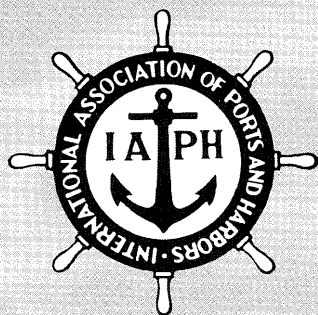


Ports & Harbors

April
1989
Vol. 34 No. 3

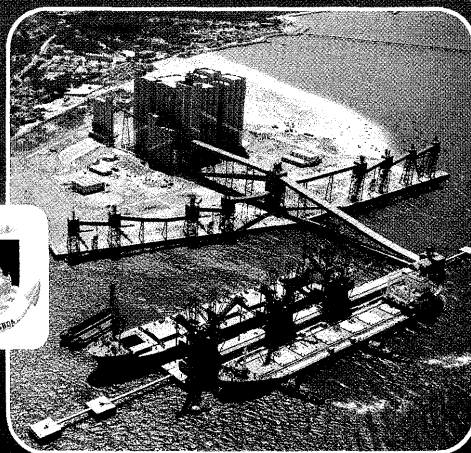


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Ports and Harbors**

Port of Lisbon Authority Portugal

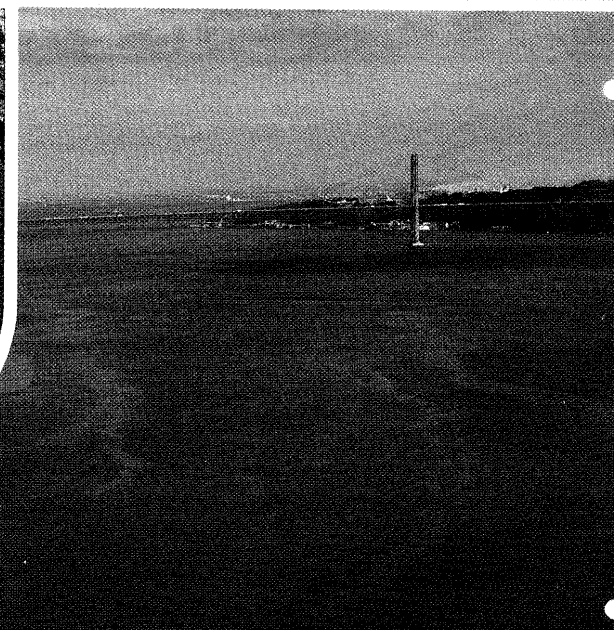
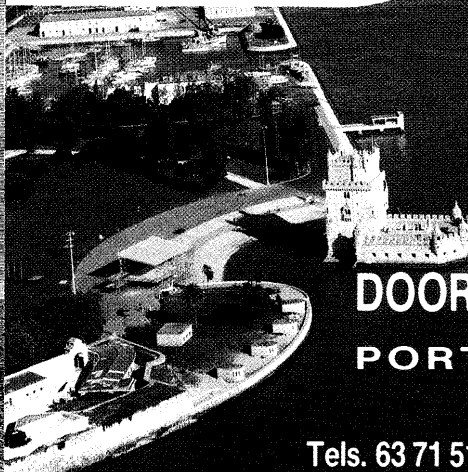
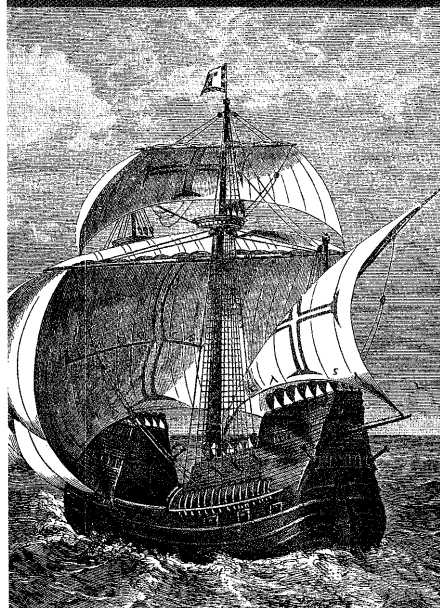
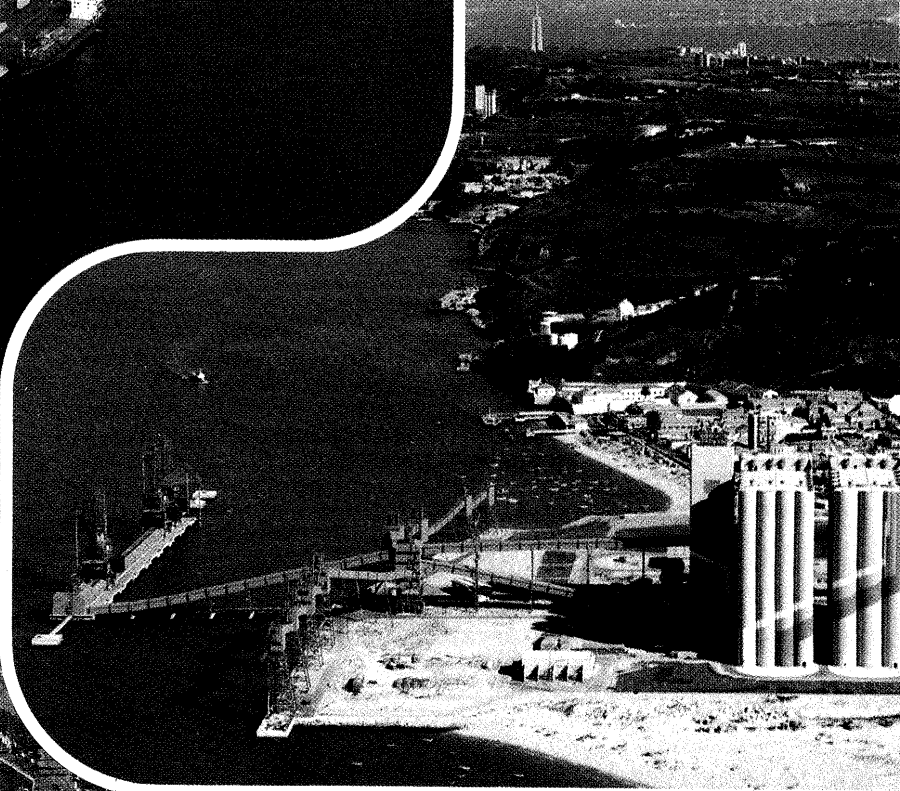
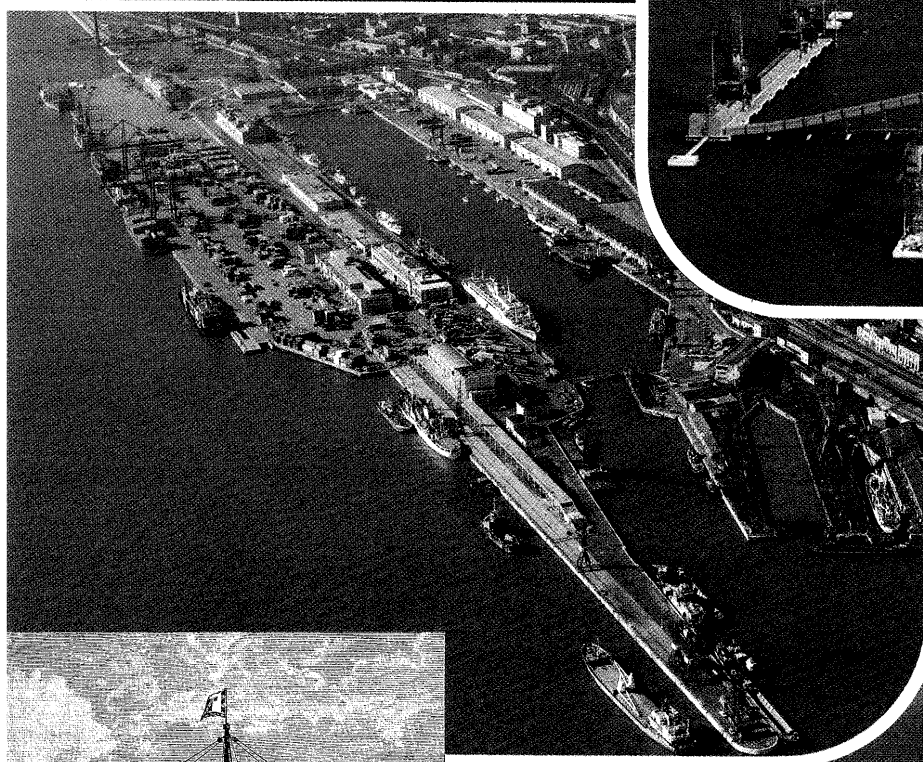
Below left - Lisnave shipyard docks one
for 1,000,000 dw ton Tankers

Below right - Sitopor grain Terminal of
200,000 ton storage capacity
in a berth depth of 17 m.





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International Trade and
Marketing Adviser,
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Sei, Chairman of the Korea
Shipping and Port Council,
KMPA
Conference Vice-President:
C.J. Lunetta, Port Director, Port of
Miami, U.S.A.

