferry Terminal
Japan's largest domestic ferry terminal accommodating two million people a year



Port of Osaka would like to invite the 21st World Ports Conference of IAPH in 1999

OSAKA PORT



Port of Osaka

PORT & HARBOR BUREAU, CITY OF OSAKA
OSAKA PORT PROMOTION ASSOCIATION
OSAKA PORT TERMINAL DEVELOPMENT CORPORATION

TEL 06-572-5121 FAX 06-572-0554
TEL 06-571-2200 FAX 06-573-6231
TEL 06-612-0171 FAX 06-612-7790

Contents

IAPH Officers

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Port Director, Port of Miami
U.S.A.

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Robert Cooper
Chief Executive
Ports of Auckland Ltd.
New Zealand

Second Vice-President:

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Inspector General
Ministry of Equipment,
Transport and Tourism,
France
Executive Vice-President,
International Affairs of
Association of French
Ports (UPACCIM)

Third Vice-President:

Dominic Taddeo
President & Chief Executive Officer
Port of Montreal
Canada

Conference Vice-Presidents:

Mic R. Dinsmore
Executive Director
Port of Seattle
U.S.A.

John J. Terpstra
Executive Director
Port of Tacoma
U.S.A.

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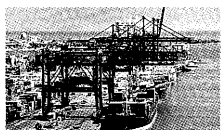
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TRADE OLD ROUTES FOR THE NEW WAY TO GO – PORT OF MIAMI.

More and more shippers worldwide now recognize Port of Miami's unique advantages:



A strategic location as the natural hub for trade between North America, Latin America and the Caribbean.

The most service to and from Latin America and the Caribbean, with steadily growing traffic to and from Europe.

Quick distribution of shipments from the Far East and Europe throughout the Southeastern U.S., with rapid "in transit" delivery to Latin America and the Caribbean.

The first port with complete capabilities to serve

Panamax vessels once they transit the Panama Canal.

Computerized terminal operating systems to provide real time cargo status, automated gates, bookings and releases fully integrated with U.S. Customs and other federal regulatory bodies.

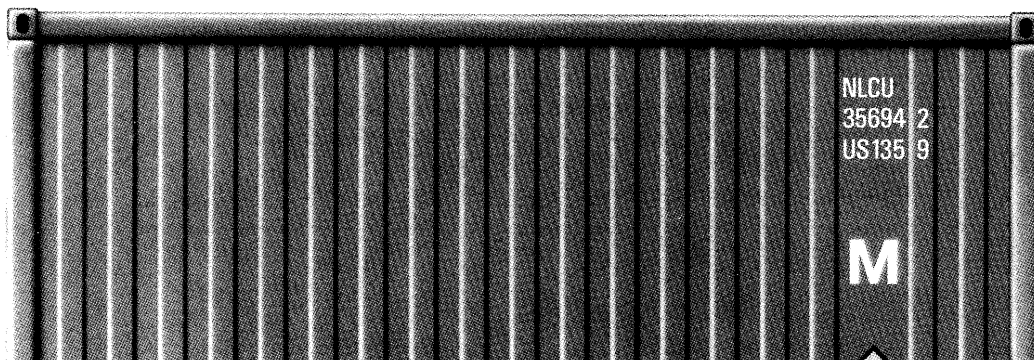
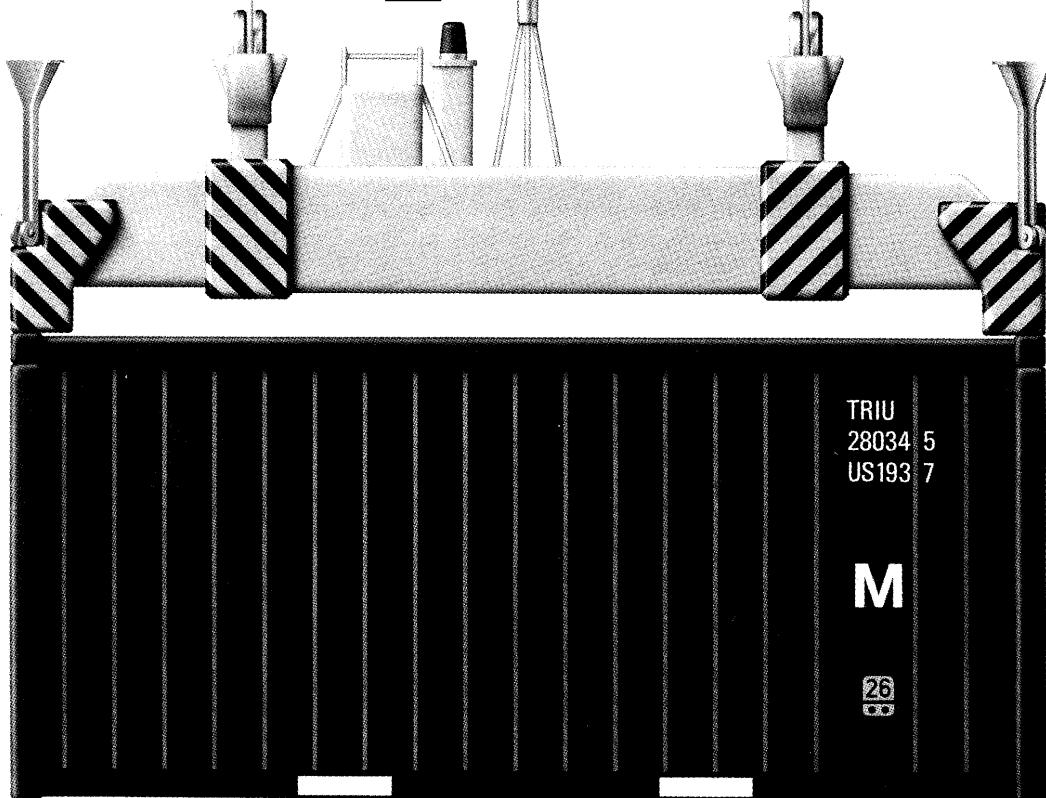
Cohesive, ongoing development that recently added 80 acres of space, 3 new RoRo berths, 1,000 feet of additional container berth, and 4 more gantry container cranes.

For information on the world's new "Way To Go", write Port of Miami, 1015 North America Way, Miami, FL 33132, or call (305) 371-7678; Fax (305) 347-4843.



PORT OF THE AMERICAS

WayToGo



IAPH ANNOUNCEMENTS AND NEWS

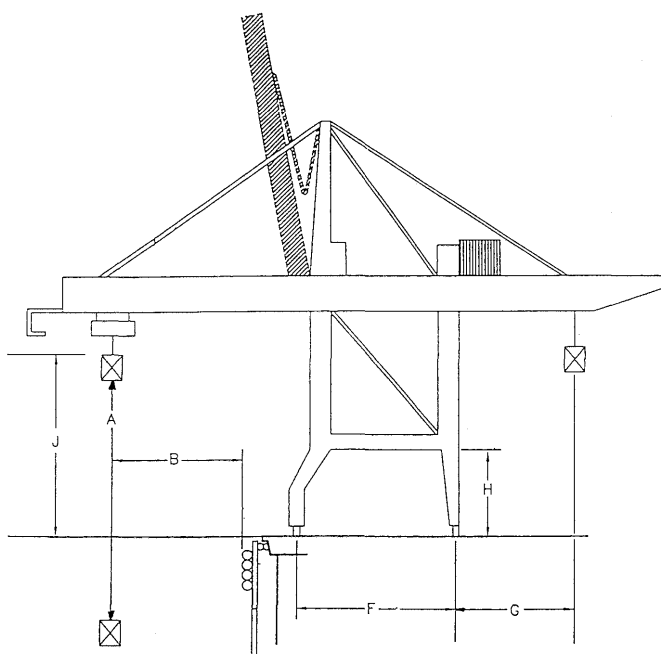
Container Gantry Crane Surveys Being Made

At the initiative of Mr. John Terpstra (Executive Director, Port of Tacoma), Chairman of the IAPH Committee on Cargo Operations, a survey form was sent to all IAPH member ports from the Tokyo Head Office asking them to reply to the questionnaire concerning the situation of gantry cranes which are controlled by each member port, by December 1, 1994.

The survey is aimed at establishing trends in specifications, numbers, age groups, operational life expectancies and broad capabilities of gantry cargo handling cranes at ports.

In order to assist respondents in completing the form, the entry data from the Port of Tacoma were attached as an example, which are reproduced below.

It was indicated that the survey results will be compiled and tabulated for publication by March 1995.



PORT OF TACOMA

GANTRY CRANE SURVEY

Crane Owner: PORT OF TACOMA
 Crane User(s): EVERGREEN/K-LINE
 Make of Crane: I.H.I.
 Built at: JAPAN
 Builder: I.H.I.
 No. of Cranes of Same Type: 3
 Year Placed into Service: 1975 (2) 1978 (1)
 Year Refurbished/Modified/Upgraded: 1990 (1) 1990 (1) 1993 (1)
 Type of Refurbishment/Modification/Upgrade: RAISED CRANES 18 FT

See Attached Diagram

Lift Height (Dimension A): 46.52 meters
 Lift Height (Dimension J): 30.37 meters
 Outreach (B): 32.10 meters
 Gage (F): 19.5 meters
 Backreach (G): 8.99 meters
 Height under Cross Beam (H): 13.81 meters
 Total Crane Height: 80.77 meters
 Capacity and Spreader: 36.28 metric tons
 Crane Travel Speed: 45.72 meters/minute
 Trolley Speed: 152.4 meters/minute
 Hoist Speed Empty: 111.25 meters/minute
 Hoist Speed Full Capacity Load: 51.82 meters/minute

Other Information:

Drive Supplier: PTH 433, ABB TYRAX-L
 Spreader Supplier: EARL'S
 Dual Hoist System: YES ☒ NO
 Power Supplied by (check one)
 A. Bus pickup ☐
 B. Cable reel ☒
 C. Diesel-Electric ☐
 Crane Delivery (check one)
 A. Erected on Site ☒
 B. Delivered Erected ☐

Do you wish to see in the future uniform technical specifications for all Gantry cranes being developed (except dimensions)? YES

Please explain your ideas and thoughts:



19TH IAPH WORLD PORTS CONFERENCE

Hosted by the Ports of Seattle and Tacoma • Westin Hotel, Seattle, Washington, U.S.A. • June 10-16, 1995

Conference Rooms Fully Booked

In accordance with the recent communication received from Ms. JoAnne Lee, Marketing Specialist, Port of Seattle, a member of the Conference Organizing Committee, the

Committee has finished the room reservations for the various functions of our forthcoming Conference at the Westin Hotel in Seattle. In making the rooming arrangements, the Organizing Committee in Seattle and the IAPH Head Office in Tokyo have exchanged a series of communications by fax and telephone and as a result the following arrangements have been made.

According to Ms. JoAnne Lee, immediately before and after our Conference which is scheduled for Saturday, June 10 through Friday, June 16, 1995, the Westin Hotel's meeting rooms have been fully booked for other big conferences. Therefore, it is only from early Saturday morning, June 10th, that we will be able to open our secretariat offices at "Orcas" on the hotel's third floor to back up the day-to-day conference programs during the week.

CONFERENCE ROOMS:

Grand Ballroom Level

Fourth Floor, North Tower

Opening Ceremonies

Freight Elevators

Plenary & Working Sessions

Registration

Fifth Avenue Room

Exhibition

Grand Crescent

San Juan Level

Third Floor, North Tower

Vashon Room

Vashon II

Vashon I

Bainbridge

Blakely

San Juan Foyer

Orcas

Whidbey

Secretariat & IAPH Office

Mezzanine

Second Floor, North & South Towers

Wallawary adjoins towers

Glacier Peak

St. Helen's

Stuart

Business Center

Executive Office

Cascade Ballroom

Cascade I

Cascade II

Cascade Foyer North

Walkway

Cascade Foyer South

Media Room

Olympic

Adams

Baker

DAY-BY-DAY PROGRAM (PROVISIONAL)

The 19th World Ports Conference International Association of Ports and Harbors

(As of August 1994)

Saturday, June 10, 1995

Time	Function	Room
0800-1700	Registration	Grand Checkroom

The Organizers-related Functions

0800-1700	Conference Staff Committees	Eagle Harbor
0800-1700	Conference Management Committee	Port Gamble

Conference Business Program

0900-1030	Membership Committee	Adams
1040-1200	Constitution and By-Laws	Adams

Committees in Port Affairs Group

0900-1100	Port Planning & Construction	St. Helens
0900-1100	Dredging Task Force	Baker
0900-1100	Port Safety & Environment	Stuart
0900-1100	Marine Operations	Glacier Peak
0900-1100	Cargo Operations	Palm Court Balcony

1100-1200	Coordinating Vice President and Chairpersons meet	Glacier Peak
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1200-1330 Lunch for Committee Members

Cascade I

Crescent/Foyer

Committees in Trade Affairs Group

1400-1600	Sea Trade	Stuart
1400-1600	Ship Trends	Baker
1400-1600	Combined Transport & Distribution	St. Helens
1400-1600	Trade Facilitation	Glacier Peak
1600-1700	Coordinating Vice-President and Chairpersons meet	Adams

Conference Committee Meeting

1700-1730	Nominating	Baker
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Social Program/Accompanying Guest Programs

Afternoon	City Highlights Tour (Time to be determined)	
1800-1900	Cocktails for early arrivals	Port of Seattle Headquarters Building — Pier 69

Sunday, June 11, 1995

Time	Function	Room
0800-1700	Registration	Grand Foyer

The Organizers-related Functions

0800-1700	Conference Staff Committees	Bainbridge
0800-1700	Conference Management Committee	Vashon I

Conference Committee Meetings

0800-0830	Resolutions & Bills	Adams
0830-0900	Credentials	Glacier Peak

Internal Committee Meeting

0900-1100	Finance/Budget	Adams
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Committees in Human & External Affairs Group

0900-1100	Human Resources	St. Helens
0900-1100	Legal Protection	Stuart
0900-1100	Port Communities	Baker
1100-1200	Coordinating Vice-President and Chairpersons meet	Glacier Peak
1200-1330	Lunch for Board/Committee Members	Cascade I

1400-1630 Pre-Conference Board and Exco Joint Meeting

Cascade II

1730-1930 Opening Ceremonies

Grand Ballroom
II & III —
(Theatre style)

Social/Accompanying Guest Programs

Afternoon	City Highlights Tour	
1930-2130	Welcome Reception (Hosted by IAPH and the Ports of Seattle and Tacoma)	Pacific Science Center

Monday, June 12, 1995

Time	Function	Room
0800-1700	Registration	Grand Foyer

The Organizers-related Functions

0800-1700	Conference Staff Committees	Bainbridge
0800-1700	Conference Management Committee	Vashon I

Conference Committee Meetings

0800-0830	Resolutions & Bills	Glacier Peak
0900-1030	First Plenary Session	Grand Ballroom I & II
1030-1045	Coffee Break	Grand

1045-1245 Keynote Session

Grand Ballroom
I & II

Session Chairman: C. Lunetta IAPH President,
Port of Miami
Topics:
Ports — New Challenges for Global Development
Ports — New Partnerships for Economic Growth
Speaker: Invitation extended to President Clinton

1200-1345	Lunch Keynote Speaker (TBD) e.g. Frank Shrontz, CEO & Chairman, The Boeing Co.	Grand Ballroom III Blakely
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Noon IAPH Officers' Meeting

1400-1645 Working Session No. 1

Grand Ballroom
I & II

Theme: Human Resources and External Affairs
Session Chairman: D. Taddeo, IAPH 3rd
Vice President, Port of Montreal
Topics:
A) Human Resources: Goon Kok Loon,
Port of Singapore
B) Legal Protection: P. Valls, Bordeaux
C) Port Communities: D.F. Bellefontaine,
Port of Halifax

1515-1600	Coffee Break	Grand Crescent/ Foyer
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Social/Accompanying Guest Programs

TBD	Grand City Tour with Luncheon Or Shopping Tour	
TBD	Shopping Tour	
1830-2230	Tillicum Village Excursion Cruise to historic Blake Island for a traditional northwest native American salmon buffet and show	

Tuesday, June 13, 1995

Time	Function	Room
0800-1700	Registration	Grand Convention Office

The Organizers-related Functions

0800-1700	Conference Staff Committees	Bainbridge
0800-1700	Conference Management Committee	Vashon I

Conference Committee Meeting

0800-0900	Honorary Membership	Glacier Peak
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0900-1200 Working Session No. 2

Grand Ballroom
I & II

Theme: The Challenge of Global Policy Changes
Chairman: TBD
Topics:
A) NAFTA's Impact in the Western Hemisphere
Speaker: TBD e.g. Eric Stromberg, President
The American Association of Port Authorities
B) The Challenges of the APEC Countries
Speaker: TBD e.g. Robert Kapp, President of
U.S.-China Business Council
C) African Ports Look to the 21st Century
Speaker: TBD e.g. Jean C. Grosdider de Matons, Ph.D.
D) European Union — An Update
Speaker: TBD e.g. Robert Coleman, Director General
of Transportation, European Union

1030-1045	Coffee Break	Grand Crescent/ Foyer
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Noon	IAPH Officers' Meeting	Blakely
1200-1345	Lunch	Grand Ballroom III

Keynote Speaker: TBD e.g. Bill Gates
Chairman & CEO, Microsoft Corp.

1400-1700 **Working Session No. 3** Grand Ballroom
I & II

Theme: New Port Challenges and Partnerships
— A West Coast Update

Chairman: TBD e.g. Jane Frost, Commissioner
Port of Vancouver, Canada

Topics:

A) The Environmental Port Development Challenge

Speaker: John Terpstra, Port of Tacoma

B) New Partners for Port Development

Speaker: Mic Dinsmore, Port of Seattle

C) Helping Ports Meet the Intermodal Challenge

Speaker: TBD e.g. John Vickerman, President
Vickerman, Zachary, Miller

D) Partnerships for Infrastructure

Speaker: TBD e.g. Gil Hicks, Executive Director
Alameda Corridor Transportation Authority

1545-1600 Coffee Break Grand Crescent/
Foyer

Social/Accompanying Guest Programs

TBD Mt. Rainier National Park Scenic Tour with Lunch, or
Boeing Everett Plant Tour (Home of the B-777)

Wednesday, June 14, 1995

Time	Function	Room
0800-1700	Registration	Grand Convention Office

The Organizers-related Functions

0800-1700	Conference Staff Committees	Bainbridge
0800-1700	Conference Management Committee	Vashon I

Technical Tour

1200-1630 Seattle and Tacoma Harbor Tours and Lunch Cruise

Social/Accompanying Guest Programs

1700-2100 Tacoma "Chowdown"
(Western Style Seafood Fest and Entertainment)

Thursday, June 15, 1995

Time	Function	Room
0800-1700	Registration	Grand Convention Office

The Organizers-related Functions

0800-1700	Conference Staff Committees	Bainbridge
0800-1700	Conference Management Committee	Vashon I

Conference Committee Meetings

0800-0830	Resolutions & Bills	Glacier Peak
0900-1200	Working Session No. 4	Grand Ballroom I & II
	Theme: Trade Affairs	
	Chairman: J.M. Smagghe, IAPH 2nd Vice-President, French Ports Association	
	Topics:	
	A) Sea Trade: L. Liburdi, Port Authority of NY & NJ	
	B) Ship Trends: J.M. Moulod, Port of Abidjan	
	C) Combined Transport & Distribution: G. Wennergren, Port of Gothenburg	
	D) Trade Facilitation: D. Jeffery, Port of London (Other speakers to the Session: TBD)	
1030-1045	Coffee Break	Grand Crescent/ Foyer
Noon	IAPH Officers' Meeting	Blakely
1200-1345	Lunch	Grand Ballroom III

Keynote Speaker: TBD e.g. Minoru Arakawa,
President, Nintendo of America

1400-1700 **Working Session No. 5** Grand Ballroom
I & II

Theme: Emerging Markets

Chairman: TBD

Topics:

A) Vietnam: Speaker (TBD)

B) Russia

Speaker: TBD e.g. W.W. Middleton, Jr., Executive
Vice President, Atlantic Service, Sea-Land Serv.,
or, e.g. Gergi Vlaskin, Consul General, Russian
Consulate

C) South Africa: Speaker: TBD

D) South America

Speaker: TBD e.g. Jaime Chacano, Sr., Vice President
Bank of America, Latin America
or, e.g. Patricio Silva, Chilean Ambassador
to the U.S.