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3800 m of quays in 1989
4900 m of quays in 1990

LE HAVRE

FIRST FRENCH CONTAINER PORT



14 40-ton gantry cranes in 1989
19 40-ton gantry cranes in 1990



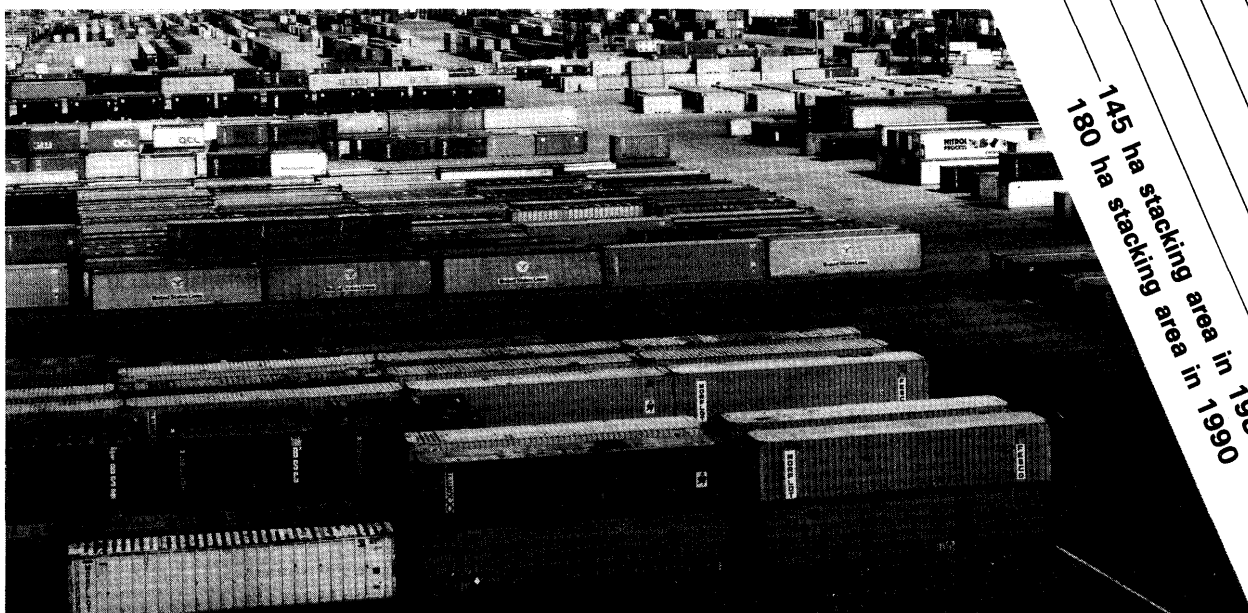
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Terre-Plein de la Barre

76067 Le Havre Cedex

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180 ha stacking area in 1990



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and reimbursement for expenses incurred.

For copies of our "Guidelines for the Disembarkation of Refugees" please contact us at the address below.

Whenever your vessel encounters refugee boats, **PLEASE STOP** — the refugees need your help.

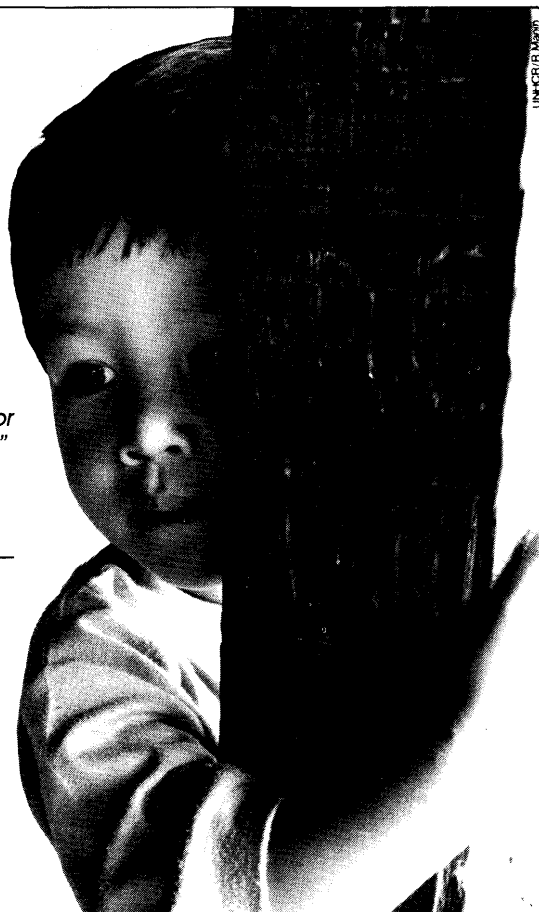


UNHCR

United Nations High Commissioner for Refugees

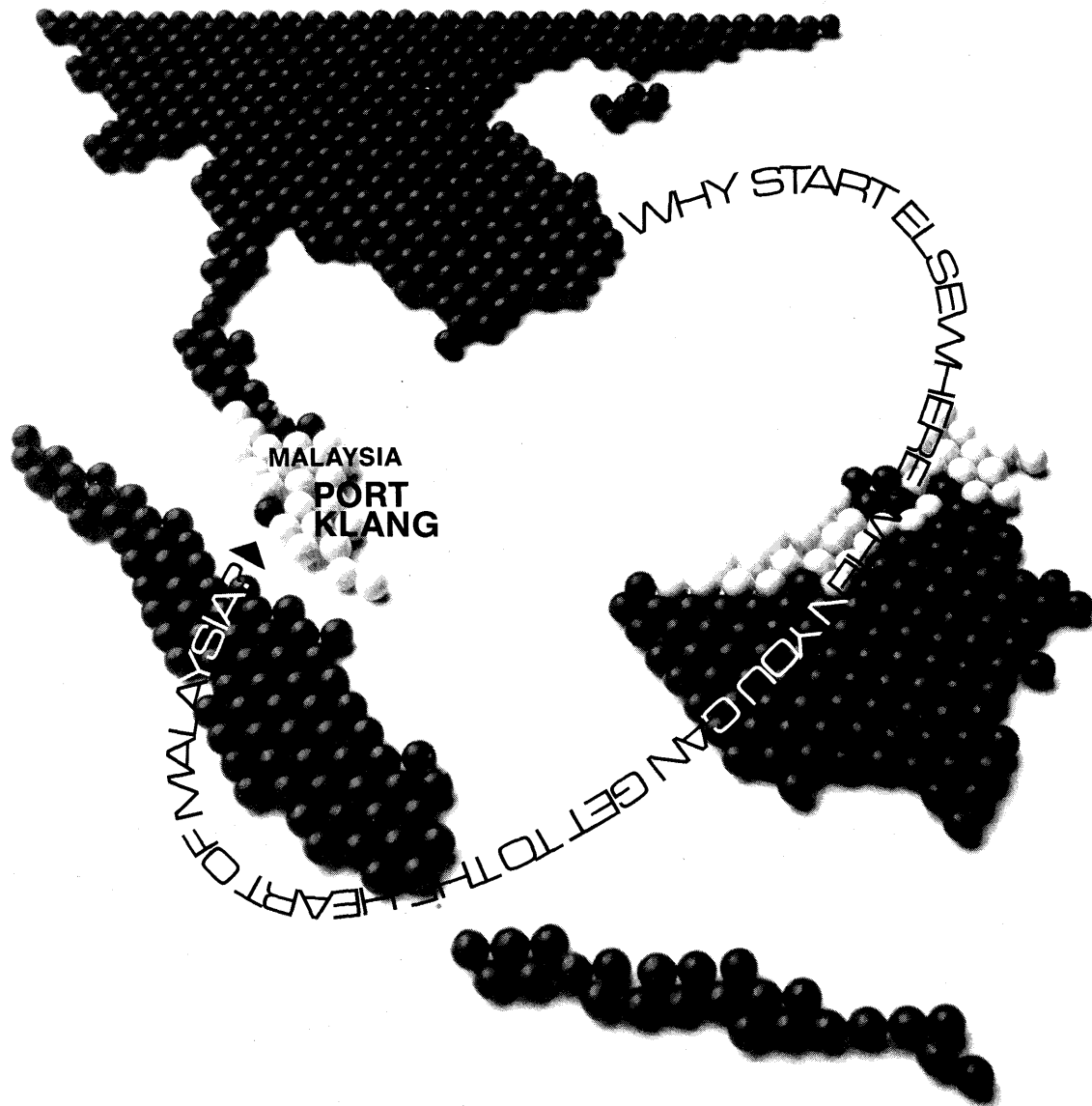
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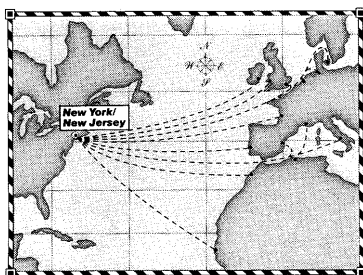
A port so fast it has to be called...



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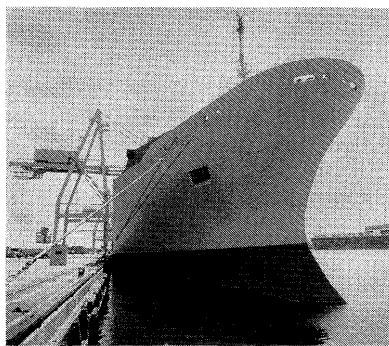
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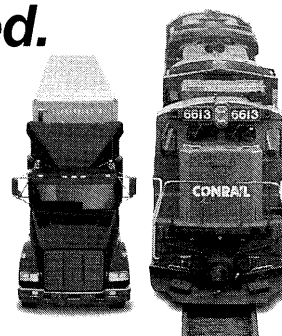
process is so efficient and so swift, there is virtually no waiting and no queue.

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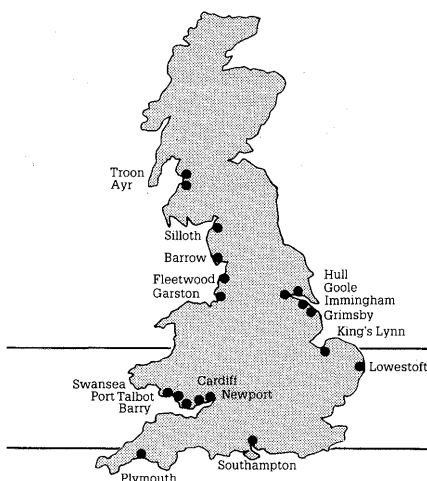
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IAPH ANNOUNCEMENTS AND NEWS

Miami Agenda Submitted to Board

To formalize the agenda of the plenary sessions of the 16th World Ports Conference of IAPH in Miami, Secretary General Kusaka, under the authorization of President Wong, called for a meeting of the Board of Directors by correspondence to be held on March 25, 1989. He asked the members to vote on the provisional agenda of the Conference, which we reproduce in the "Miami Conference Special Section" of this edition (on pages 22-27) together with those of both the pre- and post-conference joint meetings of the Board and Executive Committee.