1545-1600 Coffee Break Grand Crescent/
Foyer

Social/Accompanying Guest Programs

TBD Wineries Tour, or
Boeing Everett Plant Tour (Home of the B-777)
Evening Free

Friday, June 16, 1995

Time	Function	Room
0800-1700	Registration	Grand Convention Office

The Organizers-related Functions

0800-1700	Conference Staff Committees	Bainbridge
0800-1700	Conference Management Committee	Vashon I

Conference Committee Meetings

0800-0830	Resolutions & Bills	Glacier Peak
0900-1200	Working Session No. 6	Grand Ballroom I & II
	Theme: Port Affairs	
	Chairman: Robert Cooper, IAPH 1st Vice-President, Ports of Auckland	
	Topics:	
	A) Port Planning and Construction: P. Ng, Port of Singapore	
	B) Dredging Task Force: D. Lee, Port of Los Angeles	
	C) Port Safety & Environment: P. van der Kluit, Port of Rotterdam	
	D) Marine Operations: J. Watson, Port of Dundee	
	E) Cargo Operations: J. Terpstra, Port of Tacoma Additional Suggested Topics	
	F) EDI/Automation and Computerization (Consider Rotterdam)	
	G) Northern Sea-Route: Speaker: TBD E.G. Olson P. Smith, U.S. Army Corps of Engineers	
1030-1045	Coffee Break	Grand Crescent/ Foyer
Noon	IAPH Officers' Meeting	Blakely
1200-1345	Lunch	Grand Ballroom
	Keynote Speaker: TBD, e.g. Craig McCaw, Chairman & CEO, McCaw Cellular Communications	
1400-1545	Second Plenary Session/Closing Session	Ballrooms I & II
1545-1600	Coffee Break	Grand Crescent/ Foyer
1600-1730	Post-Conference Board and Exco Joint Meeting	Cascade I
1730-1800	Post Conference Exco Meeting	Cascade I

(Immediately following the Joint Meeting)

Social/Accompanying Guest Programs

TBD	Shopping Tour, or Art Museums, Tour, or	
	Boeing Everett Plant Tour (Home of the B-777)	
1930-2400	Gala Dinner	The Museum of Flight

The IPD Fund: Contribution Report

Contributions to the Special Fund For the Term of 1992 to 1994 (As of Sept. 10, 1994)

Contributors	Amount
Paid:	(US\$)
ABP (Associated British Ports), U.K.	3,000
Abu Dhabi Seaport Authority (Mina Zayed)	3,000
Akatsuka, Dr. Yuzo, Univ. of Saitama, Japan	230
Akiyama, Mr. Toru, IAPH Secretary General Emeritus, Japan	1,000
Auckland, Ports of, Limited, New Zealand	500
Barcelona, Puerto Autonomo de, Spain	1,000
Bintulu Port SDN BHD, Malaysia	200
Cameroon National Ports Authority, Cameroon	480
Cayman Islands, Port Authority of, the Cayman Islands	250
Clydeport Ltd., U.K.	1,000
Constanta Port Administration, Romania	250
Copenhagen Authority, Port of, Denmark	1,000
Cotonou, Port Autonome de, Benin	100
Cyprus Ports Authority, Cyprus	1,000
Delfzijl/eemshaven, Port Authority of, the Netherlands	350
de Vos, Dr. Fred, IAPH Life Supporting Member, Canada	150
Dubai Ports Authority, U.A.E.	500
Dundee Port Authority, U.K.	250
Empresa Nacional de Administracao dos Portos, E.P., Cabo Verde	250
Fiji, Ports Authority of, Fiji	100
Fraser River Harbour Commission, Canada	250
Fremantle Port Authority, Australia	250
Gambia Ports Authority, the Gambia	250
Ghana Ports and Harbors Authority, Ghana	250
Hakata, Port of, (Fukuoka City) Japan	1,705
Halifax, Port of, Canada	250
Helsingborg, Port of, Sweden	500
Hiroshima Prefecture, Japan	523
Irish Port Authorities Association, Ireland	1,000
Japan Academic Society for Port Affairs, the, Japan	267
Japan Cargo Handling Mechanization Association, Japan	259
Japan Port and Harbor Association, the, Japan	493
Japanese Shipowners' Association, the, Japan	516
Johor Port Sdn. Bhd., Malaysia	500
Kawasaki, City of, Japan	1,702

Klang Port Authority, Malaysia	200
Kobe, Port of, Japan	3,665
Kobe Port Terminal Corporation, Japan	924
Korea Container Terminal Authority, Korea	100
KSC (Kuwait Oil Company), Kuwait	1,000
Kudo, Dr. Kazuo, Tokyo Denki University, Japan	4,000
London Authority, Port of, U.K.	500
Maldives Ports Authority, Maldives	100
Marine and Harbours Agency of the Department of Transport, South Australia, Australia	150
Marine Department, Hong Kong	500
Maritime Services Board of New South Wales, Australia	367
Mauritius Marine Authority, Mauritius	200
Melbourne Authority, Port of, Australia	1,000
Miri Port Authority, Malaysia	100
Montreal, Port of, Canada	500
Nagoya Container Berth Co., Ltd., Japan	518
Nagoya Port Authority, Japan	3,564
Nanaimo Harbour Commission, Canada	250
Napier, Port of, Limited, New Zealand	100
New York & New Jersey, Port Authority of, U.S.A.	1,000
Niigata, Port of, (Niigata Prefecture), Japan	860
Okubo, Mr. Kiichi, Japan	274
Osaka Port Terminal Development Corp., Japan	570
Pacific Consultants International, Japan	243
Penta Ocean Construction Co., Ltd., Japan	500
Point Lisas Industrial Port Development Co. Ltd., Trinidad	100
*Primer Concurso Internacional de Memorias Portuarias: Carlos Armero Sisto, Anuario de Puertos: Buenos Aires, Argentina	300
Public Port Corporation I, Indonesia	180
Pusan East Container Terminal Co.Ltd., Korea	200
Qubec, Port of, Canada	250
Shipping Guides Limited, U.K.	500
Solomon Islands Ports Authority, Solomon Islands	100
South Carolina State Ports Authority, U.S.A.	1,000
Tauranga, Port of, New Zealand	500
Toyama Prefecture, Japan	254
UPACCIM (French Ports Association), France	1,905
Vancouver, Port of, Canada	500
Total:	US\$50,299

**1st International Contest of Port Annual Reports sponsored by the Yearbook of the Port of Buenos Aires (Editor, Mr. Carlos Armero Sisto)*

Apologies from the Head Office

We regret to find that some copies of the July-August combined issue of this journal had several pages missing due to mishandling which occurred at the printing stage.

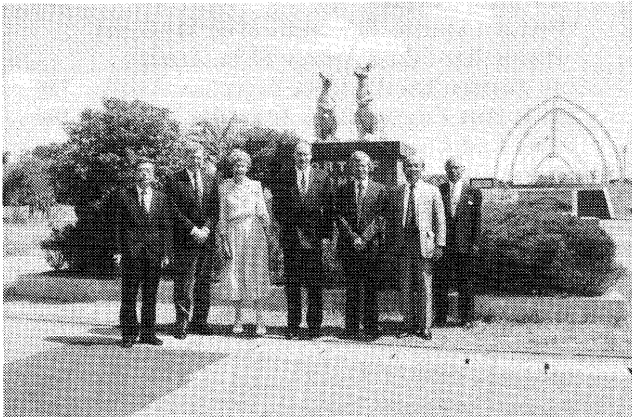
Should any member require another copy of the July-August issue, the Head Office will be happy to supply one.

Visitors to Head Office

On Monday, August 8, 1994, **Mr. Murry Fox**, Managing Director, and **Mr. Stephen Potter**, Maintenance Manager, MSB Sydney Ports Authority, visited the Head Office, where they were welcomed by Secretary General Kusaka and his staff. They were visiting the Port of Yokkaichi, with which the MSB Sydney Ports have been affiliated as sister ports since 1968, to attend the opening ceremonies for the Australian Memorial Hall and the Sydney Street located in Yokkaichi Port, which were created in 1988 marking the twentieth anniversary of the port to port affiliation. Also attending the gathering as special guests were **Mr. and Mrs. John Wallace**, IAPH Honorary Member (1985), who had



Mr. Fox (left, seated) and Mr. Potter at the IAPH Head Office



From left, Mr. Iijima, Mr and Mrs. Wallace, Mr. Fox, Mr. Potter, Mr. Fujino and Mr. Kato in Yokkaichi.

witnessed the conclusion of the affiliation arrangement between the two ports. The visitors were also the guests of the festivity known as Australia Week from 5 to 10 August, which was staged and sponsored by Yokkaichi Port at the "World Festival Exposition Mie 94" held by the Mie Prefectural Government. Before proceeding to Yokkaichi, Mr. Wallace visited the Port of Nagoya to see the tree which he had planted in a corner of greenery known as Nagoya Port Garden Pier on the occasion of the 12th IAPH Conference held in Nagoya in 1981.

Membership Notes:

New Members

Regular Member

Ishikari Bay New Port Authority. (Japan)

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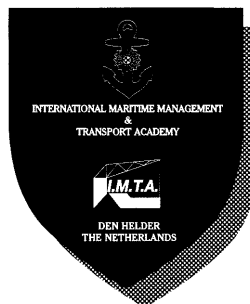
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**IAPH Information Technology Award 1994
Trade Facilitation Committee**

The Silver Award Winning Paper

The New Ferry Terminal Operation System – A new computerised management system for operating vehicle ferry terminals

By Mr. Göran Hammarskjöld
Manager Technical Department, and

Mr. Peter Fagander,
Project Engineer
Port of Helsingborg, Sweden

1. Summary

For a long time substantial efforts have been put into the development of computerised management systems for terminal operations related to the handling of, for example, containers and break bulk cargo. So far there has been no similar development in the management systems for the loading of vehicles in ferry terminals.

One of the busiest ferry connections of the world is situated between Helsingborg, Sweden, and Helsingør, Denmark (see map, Appendix 1). Some 2 million cars, 300,000 trucks and buses and 30,000 railway passenger wagons are transported across the Strait of Oresund between the two countries each year. Previously the ferry traffic was based on nine old ferries using two different terminals in Helsingborg. The total waiting area in the terminals amounted to about 20,000 sq m and the shipping capacity was 460 cars/h.

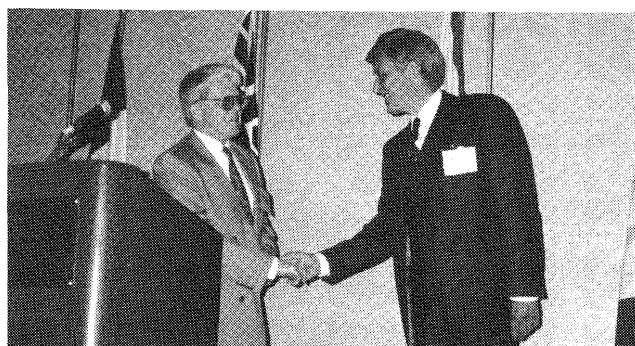
A project comprising new terminals in the two ports and two additional modern ferries to replace five of the old ones was decided upon in 1984. The shipping capacity was to be increased to 635 cars/h. In Helsingborg the terminal operation was to be concentrated in one common terminal with a waiting area of about 10,000 sq m. The Helsingborg terminal is shown on the attached plan.

The old ferries were loaded (or unloaded) in 7 minutes. Together with a break between the two operations the total time at berth was 22 minutes. The old ferries were loaded via one-lane ramps. The new ferries, with a capacity three times higher, were to be loaded within the same period of time. This challenge was to be met by loading/unloading over the ramp lanes simultaneously.

The Port of Helsingborg, together with **SweFerry**, the ferry company, had to develop an entirely new terminal management system. This new system had to be able to operate 24 hours per day with ferry activity of high frequency, with a high level of flexibility and the utmost cost effectiveness.

The problem was solved by dividing the operation into two phases:

- pre-packing: The vehicles were arranged in the waiting area before loading by means of **the Pre-packing Computer System** in such a way that each ferry load was completely prepared before boarding.



In Toronto, Mr. Göran Hammarskjöld (right) shakes hands with Mr. Jeffery, Chairman of the Trade Facilitation Committee, upon receipt of the award.

- loading: By inventing a new concept, **the Guiding Light System**, the vehicles could be loaded simultaneously from three lanes in the waiting area to any of the ferry berths by following various lines of light in the paving, each with a separate colour. The new loading system requires only one traffic guide.

By way of these two phases, the time for the loading operation was kept to within the stipulated 7 minutes.

Upon arrival the vehicles are registered in the computer into different categories. The computer then informs the driver about which lane to drive to in the waiting area according to a pre-selected loading plan. When the loading activity is to start the Terminal Operations Manager (TOM) activates the Guiding Light System programme and pre-selected loading lines of different colours are lit in the ground to guide the vehicles aboard the ferry.

The system also manages to keep an accurate record of the number of passengers on board the ferry, which is a safety requirement of the Swedish authorities.

On the basis of the first period of operation, the experience is that the New Ferry Terminal Operation System is working as planned and that the economic benefits are being achieved.

2. Results

The results of the new terminal management system illustrate:

- a)– the possibility of guiding each category of vehicle to its pre-planned position on board the ferry as related to the type of vehicle;
- b)– the possibility of maximising the ferry capacity utilisation during the intense ferry operation with the extremely short time at berth for loading (250 vehicles in 7 minutes);

- c) the possibility of guiding the traffic in a complex traffic situation with a minimum of staff where it is not possible to utilise traditional traffic-sign systems; and
- d) the possibility of keeping accurate record, of the number of passengers on board the ferries.

As a consequence of the differences in design of the three ferry types, the various categories of vehicles have to be loaded onto different locations in the ferries. Furthermore, vehicles carrying dangerous cargo have to be given particular attention. Moreover, vehicles arriving at the last minute have to be loaded as a customer service requirement. It was regarded as impossible to handle those kinds of problems according to a) above without a computer system.

The Pre-packing System has for b) above implied a ferry loading factor of up to 5% higher.

For c) above an average reduction in vehicle guiding staff of up to three men per shift, or in total about 10 men calculated on an annual basis, was assumed.

The total investment amounted to about SEK 4m (= USD 0.5 m). The investment cost of the system is estimated to have been paid off in 1 year. Besides this effect it would not have been possible to operate the terminal without the computer system as described above.

During the pre-planning stage of the project the Swedish authorities requested that a system for accurately counting the number of passengers on board the ferries be devised. The background to this was the tragic loss of the M/F Scandinavian Star, where the number of passengers was not exactly known. Therefore the Pre-packing System also had

to make it possible to ascertain the exact number of passengers. The complexity of this issue can be understood when one considers that there are six different entrances to the new ferries, passengers board on foot and by cars, bus, train, etc., and also that these may run on board at last moment. The number must be given accurately and it must not exceed the number shown on the certificate of the respective ferry.

3. Technology or Services Used

Goods-handling in ordinary port operations is based on a loading plan for each ship. The same philosophy has now been applied to the pre-planning for the loading of the vehicles in the ferry terminal.

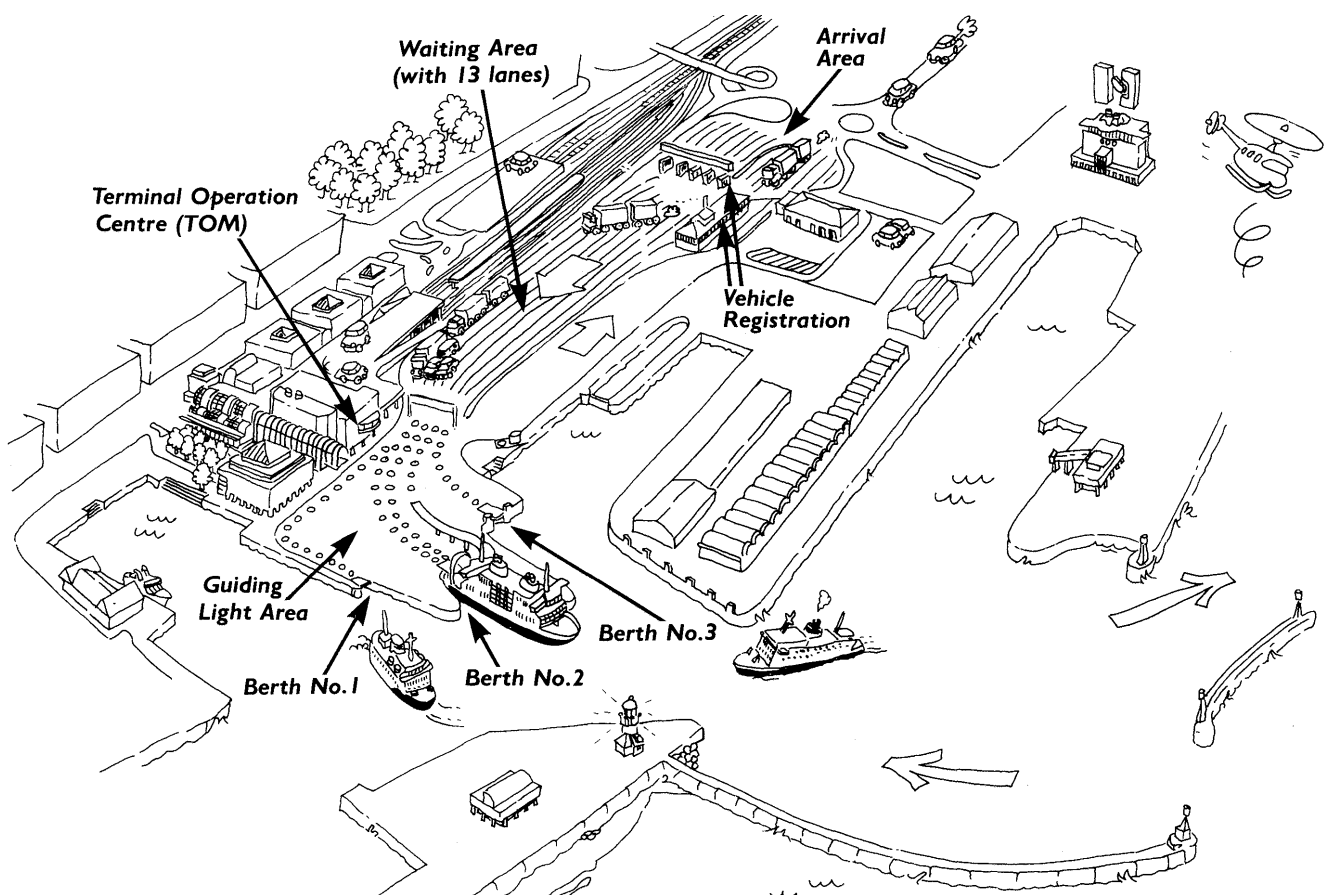
The vehicles are divided into 13 different categories according to type of vehicle, presence or otherwise of dangerous cargo, reservation, etc.

The Pre-packing System operates as follows:

- The TOM selects the loading plan for the coming three ferries, out of some 80 pre-designed loading plans, taking into consideration the actual distribution of vehicles in the present traffic flow according to the various categories above.

The ticket collector feeds the computer with the information on the type of vehicle category, vehicle length and height and the number of passengers. The computer processes the data with regard to the selected loading plan and provides information as to the lane number

The New Ferry Terminal Operation System



for the waiting area.

The TOM sees on the monitor in the Terminal Operation Centre (TOC) the selected loading plan placed within a configuration of the entire waiting area. The TOM also sees how the ferry is actually being filled in accordance with the present loading plan.

At 7 minutes before departure the TOM decides, together with the Captain of the ferry, to start the loading via the Guiding Light System.

The **Guiding Light System** is a newly invented system where lights are placed in the paving. These lights are installed in such a way that driving lines of different colours are created from the end of any lane in the waiting area to each ferry entrance in any of the three berths. The colours have been chosen to accommodate the human limitations imposed colour-blindness.

4. Obstacles Overcome

The New Ferry Terminal Operation System solved the problems described above. After some technical modifications it is now confirmed that the system will fulfil the requirements initially outlined.

It was understood from the beginning that the Pre-packing system had to comprise a high level of flexibility. After a certain period of operation it appeared that the train arrivals did not always follow the times schedules. This implied drastic changes in the handling of the loading plans if a train could not be shipped with the planned ferry departure. The flexibility of the system, however, made it possible, with some modifications to the selection system of the loading plans, to overcome this problem.

The Guiding Light System is an entirely new way of guiding drivers. The driver has to follow a line of lights of a specific color while his/her neighbouring driver in the adjacent lane is following another line of another color. Secondly, the lights have to be straddled by the driver, which is an unusual manoeuvre in road traffic. Thirdly, the lights must adapt to the present day/night-light situation. The lights must be much stronger in daylight than during nightlight. Fourthly, the colours of the lights must be selected so that they can be clearly observed by colour-blind drivers.

A clear and simple information system had to be developed to inform the drivers about something he or she had never experienced before.

The Guiding Light System implies a completely new way of guiding vehicles not included in any traffic regulations, Swedish or International. First of all, the idea of having the drivers follow a line of lights in the pavement had to be presented to the relevant authorities for approval. In all, seven authorities had to give their consent for the new system. A number of experts had to be included in the development process, such as those concerned with drivers' behaviour, colour-blindness, optronics, workers' safety.

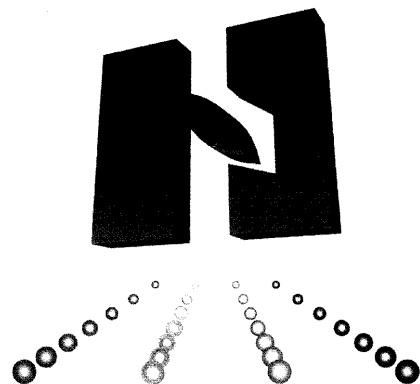
A great number of tests had to be carried out simulating drivers' behaviour under different climatic situations. In all, the entire development process lasted more than one year.

However, the experience is that all authorities and experts worked with the greatest enthusiasm to solve a problem for which a solution had to be found. Otherwise the new ferry terminal would not have been operational with the required standards for the coming century. (Helsingborg, March 30, 1994)

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 **HELSINGBORGS HAMN AB**
— PORT OF HELSINGBORG —

IAPH Observer's Report

Scientific Group Meeting 17

London Convention of 1972

July 18-22, 1994

By Dwayne G. Lee

Chairman

IAPH Dredging Task Force

Deputy Executive Director, Development

Port of Los Angeles

1. The Scientific Group, 17th Meeting (SG 17) was held at the International Maritime Organization (IMO) offices in London from 18-22 July 1994. IAPH was represented by Mr. Dwayne G. Lee, Chair of the Dredging Task Force, and Dr. Richard Peddicord, Scientific Advisor to IAPH. This was the first SG meeting for Dr. Peddicord.

2. The meeting began with a moment of commemoration in respect for Dr. Willis Pequegnat, the IAPH Scientific Advisor from 1981 to 1994 and who passed away in March of 1994. IAPH prepared a compilation of major papers for the SG 17 which Dr. Pequegnat had submitted to LC 72 for IAPH. This compilation was distributed at the meeting to each delegation. The SG unanimously agreed to write a letter to Mrs. Pequegnat expressing the depth of their feelings at Dr. Pequegnat's death. A copy of that letter is at Attachment 1.

3. SG 17 was the most well-attended Scientific Group meeting in years, with 23 countries and 7 nongovernmental organizations in attendance. As long as the LC 72 Amendment process is underway, which is scheduled to conclude in 1996, I would anticipate heavy attendance at SG meetings.

4. The two major themes of interest for IAPH were the discussions on the revised Dredged Guidelines (DMG) and action levels for the Waste Assessment Framework (WAF). These items are of sufficient interest to warrant a full discussion in paragraph 8 below.

5. The SG reviewed one item at the request of the Amendment Group on revisions being proposed as Amendments to the Convention. The SG was asked if any of the proposed amendments would invalidate the effectiveness of the WAF as a tool for making a decision for disposal of waste at sea. This questions arose primarily in response to the proposed amendment to modify the approach on LC 72 from a "prohibition list" (current Convention) to a "reverse list" (proposed Convention). After discussion, the SG agreed the WAF's effectiveness would apply equally well in either case. This decision identified two different positions on the proposed amendment for a reverse list. The LC 72/17 meeting in October 1994 will shed more light on the general support for this proposed amendment.

6. A report was given to the SG by Central European Dredging Association (CEDA), lead organization in an effort

jointly sponsored by IAPH and PIANC, providing an update on the development of the Dredging Environmental Bibliography (DEBBY). DEBBY is a bibliographic literature service designed to incorporate all scientific and technical papers regarding technology and the environmental effects of dredging available from major dredging technical bodies and associations. CEDA conducted a demonstration of DEBBY in its prototype form during the SG meeting. CEDA will continue to develop DEBBY and IMO will be the formal custodian. The costs of reproduction, two years of updating and distribution are covered in the startup effort. DEBBY will be fully developed at the next SG meeting, at which time approval for release is expected. The SG was extremely appreciative of CEDA, IAPH, and PIANC for their efforts in this long overdue initiative.

7. During the meeting IAPH volunteered to host an Ad Hoc meeting of Dredging Experts of the Scientific Group to prepare the first working draft of the revised DMG. This offer was later expanded to a meeting in February 1995 at the Port of Los Angeles. The SG was very grateful for this offer by IAPH and will recommend its acceptance to the Consultative Meeting in October 1994. Given the subject matter, I expect the offer will be fully accepted and the meeting will be well attended.

8. Two initiatives have been proceeding separately in LC 72 which converged at SG 17. Both of these initiatives have potentially significant impacts on IAPH and its members. The first is the revision of the Dredged Material Guidelines (DMG), which was adopted by Resolution LDC 23 (10) in 1986. Upon adoption, the LC 72 directed the SG to conduct a review in five years to validate and update/revise as necessary. With the intervention of several other higher priority matters, that review was formally initiated with SG 17. The second initiative related to the Waste Assessment Framework (WAF). Between 1986 and 1993, the SG developed the WAF as a suitable management tool for the decision process for disposal of any waste at sea. The WAF was provisionally adopted by LC 72 in 1992. One of the tasks for SG 17 was to determine if the revised DMG could be restructured into a WAF approach. "Action levels", which are prescribed in the WAF, were to be specifically assessed as to their appropriateness for the revised DMG.

- a. IAPH submitted two papers to SG 17 for consideration in the resolution of these matters. In the first paper, IAPH supported the utility of the DMG and recommended that in proceeding with their

revision three concepts need to be carefully considered. First, dredged material is unique as a "waste stream". Second, the potential environmental effects of dredged material are significantly mitigated because of the reduced bioavailability of contaminants which are sorbed to the sediments. Third, the SG has previously accepted the concept of special care measures to allow safe disposal at sea of even contaminated dredged material under certain circumstances. IAPH also stated that the use of the DMG, together with appropriate parts of the WAF, was an effective means for assessing the suitability of dredged material for placement at sea; and that this merging of the DMG with the WAF was a proper reflection of the precautionary approach to dredged material management. There was general agreement within the SG for the points made by IAPH in this paper. In the second paper, IAPH addressed the applicability of action levels for dredged material. Three main points were also made in this paper. First, numerical action levels for dredged material on a global level are scientifically unsound. Second, numerical action levels for dredged material are unnecessary and inappropriate. Finally, the direct assessment of the biological effect using the concepts embodied in the current DMG is scientifically sound and appropriate. There was widespread debate throughout the SG on the issues of action levels for dredged material and nothing was finally resolved at SG 17. Several general observations can be made from the character of the debate and are provided in paragraphs 8.b. through 8.d. below.

- b. There are certain aspects of the WAF/DMG for which there is widespread agreement.

- (1) The DMG can and will be restructured into the WAF format. This was in fact a specific, definitive conclusion of SG 17. This will be one of the main goals of the Ad Hoc meeting in February 1995. IAPH fully supports this view.
- (2) International action levels for the DMG are not appropriate. Many parties believed they were appropriate at the national level; a few expressed the view they were appropriate at the "sub-regional" level. No one supported international action levels for dredged material. This was one of the main conclusions in IAPH's discussion and one that IAPH fully supports.
- (3) The revised DMG must be simple to understand and simple to implement. The concern is that many countries are unable to understand the current DMG and therefore are intimidated at the possibility of adopting them. In addition, they must not be overly complex to implement or they will not be used. As a general principle, IAPH supports this view as long as scientific reality is not sacrificed for the benefit of simplicity.

- c. There was one other issue where there appeared to be consensus, but it was not as strong as the points discussed above. While all agreed that international action levels for dredged material were not appropriate, there was extended discussion on whether

standard international procedures for determining action levels was appropriate. Many of the parties believed such procedures are crucial to the success of the revised DMG. IAPH has not yet taken a position on this issue as it arose for the first time at SG 17. This issue will also be discussed at length at the Ad Hoc meeting in February 1995.

- d. There was a single issue where disagreement was apparent and convictions were strong by all the debating parties. One group (Netherlands, Germany, Hong Kong, South Africa, Norway, Denmark) argued that the most appropriate methodology for determining numerical action levels for dredged material was bulk sediment chemistry of the sediments to be dredged. A few in this group also agreed that biological effects testing was appropriate once the sediment chemistry was known. The second group (US, UK, Canada, Mexico, Chile, IAPH) argued that a biological effects based approach was the better methodology and that sediment chemistry numbers provided little environmental assessment of the potential character of the sediments. This issue remains as the single most contentious issue in revising the DMG. It appears that some compromise may be reached that will conclude with some combination of testing protocols for the dredged sediments. The nature of that compromise is difficult to ascertain at this point in time.

9. SG 17 was an important meeting for IAPH and the next 12 months contain a high probability of finalizing the process of revising the DMG. I will continue to keep you advised of that progress. (August 2, 1994)

ATTACHMENT 1

Ref. T5/5.01

JC/imb

21 July 1994

Appreciation of Dr. Willis Pequegnat International Maritime Organization

21 July 19940

Dear Mrs. Pequegnat,

It was with great sorrow that I learned of Willis' death earlier in the summer. I was aware that he had been fighting illness for some years but the news of his passing still came as a shock.

This year was to have been his final year after almost perfect attendance at Scientific Group meetings since the fifth session 1981 and it was appropriate that he would have assumed his customary seat behind the flag of the IAPH, whom he served with distinction, for our debate on the revision of the Convention's Dredged Material Guidelines. Alas we will not have the benefit of his experience, enthusiasm, wise council and clarity of thought.

At the beginning of the meeting this week, a number of delegates, some who have known Willis for much longer than I, paid warm tribute to his contribution to the work of the Scientific Group over many years. He was held in great respect and affection and his work, in the form of the

(Continued on Page 19)

OPEN FORUM

Port of Nanjing in Progress

By Xi Zhicheng

Director

Nanjing Port Authority

General Situation

The Port of Nanjing, known as a bright pearl on China's Gold Waterway, is located at the lower reaches of the Yangtze River. It is one of China's important pivotal ports and ranks No. 1 among the river ports of China, with over 40 million tons of cargo volume annually.

The port is a gateway to the city of Nanjing and is richly endowed with exceptional geographical advantages. The city of Nanjing, which was the capital for 10 ancient dynasties, lies in the centre of East China, the country's most economically-developed region. Three main railways — Beijing-Nanjing, Shanghai-Nanjing and Nanjing-Tonglin in Anhui Province — join here and highways radiate in all directions. The port is 380 km from the mouth of the Yangtze River. Towards the upper reaches of the river, the waterway reaches as far as Wuhan in Hubei and Chongqing in Sichuan, linking the port with a vast economic hinterland in the area along the middle and upper reaches of the river; from the lower reaches, it links up with major ports all over the world. It is an important hub for sea-river transport and waterway-land transshipment in China. Crude oil from three large oil fields in Shandong through pipelines is transferred here to ships at the port's oil terminals.

The airport of Nanjing, adjacent to the port, makes far even greater efficiency. The five modes of transport — waterway, railway, highway, pipeline and air transport — have established the port as a cargo collection, distribution and transfer centre for 20 provinces and the city of Nanjing. The area around the port embraces thriving industries in the petrochemical, railway, shipbuilding, auto-manufacture, electronics and textile sectors as well as newly-opened economic & industrial zones. Moreover, warehouses and storage yards are to be developed by investors both from home and abroad.

The Port of Nanjing has a long history. As early as 2000 years ago it appeared as a natural berth. In the early Ming Dynasty, it enjoyed great prosperity. The first official port office opened in 1873 in Nanjing. The Nanjing Port Authority, the port office for New China, was formally established in 1952.

The excellent natural environment creates favourable conditions for the development of the port. At present, the port has seven terminals with 64 berths, of which 11 are for vessels in the over 10,000-ton class, eight anchorages and six floating docks of the 10,000-ton class, on which goods can be unloaded from ships to barges. Along the 98-km waterfront of the port, some other large enterprises alongside the lower reaches of the river, such as steelworks, refineries and chemical plants, have a total of 100 specialized berths.

The cargo handled by the port consists of oil, coal, iron ore, building materials, containers and general merchandise. No.3 and No.6 Terminals are the largest coal and oil terminals of China's inland river ports respectively. No.4 and No.7 Terminals located on the port's foreign trade terminal, Xinshengwei Terminal, have newly-built, multi-purpose, specialized bulk and container berths.

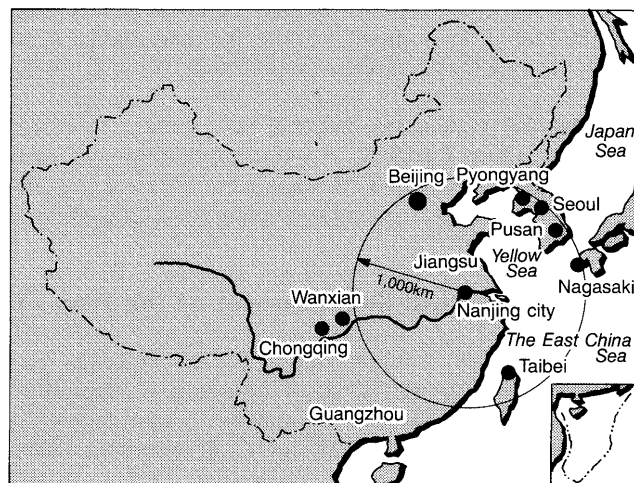
Nanjing International Container Terminal Services Inc. operates the first container terminal in China's inland river ports. In addition, a port machinery plant, a tugbarge company and a hospital for port staff are under the administration of the Port Authority. In 1993, the total cargo volume of the port reached 46 million tons, the highest figure in the port's history.

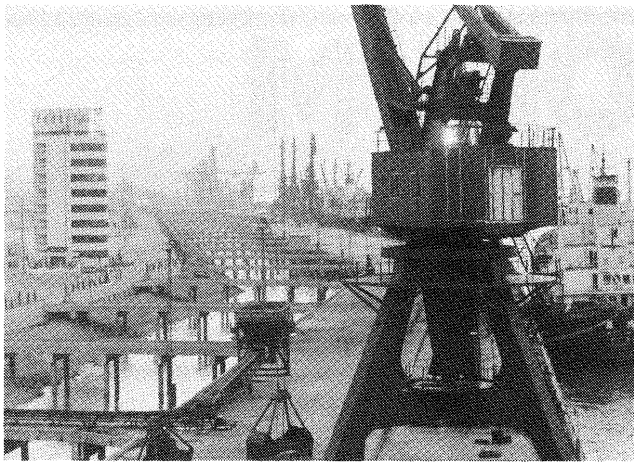
New Achievements in the Port's Development

Since the establishment of New China, the Port of Nanjing, by means of readjustment, reformation and large-scale construction, has developed into a large-sized sea-river port with more functions. Especially since the country's opening up and reform, great achievements have been made in the port's construction and development.

The Pukou Coal Terminal, after several phases of transformation and expansion, has become the largest coal transfer terminal of China's inland river ports, with four large tippers and a belt conveyor system. The operation processes are wholly controlled by computers through closed-circuit TV. To meet the industrial and consumer demand for coal in East China, the terminal experienced large-scale expansion during the period of the Seventh Five-year Plan of the country, with 40 million yuan being invested by the state, and the annual handling capacity being enhanced from 7.80

Geographical location of the Port of Nanjing





million tons to 10 million tons and the storage capacity from 120,000 tons to 180,000 tons after the completion of the expansion project.

Both the Xixia and Yizhen oil terminals, constructed in the 1970s, undertake the transshipment and storage of crude oil, pipeline oil, finished oil and other chemical products from the sea to the river for the petrochemical enterprises along the Yangtze River, displaying advanced facilities, all modes of operation and high efficiency. Here is the largest oil transfer port in East China, with an annual throughput of over 20 million tons. A storage tank capacity of 100,000 tons has been formed with two other large-sized tanks built in 1990, in addition to the original storage facilities. Also, more services for liquid petrochemical products are being provided for the owners.

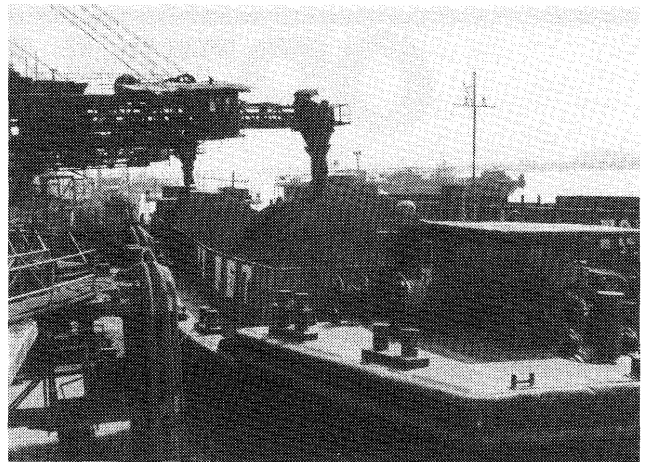
The Xinchengwei foreign trade port in Nanjing, completed and put into full operation in 1990, is one of the key projects of the country's Sixth and Seventh Five-Year Plans, with an investment of 470 million yuan by the state. The terminal was built in two phases. The first phase of the project was accomplished and put into operation in 1985. The terminal, with a 2,500m-long waterfront, has 16 berths, among which nine are for vessels of over 10,000 dwt and seven are for 1,000 dwt ships, and there are 14 buoys. The terminal is divided into three parts for break-bulk, bulk and container cargoes. With a handling capacity of 10 million tons, it is the largest foreign trade port of China's river ports.