Members Urged to Present Credentials

Following the announcements in the previous issue, the Secretary General urges all the Board and Regular Members of IAPH to submit a form of credentials or one of proxies in accordance with the requirement of the By-Laws. The forms were sent to them from the Tokyo Secretariat in early February.

If any member needs fresh copies of the forms, please contact the IAPH Head Office at Kotohira Kaikan Bldg., 1-2-8, Toranomon, Minato-ku, Tokyo 105 (fax: (03)-580-0364, telex 2222516 IAPH J) throughout the period before the Miami Conference. Any delegate who are unable to submit the form prior to the Conference, please bring them to Miami and give them to the Head Office staff in the room reserved for the Secretariat in Fontainebleau Hilton Hotel before the opening of the Conference. This will enable all the forms to be presented to the Credentials Committee, a conference committee which will begin functioning before the opening day and will remain active for the duration of

the Conference to consider and determine the authority of a person to act as a member of the Board of Directors or as the delegate of each Regular Member organization.

Working Session Programs Announced

Mr. Carmen J. Lunetta, Director, Port of Miami and the Chairman of the 16th IAPH World Ports Conference, has recently announced the programs for the six Working Sessions which the Organizing Committee team has been preparing for the conference participants. In order to ensure that the topics dealt with at these sessions are as new as possible and to get the best speakers, our host has had to hold off the announcement of the final shape of the Working Sessions.

Nevertheless, by the end of February with only two months remaining before the opening of the Conference, the Organizing Committee had sent out to all IAPH members updated programs with the rooms allocated for each business session and social function. (See pages 22-24)

In his letter of February 14, 1989, Mr. Lunetta solicits all members' attention to the Miami Conference and says, "if you have **not** already done so, we urge you to register as soon as possible".

Mr. Wong Moderator At Working Session 2

As one of the six Working Sessions slated for the Miami Conference, Working Session 2 (Tuesday morning, April 25) is devoted to issues related to the work of our Technical Committees.

Our host, in consultation with the chairmen of the Technical Committees, has asked Mr. Wong Hung Khim, IAPH President, to take on the role of moderator for this

Session. President Wong in agreeing to act as the head moderator, has demonstrated his confidence that everyone attending the session will benefit from the result of the fruitful cooperation of the experts who have worked so tirelessly in the pursuit of excellence for the ports.

This session consists of the following two parts:

- **Part I:** The Chairmen will present the major aspects of their undertakings and plans for the next two-year period.
- **Part II:** The audience will be introduced to a full analysis of the important subject of containerization. The presentations will cover all aspects of port life, both in the developed and developing countries.

Mr. Wong and the chairmen of the committees look forward to welcoming as many participants as possible to this Session in their belief that the event will be in line with the main aim of IAPH: working in close cooperation with all members to find solutions to common problems.

Nominating Committee Members Chosen

In accordance with the requirements of the By-Laws, five committees are to be formed for each biennial conference of our Association. Of the five conference committees, the members of the Nominating Committee are to be appointed by the Board, while those of the other four committees — the Credentials, Budget, Resolutions and Bills and Honorary Membership Committees — are to be appointed by the President.

The Secretary General, upon consultation with the President, has prepared a list of the proposed Nominating Committee members for the Miami Conference and submitted it to the Board of Directors for their voting by correspondence, setting the voting date on April 15. The membership proposed was as follows:

Africa/European Region:

Mr. P.O. Okundi, Kenya Ports Authority, Kenya
Mr. J. Rommerskirchen, Port of Hamburg, Fed. Rep. of Germany
Mr. F.L.H. Suykens, Port of Antwerp, Belgium

American Region:

Mr. W. Don Welch, South Carolina State Ports Authority, U.S.A.
Mr. J.F. Prevratil, Port of Long Beach, U.S.A.
Mr. D.J. Taddeo, Port of Montreal, Canada

Asian Region:

Mr. Wong, Hung Khim, Port of Singapore Authority, Singapore (as chairman)
Mr. Y. Haraguchi, Nagoya Port Authority, Japan
Mr. H. Samuels, Port of Geelong, Australia

The Nominating Committee is to prepare the nominations of President, First Vice-President, Second Vice-President and Third Vice-President of this Association for the next term and will present them to a Board Meeting. The Board shall further present the nominations to a plenary session of the Conference. At the Miami Conference, the Nominating Committee is scheduled to meet on the afternoon of Saturday, April 22. The nominations thus processed will

be reported and acted upon at the Second Plenary (Closing) Session on Friday, April 28.

As for the nominations of the other four committees, the Secretary General is also to prepare the proposed membership lists for official appointment by the President before the Miami Conference. It is on the basis of the advance list of registrants received from Miami that the Tokyo Head Office will prepare the proposed membership of each conference committee for Presidential appointment, which should take place before the opening day and for the duration of the Conference as required in the By-Laws.

Experts Invited to Serve on Committees

With the Miami Conference drawing closer, members interested in serving on any of the Association's Technical Committees for the new 2-year term beginning at the close of the 16th Conference are invited to make written applications to the Secretary General specifying the committee or committees (not more than two) they wish to serve on, by April 15, 1989. Alternatively, they may approach the chairman concerned before or during the Miami Conference.

We must, however, observe that in the past not all members who volunteered for our committees have been sufficiently active during the periods between conferences. According to one committee chairman, during conferences, he used to be inundated with offers to join his committee, but he soon came to realize that many of the newly appointed members were not so enthusiastic when they were requested to give their opinions or services concerning the committee's work.

It is true that it has never been an easy task for the committees to really function as a team because the members are generally dispersed all over the world. Nonetheless, thanks to the sterling leadership of the chairmen, our committees have produced a number of valuable reports on the work they have carried out in their assigned fields.

Thus it is the appeal of all committee chairmen that those who apply to participate in the Association's committees for the new term should be determined to give of their best and to play an active part in the committees' endeavours. A brief description of the technical committees follows:—

International Port Development (CIPD)

Chairman: Bert C. Kruk (Port of Rotterdam)

Proposes, develops and administers plans for the provision of training, education, and technical assistance to developing ports. Works to promote cooperation between developing and developed ports.

Cargo Handling Operations (CHO)

Chairman: Robert Cooper (Port of Auckland)

Examines and reviews matters relating to the planning, development and operation of cargo handling facilities and systems. These include general cargo, containerization, Ro/Ro, barging, equipment and manpower training.

Legal Protection of Port Interests (CLPPI)

Chairman: Paul Valls (Port of Bordeaux)

Examines and reviews provisions of international laws

affecting port interests. IAPH works closely with many representatives of inter-governmental and other international maritime organizations.

Port Safety, Environment and Construction (COPSEC)

Chairman: Jean Smaghe (Port of Le Havre)

Handles matters related to the construction, maintenance and safe marine operation of ports and harbors and to the protection of port control of dangerous substances, pollution control and crisis management.

Public Affairs (PACOM)

Chairman: Robert N. Hayes (Port of Dublin)

Encourages the development of all ports and harbors, which in turn means the development of the whole port community. Seeks to identify community attitudes to port development and operations and the growth of industries in port areas and areas of public concern as well as to assess the economic impact of the port on the daily lives of the community and to formulate a public relations strategy to deal with problems that may arise.

Trade Facilitation (TF)

Chairman: Fernand L.H. Suykens (Port of Antwerp)

Handles procedures and documentation related to the facilitation of trade through ports and harbors, including the communication and processing of data on a local, national or international basis.

Note: As to the addresses of the respective chairmen, please refer to the IAPH Membership Directory.

*Mr. Larsen
of Copenhagen*



Mr. Larsen Appointed To Serve on CHO

Mr. C.C. Skat Larsen of Copenhagen has recently been appointed by President Wong to serve on the IAPH Committee on Cargo Handling Operations (CHO), which is chaired by Mr. Robert Cooper of New Zealand. His nomination was based on the recommendation of Mr. Erik Schäfer, General Manager of the Port of Copenhagen Authority and an IAPH Exco member, and with the endorsement of the CHO Chairman Mr. Cooper.

According to Mr. Cooper's letter to the Secretary General, Mr. Larsen is the Managing Director of the Port of Copenhagen Free Port and Stevedoring Co., Ltd. and is responsible for a staff of some 200. Copenhagen handles

about 10 million tonnes per year, including 100,000 TEUs.

Mr. Cooper welcomes Mr. Larsen's appointment and believes he is an eminently suitable person to contribute to the work of the Committee.

3 Ports Prepared to Host 1993 Conference

It has been the practice of our Association to have the Board of Directors select the host for each conference four years beforehand during a previous conference. In view of this, in August last year the Secretary General circulated letter to all the IAPH Regular Members in the Asian Region to sound them out as to whether they are interested in hosting the 18th Conference in 1993.

By the end of January 1989, the closing date for receipt of any indications of interest at the Tokyo Head Office, invitations had been received from the following members:

Port of Kobe, Japan

Fremantle Port Authority, Western Australia

Maritime Services Board of N.S.W. (Sydney), Australia

The Secretary General records his deep appreciation to all who have responded to the call for the 1993 Conference. The official selection by the Board members will be made at its post-conference meeting on the afternoon of Friday, April 28, 1989 in Miami. In this connection, Secretary General Kusaka says, "I trust that the selection of the host by the Board members will be made in a fair and sound manner based on the presentations by the candidates concerned."

No Offer Yet to Host 1990 Exco Meeting

In contrast to the situation concerning the 1993 Conference, we have not yet received any offers to host the mid-term meetings of the Executive and the other Committees to be held in the Asian Region in 1990.

The Secretary General, following his call circulated last year, sent out a circular on February 27, 1989 to all the Asian members (except those who had already confirmed their negative positions) to see once again if any of these organizations can host our 1990 Exco and Committee meetings. It is hoped that this will enable the Exco members to make the selection at its post-conference meeting on Friday, April 28, 1989 in Miami.

The Secretary General urges the Asian members to give this important subject their favourable consideration and to inform the Head Office of any favourable positions as soon as possible.

IPD Fund: Contribution Report

The contributions from members to the Special Port Technical Assistance Fund ("the Special Fund") as of March 10, 1989 are listed in the box next page. The amount received in contributions in the 10 months from the start of the campaign totalled US\$31,338, with the addition of US\$1,603 from two more donors since the last announcement.

Contributions to the Special Fund (As of March 10, 1989)

Contributors Paid:	Amount (US\$)
Associated British Ports, UK	3,000
South Carolina State Ports Authority, USA	1,000
Cyprus Ports Authority, Cyprus	700
Japan Port & Harbor Association, Japan	450
Toyo Construction Co., Ltd., Japan	234
Toa Corporation, Japan	500
Port Alberni Harbour Commission, Canada	200
Korea Dredging Corporation, Korea	300
Port Authority of New York & New Jersey, USA	1,000
Vancouver Port Corporation, Canada	1,000
Klang Port Authority, Malaysia	200
Saeki Kensetsu Kogyo Co., Ltd., Japan	250
Penta-Ocean Construction Co., Ltd., Japan	1,000
All French Ports by UPACCIM*	1,560
Shimizu Construction Co., Ltd., Japan	390
Taisei Corporation, Japan	390
Japanese Shipowners' Association, Japan	390
Port of Redwood City, USA	100
Puerto Autonomo de Barcelona, Spain	991
Port Authority of Thailand	100
Port Rashid Authority, UAE	500
Japan Cargo Handling Mechanization Association	390
Obayashi Corporation, Japan	400
Port of Copenhagen Authority, Denmark	1,000
Clyde Port Authority, UK	1,000
Public Port Corporation II, Indonesia	150
Toyama Prefecture, Japan	420
Georgia Ports Authority, USA	1,000
Port of Oakland, USA	350
Kuantan Port Authority, Malaysia	200
Port of Seattle, USA	1,000
Kajima Corporation, Japan	420
Port of Reykjavik, Iceland	500
Canada Ports Corporation, Canada	250
Nigerian Ports Authority, Nigeria	250
Port of Montreal, Canada	1,000
Ports Public Authority, Kuwait	1,000
Tanzania Harbours Authority	200
Junta del Puerto de Gijon, Spain	500
Sharjah Ports Authority, U.A.E.	500
Port of Yokohama, Japan	4,950
Port of Long Beach, USA	1,000
Mauritius Marine Authority	200
Chiba Prefecture, Japan	403
Total	US\$ 31,338
Pledged:	Nil

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

Mr. Ukonu of Nigeria Bursary Recipient

Mr. Bert C. Kruk, Chairman of the CIPD, announced that he has approved a bursary for Mr. F.L. Ukonu, Nigerian Ports Authority, to attend the PACT Multipurpose and Container Terminal Operations Course for the period May 22 - June 6, 1989 in Rotterdam. The organizer of this course is the Technical and Managerial Port Assistance Office

(TEMPO) of the Rotterdam Municipal Port Management, the Director of which is Mr. Kruk.

Secretary General Kusaka has completed the remittance of the trainee's course and accommodation fees as well as travel expenses to the organizations involved.

Membership Notes:

New Member

Associate Members

PACECO Corporation [Class A-II-1] (U.S.A.)

Address: 1825 South Grant Street, Suite 300, San Mateo
CA 04402

Telex: 401372

Tel: 415-574-3111

(Mr. S. Hasegawa, Senior Executive Vice President)

STV/Lyon Associates, Inc. [Class A-III-1] (U.S.A.)

Address: 21 Governor's Court, Baltimore, Maryland 21207

Telex: (0) 87999

Tel: (301) 944-9112

(Mr. Donald J. Wise, Vice President)

Changes:

Port Alberni Harbour Commission [Regular] (Canada)

Management Staff

Port Manager: Mr. D.J. White

Director of Marketing: Mr. D.E. Brooks

Harbour Master: Mr. D.C. Drewe

Administrative Assistant: Ms. L.S. Kelsall

Property Administrator: Mr. D.G. Andow

Manager, China Creek Marina: Mr. R. Francoeur

Manager, Clutesi Haven Marina: Mr. M. Shaw

Manager, Fishermen's Harbour: Mr. O.J. Powell

Ghana Ports and Harbours Authority [Regular] (Ghana)

Headquarters

Acting Director-General: Commander E.O. Owusu-Ansah

* He is serving as Director of the IAPH from Ghana.

Chief of Personnel & Administration:

Mr. R.U. Kumedzro

Engineer-in-Chief: Mr. Joseph Owusu

Operations Adviser: Mr. A.E. Essien

Financial Controller: Mr. Kodzo Danu

Solicitor Secretary: Mr. R.J. Deih

Directors of Ports

Port of Tema: Mr. T.T. Addy

Port of Takoradi: Mr. John Aidoo

Visitors to Head Office

February 3, 1989, Rear Admiral Akbar Hussain Khan, Chairman, Commodore Fasahat H. Syed, Member, Operations, Port Qasim Authority, and Mr. Abdul Sattar Dero, Project Director, Gawadar Fish Harbour, Pakistan, and Dr. M. Aslam, Minister Technical, Pakistan Embassy in Tokyo

February 21, 1989, Mr. Norman Matthews, Deputy Secretary General, IALA (International Association of Lighthouse Authorities), Paris, France



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Fremantle and Western Australia gained world wide recognition for its well planned organization of the America's Cup in 1987. With such experience we can confidently host another event of similar importance.

Blessed with an excellent climate we can offer a wide range of attractions, pre and post-conference tours together with first class accommodation and transport. Fremantle and the adjoining state capital City of Perth abound with international facilities and amenities

Make Western Australia your destination in 1993.
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How could the efficiency of your port be improved?



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*** The paper has been rewritten by the author with the entire length being reduced to half that of the original paper so as to be accommodated in one issue.*

SYNOPSIS

Port Louis Harbour is a fast developing port. The facilities available have enabled the Port authorities to provide dependable service to the Port users. However, there are certain areas which offer scope for further improvement. In the first few paragraphs, an exposé of the chronological development of the Port is given and the deficiencies are identified. In the latter part of this paper, some suggestions are made to surmount the problems and thereby to improve port efficiency.

1. INTRODUCTION

In the world map, Mauritius is shown as a tiny dot in the Indian Ocean; indeed, it is a small island with a population of about one million. Export of cane sugar is the backbone of the Mauritian economy. For the past three years, the island has been passing through an unprecedented economic boom mainly due to the coming into being of many industries, particularly related to textiles. A series of incentive measures was introduced by the Government in order to give the manufacturing sector much-needed impetus. These measures were aimed at projecting the industrial sector as one of the major economic operators in the country. The results achieved have been most encouraging and the manufacturing sector has witnessed an unparalleled expansion during the past three years. Annual GDP growth rates have recovered from around +0.4% in 1983 to reach around +7.9% in 1986, followed by 6.1% in 1987. The rate of unemployment

has registered a major decline.

This recovery in the economy has indeed had its effect on the Port, which in the past few years has seen an upsurge in its traffic, all the more so as regards containers.

2. PORT LOUIS HARBOUR – PAST AND PRESENT

Port Louis Harbour has a chequered history of development. Till 1980, the Port was mainly of the lighterage type, with the ships anchored in moorings and the cargo handling activities taking place by means of lighters. Berthing delays were the order of the day; port detention charges, demurrages and the suchlike were the terms — rather, the stigma — attached to the Port Louis Harbour of the 1970s. Although this was the plight of many ports in the developing countries at that time, the effect was far more serious in the case of Mauritius, which depended solely on Port Louis Harbour, the only port in the island, for its economic growth. The labour problems and frequent strikes at the Port caused the port management many anxious moments time and again.

It was only during 1976 that a silver lining appeared in the sky: the World Bank came to the rescue of the port authorities. Three alongside quays with matching backup facilities in terms of transit sheds, open storage areas and the suchlike were constructed in 1979/80. Soon, the lighterage operation became the legend of the past except in the case of the handling of rice, which still continues to be handled through lighters.

A modern container terminal steadily came into existence. Adequate cargo handling equipment such as heavy duty forklift trucks, yard gantry crane, prime movers, trailers and mobile cranes were purchased in stages, and today the Port is recognized as one of the very few ports in this part of the world where berthing delays are almost nil. The Port now has five deep water quays capable of accommodating vessels of draughts varying between 10 and 10.5m. A fully mechanised "Sugar Terminal" with the capacity to load sugar at the rate of 1400 tonnes per hour is indeed a landmark in the history of port development. Besides these, a number of lighterage quays and mooring berths complement the services available for port operations.

3. PORT ADMINISTRATION AND OPERATION

Since 1811, at which time Mauritius was under British rule, the control and administration of the Port have been vested in the Government. Between 1811 and 1913, the Port Department was primarily responsible through the Harbour Master. In 1914, responsibility was transferred to the Customs, Ports and Marine Department. In 1948, the Ports and Marine Services ceased to be under Customs, the Port coming under the control of a newly-created Harbour and Quays Department. This was changed in 1965 when the Department was redesignated Marine Services and its principal officer redesignated Director of Marine.

Subsequently, the Mauritius Marine Authority was created in 1976 as a para-statal body, under the Ministry of External Communications, to look after the administration, planning, creation and operation of all port services. The organization is headed by the Chairman. Its day-to-day operation and administration is under the charge of the Director-General, who is the Chief Executive. The Marine Board, consisting of members from various disciplines connected with port activities is responsible for all policy matters and decisions.

Till 1983, the cargo handling operations were carried out by private companies which were responsible for the supply of labour such as stevedores and shore-workers. In October 1983, this task was vested with a newly formed private company, viz Cargo Handling Corporation Ltd (CHCL), which is owned jointly by the Government of Mauritius and the MMA. This company is responsible for the physical handling of cargo while the MMA provides all the infrastructure such as quays and equipment. The CHCL Ltd. is headed by the "General Manager". The company took over the cargo handling operations, including the port labour force, from the private sector. This amounted to inheriting all the drawbacks and deficiencies of the earlier system of operation. This is discussed elsewhere in this paper.

4. CARGO TRAFFIC AT A GLANCE

With the commissioning of alongside berths during 1979/80, there dawned a new era in the method of cargo operations. Cargo began to be handled in a more scientific way. This resulted in the boosting of the image of the Port in the world of shipping. Cargo traffic has registered sharp increases year by year, as shown in Table 4.1 (also Annexure 4.1).