With the newly-built Xinchengwei Terminal, the Port of Nanjing was officially opened to foreign ships in March 1986. Since then, the Port of Nanjing has emerged from the Yangtze River to face the world.

Nanjing International Container Terminal Service Co., Inc., located at the terminal, was the first Sino-foreign joint venture among the ports & harbors of China. It was formally opened to operations in December 1987. At present, it operates four regular international liner services to Hong Kong, Singapore, Japan, etc, as well as inland river container special lines. The container throughput in 1993 was 110,000 TEUs. It ranked No.8 among the leading ports for container services in China.

Prospects for the Development of the Port of Nanjing

The Port of Nanjing enjoys an advantageous geographical position and it is located in the most economically-developed area of the country and has a vast economic hinterland. The future for the port's development looks promising.



Following the completion of the second phase project of the Xinchengwei Terminal, railway construction is under way at the terminal. The Nanjing Industrial Development Zone has been set up adjacent to the port, where a batch of plants for processing and bonded warehouses are being built. Meanwhile, to meet the need for the development of the economies of the cities of Nanjing and Jiangsu, the port is speeding up the building of storage facilities for staple cargoes such as cement, chemical fertilizer, grain and iron ore, as well as other support facilities for oil storage, stripping and stuffing containers and heavy-lift equipment.

As for developments for the medium-term future, according to the forecast for freight volume, the cargo volume of the port will reach 65 million tons by the year 2000, including 8 m tons of foreign trade goods, 130,000 containers and 4 m passengers. To build the city of Nanjing into a "modern port city with modern industry, the characteristics of an ancient capital, more opening up and more functions", another new port, Longtan Port, will be built in Nanjing by the state during the periods of the 8th and 9th Five-Year Plans of the country. The plan is for Longtan Port, close to the Shanghai-Nanjing railway and expressway, to have these basins separated by three river branches at its upper and lower reaches, which will be convenient for goods collection and distribution. A 7,000m-long waterfront is available for 12 berths of the 25,000-ton class and 15 berths of the 3,000-ton class. The land around the new port is suitable for developing processing zones for foreign trade goods. The prospects for the port are good.

The projected Longtan Port and the Xinchengwei Terminal as well as the other old terminals at Pukou and Xiaguan, together with the Port of Nanjing, will form the biggest transfer hub on the Yangtze River for foreign trade goods and other cargoes.

The transformation and expansion of the old terminals is in progress. The expansion of the Shangyuanmen Multi-purpose Terminal, situated on the lower reaches of the Yangtze River Bridge, was completed and went into operation in 1993, and a program has been established for the second phase of the expansion project for Pukou Coal Terminal.

The project for the new passenger transport centre, with the approval of the state, will start next year. Moreover, there are plans to build an international passenger terminal at Yanziji, a famous scenic spot, to cater for the development of international tourism. Shipping lines from Hong Kong and Japan have been coming one after another for talks on opening cruise routes.

(May 20, 1994)

Port of Osaka:

Nanko Air Cargo Terminal (NACT)

The Port of Osaka has developed steadily, boosted by the constant increase in a shipping cargo as a result of the dynamic industrial and economic expansion of the Osaka Megalopolis, since its inauguration as a port in 1868 after Japan's government opened its gates to the world. Recently, to comply with innovations centering on container transportation, the port has improved its facilities for the International Container Terminals and Ferry Terminals in accordance with its function as an international trading port.

The year of 1994 has been marked by the opening of Kansai International Airport. The inauguration of the airport has opened up a new era for the Port of Osaka by allowing a new level of integration of air cargo together with conventional shipping cargo.

Here we will introduce our continued efforts in building our international air cargo terminal, which acts as a gate to the skies in the Port of Osaka.

1. Outline of the Nanko Air Cargo Terminal

1) Conditions currently affecting international air cargo in Japan

International air cargo transportation has drastically increased in recent years because of the value of speedy delivery and the expansion of transportation of high-value small and light-weight products. When examining the origins and consumption area of international air cargo handled by the Osaka International Airport, about 16% (exports) and 34% (imports) by weight, or about 30% and about 60% by quantity, is attributed to Osaka City. When we calculate the ratio of cargo originating and consumed in the area which can be covered by the Nanko Cargo Terminal taking into consideration the origins and consumption areas of cargo as well as transportation routes, the figures are about 63% (exports) and about 67% (imports) by weight. This means that most origins and consumption areas are concentrated in the area centered on Osaka

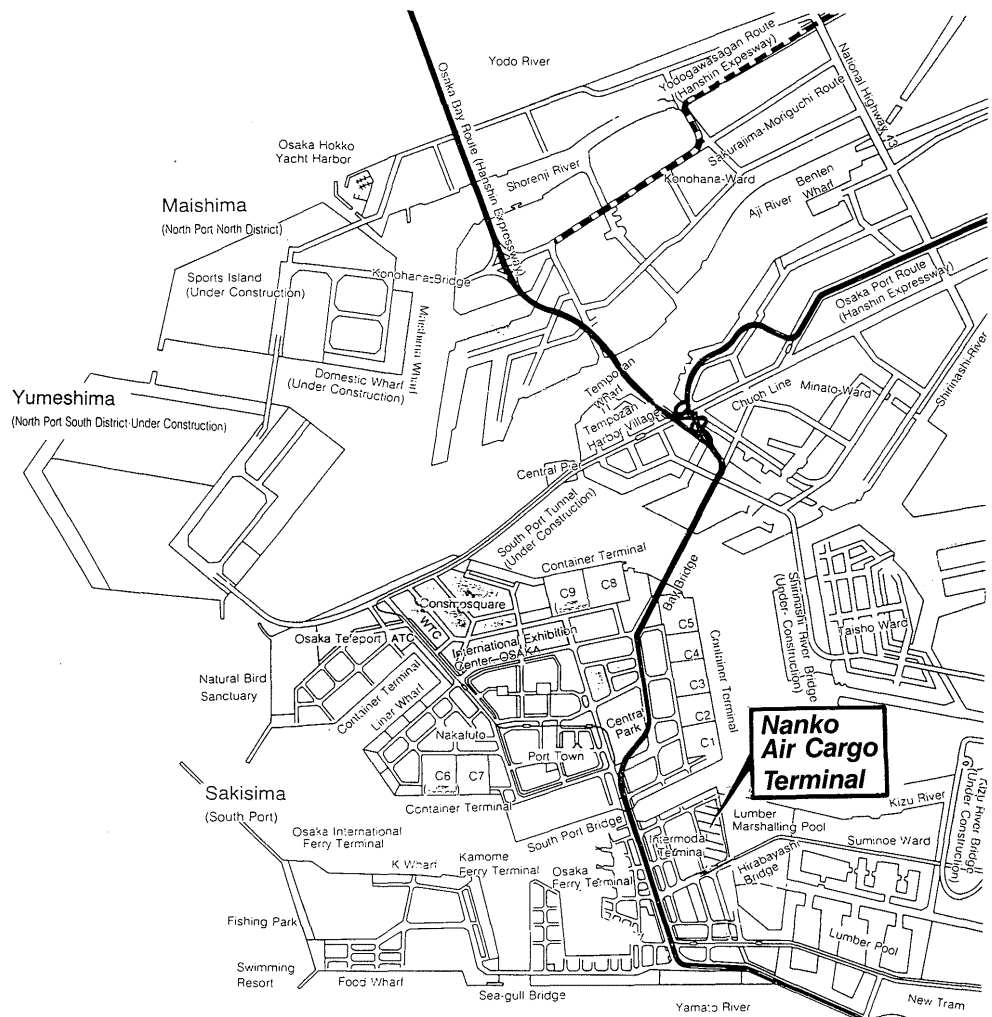
City and its outskirts.

Judging from the fact that the average weight per individual air cargo package handled in Osaka International Airport is about 130 kg (exports) and about 210 kg (imports), the major items handled as air cargo are in the small-volume category.

2) Objectives of the project

This project aims to establish a rational distribution

Map of the Port of Osaka



Land Area to be Reclaimed	
Sakisima (South Port)	1002hectares
Maishima (North Port North District)	224hectares
Yumeshima (North Port South District)	391hectares

LEGEND

- Expressway
- Expressway (Under Construction)



The Nanko Air Cargo Terminal

system in the land transportation of international air cargo and to supplement the function of the new airport, as well as to revitalize Kansai's economic activities. To achieve these goals, it is necessary to enhance and integrate the transportation system between this terminal and the new airport, by closely examining the situation of Kansai International Airport, just opened this September, through proper analysis of the origins and consumption areas of cargo, and access between Osaka, as a business center, and the airport. Another goal is to enhance the potential of the Port of Osaka as a comprehensive distribution center for sea, land, and air transportation by building its air cargo terminal in the Nanko district, close to which other distribution facilities for shipping transportation, such as terminals for containers, ferries and trucks, are located.

3) Functions of the Nanko Air Terminal

To work as a major air cargo terminal and to make distribution systems more rational, this terminal is required to fulfil the following four functions.

(1) Distribution base

To make the flow of cargo more efficient, it is necessary to first acknowledge the facts: much of the international air cargo originates in and is consumed in Osaka City and its vicinities; Kansai International Airport is located about 50 km away; and the majority of cargo is small in volume.

From these facts, it can be deduced that centralized accumulation and transportation is very effective when these cargoes are once gathered in a terminal in Osaka City by a land transportation system established between the origins and consumption areas of cargo and the airport. Meanwhile,

this terminal is located just on the access route between the origins and consumption areas of cargo and the airport, when coastal highways are used.

Therefore, if this terminal can fully take advantage of such characteristics of cargo and its location, it will drastically contribute to raising transportation efficiency.

It is possible to increase the amount of cargo transported to and from the airport utilizing its centralized accumulation and transportation system.

(2) Customs clearance base

Since consignors must sometimes be present at customs clearance, it would be very convenient for them if the customs clearance were done near the downtown area. Furthermore, if customs clearance were possible in the Nanko area, it would be possible to store bonded goods in the warehouse until the consignors actually required delivery.

(3) Sales base

Generally, most activities carried out by agents, including cargo handling and sales activities are inseparable. Therefore, our terminal, located near the center of the city, offers a desirable place for such offices and also promises more advanced services for customers.

(4) Information base

Air cargoes which require much greater speed and accuracy in handling than usual cargoes should be strongly supported by information functions. The Nanko area, which is equipped with sophisticated information infrastructures, can offer an advanced information and communication service utilizing telport and optical fiber cables. By fully

utilizing these systems, highly integrated and advanced information bases can be established.

2. Concept of Facilities of the Nanko Air Cargo Terminal

To systematically and efficiently incorporate those four functions into this terminal, which should be convenient for agents or forwarders, the terminal is equipped with the following facilities.

(1) Agents' warehouses

Agents' warehouses are owned by 13 agents who bought the land and who are engaged in distribution work and manage offices here so that they can take full advantage of the location.

(2) Public warehouse (for agents)

Besides the above-mentioned warehouses owned by 13 agents, this public warehouse is secured for the use of smaller agents so that they can also easily enjoy the advantages of this terminal.

(3) Public warehouse (for export cargo)

This is a site for the transshipment of export cargo from agents' warehouses and for mass and intensive transportation to the airport. It is one of the most essential facilities for realizing the ultimate goal of this terminal.

(4) Public warehouse (for import cargo)

This is a comprehensive facility where import cargoes intensively transported from the airport to this terminal are received, stored, put through customs clearance procedure and delivered to consignors.

Since customs clearance procedures and the handling necessary for import cargoes are different from those for export cargoes, the type of common warehouse system used is similar to that used in the airport.

(5) Small-package warehouse

Small-package cargo such as papers and documents is light-weight and often needs prompt delivery, and the handling method and assumption of liability is clear and consistent. These characteristics are similar to those of door-to-door express delivery services and different from normal air cargoes. Therefore, they are handled separately from the usual cargoes and arranged and classified here.

(6) Administration department building

This offers common utility facilities including meeting rooms, an exhibition room, restaurants, coffee shops and a small shop.

3. Management Policy for the Nanko Air Cargo Terminal

The whole terminal is administered with the aim of creating a more rational distribution system and of contributing to the systematic improvement of air-cargo-related businesses as well as providing equal opportunities to air cargo agents and custom brokers.

Furthermore, it aims not only to satisfy the demand from the air cargo business but also to keep a balance between market competition and cooperation and to secure a proper charging standard.

Therefore, Osaka Transport System Co., Ltd., a 3rd-sector company, has taken charge of building and maintaining public warehouses. To actually engage in the management of these public warehouses, Nanko Air Cargo Terminal Co., Ltd. was jointly founded by the major 13 agents led by Osaka Transport System Co., Ltd. and those who take part in the management of public warehouses in airports. This Nanko Air Cargo Terminal Co., Ltd. carries out all the work of cargo-handling. The accumulation and transportation of cargo has also been centralized by this company.

4. Future Prospects for Nanko Air Cargo Terminal

The Port of Osaka has been home to various facilities for shipping and harbor-related works. Recently, in addition to its conventional facilities, it has become a base for companies who handle goods of high value as well as information. Especially in the Nanko Cosmosquare, this trend has been accelerated by the entry of the Osaka World Trade Center, a base for trade information, and The Asia Pacific Trade Center, a base for international wholesale.

The Nanko Air Cargo Terminal tirelessly aims to act as a terminal which can promote the use of the Kansai International Airport through close and cooperative relationships with facilities for international trade and trading information. To fully exhibit its potential, this terminal will further improve and expand its facilities in response to future increases in air cargoes and the demand from those who work in air-cargo-related businesses.

Appreciation of Dr. Willis—

(Continued from Page 14)

many papers he submitted to the Group, are a testament to his commitment. Through a kind initiative by IAPH, the delegates to the meeting were able to peruse Willis' work in a specially compiled volume and it was refreshing to read just how much of his input was still of relevance to our deliberations in 1994.

Few people have come to the Scientific Group with as much in-depth knowledge and expertise in one of the major areas of our responsibility. We all learned a great deal from him. He addressed our meetings in a timely and

measured fashion, carefully pointing out where we might be going awry, but always with a smile in his voice. I am sure he would not have been offended to have been considered the Grandfather of the Group.

We will all miss his presence in our meetings. As a person he was a delight and as a scientist he was truly an expert. As a group we would wish to send you our sincere condolences and best wishes as you and your family seek to come to terms with his passing. The Scientific Group has agreed to include this letter into the permanent record of this meeting of the Scientific Group.

On behalf of the Scientific Group, I am,

Yours sincerely,

John A. Campbell, Chairman

International Maritime Information

WORLD PORT NEWS

Contamination of Ballast Water 'Major Concern'

The contamination of ballast water by unwanted aquatic organisms is now an issue of major concern, the Committee agreed. But it felt that there was still much to be learned about the problem and the guidelines adopted by the IMO Assembly in November 1993 do not provide a complete solution to the problem.

It is not possible as yet to prevent the introduction of unwanted organisms, and the Committee therefore agreed that it should concentrate on minimizing the various risks involved.

The problem occurs because some ships need to take on seawater as ballast on certain voyages. This usually happens when a ship only carries a cargo on one stage of a voyage — as often happens with tankers and bulk carriers. Without the weight provided by ballast, the propeller might not be properly immersed on the return journey and other seagoing properties would be impaired.

The ballast water is normally taken on board shortly after the ship leaves port and is discharged as it approaches the loading port, which may be thousands of miles away. The ballast water often contains marine organisms and in some cases these have proved to be extremely harmful to local marine life.

A paper submitted by Germany showed that the problem is not new. The diatom *Biddulphia sinensis* and the mitten crab *Eriochoir sinensis* found on the Germany coast were both imported from China at the turn of the century. The German Federal Environmental Agency is currently carrying out a survey of ballast water in ships visiting German ports. To date, 35 different species of animal have been found, mostly shellfish such as barnacles and mussels. The project is due to be completed next year.

A working group was established to consider the problem and will report to the next meeting of the Committee. The Secretariat was asked to investigate the possibility of holding an international scientific symposium on the

subject and related matters within the next two years. This could involve other international organizations known to be concerned about the spread of non-indigenous aquatic species, including the United Nations Environment Programme (UNEP), the United Nations Educational, Scientific and Cultural Organization-International Oceanographic Committee (UNESCO-IOC), the World Health Organization (WHO), the United Nations Food and Agriculture Organization (FAO) and the International Council for the Exploration of the Sea (ICES).

Port Management Program in New Orleans



Senior port officials and maritime industry executives interested in learning the latest port operation, planning and management techniques can participate in the eleventh annual International Program for Port Planning and Management (IPPPM), to be held in New Orleans, La., March 27 - April 7, 1995.

This intensive training program offers maritime industry leaders from around the world a unique opportunity for further professional education and personal enrichment. IPPPM is sponsored by the Board of Commissioners of the Port of New Orleans, the World Trade Center of New Orleans, the Louisiana State University National Ports and Waterways Institute and the University of New Orleans.

"Two weeks of lectures, group discussions and field investigations sharpen participants' practical skills and strengthens their conceptual understanding of all facets of port planning and management," says IPPPM Director Timothy E. Joder. "The Port

of New Orleans serves as an ideal laboratory for this training program."

Topics addressed include:

- Trends in World Economics
- Ship Types, Sizes and Characteristics
- Labor Relations
- Port Administrator Functions
- Marketing
- Accounting and Finance
- Port Planning and Development
- Environmental Considerations
- Port Engineering and Maintenance
- Computerization
- Working With Governing Boards
- Preparing for Port Investments
- Personal Behavioral Management
- Container Terminal Equipment, Maintenance and Management

"This general curriculum is supplemented by site visits to Port of New Orleans terminal facilities and river-front development projects," says Joder. "And after a long day of classes, participants can enjoy the city of New Orleans — one of the United States' most interesting and colorful cities."

All courses are taught in English by a distinguished faculty composed of public and private sector maritime officials from the United States; personnel from the Port of New Orleans, the University of New Orleans and Louisiana State University's National Ports and Waterways Institute; and practitioners from the local maritime industry.

This program is truly international in scope: Over the past ten years, 287 participants from 71 countries have graduated from IPPPM. IPPPM fosters closer ties between the United States and other countries, facilitates international trade between Louisiana and world ports, increases maritime expertise around the world, builds a network of international problem-solvers and contributes to world peace and understanding.

Tuition: \$1,950 U.S. dollars. Accommodations: Holiday Inn Crowne Plaza Hotel; \$90 (plus tax) per room, per night, single or double occupancy. Financial assistance for foreign par-

ticipants may be available from the U.S. Agency for International Development (AID), the United Nations Development Programme (UNDP) and the International Association of Ports and Harbors (IAPH).

For an application or more information, contact: Director, IPPPM; CUPA/LUTAC; University of New Orleans; New Orleans, LA 70148; U.S.A. Or call: (504)286-6519; (504)286-6272 fax. Telex: 58-7496. Cable: CENTROPORT.

New Publications

Public Port Financing In the United States

By the U.S. Maritime Administration, Office of Port and Intermodal Development. Washington, DC: July 1994, 146 pages. Tables. Figures. Glossary. Bibliography. Order from: U.S. Maritime Administration, Office of Port & Intermodal Development, MAR-830, Room 7201, 400 Seventh Street, S.W., Washington, DC 20590. Tel: (202) 366-4357. Fax: (202) 366-5522. No charge.

Maximizing regional growth rather than financial self-sufficiency is the primary objective of a majority of U.S. public port agencies, concludes the U.S. Maritime Administration in its latest (and third) study on public port financing in the United States.

MarAd produced the study in cooperation with AAPA, with much of the data derived from the Association's annual port finance and port expenditure surveys. Copies are being mailed to all AAPA Corporate and Contributing members.