Table 4.1
Past Traffic in A Nutshell

Year	Traffic (in MT)	Percentage Increase	Containers TEUs	Percentage Increase
1980-81	1.64		24,243	
1981-82	1.72	+ 5	24,451	+ 1
1982-83	1.77	+ 3	24,054	(-) 2
1983-84	1.77	Nil	26,054	+ 8
1984-85	1.74	(-) 2	26,482	+ 2
1985-86	1.89	+ 9	31,441	+ 19
1986-87	2.31	+ 22	42,490	+ 35
1987-88	2.44	+ 6	53,177	+ 25

There has been an unprecedented increase in container

trade during the past three years, mainly due to the all-round industrialisation underway in the country. The forecast reveals that the container trade might touch the level of about 71,000 TEUs by 1991, as presented in Table 4.2.

Table 4.2
Traffic Forecast

Year	Traffic (in MT)	Percentage Increase	Containers TEUs	Percentage Increase
1988-89	2.63	8	60,000	15
1989-90	2.79	6	66,000	10
1990-91	2.93	5	71,300	8
1991-92	3.08	5	74,800	5
1992-93	3.23	5	78,600	5

The above statistics reveal that the Port has vast potential for development and it will be no surprise if the above forecast is exceeded by a similarly phenomenal increase to that realised during the past three years. The Port authorities are required to be more vigilant and to monitor the situation closely so as not to be overtaken by time and events, as in the past.

5. PORT WORKING PATTERNS & PRODUCTIVITY PARAMETERS

Till February 1988, the Port was operating on an elongated shift system, the normal shift duration being from 0700 to 1500 hrs, with overtime extending beyond 1500 hrs up to 1800 hrs. On very few occasions, operations were extended up to 2100 hrs. Within the shift of 8 hrs, the effective working time was only 5 hours; the remaining 3 hours were simply wasted by way of undesirable recruitment patterns, the unacceptable duration of meals and teabreaks and other factors. However, of the 3-hour period of overtime, the effective number of working hours was between 2 1/4 and 2 1/2.

Productivity during normal working hours was the lowest, while surprisingly that during the overtime period of 3 hours was at least twice that of the normal 8-hour shift. The remuneration system was such that labour was motivated to produce more during overtime. Some of the productivity parameters are shown below in Table 5.1 (also Annexure 5.1).

Table 5.1
Productivity Parameters (Before September 1987)

Cargo	Average Tonnage Per Gross Gang Hour
Utilized	15
Bagged Cargo	10
General Cargo	9
Containers	3 (TEUs/hr — normal shift) 8 (TEUs/hr — overtime)

With a view to increasing productivity right from the first package, a piece rate system was introduced in October 1987 which provided motivation to port labour to give of their best so as to earn more. The system yielded positive results. Productivity increased twofold or even more in many cases, particularly on containers. Ship turnaround time registered a sharp decline; in some cases container vessels were

discharged within a day.

In addition to the piece rate system, double shifts were introduced in March 1988 — on Quay 4 (container berth) in the first instance. The amount of time worked was also improved by slightly changing the pattern of meal-times.

The success achieved has, however, been partial and there are still many areas which offer some scope for improving productivity and thereby reducing landed costs per ton of cargo. The efficiency of the Port lies in not just improving productivity. The main question to be answered is "at what cost?". The answer is attempted elsewhere in this Paper.

6. REVIEW OF BERTH OCCUPANCY

As discussed earlier, till February 1988, the Port was operating on an elonged shift system, the working hours generally being from 0700 to 1800 hrs. Beyond 1800 hrs, cargo handling operations were virtually non-existent, but the ships continued to lie alongside. There were, therefore, two kinds of berth occupancy, viz net berth utilization and gross berth occupancy, applicable to Port Louis Harbour. These are shown in **Annexure 6.1**.

Annexure 6.1 indicates that ships were lying idle at the berth without cargo operations for a period almost equivalent, in some cases, to more than the actual hours worked. The idle time reflects, though not explicitly, the built-in safety factor available for achieving a higher throughput, perhaps equal to the quantum being handled today.

7. WHAT IS EFFICIENCY?

As I see it, the Port can be said to be operating efficiently if

- the physical resources are optimally used;
- the Port provides a reliable service at a reasonable cost to the shipping community; including a quicker turn-around time without undue berthing delays;
- there exists absolute discipline amongst all concerned;
- Financial Management is sound and prudent;
- there is a less cumbersome documentation system;
- the long-term objectives are properly defined;
- a contingency plan exists to meet any eventuality;
- a two-way communication system exists between Port labour, Port users and the Port authorities, backed up by congenial industrial relations;
- there is advance planning and new Port Facilities are introduced in a phased programme;
- the productivity levels are reasonably good by providing port labour with motivation and an appropriate incentive system commensurate with productivity;
- a sense of involvement in Port activities prevails amongst workers;
- the Port environment is maintained properly so as to increase the general morale of the Port users and Port labour.

Above all, at the national level, the Port must aim at providing efficient service so as to bring down the landed costs of cargo to within acceptable levels, comparable with other ports in the region. At the international level, the Port must build up a good reputation for reliable service which is measured in terms of the faster turnround of vessels. The above list is only indicative and not exhaustive.

8. IDENTIFICATION OF AREAS OFFERING SCOPE FOR IMPROVING EFFICIENCY

Improving efficiency is a continuous process, and even the fully developed ports such as Rotterdam and Singapore are always engaged in bringing about further improvements in their operational systems, administration and documentation so as to provide still better service to the shipping community in general. Indeed, for sheer survival amidst stiff competition from neighbouring ports, such a course of action sometimes becomes inevitable. This is all the more so in the case of ports in the developing countries.

As far as Port Louis Harbour is concerned, some of the areas where the deficiencies have been very apparent are well-known to the Port management, but the solution has been elusive for some reason or other — partly political, but mainly traditional. The Port labour has always enjoyed a privileged position in the country, with the support of a strong union which has had "a major say" in political stability for a long time. The Port authorities have been, to say the least, powerless. However, the point was reached where this situation, which had prevailed for years, could no longer persist, and there is now a better political atmosphere as well as a strong Government with a progressive outlook. Labour, perforce, has become more receptive to the innovative programme being introduced by the Port authorities.

The areas where some scope for improvement exists can be broadly classified under six topics:-

- i. the operational system;
- ii. the optimisation of physical resources;
- iii. a critical review of planning principles;
- iv. supervision and control;
- v. the simplification of documentation procedures; and
- vi. environmental aspects.

These are discussed in the subsequent paragraphs.

9. OPERATIONAL SYSTEM

Total labour force available:	Stevedores	343
	Shoreside	408
	Lighterage	59
	Plant Operators	91
		901

9.1 MANNING LEVELS

Container Operations

At present, no quay cranes are available to load and unload cargo to and from ships. In general, only ships' cranes are used. The composition of the existing container gang and the optimum level required are indicated below:

On Board	Existing	Optimum Requirement
Deck Stevedores	4	2
Hatch Stevedores	6	3
Carpenters	1	NIL
Shoreside		
Shore workers	4	2
Carpenters	1	NIL

The existing composition is by far the highest and this can be easily brought down to half without inducing any operational problems. If this is accepted, this might result

in savings as under:

REDUCTION IN LABOUR FORCE — 81 mandays/vessel

If the number of container vessels per annum were 200 (a reasonable estimate), the total number of mandays gained would come to $81 \times 200 = 16,200$

If the manday cost were taken as Rs 500, the savings accruing would be $\text{Rs } 500 \times 16,200 = \text{Rs } 8.10 \text{ million}$.

In addition, there would be proportionate savings on overhead and administrative costs, though these may be marginal.

Indirect Savings

It is noticed that the turnaround time has been reduced by 50% on average due to increased productivity. This means a reduction of some 80 to 100 shipdays at the Port. The shipowners will gain about US \$ 1m on this score alone.

The Port authorities gain in terms of additional berthdays to handle more ships at the same quay and thereby increase the throughput capacity of the berth. Sometimes people concerned with finance argue that this philosophy will apply in a situation where there is a constant increase in traffic year by year. If, however, the increase is only marginal, the Port will not gain financially through the savings in shipdays at the berths; indeed, there may even be some loss due to the quick turnaround and the consequent reduction in the number of days occupied by the ships at the berth. For container operations this may run to the extent of Rs 1m.

However, this should not be viewed purely from the financial angle; it will be offset by the image of efficient service built up by the Port authorities. In my opinion, what is more important is the Port's reputation. The loss of revenue is secondary, and this can always be made good, if necessary, by reducing operational and administrative costs.

General Cargo

The manning level required will vary depending on the type of cargo, viz palletized, breakbulk, drums, timber, etc. A typical sample for palletized cargo is as under:-

On Board	Existing	Optimum Requirement
Deck Stevedores	4	2
Hatch Stevedores	8	4
Carpenters	1	NIL
Shoreside	Existing	Optimum Requirement
Shore workers	6	2
Tally Clerks	2 (in all)	1
Carpenters	1	1
	22	10

It is possible to reduce the labour force from 22 to 10.

If this is feasible, on the same analogy as for containers the direct savings would be:-

Reduction in Labour Force

Per Vessel	144 mandays	
for 100 vessels	14,400 mandays	
Savings	$14,400 \times \text{Rs } 500/\text{mandays}$	Rs 7.2m

DRY BULK

The dry bulk cargoes discussed herein consist of:-

- fertilizer
- coal
- maize

FERTILIZERS

There are at present some 5 on-board deck stevedores and 4 shore workers. The type of operation does not warrant any labour. At the most, there could be only 2 deck workers plus one cleaner on the quay. There can therefore be a reduction of some 7 workers per shift per gang.

COAL

Coal is handled by ships' grab and is almost fully mechanised; the involvement of labour does not arise at all. However, there are in all some 12 people per gang/shift, doing virtually nothing; it is enough if there is a foreman to supervise the work. Sometimes the above gang works on overtime!!!

There is the potential for reducing the amount of labour used to a great extent.