A survey of past and projected port financing trends is followed by detailed consideration of "traditional financial methods" that includes quantitative analyses of "port self-sufficiency," "port profitability," and port pricing strategy and management. Subsequent chapters focus on relevant legislative issues, the "international trade climate" (with historic and projected trade data for both containerized and non-containerized cargo to the year 2010), and "the economic importance of U.S. ports." Port financing trends in other countries (with special emphasis on port privatization) are also described.

(AAPA Advisory)

Cruise Shipping: The Outlook to 2005

A major new study* from Ocean Shipping Consultants forecasts continued growth in cruise passenger volumes, funding an ever-expanding world cruise fleet. The scale of growth will vary significantly across individual markets however, although the degree of overall aggregate demand expansion, together with the large-scale replacement of older tonnage, will fund continued overall fleet growth.

The following is a summary of the main findings of the highly detailed 250+ page Report.

Summary: Future Cruise Demand

- Cruise demand will continue to be determined by a multitude of factors, including wider macro-economic considerations, together with specific cruise industry factors. Demand will continue to be largely supply-led, and apart from tonnage levels, a number of key areas will determine the rate of growth realised. These will vary between individual markets, with very different factors for instance, set to dictate the scale and pace of growth of cruises in Japan and the USA.
- For the North American market (which dominates the world cruise industry), an increasingly young cruise passenger profile is anticipated for the future, with a rising significance for families. Middle income earners are also likely to increase in significance.
- The main feature of recent years' passenger volume development has been the scale and continuity of annual expansion. Passenger volumes have increased annually at a rate of 1-15%. Total embarkations on multi-day cruises have thus increased from 1.4m in 1980 to 3.6m in 1990 and to 4.5m in 1993, with recent years' growth averaging 9%.
- From the 1993 level of 4.5m passengers, the total is expected to rise to almost 6m by 1997, and to over 7m by 2000. Continued growth in the subsequent half-decade will see the annual total reach 9.4m by the year 2005.
- Differential rates of demand expansion are projected for the

markets of Japan, other S/E Asia, UK, Germany, France, Italy and other Europe, based on the variety of determinant factors.

- For World cruise passenger volumes, from a 1993 total of 5.3m passengers the aggregate is expected to exceed 6m passengers by 1995, with longer-term growth involving annual levels of over 8.5m by 2000 and 11.5m by 2005. Total forward expansion thus approximates 118%, with total demand growth of over 60% for the remainder of the 1990s.
- With regard to the relative development of regional markets, the dominance of the North American market will continue to be the key feature. Nevertheless, the share of the world total accounted for by North American passengers is set to decline, albeit marginally, from around 85% to 81% of the world total.

Summary: Forecast World Cruise Demand to 2005

	million passengers	
	Volume	Index
1993	5.30	100
1995	6.08	115
2000	8.51	161
2005	11.55	218

Source: Ocean Shipping Consultants Ltd.

Summary: Cruise Fleet Development

- The total world fleet deployed on multi-day cruises currently equates 244 vessels, each with a passenger capacity of more than 100, and an additional 32 vessels with capacity of less than 100 passengers. Total berth capacity approximates 176,000, with the 500-1,000 passenger category of vessels the most significant, accounting for 40% of the total with a further 23% accounted for by 1,000-1,500 berth sector. Larger vessels account for a further 21%.
- Average annual newbuilding delivery numbers equate 4-5 for the 1980-87 period, and 12-13 for 1988-92. A total of 5 newbuilding deliveries were recorded in 1993, whilst a recent surge in newbuilding orders is set to see further growth in this annual level.
- The >1,500 passenger sector ac-

counts for approximately half (49%) of all new berths delivered over 1990-92, and this period has seen a doubling in this sector.

- In general therefore, there is a strong and direct correlation between vessel size and average age. The average age of the >2,000 berth class is less than 8 years — this against the 22-year old average of the <100 berth sector.
- The total orderbook comprises some 21 vessels, with a combined aggregate berth capacity of 35,211. Of this total capacity, almost half (46%) consists of >2,000 berth vessels, with 1,500-2,000 berth ships accounting for a further 36.5%. Indeed, of the aggregate, only 6% is capacity of under 1,000 berths. This emphasises the trend towards larger vessels.
- For the fleet as a whole, the capacity currently on order represents 20% of existing capacity, with this level of significance varying widely for individual vessel size categories—from 0% for the <100 berth vessels to 104% for the largest size class.
- Annual minimum extra capacity requirements of 7,000 berths in 1994, rising to 10,000 berths in 1999 and over 12,000 berths for the final years of the study period, are implied by the demand forecasts. These are much in line with the current orderbook for the period to 1996/97, with required average annual extra capacity of 10,500 projected for 1998-2001, and 12,400 for 2002-05. These compare to the 5,000 average for 1986-89, the 10,000 average for the early 1990s, and a similar average expected for 1994-97.
- These projections apply to extra fleet requirements only, and do not therefore include consideration of the potentially highly significant volume of vessels likely to be withdrawn from multi-day cruising.

Summary: Vessel Construction

- The average \$/berth price for cruise ship newbuildings rose from \$78,000 in 1987 to just under \$130,000 in 1988/89, with further escalation seeing the average rise to over \$275,000 in 1992. The average price level fell to \$223,000

in 1993 and to \$149,000 in the first quarter of 1994.

- Further significant price escalation will be recorded in the second half of the 1990s. This will reflect the increasing level of luxury counted as standard onboard new cruise ships, as well as the price implications of general shipbuilding industry market conditions.
- The nature of cruise ship construction tends to favour the dominance of a small number of yards. This is set to continue throughout the forward study period. The current world orderbook total is dominated by Fincantieri of Italy and the Kvaerner Masa yard of Finland, together accounting for 67% of the world aggregate. After these yards is Germany's Meyer Werft, and Chantiers de l'Atlantique of France, with 15% and 10% respectively of the global aggregate.
- Average \$/berth levels for newbuildings reveals an average of \$116,000 for Carnival, \$162,000 for R.C.C.L. and \$152,000 for P&O. The wide differential in terms of prices between the large 'mass market' vessels and the smaller premium luxury vessel is highlighted by comparison of these figures with the average per berth prices of \$399,000 for Silversea, \$565,000 for Diamond, and a massive \$603,000 for the new Swedish American Cruises operation. The average level for the total world cruise ship orderbook approximates \$159,000/berth.
- For individual lines, total Carnival capacity is set to advance from just over 22,000 to 35,300 berths given the current vessels on order. This represents growth of approximately 60%. These capacity totals include the vessels belonging to Carnival's Wholly-owned subsidiaries - Windstar and HAL - but exclude the fleets of companies in which Carnival holds a share-holding.
- The world's second largest cruise line is R.C.C.L., where capacity on order would boost total berthage by 6,000 or 42% to 20,000. With significant P&O/Princess capacity on order, the total P&O fleet is set to expand by around 8,500 or 64% to 21,800 berths.

- With regard to vessel design, one of the key features of cruise ship design in recent years has been the increased popularity for diesel-electric propulsion. A growing number of vessels ordered have configurations of this type, rather than the diesel-mechanical systems, and this trend is set to continue for a large sector of the cruise fleet.
- The whole issue of 'green' cruise ships has increased in significance in recent years and is set to become more prominent throughout the forward study period. The main areas of growing importance in this regard are gas emission, waste disposal, the on-board re-cycling of energy, the on-board conversion of seawater into fresh water, and the danger of oil spillage.
- In general, the issue of reducing potential environmental harm by cruise ships is growing in significance. Pressure for this development will come from both regulatory bodies and cruise passengers, with the latter set to become increasingly environmentally conscious.
- The growing environmental concern within the cruise sector is also likely to see a deal of older tonnage withdrawn from active deployment. This will centre on the need for the installation of such things as onboard waste disposal systems and emission reduction following recent legislation. The retro-fitting of such features to older tonnage is likely to prove prohibitively expensive in many cases, although this will ultimately depend on relative newbuilding/upgrade prices. With such anti-maritime pollution regulations set to become more stringent and cover more areas in the future, this will exert increasing pressure on operators of old tonnage.

The highly detailed 250+ page Report contains analysis of all aspects of future cruise shipping market development, and is essential reading for all parties with an interest in the cruise shipping industry.

* *Cruise Shipping: The Outlook to 2005* available 6th June 1994.

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The Americas

Outstanding Year for Port of Nanaimo

The Nanaimo Harbour Commission is continuing its trend of recent years which has resulted in another extremely successful financial year for the Port.

Revenue increases of 8.7% resulted in total revenues exceeding \$9 million and a net income in excess of \$1.6 million for the year. Cargo volumes through Port operated facilities continued at near record levels with 1,056,000 metric tonnes of export cargo made up of 757,000 metric tonnes of lumber (501 million board feet), 269,000 metric tonnes of pulp and 29,000 metric tonnes of newsprint.

Inward bound cargoes saw over 300,000 metric tonnes of petroleum products recorded. BC Ferries carried over 5 million passengers through the Port, including 1.9 million vehicles and seaplane traffic involved 19,000 seaplane movements carrying over 45,000 passengers.

In its brief operating period, the Orca Spirit fast ferry carried well over 220,000 passengers from its inaugural run in July of 1992 until its cessation of operations at the end of June 1993. The Port is actively pursuing new fast ferry operators and feels encouraged that a service will be re-established.

Throughout 1993, the Port continued with a number of major capital initiatives. Capital expenditures for the year exceeded \$9.3 million, completing a two-year capital plan which saw over \$13 million spent on such projects as the Pioneer Waterfront Plaza, the Visiting Vessel/Cruiseship Pier, the Walking/Fishing Pier from Swy-a-Lana Lagoon Park and a number of major

cargo handling restorations and acquisitions. Besides major berth repairs, the Port added one new forklift, two tractors and three trailers to its cargo handling fleet.

While the Port strives to act as a catalyst for harbour development, it is very conscious of maintaining a waterfront that is accessible to the public. In reviewing new proposals and projects, the Board of Commissioners and Port administration are extremely conscious of ensuring that each project adds enjoyment for the general public while at the same time allowing for economic development.

The success of any organization is a result of the efforts of its people and the Port can feel proud of the excellent and skilled labour base and the productivity levels achieved by all those in Port operations, from the administrative team, support staff, and terminal operators to our longshoremen.

The Port of Nanaimo has risen to be an outstanding example of how a Port can jointly serve both the national transportation goals of the country and the community in which it is located.

(Harbour News)

Commission Contributes To Community Projects

The Nanaimo Harbour Commission recently contributed \$80,000 to the City of Nanaimo to assist in the completion of the extension of the Millstone River Walkway from the Harbourside Walkway at the Pearson Street Bridge to Bowen Park.

The Port also contributed towards improved playground equipment at Maffeo-Sutton Park adjacent to Swy-a-Lana Lagoon.

These funds are made available to the City as part of the Port's mandate to contribute to the social and economic development of the area surrounding the Port.

(Harbour News)

Report to Congress: HMTF Surplus Growing

Money is flowing into the Harbor Maintenance Trust Fund (HMTF) faster than it is being spent, according to the U.S. Army Corps of Engineer's second annual report to Congress on

Canada's 2 River Ports Ink Twinning Agreement

The Port of Quebec and Fraser Port, two of Canada's major river ports, formally agreed to exchange information for the common goal at a Twinning Ceremony held recently in New Westminster, B.C. The agreement was

signed by, at left, Mike Jones, Chairman of the Fraser River Harbour Commission, and Rene Paquet, Chairman of the Port of Quebec Corporation.

Under the agreement, the Ports will share information on a broad range of subjects such as policies, resources, communication strategies, trade, operations, facilities and training.



the fund's status. The surplus had grown to more than \$300 million at the end of fiscal 1993 and was projected to reach \$469 million this year and \$975 million in fiscal 1998.

The HMTF was established under the Water Resources Development Act of 1986 for the primary purpose of defraying Corps of Engineers' operations and maintenance (O&M) expenditures "made on behalf of commercial navigation" and to fully cover operations and maintenance costs incurred for the portions of the St. Lawrence Seaway owned and administered by the U.S. St. Lawrence Seaway Development Corporation.

The Trust Fund's primary source of income is a Harbour Maintenance Fee (HMF) on the value of imports, exports, and domestic cargo entering U.S. ports. Also subject to the fee are dutiable cargos exiting a foreign-trade zone if they remain in the United States and merchandise arriving on passenger ships.

Additionally, tolls charged for use of the U.S. Seaway locks are deposited into the HMTF but then refunded to the vessel operators.

Under the original enactment, the fee was to be equal to .04 percent of the value of the cargo and to generate sufficient funds to recover 40 percent of the Corps' O&M costs. In 1990, as part of the Omnibus Budget Reconciliation Act, the fee was increased to .125 percent effective January 1, 1991, with the primary objective of recovering 100 percent of these Corps costs.

The higher fee was also intended to raise approximately \$45.5 million annually to reimburse the National Oceanic and Atmospheric Administration (NOAA) for "activities pertaining to commercial navigation." However, Congress has yet to authorize NOAA to withdraw this money, which, as a result, has been accumulating in the fund since January 1, 1991. AAPA opposes use of the HMF to fund NOAA operations.

During fiscal 1993, HMTF deposits totaled \$720.7 million (including interest of \$13.5 million). FY 1993 transfers from the Fund equalled \$468.1 million, leaving a surplus for the year of \$182.6 million and an accumulative surplus of \$303.6 million at the start of fiscal 1994. Details are shown below.

1. Harbour Maintenance Trust Fund Revenues and Transfers Fiscal 1993 (Thousands of Dollars)

Beginning Balance	\$120,930
Revenues	
Harbor Maintenance Fee	\$628,462
Seaway Toll Receipts	8,739
Interest	13,521
Net Revenues	\$650,722
Net Available	\$771,652
Transfers	
Corps of Engineers	\$446,164
St. Lawrence Seaway	13,584
Seaway Toll Rebates	8,074
DOT (*)	180
Administrative Costs	124
Net Expenditures	\$468,106
Surplus	\$303,548

* **Payment of rent to the U.S. Department of Transportation for the Saint Lawrence Seaway Corporation.**

Source: U.S. Army Corps of Engineers, Second Annual Report to Congress on the Status of the Harbor Maintenance Trust Fund for Fiscal Year 1993, p.5.

The Harbor Maintenance Fee is collected by the U.S. Customs Service. Imports are the Trust Fund's leading source of income, primarily because they account for the greater proportion of the volume and value of cargo subject to the fee. HMF assessments on exports and domestic cargo generate less revenue, in part because of the greater predominance of lower value commodities such as coal, grain, and paper.

However, administrative factors have also influenced the disparity in collections between imports on one side and domestic cargo and imports on the other. With respect to the HMF on imports, Customs has been able to take advantage of the "well-established and well-enforced mechanism" it has long used in collecting duties and other import fees. Less stringent procedures were in place, however, for the other two categories, with Customs relying on Shipper Export Declarations as a source of export values and on essentially voluntary reporting by shippers with respect to domestic cargo value. The Corps also notes "significant resistance to HMF collections" from the passenger sector.

Recent collections are tabulated below.

2. Harbor Maintenance Fee Collections by Source (Thousands of Dollars)

Source	FY 1991	FY 1992	FY 1993
Imports	\$258,321	\$342,402	\$381,678
Exports	93,194	142,916	169,141
Domestic	19,518	28,451	31,858
FTZs	9,166	18,974	20,959
Passengers	1,977	3,275	4,748
Net Collections	\$382,176	\$530,018	\$588,384

Note: Harbor Maintenance Funds collections in any given fiscal year differ from revenues officially deposited into the Fund due to reporting time and estimating error.

Source: U.S. Army Corps of Engineers, Second Annual Report to Congress on the Status of the Harbor Maintenance Trust Fund for Year 1993., p. 3.

The Corps' data indicate progress toward the goal of universal compliance. In FY 1993, for example, at a time when the value of exports actually dropped (from \$185.2 billion in FY 1992 to \$176.6 billion in FY 1993), HMF revenue from exports increased by 18.3 percent. Substantial improvements are evident with respect to domestic cargo HMF collections, which in FY 1993 were up 12 percent from the previous year and 63 percent higher than the \$19.5 million collected in FY 1991.

The Corps believes that the \$5 million per year that Congress has authorized for administering the HMF will make it possible to "better ensure the accuracy of the fees paid on exports." The Corps believes that "better administration and enforcement ... would increase collections" in the domestic waterborne commerce and passenger categories "by about \$50 million per year."

(AAPA Advisory)

Canaveral: Cooperation With Port Communities

There's an old adage that says "the three most important qualities a piece of property can have are location, location and location." I'd like to expand that adage by saying "but the location isn't worth a darn if you don't have the cooperation of those located around you." And even though it might be true "good fences make good neighbors," I think it's truer *no fences make better neighbors.*

From our earliest beginnings in the

late 1930s, the Canaveral Port Authority has worked to foster a spirit of cooperation in working with the communities around the port. Our port charter defines a port district that includes, among others, the cities of Titusville, Cape Canaveral, Cocoa Beach, Merritt Island, Cocoa and Rockledge.

We feel we have developed a mutual relationship of cooperation, respect and fairness with our neighboring communities, helping both them and us to benefit ourselves and others. However, Port Canaveral's influence goes beyond our immediate neighboring communities, stretching over all of Brevard County.

The port's charter tasks the Canaveral Port Authority with creating jobs and positively impacting the economics of the area. According to recent statistics released by the U.S. Department of Commerce, for every \$45,000 worth of goods exported from our area, one job is created — more than double the rate of jobs created by domestic sales. Being one of the major outlets for export in our area, the port fulfills these roles of positively influencing Brevard County in the area of economic development.

Port Canaveral's Foreign Trade Zone #136 affords an advantage not only to our neighboring cities but the whole of Brevard County as well. FTZ #136 encompasses the entire port, Spaceport Florida, Space Center Executive Airport and the Melbourne International Airport. With sections of FTZ #136 located throughout the county, any city within Brevard can claim the ability to access FTZ status. This is an advantage to companies looking to relocate to our area or to existing businesses looking to expand their operations.

Since the Canaveral Port Authority is the grantee for Brevard County, we help promote international trade and foreign trade zone activity throughout the county.

Naturally, due to our location, the city the port has probably had the most dealings with is Cape Canaveral. The port is, in effect, adjacent to Cape Canaveral's northern border. You will find a major article in this edition of the *Journal* beginning on Page 11, detailing how the port authority works in cooperation with various entities such as the Economic Development Council.

Port Canaveral has never lost sight

of its duties and responsibilities to our county. We will continue to keep these responsibilities in our forefront as the port continues toward the 21st Century.

(Port Canaveral)

Tenant Awareness of Environment Regulations

All tenants operating in Port Canaveral are required to comply with state and federal regulations. This includes environmental regulations on how to properly handle, store and dispose of hazardous materials and wastes, how to minimize emissions to the atmosphere to reduce air pollution, how to handle used oil, and several others.

Pollution prevention is of prime concern to everyone who uses Port Canaveral. Working to keep the environment clean provides long-term benefits for all.

We live and work in one of the richest and most attractive natural environments in the nation. Every business in Port Canaveral benefits from the natural resources of our area, either directly or indirectly. But it is a delicately balanced ecosystem, one we must protect by constant awareness and positive action.

Compliance with environmental regulations on waste disposal is of utmost importance to tenants and the port authority. Maintenance of the port's water quality to Class III standards ensures its continued use for recreation as well as a clean habitat for fish and wildlife.

By preventing contaminants from entering the waterway, the harbor sediments will remain clean and disposal of dredged material will be facilitated. We will be able to continue renourishing area beaches with beach quality sand dredged from our navigational channel.

Preventing contamination of ground is also important. Many chemicals, once on the ground, could find their way into the harbor and affect both water and sediment quality. Many birds and other small animals feed from these grounds and contamination of their food source may have an adverse effect on them or their young.