MAIZE

This is yet another type of cargo where the involvement of manual labour is almost negligible. In fact, the importer has already purchased a mechanical evacuator to handle maize. What may be needed are, at the most, 2 cleaners on shore, one Foreman and 2 people on-board for such matters as the positioning of the chute and direction. Against this, the total strength available is 11 workers on board and some 10 shore workers, including 2 forklift drivers.

The possible reduction in the labour force is 16 per shift/gang.

Savings in Cost of Operations

Fertilizer:	Rs 0.30m
Coal:	Rs 0.70m
Maize:	Rs 0.20m
	Rs 1.20m

Similarly, in the case of other general cargo there will certainly be some reduction in the cost of operations. In all, this is estimated at about Rs 3m including the proportionate reduction in administrative costs. Workers involved in port operations are generally better-paid than those in other sectors; however, this should not be unduly exploited in view of the wide disparities that can arise.

Productivity Parameters

Since the introduction of the double shift and the piece rate system, productivity has increased considerably. A comparison of current productivity levels with those recommended by the UNCTAD Secretariat is presented in Table 9.1.

Table 9.1
Productivity Achieved vs Recommended

Cargo	Before Oct. 1987	After Oct. 87	(Tons/ship day)
			Recommended Productivity
Palletized	325	400	700 — 900
General Cargo	200	300	500 — 700
Containers	63	250 TEUs	275 — 400

The recommended productivity parameters are for a well-trained and motivated team working the average number of hatches for each class of ship and for a shift pattern which gives a value for the time worked of 0.60 (standard shift hours per week divided by 168). The UNCTAD Secretariat observes:

'There is a tendency amongst port operators to compare their performance (productivity) with those of other neighbouring ports. This comparison is of no great significance. Each port should compare its current performance with its performance of previous years and try to improve on that rather than attempting to achieve apparently higher figures derived from elsewhere which may have been calculated on a different basis'.

From Table 9.1, we may come to the conclusion that there is still some room for improvement. However, this cannot be attributed to port labour this time for, in some types of vessels, the productivity of the derricks is appreciably low: Whatever shoreside facilities (labour, forklift, etc.) there may be, if the derrick operation is slow and of lower output, the net productivity will fall below the desired levels.

9.2 DEFICIENCIES AND SUGGESTIONS

However, here again I have noticed some deficiencies. These are:-

Remuneration System

It is often said that in Port Louis, the cargo handling costs are high. I do not wish to be dragged into any argument on this sensitive issue. However, I have to point out that there exists vast scope to bring down the cost of operations.

- The formula attached to the piece rate system (introduced in Oct. 87) appears over-generous to the undue advantage of Port labour; this requires an objective review.
- The gang size for a mix of different cargoes must be defined and agreed; some disincentive systems must be evolved so that Port labour is motivated to put as few people as possible in the gangs, thus maximising per capita pay pockets.

Delivery Time

The delivery time for cargo must be extended for as long as the Port is working instead of the present practice of stopping at 1800 hrs. The authorities concerned, including the Customs Department, must review the situation and take appropriate action.

Interchangeability of Labour

There does not exist any flexibility on the interchangeability of labour between hatches on the same vessel, let alone for another vessel altogether. This results on many occasions in an apparent shortage of labour; on one side, there will be excess labour with less work and on the other side, a depleted labour force for a hatch with full cargo. This should be looked into.

Allocation of Forklifts

The current system of allocating forklifts on a gang basis should stop. The system is inflexible. This results in the unequal distribution of the workload between gangs. Even if the forklift pertaining to a particular gang is idle this will not, as per the present system, go to another gang working on a full hatch. It is therefore important that the allocation of forklifts or equipment in general should be made on a vessel basis rather than on a gang basis, thereby affording greater flexibility.

Multi-skilled Operators

Another important thing observed is that on certain occasions, when there is a need for different types of equipment such as forklifts or mobile cranes for a shortwhile

to handle only a few packages at a particular hatch, the equipment is allocated accordingly with independent operators. After completing the work within a few minutes or hours, the operator is idle. Instead, if there were one operator who could handle both types of the equipment, it would be possible to save on the cost of the other operator and the idle time of the equipment. Furthermore, the practice of allocating 2 drivers to some equipment should be discouraged.

Freight Station Activities

At present, the freight station activities relating to LCL containers are carried out by private depots under the supervision of the Customs Department. As regards FCL containers, many of them are opened in a small shed within the container park itself by the Customs for verification of the contents inside the container. This defeats the 'door-to-door delivery' concept of container operation. As per the accepted practice, only random checks should be carried out on FCL containers. The policy of the Government requires revision to this extent, if necessary by tightening the security measures so as to prevent any malpractice.

System Development Study

At present, there does not seem to exist an integrated approach to tackling problems on a global basis; piecemeal solutions help solve problems only temporarily.

For instance, when vessels are bunched resulting in berthing delays, it immediately strikes one that additional berths are needed or that some overtime work in the form of extended shifts may be necessary. The real problem could have been in the form of storage facility or delivery or in transit.

It is necessary to pinpoint the 'bottleneck' in the entire transport chain - from ship's hook to the point of delivery.

Now that the Port has gained experience, a micro-level system study is essential to analyse the various stages of operation, establish the level of performance and identify the bottleneck in the system. Analysis of the problem in isolation on the basis of 'crisis' management will not only involve avoidable capital expenditure but might also bring about negative effects on port efficiency later.

10. PHYSICAL RESOURCES — OPTIMISATION

Port facilities are capital-intensive assets and they should be put to maximum use. Scanty and liberal use of these facilities often leads to the creation of additional facilities which may not be economically viable. It is not prudent financial management to concentrate on satisfying short-term needs or peak demands (whose frequency of occurrence might be marginal).

My personal impression is that the existing facilities are not optimally utilised; the Port users misuse the facilities, and if they are not satisfied they raise a hue and cry through the news media and other forums. I wish to highlight this through the example of the Container Park.

10.1 CONTAINER PARK

The Container Park behind the container berth has been designed to allow a certain amount of free dwell time of containers, beyond which the users need to pay storage charges. The storage charges are so low that the Port users

are even prepared to pay the charges and use the area as their long-term warehousing depot with the result that the Park has become congested time and again. Moreover, the importers blame the Port authorities on the grounds of inadequate storage areas while such a situation is of their own creation.

The storage charges should therefore be raised forthwith to such an extent that they act as a deterrent. Alternatively, if it is economically viable an additional Container Park may be developed to satisfy the demand.

10.2 EQUIPMENT UTILISATION AND REPLACEMENT PROGRAMME

Cargo handling equipment (particularly container handling equipment) is costly and it should be maintained properly through a system of predictive/preventive maintenance so as to bring down the downtime to within the permissible limits. There should exist adequate backup facilities such as a workshop and a sufficient quantity of spares.

It has been observed that, even though the Workshop is capable of undertaking all kinds of repairs and maintenance, sometimes the equipment there remains perforce idle for want of spares. The lead-time for the supply of spares is generally more in view of the geographical location of the island in relation to the potential suppliers of spares (from Europe). There have been instances when equipment was hired from private agencies when our own equipment was awaiting spares from overseas. This can be obviated by timely action and advance planning.

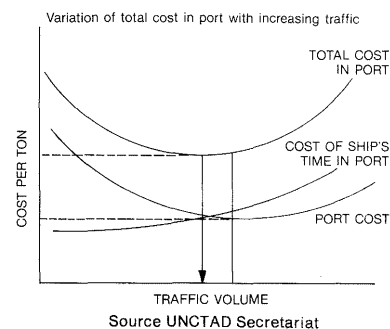
In developing ports there is a tendency to delay the replacement of equipment which has already served out its economic life on the grounds that the equipment is still in working condition. In the process, sometimes the model itself might become obsolete and the purchase of spares might pose problems. The downtime increases and so also does the cost of maintenance. An objective outlook is called for in this respect. Here in Port Louis, even though the situation is not alarming at present, some of the equipment which is beyond economic repair requires replacement.

10.3 BERTH UTILISATION

As explained in Section 6, the net utilisation of berths was around 30 to 36% during 1987; this shows that the berths have an additional capacity to the extent of another 30%. The net berth utilisation factor would further diminish to below 30% if the facilities were worked on a 2-shift or 3-shift system. Working on 2 or 3 shifts need not necessarily be an advantageous proposition unless there is heavy pressure due to the queueing of vessels. This situation does not seem to exist. Perhaps the Port might stand to lose rather than gaining. On the other hand, planning to minimize Port costs alone will generally result in an unsatisfactory level of service to shipowners, which can lead to congestion surcharges and will not be economically acceptable. The following graphical representation will illustrate this aspect.

Point 'B' is more advantageous to shipowners and point 'A' to port authorities. In Port Louis Harbour, no study has been made so far to identify points A and B and select the optimum solution. It is high time some strides were made in this respect as the Port is now placed in a situation where the introduction of a two-shift system appears necessary on all quays.

Figure 10.1



10.4 LAND CONSERVATION POLICY

There exists some tendency to request land within port premises by private agencies even for projects which do not require any waterfront facility; this is because there is no well-defined land conservation policy.

As port facilities are meant to serve the country for many decades to come, it is necessary to conserve as much land as possible within the vicinity of the Port for port expansion and port-based industries. Piecemeal allocation and lopsided growth of industries within the Port area will prevent harmonious development.

10.5 HANDLING OF DANGEROUS LIQUID CARGO

At present such items as petroleum products and LPG are handled at the same quay along with general cargo, containers, fertilizers and the like. In this system, there always exists a potential fire hazard not only to Port facilities but also to the Port environment. Further, Port Louis being the only port, any untoward accident (such as a fire) will have a disastrous effect on the country as a whole. There is therefore an inescapable need to provide separate marine facilities (such as an oil terminal) at a far off location to handle all types of liquid cargo. In fact, a suitable site has been identified and early action on this matter would greatly help achieve the safety of the Port installations. The estimated cost of the marine facilities is US\$7m.

11. PLANNING PRINCIPLES – A CRITICAL REVIEW AS APPLIED TO PORT LOUIS HARBOUR

Another obvious thing which I have observed and which is worth mentioning is that the decision to embark on capital investment tends to be made 'all of a sudden' whenever some problem surfaces. Generally, no feasibility study or techno-economic study is made. As 'finance' is a scarce commodity for ports in developing countries, such studies would be useful to ensure investment in economically viable projects. The UNCTAD Secretariat observes:-

'... However, the trade of most ports is growing and consequently increasing the capacity of existing berths could defer the necessity for investing in new ones. In developed countries, technological advances in bulk and unitized cargo handling have virtually eliminated the need to provide new conventional breakbulk berths. Indeed, many existing berths have become redundant. What has happened in developed countries in the 1960s may well be repeated in developing countries in the 1970/80s, if the present trends continue. Thus, by delaying for a few years that need to invest in new

berths, it could be that such expenditure, at least on breakbulk berths, will never be required. In such an event, the solving of an operational problem will have provided a solution - indeed, the optimum solution - to an investment problem

What useful advice to port authorities!

It is strongly recommended that the Port authorities should have at their disposal a contingency plan for bringing additional reserve capacity of various kinds into use in a systematic, coordinated fashion. Even though much is talked about this at various periodical meetings, a real contingency plan has yet to see the light of day.

11.1 PORT MASTER PLAN

The Port Master Plan study carried out by consultants needs updating in the wake of the unprecedented traffic growth arising out of the prevailing economic boom in the country. The long-term objectives and goals should be defined in clearer terms and an action plan suggested for phased implementation.

11.2 MECHANISATION OF HANDLING FACILITIES PROVISION OF QUAY CRANES FOR HANDLING CONTAINERS

As stated elsewhere, full-fledged facilities (quay cranes) are not available at present for servicing gearless container vessels.

Even now, certain shipping lines are deploying such vessels in the trade routes touching Mauritius. These vessels are now serviced with old mobile cranes amidst many operational constraints and productivity in such cases is low.

There exists a need now to purchase quay cranes or new mobile cranes for servicing gearless container vessels. A techno-economic study should be initiated.

11.3 SIZE OF PALLETS

The pallets employed at present are of size 1500 x 1200mm with a capacity of about 1t. The forklifts have a capacity to handle 3 tons. If the size of the pallets could be made slightly bigger, it might be possible to increase productivity within the operational cycle.

11.4 COAL HANDLING

At present, grabs of 1t capacity are deployed for handling coal. These can be replaced by 3t grabs without difficulty so as to augment the throughput capacity. This should facilitate the quick turnaround of coal carriers.

11.5 RO-RO OPERATION

This should be encouraged and the Port must initiate action on this.

12. SUPERVISION AND CONTROL

This is yet another area which requires a total revamping. The Port lacks supervision and control at the operational areas; a "laissez aller" attitude prevails to an alarming extent. There does not seem to exist the required level of responsibility on the part of plant operators as regards safety and the upkeep of the equipment. The system of dual responsibility, whereby the plant operators are owned by the MMA and controlled by the CHC Ltd. for operational purposes, leaves much to be desired.

The method of supervision and control must be reviewed

and a proper system evolved to plug all the loopholes.

13. SIMPLIFICATION OF DOCUMENTATION PROCEDURES

I have had discussions with some Port users who are of the unanimous opinion that the existing procedures connected with shipping are complex, and that on many occasions this has resulted in avoidable delays. Naturally, this will have an adverse impact on the Port facilities (particularly storage areas) which are compelled to absorb this kind of delay. The net result is congestion and unsatisfactory services.

It is not my intention to go deeply into this complex exercise; however, I wish to point out that in the computer age in which we live, it is quite possible to find an easy and satisfactory solution. A port is an interface facility between water and land, and unless there exists a coordinated and concerted effort amongst all organisations concerned, improvement on any particular sector alone will not fetch the desired result.

14. ENVIRONMENT ASPECTS & LABOUR WELFARE ACTIVITIES

I believe in a tidy and clean environment. Preservation of the environment against pollution and the provision of greenery in operational areas (if the land space permits) would go a long way towards boosting the morale of the Port workers and conveying a better image of the Port outside. Even though this does not have any direct bearing on Port efficiency, it will produce good results psychologically.

If the Port authorities could do something to develop the sense of belonging and involvement amongst workers, it would be in the best interests of the organisation. Periodical get-togethers, social functions, drama, sports and other recreational activities are some of the catalytic agents which would enhance the working atmosphere and these do not presently exist to the required extent.

In-house training programmes are not very popular at Port Louis. There is a training school within the Port Administration Building and this should be injected with new vigour so as to activate it for the benefit of workers.

The public relations activities must be activated at full thrust so as to project the image of the Port and the facilities it can offer to the Mauritian public.

15. SUMMARY OF IMPROVEMENTS SUGGESTED TO INCREASE PORT EFFICIENCY

An attempt has been made in the preceding paragraphs to identify the areas which offer scope for further improvement. Financial gain need not necessarily be the sole objective of improving port efficiency; what is more important is to ensure dependable service to the shipping community at a reasonable price. The key factors are summarised as under:-

15.1 DIRECT FINANCIAL GAINS/EXPENDITURES

- (i) Likely savings by reducing manning levels attached with handling of containers, general cargo and dry bulk cargo, etc.: US\$2m
- (ii) Savings to ship owners in terms of reduced shipdays

- at the Port: US\$1m
- (iii) Equivalent gain in terms of berthdays available to the Port authorities for handling other cargo: 100 days
- (iv) Additional cost of development of a new oil terminal: US\$7m

AND

- gain in terms of berthdays available for other cargo: 100 days
- (v) Cost of installation of 2-quay cranes or 2 mobile cranes for servicing gearless container vessels: US\$5-7m

15.2 FINANCIAL GAINS NOT SUSCEPTIBLE TO QUANTIFICATION

- (i) Possible review of the present piece rate system and gang size to bring about a reduction in operating costs.
- (ii) Possible interchangeability of labour/gangs within hatches, thereby ensuring minimum labour and maximum productivity.
- (iii) Allocation of forklifts for general cargo operations on a vessel-wise basis against the present practice of gang-wise allocation so as to achieve the optimum use of available equipment.
- (iv) Developing multi-skilled personnel, facilitating savings by reducing the number of operators to perform tasks of short duration.
- (v) System development study to identify the problem areas in the transport chain with a view to optimising the use of the available resources.
- (vi) Storage charges for the Container Park to be increased forthwith.
- (vii) Equipment replacement programme to be undertaken on a scientific basis to minimise downtime and increase operational efficiency and availability.
- (viii) A careful study to be made while introducing 2-3 shifts so as to ensure that the financial burden to the Port is not unduly high.
- (ix) A proper land conservation policy to be evolved.
- (x) While developing new facilities, appropriate studies (feasibility study, techno-economic study, etc.) to be carried out in advance.
- (xi) Long-term objectives to be defined through Port Master Plan to ensure planned development in accordance with a present-time frame.
- (xii) Mechanised handling of maize, coal, etc. to greatly improve productivity.
- (xiii) Ro-Ro operations to be encouraged.
- (xiv) Effective supervision and control on operational areas to improve productivity and inculcate discipline.
- (xv) Simplification of documentation procedures and possible computerisation of certain functions of the Port to improve the quality of service provided to the shipping community.
- (xvi) Improvement to the environment and enhancement of morale of Port workers through well-planned welfare measures to greatly improve productivity and create a sense of involvement and belonging.

16. CONCLUSION

Seaports play a major role in promoting international trade by generating commercial and industrial activities which directly assist the economic progress of the country.

The paramount importance of a far-sighted port development policy does not appear to have been fully appreciated in the past by many governments. As a result, ports have often been unable to keep up with the rate of expansion of a country's overseas and coastal trade. The situation is particularly demanding in a country like Mauritius, which is at the crossroads of industrialisation. A well-organised planning and research department appears a 'must' so as to evaluate the events of today and tomorrow in precise financial terms and to suggest appropriate measures for dealing with the situation in time. The consequences of a failure to provide adequate port capacity before the increased traffic arrives are clearly illustrated by the congestion in many ports of the world, in particular in developing countries.

NOTE: *The Author's parent organisation is TUTICORIN PORT TRUST, S. INDIA. The Author is presently working with the Mauritius Marine Authority on contract terms.*

The views expressed herein are those of the Author and do not necessarily reflect those of the Port authorities or the Government of Mauritius.

This paper has been written from an objective viewpoint and is not meant to criticise any individual or organisation.

References

1. Berth Throughput — Systematic methods for improving general cargo operations Report by the UNCTAD Secretariat 1973
2. Port Development — A Handbook for Planners in Developing countries (Second Edition - revised and expanded). UNCTAD Secretariat 1985
3. A Report on Berth Throughput Existing capacity Vs Demand (1992) K. Dharmalingam, Port Engineer, Mauritius Marine Authority, Port Louis — Sept. 1987
4. A practical approach for the evaluation of equipment for the Port Louis Harbour Published in Ports & Harbors IAPH, April 1987 by K. Dharmalingam, Port Engineer, Mauritius Marine Authority, Port Louis
5. Design of Storage Facilities for Container — A case study of Port Louis Harbour — Mauritius Published in Ports & Harbours, IAPH, Sept. 1987 by K. Dharmalingam, Port Engineer, Mauritius Marine Authority, Port Louis
6. Master Plan of New Mangalore Port, South India — Period 1985 1985 — 2000 Prepared by K. Dharmalingam, Project Director under the auspices of the Indian Ports Association,