Pollution prevention is a team effort, especially in an ecologically sensitive

area like ours. Instead of looking at it as an expense, let's take the longer view and look at it as an important investment in the future of Port Canaveral, our community, and our world.

(Port Canaveral)

Beach Renourishment At Port Canaveral

The Canaveral Port Authority is sponsoring an innovative near-near-shore disposal of sand for beach renourishment, in conjunction with the federal maintenance dredging of the entrance channel. The contract was recently awarded to the Dutra Construction Company.

Unlike previous nearshore disposals, the maintenance dredged material will be placed in a near-nearshore berm approximately 800 feet closer to the shoreline. Placing the sand in shallower water will replenish the shoreline sooner and result in a higher percentage of sand reaching the beach.

The near-nearshore berm will begin five miles south of Port Canaveral at Lori Wilson Park. It will run south 9,000 feet to about Sixth Street South in Cocoa Beach. Approximately 110,000 cubic yards of sand will be placed in water depths from -11 to -15 feet MLW, about 1,200 feet offshore.

The incremental cost of placing the sand near-nearshore is about \$0.30 per cubic yard for a total cost of \$32,480. The Canaveral Port Authority will fund 100% of these costs.

Dutra is presently completing a widening and deepening project at Port Canaveral. The sand from this project was placed on a nearshore berm permitted by the Port Authority in 1992.

The Canaveral Port Authority continues its policy of replenishing Brevard's beaches by researching and funding innovative techniques of sand reclamation.

Georgia Ports Authority Elects New Officers

Harry C. Jackson of Columbus, Ga., has been elected chairman of the Georgia Ports Authority board of directors.

Other officers elected at the July board meeting included James Mason of Lawrenceville as vice chairman and

Herman Russell of Atlanta as secretary-treasurer.

The nine member authority board is appointed by the governor to oversee the activities of GPA's worldwide operations that include its deepwater seaports in Savannah and Brunswick and its two inland barge facilities in Bainbridge and Columbus.

New Corporate Logo

The Georgia Ports Authority has launched a new logo that provides a powerful visual message: "We are committed to keeping international trade moving through the ports of Georgia."

The new corporate logo, which is part of GPA's 50th anniversary campaign, was designed to communicate that Georgia's Ports are positioned to lead the state into the 21st century. The design features the bow of a ship moving the world, symbolizing that ocean transport moves the world's cargoes through our ports. A combination of marine blue and earth tones were used to highlight ocean shipping as the premier link between global markets and as a fully integrated partner in the multimodal transportation logistics environment of today and tomorrow.

The logo conveys the motion, the energy, and the strength inherent in international commerce. Further, it underscores the GPA's mission of moving cargo in a safe, reliable and efficient manner.

The new logo design was designed by Longwater, Inc., a marketing and public relations agency located in Savannah. The logo selection process further illustrates the GPA's commitment to giving our customers and the citizens of the State of Georgia our personal best.



Port of Corpus Christi: Apron, Shed Expansion

Work is progressing on schedule on the Port of Corpus Christi's latest expansion project. Once completed the shed located on Cargo Dock 9 will contain 122,000 square feet of covered, dockside storage space, making the dock the largest port-owned warehouse facility.

Work began on the \$6.6 million project in late spring and is expected to be completed in May of 1995. The project is broken out into three stages, the shed expansion (from its present size of 58,000 square feet), an apron widening and strengthening that will include a modern fender system and allow 38-foot draft vessels to dock alongside and a Roll-On/Roll-Off (RO/RO) ramp. Cargo Dock 9 is the site of the port's original Bulk Materials Dock which was built in the early 1950s and designed to handle no larger than 30-foot draft vessels.

According to Frank Brogan, the port's engineering services director, at \$3.7 million for the apron and \$2.9 million for the shed expansion, the project represents a significant capital investment and will allow improved access, security and cargo handling capabilities. The dock apron with a deckload capacity of 750 pounds per square foot is designed to handle a 220-ton mobile crane, making it suitable for handling heavy cargo such as steel products. The dock is also immediately adjacent to an open storage yard that has been used in the past to store pipe and other large cargoes. Another fea-

ture of the dock is a covered canopy on the back railside that will allow railcar unloading in all weather conditions.

Long Beach Port Posts Best Month Ever

The Port of Long Beach registered its best month in July, with a 35 percent increase in container count over the same month in 1993. This dramatic surge in containerized cargo follows the port's best year on record, when container traffic grew by 25.7 percent.

In July 1994, the equivalent of 119,556 TEUs entered the port and 74,035 TEUs were exported. These increases reflected a 32.3 percent jump in imports and a 47.1 percent gain in exports.

"The port's successes were spurred by outstanding performance at all of our container terminals," said Port Executive Director Steve Dillenbeck.

Dillenbeck said new services initiated by shipping carriers "K" Line, Maersk and Sea-Land to Hong Kong, China and Southeast Asia contributed heavily to the port's record growth. "Trade with China and Southeast Asia is thriving, and Long Beach is receiving the bulk of that trade," he said, adding that trade with China, alone, accounted for nearly half of the port's container growth.

Dillenbeck also noted that several carriers, including "K" Line and Maersk, have rerouted cargo from other ports to fill ships calling Long Beach. Hyundai, another carrier, has

introduced new vessels that carry 4,400 TEUs.

"If a carrier wants to bring a ship carrying 3,800, 4,000 or 4,400 TEUs into the U.S., it only makes sense to bring it into Southern California, where we have direct access to more than 17 million people," Dillenbeck said. "And since the port has the only on-dock-rail facilities in Southern California, carriers know they also can access the rest of the nation from our docks."

The port also enjoyed the benefits of new customers, such as Zim Container Service. Zim accounted for 15 percent of the Long Beach growth, said Dillenbeck.

Fiscal year 1993-94 was the first time Long Beach broke through the two million TEU ceiling. Last year, 1,857,800 TEUs passed through Long Beach. Loaded outbound cargoes rose to 721,611 TEUs, a 30.2 percent jump, and inbound cargoes increased 1,161,652 TEUs, a 23.9 percent hike.

Container trade was not the only growth area in Long Beach during 1993-94. Overall volume swelled by 15 percent to 83.3 million metric revenue tons.

As the fiscal year ended, the port put the finishing touches on a new \$22 million, 175,000-ton coal storage facility at Metropolitan Stevedore Co. The facility enables Metropolitan to fill cape-size ships from dockside storage and accommodate throughput of up to 4.5 million tons of coal per year.

Metropolitan's total dry-bulk terminal in Long Beach, which handles petroleum coke, sulfur, potash and borax — as well as coal — can now move nine million tons of product annually.

Georgia Ports Authority: Another Record Year

The Georgia Ports Authority (GPA) reported that cargo volumes in fiscal year 1993-94 surged to their highest levels in history at Georgia's deepwater seaports in Savannah and Brunswick and at the state's two inland barge facilities in Bainbridge and Columbus.

System wide, total tonnage increased to 9.1 million tons, nearly 5 percent ahead of the 8.7 million tons moved in fiscal year 1991-93. This is the seventh consecutive year in which GPA has recorded tonnage increases.

George Nichols, executive director

of GPA attributed the growth to improved economic conditions throughout the world and the new 42-foot channel in Savannah.

"While the deeper channel has been in place only since April, we are already witnessing increased volumes," he said. "Now our Savannah terminals are accessible by 98 percent of the ships involved in international trade."

"But more importantly, the new channel underscores the progressive and innovative spirit needed to succeed in international markets today."

The growth in tonnage was paced by the continued strong performance in container traffic and breakbulk cargoes. Specifically, GPA moved 549,092 TEUs in the period, 4.4 percent ahead of the previous fiscal year. Similarly, container tonnage moved ahead by 5.6 percent to 4.3 million tons.

Equally impressive was the continued strength in the general cargo, or breakbulk segment. GPA ended the year with a total of 2.5 million breakbulk tons, 12 percent ahead of last year.

"GPA strength in the breakbulk segment underscores our strategy of offering our customers diversity in cargo handling capabilities," said Nichols. "We have never turned our back on the breakbulk market. We recognize 75 to 80 percent of that traffic is containerizable. From that will come the momentum to propel our container traffic to new heights in the future."

The increase in general cargo was mostly attributable to renewed strength in the foreign demand for U.S. forest products. Additionally, shipments of kaolin clay, cocoa beans, woodpulp and iron and steel, were ahead of last year.

The FY 1994 performance also shows a greater balance in exports and imports. "Historically, GPA has exported the majority of its cargo," said Nichols. "Last year, in fact, exports accounted for 57% of all cargoes. This past year the split was 54-46 percent. The stronger performance of imports was fueled by sustained economic growth at home — meaning that more Americans were buying more goods."

"We look for that trend to continue," said Nichols. "Whether you're talking about economic activity or population growth, Georgia is growing faster than any other state in the southeast."

To accommodate projected growth, GPA is near mid-point in its \$350 million expansion to increase container

berthing capacity, adding new container cranes and other materials handling equipment, together with storage facilities.

Already this commitment has led to 11 new and enhanced steamship line services calling at GPA facilities.

Now in its 50th year of service, the GPA operates terminals at the deep-water ports of Savannah and Brunswick as well as barge terminals at Bainbridge and Columbus. GPA maintains trade development offices in Savannah, Brunswick, Atlanta, New Jersey, Athens, Oslo and Tokyo.

Newly-renovated Port of Redwood City Marina

A rededication ceremony celebrating the re-opening of the newly-renovated Port of Redwood City Marina was held last month, featuring a parade of boats returning to the 204-berth Marina.

"With this project completed, we have a first class, state-of-the-art public marina at the Port," said Port Commission Chairman Guy Smith. "The Port has the only natural harbor in South San Francisco Bay and has become a focal point for boating enthusiasts."

Congresswoman Anna Eshoo, who officiated at the re-dedication, called the Port's new marina "a crown jewel in the South Bay."

The Port of Redwood City Marina's \$1.6 million renovation project includes a new concrete dock system configured so that all berths will be single berths. This provides better access to boats for mooring lines, washing, maintenance, and loading/unloading of people and supplies.

"The concrete docks will provide greater longevity and less maintenance than wood docks," according to Pat Brown, operations manager for the Port.

The newly installed docks feature utility pedestals serving every two boats. Pedestals have electric and water connections and a light. New electric meters located in the pedestals mean that each boater's electricity is metered for the first time at the Marina.

In addition to the new concrete docks, timber piles were replaced with 44 concrete piles. Five new aluminum

ramps connect the new docks to shore with new locked and lighted gatehouses on each ramp. This provides for improved security.

The renovation of the Marina began last summer with maintenance dredging of the basin to a depth of 10 feet at low tide. \$880,000 of the maintenance and renovation project was funded through a loan by California Department of Boating and Waterways.

This was the first major dock renovation and maintenance dredging of the marina since it was built in 1959, with the exception of the 34-berth "C" Dock constructed a few years ago. The Port has been responsible for the operation and maintenance of the Marina since it was turned over to the Port by the City in 1978.

Since that time, the area around the Marina has changed significantly, with the exception of Charley Brown's Restaurant continuing to overlook the Marina's entrance. In addition to the completion of the Portside office complex and Clark's by-the-Bay, the Port oversaw the relocation and expansion of the public boat launching ramp and parking lot, provision of waterfront access areas with walkways, benches and landscaping surrounding the Marina, and construction of new showers and restrooms.

Many of the people involved in the initial development of the Marina attended the rededication ceremonies. These included: retired Redwood City Tribune publisher Ray Spangler; former Assemblyman and Redwood City Major Carl A. "Ike Britschgi, who was instrumental in the original construction and State loan for the Marina; and, John Mackenhausen, who was harbor master until 1978 and lived for many years in the two-story harbor master building now located next to the boat launch ramp. (Currents)

Redwood City Gets \$150,000 from Port

The Port of Redwood City will contribute \$150,000 in fiscal year 1994-1995 to the City of Redwood City's General Fund, the Board of Port Commissioners voted last month. This will bring the amount of money voluntarily provided to City taxpayers by the Port to more than \$1.1 million in

recent years.

Commissioners announced the contribution in conjunction with the adoption of the Port's 1994-95 budget. The budget projects a net income of \$393,949 before payment of the \$150,000 to the City. The voluntary donation represents approximately 38 percent of the Port's anticipated net income.

The contribution is designated as the Port's third consecutive annual subvention of \$150,000. Last year, the Port gave a special extraordinary additional disbursement of \$100,000 for a total of \$250,000.

"We are pleased to be able to contribute \$150,000 to the City for the third consecutive year even though the Port is facing major capital requirements for new construction and other projects," said Smith.

"Like any good business, the Port continues its prudent management to make sure we have the capital to help fund the Port and to keep current facilities well maintained and competitive," he added.

The 1994-95 budget projects an income of \$2.3 million, up 5.6 percent from the fiscal year that ended June 30. (Currents)

Public Comments Sought On Seattle's Pier 88

Members of the public and interested parties are invited to comment on the scope of an Environmental Impact Statement (EIS) for the proposed Immunex Corporation development at Pier 88. The EIS will be prepared by the Port of Seattle.

Public comments on the scope of environmental issues, impacts (including transportation), alternatives, mitigation measures, or the types of permits and approvals necessary for development of the site will be used in conducting appropriate studies and preparation of the EIS.

Immunex, a biopharmaceutical company which discovers, develops and markets therapeutic products for cancer and other diseases of the immune system, plans to construct a corporate headquarters, research and development center on the 29 acre site. Immunex currently plans a three-phase

development of the site which, when completed in 2010, would include about 1.3 million net square feet of building area and accommodate the work of 2,400 employees.

The EIS scoping document presents four development alternatives including a no-action option. It also includes four different access improvement alternatives identified by the City of Seattle, which would improve general traffic circulation for the W. Galer Street/Elliott Avenue West vicinity. Improved access is required, in part, to accommodate additional traffic generated by new developments in the vicinity. While the EIS will include a general analysis of the access alternatives, the City of Seattle will conduct a detailed environmental review when specific improvements are proposed.

The public meeting on the EIS scope will have two components — an open house to provide information on the proposal followed by an opportunity for the public to provide oral comments on the scope of the EIS. Individuals and groups interested in providing written comments are encouraged to do so. The deadline for written comments is August 24, 1994. Comment letters should be directed to: Barbara Hinkle, Port of Seattle Environmental Review Section, P.O. Box 1209, Seattle, Washington 98111.

Following the end of the public comment period on August 24, the Port will begin work on the EIS. A draft EIS is expected to be issued for public comments in January 1995 and will be followed by a 30-day comment period. The final EIS is expected to be issued in May 1995.

The Port of Seattle Commission, at its June 28 meeting, authorized the sale of 29 acres to Immunex for \$13.6 million. Closing of the sale will occur in approximately 18 months and is dependent on Immunex's ability to obtain Master Use permits and resolution of site access issues.

The Port of Seattle is an economic catalyst to the entire Puget Sound region. It develops and manages commerce through the Seattle harbor, Seattle-Tacoma International Airport, warehousing and distribution centers, Shilshole Bay Marina, and Fishermen's Terminal. The Port impacts more than 80,000 jobs in the region and handles greater than \$32 billion a year in two-way trade.

Africa/Europe

Antwerp Goods Traffic Rises 14.7% in First Half

Goods traffic in the port of Antwerp has clearly picked up again after the stagnation of last year. The spectacular increase in traffic which became apparent after the first quarter, was confirmed during the months that followed. With a half-year result of 55.6 million tonnes, goods traffic rose by 14.7% compared to the corresponding period of 1993. The port also performed extremely well during the month of June with a transshipment figure of 9.75 million tonnes (+15.2%).

During the first six months of 1994 a total of 32.04 million tonnes of goods were discharged (+14.7%) and 23.56 million tonnes loaded (also +14.7%). Almost all sectors displayed this same sort of growth.

General cargo traffic, traditionally an Antwerp spearhead, increased by 11% to some 25 million tonnes. With dry bulk, an increase of 17.8% to 16.6 million tonnes was recorded. Liquid bulk also showed a rise of 18% to 14.9 million tonnes. The major climbers in general cargo traffic are pulp and cellulose (+19%), transport equipment (+3.2%) and sugar (+83.8%). While a drop was recorded with goods such as iron and steel products (-9.5%), fruit (-8.6%) and bagged commodities (grain, fertilizers and flour), the remaining general cargo, which was mainly container traffic, rose by 22.4% to 13.74 million tonnes.

With bulk goods, the best results were registered for iron ore (+35.4%), petroleum (+14%), refined oil products (+18.7%), chemical products (19%) and fertilizers (+22.4%).

With these results Antwerp is well on its way to achieving a new record at the end of 1994. Forecasts mention a figure that would exceed the 105 million tonne mark.

Work Starts on Antwerp North Riverside Terminal

Antwerp's City Council has awarded the construction of the North Riverside Container Terminal to a consortium

formed by Franki, Herbosch-Kiere, and Antwerpse Bouwwerken Verbeeck. The new tidal container berth comes with a price tag of BEF 1,710 million.

Antwerp's flourishing container trade, combined with the success of the first riverside container terminal, known as the Europa Terminal, has inspired the construction of a second container berth before the locks, just north of the Zandvliet Lock.

The overall length of the terminal will be 1,375 m, which includes the space needed for a ro/ro pontoon. The useful length of the berth is 1,070 m with a depth of 14 metres of water at the berth. A 320 m lighter berth is being built on the land side of the terminal where it fronts Canal Dock B3. The total area of the terminal will be about 570,000 m², representing a capacity of 600,000 TEU per annum. There is also room to expand the terminal by a further 100,000 m² in the future.

The contract requires the construction work to be completed within 30 calendar months and delivery in mid-1996.

(Hinterland)

Le Havre Agreement for Application of 1992 Law

From now on, all the stevedores of Le Havre will be taken on by various firms. This is the result of an agreement, regarding employment and working conditions, which enforces the law of 1992.

It is a well-balanced agreement which meets all the demands and settles the common difficulties, especially those linked with the gradual hiring of the dockers in retraining schemes, and this through an 18-month period.

The agreement also involves social peace during the next three years.

The stevedoring firms are now fully responsible regarding the qualities of their services at a reasonable price. They will have again the capacity to rely on the necessary staff according to traffic.

This deal improves noticeably the port of Le Havre's quality of services, which aims to reach the productive capacity of the main European ports. Common sense and realism led to that agreement and all professionals will benefit from it.

What are the port's objectives?

1. Re-establish the trust. Social peace for a minimum 3-year period is quite fundamental and will meet the requirements of actual and prospective customers.

2. Recover the regular shipping lines and carry out a strong development policy.

3. Point out the maritime assets of Le Havre, increase freight trade so that many ships call at Le Havre and among them new container ships over 4,500 TEU.

4. Recover the conventional general cargo traffic.

The Baltic: Historical Links to Hamburg Port

Fast hinterland connections and high frequency of overseas liner services offer Baltic shippers key time advantages on routes via the Port of Hamburg.

As the most "westerly port of the Baltic" Hamburg is a close neighbour to the three Baltic States. It is their traditional bridge to the west. Strong historical links date back to the Age of the Hanse. Although the Hamburg port economy takes a positive long-term view regarding cargo turnover opportunities and possibilities for future co-operation in the Baltic area, for the present economic activities remain at a low level.

Total cargo turnover east- and westbound on the Baltic route decreased since 1989 reflecting the general economic downturn. The sea-borne traffic between Hamburg and the Baltic States fell from 1.8 Mio. tons (1989) to 1.4 Mio. tons (1993). Nevertheless, the Baltic States are among the ten most important sea-borne trading partners of the Port of Hamburg. The container throughput in the Port (TEU) increased by 46.9 per cent in 1993 versus 1992 to reach 4,022 TEU and by 23.3 per cent in the first five months of 1994 compared with the same period in the previous year to reach 2,167 TEU. Outgoing cargo increased overproportionately by more than 100 per cent. Loaded box traffic in both directions is now almost balanced. However, ships sailing from the Baltic States to Hamburg carried twice as many empty as full containers in the first five months of this year. To these cargo handling fig-

ures should of course be added cargoes routed via Russian and Finnish ports. Especially, in container traffic Finnish ports play a very important role. Unfortunately, no exact figures are available.

The rapid growth of container traffic results from the increasing use of Hamburg as a transshipment port of the Baltic States. Ten liner services have built up regular connections with Hamburg. Transit traffic of the Baltic States via Port of Hamburg increased by more than 200 per cent from 1992 to 1993.

Broad spectrum of services

Hamburg's numerous port operators are equipped to handle all kinds of goods. Petroleum and petroleum products, cardboard paper, building materials, minerals, scrap iron, fertilizer and timber dominate the traffic from the Baltic States to Hamburg, sugar and grain the traffic from Hamburg to the Baltic States. Only 25.8 per cent of the general cargo is containerised which is well below the overall degree of containerisation in the Port of Hamburg (78 per cent). Hamburg's port operators offer a wide variety of value-added services that include warehousing, distribution, seaworthy packaging, container stuffing and stripping, container repairs, quality control, securing goods for transport, etc.

Future challenges

The political changes which brought about a return of the Baltic States to the international community present both a chance and a challenge for the Port of Hamburg. Hamburg is benefiting from its role as the last stop for the big shipping lines, especially those serving the Europe-Far East route, direct-bloc rail links with Eastern Europe and numerous feeder services. Tallinn is approx. 1,600 km, Riga 1,300 km, Klaipeda 1,000 km from Hamburg by road and dozens of forwarders offer regular and reliable just-in-time distribution services to every corner of the Baltic States. It is expected that the Port of Hamburg will benefit considerably from the proposed upgrading of rail links between Germany and Lithuania via Suwalki (Poland) and Sestokai and a new high speed rail link between Warsaw and Tallinn via Bialystok, Kaunas, Siauliai and Riga.

It is expected that the economic recovery in Lithuania, Latvia and Estonia will bring about an upswing in German foreign trade with these States. The Baltic States' increasing involvement in world trade should add momentum to the rapid growth in Baltic transit traffic through the Port of Hamburg. This should affect positively both shipping lines and rail cargo links such as POLZUG.

Successful 6 Months for Amsterdam Port Region

Over the last six months, more goods have been shipped in and out of the Amsterdam Port Region than in the first six months of 1993. In total, 24.4 million tons of goods were handled, amounting to a growth of 1.9 percent. Once again, container traffic showed the largest growth, almost 22 percent, reaching a total of 620,000 tons. The total quantity of bulk goods handled in the Amsterdam region grew by 2.0 percent to 20.6 million tons. General cargo increased by 1.3 percent to 3.8 million tons.

With an eye to the currently positive developments in the economy, Godfried C.G. van den Heuvel, Executive Director of the Port of Amsterdam, expects that this growth will continue over the coming six months. "The figures indicate that activity in the Amsterdam port region is increasing strongly. It is clear that various new initiatives in the port region are now beginning to bear fruit. For example, the Stuwer coal terminal, formerly known as De Rietlanden, is progressing well, as is the multimodal transport centre Westpoint, where the first stevedore recently started and the first vessels of a new line service have been processed. If this increasing trend can be continued, I have every hope that we will conclude the year with the magic figure of 50 million tons".

Dry bulk

Over the last six months, a total of more than 15.9 million tons of dry bulk were handled in the Amsterdam port region. Compared with the same period last year, this represented an increase of 2.6 percent. Coal transport has clearly experienced a significant recovery. It booked a gain of 11.6 percent

and reached a total of more than 4.3 million tons. Agribulk transport (grain, animal feeds and oil seeds) increased by 5.5 percent to over 4 million tons. Although the export of scrap-iron to Turkey increased significantly, the transshipment of ore and scrap decreased by 4.1 percent to almost 5 million tons. In contrast to expectations, the transshipment of fertiliser products continues to increase. These grew by 20.9 percent to 445,000 tons. Due to a reduction in the imports of chemical product as dry bulk, the transshipment of "other dry bulk goods" decreased by 5.6 percent to just over 2 million tons.

Liquid bulk

The amount of liquid bulk goods handled remained stable. In total, 4.7 million tons were transshipped. Only oil products decreased somewhat by 6 percent to slightly in excess of 3 million tons. Due to an increase in the import of chemical products destined for the oil industry, the category of "other liquid bulk" increased by 23.5 percent to over one million tons.

General cargo

Over the last six months the total general sector increased by 1.3 percent, to achieve a volume of 3.8 million tons. Container traffic increased by 21.9 percent, a significant gain, and reached 620,000 tons. Roll on/roll off traffic is still suffering somewhat from a slump in the automobile industry. Although this industrial sector is now once again increasing, this will not have a positive effect on roll on/roll off traffic for some time, until existing stocks held have been depleted. In the past six months, a total of almost 370,000 tons of roll on/roll off goods were handled. A decrease of 5.6 percent. The "other general cargo" area remained as per last year. Transshipment reached 2.8 million tons.

ABP Opens 3rd Berth at Immingham Oil Terminal

The new £18 million Third Berth at Associated British Ports's (ABP) Immingham Oil Terminal was officially opened by Mr David Kem, Chairman, Conoco Limited, at an inauguration ceremony and reception hosted by ABP

Chairman, Sir Keith Stuart, and Port Manager, Dennis Dunn, at ABP's Port of Immingham in the Humber.

ABP, the country's largest port owner and operator, has invested £14 million in the Third Berth, a new branch jetty extension to the Immingham Oil Terminal which handles products to and from Conoco's Humber Refinery and the adjacent Lindsey Oil Refinery which is jointly owned by Total Oil and Fina plc. Around £4 million was invested by Conoco in pipelines, pumping systems and associated connections.

Sir Keith Stuart, ABP Chairman, speaking at the opening ceremony, said:

"This new jetty which we have built for Conoco is an excellent example of building on success. Other long-term agreements with Conoco and the other oil companies in Immingham have helped to produce strong growth in Immingham's involvement in the oil business and, with the expansion of the terminal, that growth is set to continue."

The Immingham Oil Terminal, the UK's third largest oil terminal, opened in 1969. Since then, it has handled more than 350 million tonnes of liquid cargo. In 1993 alone, the terminal processed 16.5 million tonnes of crude oil, petrochemicals and feedstock. The Third Berth, capable of handling tankers of up to 80,000 dwt, will increase capacity by 20 per cent.

"Both the seaports and oil industries are key to the economies of the countries in which we operate; both offer useful barometers of the state of the domestic and international economy. From all the evidence we are getting in the seaports industry, the British economy is now very much on the move forward. We are seeing growing business, including some strong performances by British exporters," Sir Keith said.

Citing a recent survey by the Confederation of British Industry (CBI) on the state of the UK economy, Sir Keith pointed out that there was much to confirm the growth in the UK economy, including strong prospects for export orders. However, he also cited the negative findings of the CBI survey.

"The survey suggests that investment by British industry is still at a rather low level. As far as the ports industry is concerned, this is certainly not the case. Our investment programme at

ABP has never been higher and we are seeing a number of new opportunities coming up which will reinforce the trend of high investment for growth over the coming years," he remarked.

ABP's Humber operations, which include the Ports of Immingham, Grimsby, Hull and Goole, handle over 50 million tonnes of cargo between them each year. Since 1983, the year the Company was privatised ABP has invested over £130 million in its ports on the Humber estuary, Britain's busiest estuary which handles 17 per cent of the UK seaborne trade, worth about £20 billion a year.

Speaking at the luncheon which was well-attended by representatives of the UK oil industry, the City of London and civic dignitaries, Mr David Kem said:

"It's not just companies like Conoco which benefit from the success of the terminal. It also makes a tremendous contribution to the local economy. Every time a ship moves to or from the terminal, it creates employment for pilots, shipping agents and many support services. Although the new berth has only been operating for a few weeks, we are delighted with its performance. It is already cutting queues of ships in the Humber waiting to load or discharge bulk oil or petroleum products."

Conoco, holders of four Queen's Awards for Export Achievement, operates the Humber Refinery which celebrates its 25th anniversary this year. The oil terminal's Third Berth will create for Conoco additional export-handling capacity, reduce traffic congestion and speed-up turnaround of vessels.

"We are confident the new jetty will contribute to the industrial future of the region by strengthening an already thriving business partnership," Mr Kem added.

AMEC Civil Engineering was awarded the £18 million contract in 1993. The new jetty features state-of-the-art specifications and incorporates the latest advances in oil-handling technology.

Port Secures Historical Asset for Dundee

One of Dundee's most imposing Victorian buildings has been unified

under single ownership in a deal which the new sole proprietor — Dundee Port Authority — believes will secure the future of a major historical asset for the city.

DPA has acquired the Custom House from the Property Services Agency for an undisclosed sum. The Custom House occupies half of a building which also houses the Harbour Chambers already owned by DPA.

The Category 'A' listed property is to be marketed as office accommodation for either a single occupier or as several units. The Custom House and Harbour Chambers together comprise 16,700 sq.ft. of office space on three floors including attic and basement space.

DPA Chief Executive Captain John Watson said: "We decided to acquire the Custom House after considering the significant heritage value of the building to the City of Dundee. My Board took the view that by purchasing the property it could exert influence upon how the property is developed in future on behalf of the city."

The Custom House and Harbour Chambers were built in 1843 as a single structure but divided into two internally. It is one of the largest buildings of its kind in Scotland, three storeys high and 13 bays long, dominated by an imposing portico with heavy granite arches supporting four massive columns in the ionic style, and a pediment bearing the royal arms.

The building stands at the entrance to the Port's Victoria Dock complex, where much of the land and buildings have been declared available for development. DPA has been working with Dundee District Council, Tayside Regional Council and Scottish Enterprise Tayside to prepare a development brief for the area.

Captain Watson commented: "With the whole building under a single title, the Board of DPA would have complete control over the future development of this major commercial and historical asset, and would not have the freedom of that development prejudiced by established rights of way."

Dundee Port Assistance To Power Boat Race

Dundee Port Authority met the challenge of one of the world's fastest

and most taxing sporting events this summer, and earned plaudits all round for its efforts.

Promoters of the World Offshore Class 1 Power Boat Championships, which visited the UK mainland for the first time on Saturday 9 and Sunday 10 July, have expressed their delight with the assistance they received in Dundee.

Before leaving Scotland for the next stage of the Championships in Norway, Event Organisers Alan Morton and Tomasina Kay of Pro-Active Projects paid a call on Port Authority Chief Executive Captain John Watson and Deputy Harbourmaster Captain Martyn Clark, to convey their gratitude for the authority's expert input "behind the scenes".

The multi-million pound race saw 17 of the world's fastest boats skimming along the surface of the Tay at speeds in excess of 100 mph. The racers completed seven laps of the 20 nautical mile course, passing at one particularly hair-raising stage through the tight gap between two concrete pillars of the Tay Road Bridge.

Lasting an hour and a half, the sporting spectacle attracted crowds of more than 100,000 who lined both banks of the river, and a further 5,000 on the road bridge's central walkway.

"During months of detailed planning

and preparation, as well as on the actual weekend of the championships, Dundee Port Authority played a crucial role in making the power boat race on the Tay the undoubted success it was," said Event Director Alan Morton.

"In addition to marking the course and overseeing the vital safety arrangements on the river, the Port Authority were very helpful throughout the various stages of organisation, providing boats and personnel as well as invaluable advice and expertise.

"Events like the Power Boat Championships take a great deal of very specialised skill and knowledge if they are to run smoothly.

"In the way it responded to the challenges presented by the race, there is no doubt in my mind that Dundee has clearly shown itself more than capable of hosting a complex, world class sporting event," he concluded.

The race itself reached a dramatic climax as the Italian Giese Philosophy and the Dubai Victory teams, who had been neck and neck when the championships reached British waters, fought for supremacy.

In the end, Victory lived up to its name, while Giese Philosophy, stricken with engine trouble in the closing stages, did well to achieve second place. Bilba, with Britain's Steve Curtis at the throttle, came third.

Asia/Oceania

Brisbane: Australia's Cheapest Major Port

"Brisbane is now the cheapest major container port in Australia for cargo carrying vessels," said Mr Ian Brusasco, Chairman of the Port of Brisbane Corporation.

At a press conference on June 28, Mr Brusasco, together with Minister of Transport Mr David Hamill, jointly announced that the Corporation's Board had decided to abolish berthage, thereby removing the last charge on vessels levied by the Port of Brisbane Corporation.

"The abolition of berthage, which came into effect on July 1, makes Brisbane the most cost-effective port for vessel owners. Costs to ships calling at Brisbane will be approximately 20% lower than Sydney and 36% lower than Melbourne," said Mr Hamill.

Mr Brusasco said the decision was in line with the Corporation's long term strategy of reducing charges.

"Cargo charges have not been increased since 1982 and there will be no increase in 1994/95," he said. Port costs are a key consideration by shipping lines when deciding which ports to use and frequency of shipping services is an important consideration by importers and exporters in their port choices. Mr Brusasco said that by abolishing all Corporation-levied charges on vessels, additional vessels would be encouraged to call at Brisbane, thereby providing better service to the end customer.

Mr Hamill said that this decision, as well as the state Budget announcement that State Government charges levied on port traffic will also be reduced, means that Brisbane will remain the most competitive major port operating in Australia.

"The combined impact of these decisions will deliver immediate benefits to shippers," he added.

In 1992/93, 52 shipping lines called at Brisbane representing a total of 1,503 ship calls. The savings to the largest of these lines will be approximately \$130,000 a year, with an average saving of approximately \$50,000 per line.

(Brisbane Portrait)



Dundee Port Chief Executive Captain John Watson (second left) is congratulated by Event Director Alan Morton, watched by organiser Tomasina Kay (left) and Deputy Harbourmaster Martyn Clark (right). Frigate Unicorn, Britain's oldest wooden warship still afloat, which can be seen in the background, was used as the race coordination centre.

Port of Brisbane: We're Now a Corporation!

The Port of Brisbane Authority has changed its name to the Port of Brisbane Corporation, effective July 1, 1994.

Board Chairman, Mr Ian Brusasco, said that the new name follows the introduction of the Government Owned Corporations Act on July 1 and the withdrawal of the Port of Brisbane Authority Act, on the same date.

"As the legal standing of the Port of Brisbane Authority is derived from the act of that name, the Board decided the name should reflect the new act, and chose the Port of Brisbane Corporation," he said.

SAME FACE, NEW NAME

Most of us breathe a sigh of relief at the end of the financial year and go right back to 'business as usual' the next day. For the Authority, July 1 was 'business as usual' with a difference, as it heralded the most dramatic changes to our corporate structure since we were formed in 1976.

The most visible sign of these changes is a new name for the Authority, now called the Port of Brisbane Corporation. On June 30, the Port of Brisbane Authority ceased to exist as a legal entity and, on July 1, a new legal entity, the Port of Brisbane Corporation took its place.

This change reflects the 'corporatisation' of the port under the government's corporatisation policy. As most port users will know, the port authorities of Brisbane and Gladstone and the Ports Corporation of Queensland were among the first Government Owned Enterprises to be corporatised effective July 1, 1994.

In simple terms, the new Port of Brisbane Corporation has, in effect, bought the business of the Port of Brisbane Authority and is the Authority's successor in law. What was an obligation of the Authority is now an obligation of the Corporation and similarly, what was due to the Authority is now due to the Corporation.

WHAT CORPORATISATION MEANS

The philosophy behind corporatisation is to have Government Owned Enterprises operate more along private sector lines, by placing a greater focus

on commercial performance.

Specifically, capital structures will be set within parameters consistent with investment grade companies; dividends and taxes will be paid; capital investment decisions will be consistent with private sector practice; and performance monitored against pre-established targets and benchmarks.

What impacts will corporatisation have on us? Well of course, the most obvious impact is that we will have to pay tax, at a rate parallel to the requirements under the Federal Income Assessment Act. The good news is that we won't have to start paying tax until the 1995/96 financial year and also that the government has made a commitment that we won't be commercially disadvantaged, compared to southern ports, when it comes to tax.

We have already been paying a levy, in lieu of dividend, and will continue to pay a dividend, the amount of which will be recommended by our Board.

The Board will be required to submit a Corporate Plan and Statement of Corporate Intent on an annual basis to our Shareholding Ministers. These documents form the basis for agreement with the Government on major parameters, so that the Board is able to proceed with commercial management of the port in a sensible business-like manner.

One area where corporatisation will give us more flexibility is in the area of pricing structure. Until now, changing pricing within the port meant changing by-laws which was a rigid, time consuming process. As of July 1, pricing changes can be made by a Board resolution, subject only to review of the Shareholding Ministers if they perceive any abuse of monopoly power.

When the Authority was established in 1976, it was created as an independent, commercially oriented body with an independent Board of Directors. The Authority has been a very successful commercial enterprise which discharged the last of its debt in late 1992. As such, we do not have to go through some of the traumatic changes that other, less commercially-focused Government Owned Enterprises will face.

The new Corporation will continue to pursue its mission of trade maximisation in a commercial manner for the benefit of the port and the region as a whole. In this pursuit and within

commercial constraints, the Corporation will persist in its endeavours to restrain and or reduce its own and overall port charges as one means of achieving this goal.

Greg Martin

Chief Executive Officer

Brisbane Portrait

New Name of Terminal: R G Tanna Coal

The terminal was renamed in honour of General Manger, Reg Tanna for his great service to the Authority since 1966. The re-naming occurred at a recent ceremony to mark the commissioning of duplication of the terminal's shiploading facilities.

The resultant increase in capacity to more than 30 million tonnes per annum, achieved during Gladstone's 40th Anniversary Year of Coal Bulk Handling now rates the R G Tanna Coal Terminal as the largest capacity coal exporting terminal in Australia and the 3rd largest in the world.

Jardine Transport To Advise World Bank

Hong Kong: Jardine Transport Services (JTS) has become the first company in Asia outside of Japan to become transportation consultants to the World Bank in Washington D.C.

JTS will advise the Bank on all aspects of transportation, including air, sea and road, and project-related studies.

JTS Director Tim Frawley said the company is one of a small number of select organisations officially recognised by the Bank on a worldwide basis.

"Formal recognition by the World Bank is an endorsement of the company's high standing and proven expertise in transport," Mr Frawley said, "and underscores its position as a leading entity within the region."



Port of Newcastle Sets New Record Throughput

The Financial Year 1993/94 has been yet another record year for the Port of Newcastle, with total trade for the period of 53,490,727 tonnes, compared to 50,851,983 tonnes for 1992/93.

Imports for the period of 6,629,072 tonnes (an increase of 6.9% on 1992/93 figures) showed growth in timber products 30,517 tonnes (+14.12% on 1992/93), fertilisers 140,506 tonnes (+79.54% on 1992/93) and cement 66,178 tonnes (+112% on 1992/93). Exports of 46,861,655 tonnes (an increase of 4.9% on 1992/92) reflected an increase in exports of coal 44,238,750 tonnes (+3.99% on 1993/94), aluminium 222,520 tonnes (+55.09% on 1992/93) and grains 966,577 tonnes (+171% on 1992/93).

The continued growth of trade through the Port confirmed the growing importance of Newcastle and the Hunter as a hub centre for international trade.

Importantly this growth is reflected not only in the Ports traditional cargoes such as coal, but also in general cargo trades.

(Scuttlebutt: MSB Hunter Ports Authority)

Nagoya Vessel Traffic Info Center in Operation

In April 1994, NAVTIC, a uniquely designed triangular shaped building, was completed and began operating on Kinjo Pier. In order to accommodate the increasing number of containers and larger vessels, NAVTIC was designed to improve port efficiency by providing traffic information for incoming and outgoing vessels.

NAVTIC utilizes a modernized system which combines the Nagoya Port Authority's Harbor Information System and the Maritime Safety Agency's Harbor Traffic Control System.

Since its opening, NAVTIC has been able to provide port users with even more accurate and speedy information on harbor traffic. In addition, large container ships which before were delayed outside the harbor can now travel in and out of the harbor more smoothly.

NAVTIC also houses a waiting room for pilots. Together with the tug boat base located nearby, fast and efficient

services are provided for all incoming and outgoing vessels.

Extensions Planned For Port of Tauranga

A large area of Sulphur Point Wharf at the Port of Tauranga is likely to be developed for the exclusive use of a major shipping line or Port customer.

The Port's Board of Directors has approved a new strategic plan which could result in the lease of at least a 6.25 hectare container terminal to a major operator in early 1995.

To facilitate this, the Port will seek immediate planning approval to extend Sulphur Point Wharf a further 170 metres to the north. Further extensions to the southern end of the wharf will be progressed in 1995.

Chief Executive John Halling said discussions with customers and shipping lines left no doubt that the Port must continue to provide the facilities and services to meet customers' future needs, including the creation of a landbridge facility to and from the Auckland market.

"The Port of Tauranga is fortunate in having the space to meet these needs and we must further develop that advantage in partnership with our customers," he said.

Mr Halling said the proposed development would include a major cargo commitment to the Port by the end user of the facility.

Other recommendations approved by the Board of Directors included a commitment to provide further bulk storage capacity off-wharf as well as additional transit storage facilities on-wharf.

The company has also committed to building a coldstore facility on wharf to service the requirements of the meat trade. A coolstore facility is also being assessed.

Tauranga Scores Top Marks for Environment

The proper maintenance of the Port of Tauranga's shipping channels is crucial to its success as one of New Zealand's busiest Ports.

So when, in 1991, the Port wished to improve its main navigation channel to accommodate larger vessels, one of

its main challenges was the Tanea Reef, which projected out from the western side of Mt Maunganui and formed a major obstruction to commercial ships entering the harbour.

While the width and depth of the main channel was restricted by the reef, the shelf itself constituted a significant marine environment at the entrance to the harbour. Environmental groups were concerned about the effects any attempts to deepen the channel might have on the wide range of marine plants and animals who dwelt in and around the reef.

The Port company was faced with the dual challenge of trying to meet its commercial objectives, while at the same time addressing the concerns over the loss of an important marine ecological environment.

To satisfy both requirements, the Port company raised the option of physically moving the reef itself and relocating it elsewhere in the harbour. This met with approval from the regional council, Environment BOP and the various environmental groups such as the Royal Forest and Bird Protection Society, with the condition that on-going monitoring was undertaken to ensure the marine communities which dwelt on and around the reef were not adversely affected.

Work on shifting the boulders from the reef began on January 24, 1992. The boulders were barged to Pilot Bay and redeposited on the north-eastern side of the channel at the foot of Mount Maunganui.

Although there was initial disturbance to the range of species which inhabited the boulders of the reef, subsequent monitoring reports have shown that the new reef now has a diverse number of species living on it and that this number continues to increase annually.

The newly relocated reef is now a marine reserve at the foot of Mount Maunganui protecting a wide range of marine animals and plants. It also serves as a recreational area for activities such as snorkelling.

The Port of Tauranga, in liaison with the regional council, Environment BOP and environmental groups was able to achieve an outcome which preserved the environmental values of the harbour, while at the same time enhancing its own commercial viability.

(Portfolio)

PSA's S\$400 Million Keppel Distripark Opens

The Port of Singapore Authority's (PSA) S\$400 million state-of-the-art container freight station, Keppel Distripark (KD) will be officially opened by Mr Goh Chee Wee, Minister of State for Ministry of Trade and Industry and Ministry of Communications, on 2 August 1994 at 10 am. Some 270 guests comprising port users, freight and shipping associations representatives, government officials, staff and union officials will be attending the opening ceremony at KD.

KD is a major breakthrough for the warehousing industry. It is specially built for high-efficiency cargo handling/distribution operations and employs the latest technology in warehousing. KD is set to take cargo distribution to new heights. Located within the Free Trade Zone, the container freight station allows cargo to be speedily delivered to and from the Port.

Unlike the previous generations of warehouses, the second floor of KD's operations blocks are built to accommodate the use of automated racking systems up to 14 m high. This saves manpower and optimises space. KD's computerised systems for yard planning, gate and communication allow for centralised control. Its tenants are linked by computer network to the KD office. Documents are submitted and processed electronically.

The Distripark's mode of operations provides the tenants with competitive value-for-money facilities and services. By exploiting economies of scale, it provides its tenants with common-user yard cranes and freight-lifters. This eliminates costs for tenants who would otherwise have to engage their own equipment. Each tenant has exclusive control over his operation areas, ensuring better security. KD provides round-the-clock CCTV-monitoring and door contact point security systems.

To further boost its operation efficiency, PSA has introduced a Lorry Scheduling System at KD. It requires lorries to make appointments with the tenants before calling at their loading bays. This aims to reduce waiting time by the lorries. Those without prior appointments are recorded in the computer at the control centre. When a tenant informs the centre of an



Keppel Distripark, PSA's state-of-the-art container freight station, will boost Singapore's status as a global distribution centre.

available loading bay through the computer link-up, PSA will notify lorries at the holding area via a public address system.

While attaining high operational efficiency, PSA has taken measures to ensure that KD's operations cause minimal disturbances to the residents in the vicinity. It designed KD and did extensive landscaping so that it will blend in with the maritime ambience and the tropical greenery in the area. To keep the environment cleaner and quiet, the forklifts used at KD operate on Liquefied Petroleum Gas instead of diesel. A driveway connecting PSA's container terminals directly to KD minimises port traffic on public roads.

KD will consolidate Singapore's position in the global cargo distribution network. Its facilities and services will complement those at PSA's terminals, developing the Port into a total one-stop service centre. It will enhance Singapore's status as a global distribution centre.

Competitive Advantages

The competitive advantages of KD have led it to be fully booked. Over 40 tenants have been allocated modules ranging from 900 sq m to over 5,000 sq m in size. Operations commenced partially at Keppel Distripark in October 93. Tenants include shipping majors such as Sealand and Maersk and the Non vessel Operating Common Carriers.

Shipping lines find KD particularly attractive for reworking of containers containing transshipment cargo. Many truck the containers immediately upon

discharge to their premises for reconsolidation of cargo. The fast clearances and ease of operations enable the lines to reshipe the containers by the same vessels.

With better container freight station facilities, several shipping lines have also stepped up their marketing drive to attract more containers to Singapore that need value added services. One major line, for example, has been particularly successful in attracting containers to Singapore that need inspection by independent survey companies before reaching the final port of destination. Likewise, the NVOCCs operating at KD are now able to attract more loose cargo from the neighbouring ports for containerisation in Singapore before reshipment. In fact, such is the appeal of KD that even Central Distribution Centre (CDC) operators have chosen to site their regional operations here.

Computer Systems

A Unix-based client/server architecture system controls the operations within KD. The system has four main integrated modules: KD documentation, yard planning system, gate system and mobile radio data terminal system (MRDTS), all residing on a minicomputer linked via optic fibre to the mainframe computer system in PSA's main office.

The KD documentation module will provide documentation facilities for the distripark's tenants to process their storage and delivery requests for containers meant for KD yards and their own premises. All KD tenants will have their PCs connected directly to the

Keppel Distripark Fact Sheet

Location:	Along Keppel Road, within the Free Trade Zone
Area:	23 hectares
Cost:	\$400 million
No. of operations block:	4 (two-storey)
No. of office block:	1 (five-storey)
Storage space:	114,000 square metres
Ground slots:	800
Start of construction:	April 1992
End of construction:	June 1994
Contractor:	Low Keng Huat (Singapore) Ltd
Architects:	Planning & Design Department, PSA
Alfred Wong Partnership (design consultant for the KD roof and external facade)	
No. of tenants:	40 (occupying modules of 900-5,000 sq m in size)
Commencement of operations:	October 1993
Activities:	cargo consolidation, deconsolidation, storage and regional redistribution of cargo, logistics management, sampling, surveying, remarking and repacking.

minicomputer to enable paperless processing. With the close vicinity of KD to the port, closing time to submit documents is reduced.

The allocation of yard space and equipment to handle the empty and loaded containers is carried out by the yard planning system, a graphics-based planning system. With good scheduling and planning, yard space and equipment can be fully optimised so as to provide quality service to tenants.

Linked to the yard planning system is the MRDTS, a wireless communication system. Job instructions will be sent to the equipment in a real-time mode for mounting and dismounting of containers. Through the system, operators will update the yard planning system on the location of each container after every operational move. Prime movers will be serviced promptly and the latest status of the containers can be inquired electronically.

The entry and exit of containers into KD from within and outside the port is controlled by a computerised gate system using a self-service terminal concept where the prime movers' relevant container and truckers' details will be detected and cleared by the transponders, self-service terminal and container number recognition systems.

Tenants too have been fast on the heels of PSA in computerisation and automation by installing advanced cargo handling equipment. One tenant has installed an Automated Storage and Retrieval System (AS/RS) in its premises leased at Keppel Distripark. It assures its customers a better service

while reducing or eliminating cargo damage and pilferage. Other tenants have embarked on further computerising their receipt, storage and delivery systems.

Aesthetics

Although efficiency of operations is of prime concern, the aesthetics of the building and the ambience of the complex have not been ignored. The facade design and finishes complements the surrounding buildings in the neighbourhood, with ample landscaping of 3.5 hectares to blend with the tropical greenery of the vicinity.

What's more, in character with the maritime location, the roof of the buildings is designed to resemble ship masts. There are two smaller and four larger roof blocks weighing 350 tonnes and 593 tonnes respectively. All the parts for the roof structure have been fabricated in China, and assembled at the KD site. They were hoisted up using eight or 12 winches anchored to the second storey for the smaller or larger roof respectively. The roof is designed with cable stays to reduce the number of internal columns and to aesthetically resemble ships masts.

Training of Queensland Pilots at Singapore

The Port of Singapore Authority (PSA) and the Queensland Department of Transport have signed a Memo-

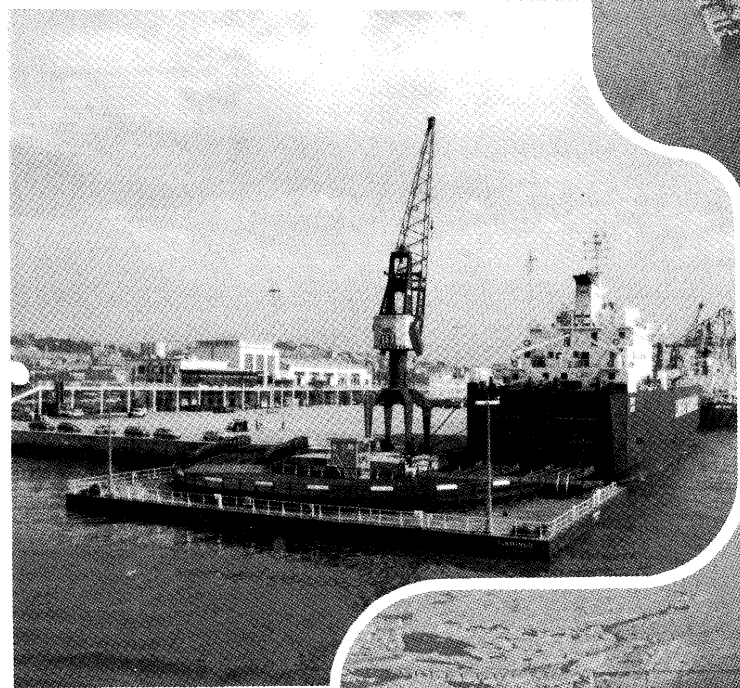
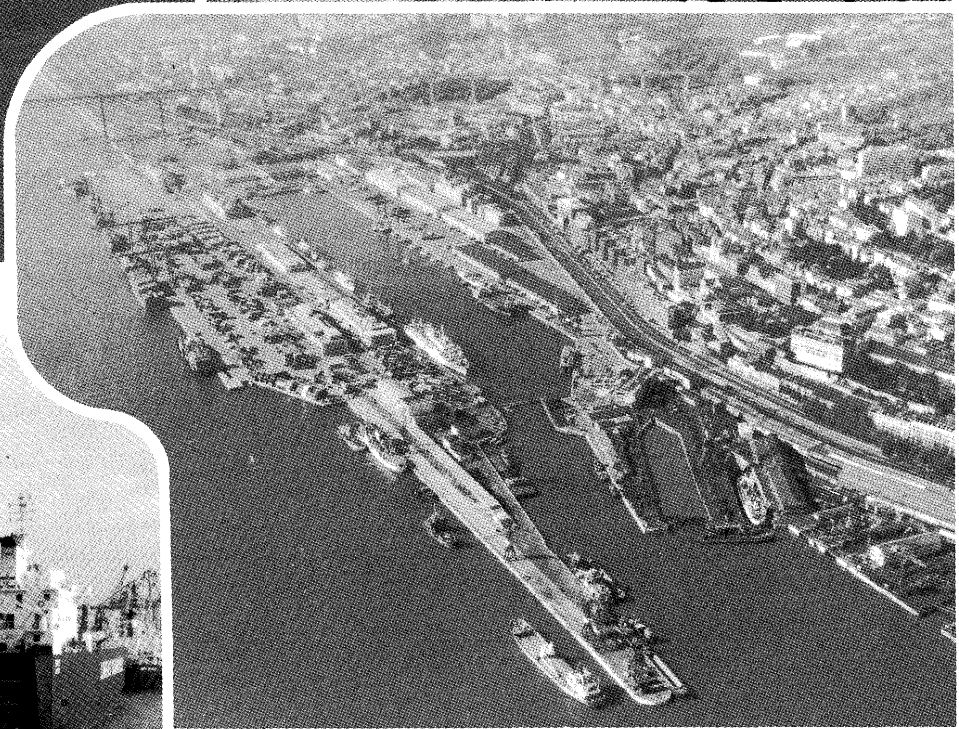
randum of Understanding for an attachment programme for training marine pilots from Queensland at PSA. The Memorandum was signed at PSA by Mr Goon Kok Loon, Deputy Executive Director/Director (Marine) of PSA and the Hon David Hamill, MLA, Minister of Transport, Queensland.

This Memorandum marks the first group of marine pilots from Queensland, Australia to undergo this attachment programme at PSA. Under the Memorandum, PSA will provide a six-day pilot familiarisation programme for 30 Queensland pilots. The programme comprises both onboard observation of various berthing/unberthing manoeuvres conducted by licensed and experienced PSA Harbour Pilots as well as hands-on practical simulation training at PSA's shiphandling Simulation Centre.

The real time simulation exercises at the Centre are designed to provide the Queensland pilots with the opportunity to individually conduct manoeuvres modelled after their earlier observations of the PSA Harbour Pilots. This attachment programme will be beneficial to the pilots as it exposes them to various maneuvering techniques applicable in their home environment. Agreeing with this, a spokesman from the Queensland Department of Transport added, "The PSA Shiphandling Simulation Centre in Singapore is one of the world's most sophisticated training facilities, providing simulated exercises covering most of the eventualities which could be faced by a marine pilot in any port and on any type of vessel. The programme will contribute to having highly trained and skilled pilots, which will be vital in securing Queensland position as Australia's dynamic trading state."

Since its commissioning in May 1993, over 30 PSA pilots and more than 100 local and foreign Harbour Craft Masters have been trained on the shiphandling simulator. Besides providing training, the Centre also conducts Research and Development (R&D) Studies. The simulation studies cover terminal and berth designs, channel configuration and expansion works, amongst others.

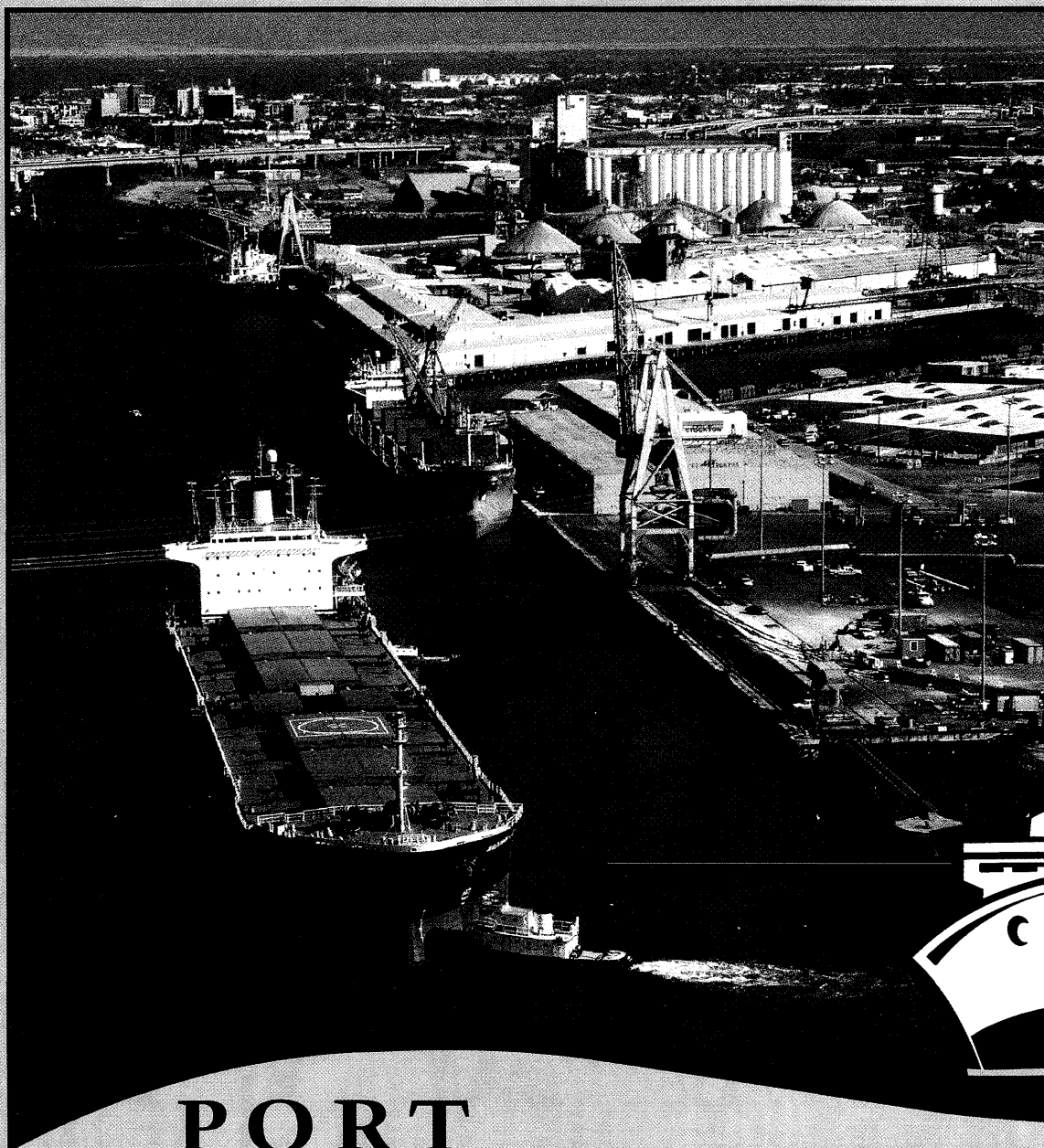
The Shiphandling Simulation Centre will upgrade marine training for port personnel and meet the need to improve the level of navigational standards in port waters.



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