PAST TRAFFIC—PERIOD 1976/77 THRO 1987/88

ANNEXURE 4.1

ITEMS	76/77	77/78	78/79	79/80	80/81	81/82	82/83	83/84	84/85	85/86	86/87	87/88
I. BAGGED CARGO												
(a) IMPORT												
RICE	74,976	76,618	77,668	88,438	80,920	69,181	70,723	90,203	70,368	83,594	76,138	73,425
FLOUR	43,186	53,424	31,701	50,882	39,497	23,198	23,777	5,676	6,668	12,264	8,429	15,678
PULSES	8,649	10,348	10,205	9,104	5,330	4,408	1,981	3,440	2,494	1,219	3,028	2,147
ANIMAL FEED	20,254	17,659	11,628	11,471	2,343	3,327	9,473	19,410	18,329	20,140	8,868	7,678
FERTILIZER	4,840	4,299	1,815	1,310	1,500	3,246	3,865	3,094	2,603	2,546	9,179	1,500
CEMENT	22,114	8,662	414	9	—	—	—	—	—	—	—	—
SUB TOTAL (a)	174,019	171,010	133,431	156,214	129,590	103,360	109,819	121,023	100,462	119,763	105,642	100,428
(b) EXPORT												
BAGGED SUGAR	626,640	638,225	588,197	613,825	17,583	—	—	—	—	12,543	—	—
FERTILIZER	—	—	1,305	—	1,000	—	500	—	1,023	2,089	6,775	4,381
SUB TOTAL (b)	626,640	638,225	589,502	613,825	18,583	—	500	—	1,023	14,632	6,775	4,381
TOTAL (a) + (b)	800,659	809,235	722,933	770,039	148,173	103,360	110,319	121,023	101,485	134,395	112,417	104,869
II. BULK CARGO												
(c) IMPORT												
MAIZE	—	—	—	—	—	—	—	—	—	6,050	20,289	25,888
FERTILIZER	32,885	41,939	42,710	37,274	42,633	39,104	36,776	35,765	49,652	43,063	60,027	43,290
GUANO	5,180	5,745	3,947	6,522	4,917	—	—	—	—	—	—	—
COAL	—	—	—	—	—	—	—	24,946	27,500	26,359	28,998	70,341
LIQUID AMMONIA	11,166	11,636	14,320	13,054	7,350	13,511	8,246	15,121	7,963	13,672	13,987	17,809
EDIBLE OIL	14,455	14,372	17,877	12,986	17,983	16,174	10,227	17,373	16,359	19,273	17,975	21,157
TALLOW	2,352	5,086	2,055	6,161	5,042	3,992	3,514	5,798	1,939	6,575	3,390	5,867
CAUSTIC SODA	—	—	—	—	—	1,481	—	630	2,010	1,863	1,741	528
CEMENT	207,335	276,071	309,200	288,197	278,679	241,249	226,272	200,217	204,740	236,216	271,570	323,998
PETROLEUM PRODUCTS												
WHITE OIL	245,325	322,861	302,419	304,465	251,221	184,041	197,900	175,639	194,052	214,168	286,098	318,095
BLACK OIL	—	—	—	—	—	85,551	90,632	92,740	76,545	74,923	84,705	96,029
L.P. GAS	1,041	1,407	1,611	1,801	1,751	1,862	1,964	2,377	2,451	2,760	5,887	11,546
SUB TOTAL (c)	519,739	679,067	694,139	670,460	609,576	586,965	573,531	574,606	583,211	644,930	794,669	934,548
(d) EXPORT												
SUGAR	—	—	—	—	429,940	546,705	534,643	554,981	507,749	483,580	656,725	562,362
MOLASSES	170,651	158,994	190,072	193,477	112,887	136,901	168,181	137,084	106,194	140,232	140,791	153,063
PETROLEUM PRODUCTS												
PIPELINE	32,407	41,763	34,570	40,800	25,830	19,368	37,110	27,339	41,608	45,098	67,971	53,161
BARGE	22,565	35,058	24,302	23,334	11,355	11,184	9,380	9,194	15,810	10,381	29,675	24,092
MAIZE	—	—	—	—	—	—	—	—	—	4,026	5,202	4,163
SUB TOTAL (d)	225,623	235,815	248,944	257,611	580,012	714,158	749,314	728,598	671,361	683,317	900,365	796,841
TOTAL (c) + (d)	745,362	914,882	943,083	920,071	1,189,588	1,301,123	1,322,845	1,303,204	1,254,572	1,328,247	1,695,034	1,731,389
III. GENERAL CARGO												
(e) IMPORT	224,668	273,428	179,403	155,995	101,637	72,723	82,519	81,805	97,285	112,607	126,313	122,266
(f) EXPORT	18,666	25177	7,107	2,418	1,798	2,360	2,878	3,430	10,077	8,914	2,357	6,436
(g) TRANSHIPMENT (IN)	—	—	—	—	971	1,077	1,025	94	1,703	278	491	411
TOTAL (e) + (f) + (g)	243,334	298,605	186,510	158,413	104,606	76,160	86,422	85,329	109,065	121,799	131,161	129,113
IV. CONTAINERISED CARGO												
(h) IMPORT	—	—	67,626	122,627	151,929	139,077	141,749	156,833	155,811	174,077	213,806	293,219
(i) EXPORT	—	—	26,891	49,765	42,162	52,892	57,943	62,407	73,024	81,216	107,708	133,079
(j) TRANSHIPMENT (IN)	—	—	—	—	5,822	9,606	6,022	1,500	5,991	5,904	2,310	2,585
TOTAL (h) + (i) + (j)	—	—	94,517	172,392	199,913	201,575	205,714	220,740	234,826	261,197	323,824	432,881
V. INTER ISLAND												
(k) IMPORT	3,582	3,620	3,285	4,184	3,886	3,757	3,261	2,594	2,807	3,146	3,088	2,885
(l) EXPORT	19,717	18,967	19,719	23,991	17,220	17,821	17,077	17,299	18,173	19,161	16,691	19,197
TOTAL (k) + (l)	23,299	22,585	23,004	28,175	21,106	21,578	20,338	19,893	20,980	22,307	19,779	22,082
VI. FISH												
(m) FOR LOCAL MARKET	3,200	2,301	2,228	2,474	3,599	4,227	5,149	5,539	6,766	7,129	8,596	12,289
(n) TRANSHIPMENT												
IN	16,294	19,151	12,456	12,392	3,954	7,505	10,019	9,148	8,629	11,174	11,346	8,889
OUT	11,506	10,740	8,593	10,632	3,932	4,561	8,946	6,563	6,845	7,790	9,290	8,956
TOTAL (m) + (n)	31,000	32,192	23,277	25,498	11,485	16,293	24,114	21,250	22,240	26,093	29,232	30,134
GRAND TOTAL	1,843,654	2,077,509	1,993,324	2,002,588	1,674,871	1,720,089	1,769,752	1,772,239	1,743,168	1,894,036	2,311,447	2,450,468

SOURCE: Data supplied by Traffic Manager

MAURITIUS MARINE AUTHORITY

7. Master Plan of Madras Port,
South India — Period 1985
— 2000

New Delhi, May
1985
Prepared jointly by
K. Dharmalingam &
M.M. Kamath as
Project Directors
under the auspices of
the Indian Ports
Association, New

8. Data on performance indicators

9. Report on Evaluation of Cargo
Handling Equipment

Delhi — June 1986
Traffic Manager and
his team of Officers,
Mauritius Marine
Authority
K. Dharmalingam,
Chairman of the
Committee, May
1986

MARAD: Planning in Early Stage to Meet MARPOL Requirements

By John M. Pisani
Director
Office of Port and Intermodal
Development
Maritime Administration
U.S. Department of Transportation

Remarks on National Agency Viewpoints on Environmental Issues Related to Port Development at the International Seminar on Environmental Impact Assessment of Port Development Sponsored by International Maritime Organization and Swedish International Development Authority, Baltimore, Maryland, Thursday, November 17, 1988

It is an honor for me to represent the Maritime Administration (MARAD), U.S. Department of Transportation, at this International Seminar on Environmental Impact Assessment of Port Development. MARAD is a promotional agency for the maritime industry in the United States. The agency administers federal laws and programs designed to

promote and maintain a U.S. merchant marine and ports industry capable of meeting the nation's shipping needs for both domestic and international commerce and national security. Within the U.S. port community, MARAD places strong emphasis on addressing common problems that industry shares which can be solved on an industry-wide basis in cooperation with government. This cooperative approach produces results having the broadest possible industry application and the greatest likelihood of implementation.

MARAD's Office of Port and Intermodal Development is no stranger to the international community of ports. It, in particular, has provided technical assistance to many developing countries through a variety of international organizations. Presently, it is assisting the Inter-American Port and Harbor Conference of the Organization of American States in port training. In the Pacific Rim, it has assisted countries in port development and environmental projects through the East-West Center and the U.S. Department of State. On the African continent, it has aided in the planning and transport of U.S. foodstuffs to drought- and famine-stricken countries. Finally, it has worked closely with the IMO World Maritime University in Sweden and

(Continued on Page 28)

PRODUCTIVITY PARAMETERS AT A GLANCE

ANNEXURE 5.1

Category	Comparative Years	No. of Vessels	Average Tonnage	Average Turnaround Time	Average Service Time	Average Waiting Time Hrs	Pumping Rate
Bulk Cement	84	14	13,883	4.36	3.21	28	251)
	85	10	12,302	3.28	2.93	8	227)
	86	22	11,851	2.16	2.00	4	357)
Bulk Molasses	84	8	15,872	2.85	2.82	1	347)
	85	18	11,609	2.02	1.94	2	385)
	86	12	10,759	2.10	2.03	4	329)
Caustic Soda & Tallow	84	4	1,015	0.82	0.71	3	100
	85	6	841	0.82	0.73	2	94
	86	5	883	0.78	0.59	5	110
Liquid Ammonia	84	2	6,291	1.56	1.10	11	315
	85	2	6,836	1.40	1.35	1	249
	86	1	8,483	2.04	1.70	8	282
Petroleum Products	84	22	12,254	1.64	1.50	3	429
	85	21	12,359	1.61	1.40	5	481
	86	21	15,837	2.07	1.89	4	451
Edible Oil	84	8	2,253	1.24	1.01	6	114
	85	12	1,646	1.26	1.04	5	114
	86	11	1,874	1.33	1.03	7	111
LP Gas	84	13	183	0.47	0.31	4	35
	85	12	196	0.87	0.53	8	31
	86	16	269	1.01	0.51	12	34
Bulk Sugar	84	33	14,921	2.90	2.20	19	1,234
	85	34	14,420	3.84	2.45	33	1,152
	86	38	14,739	3.92	2.21	41	1,162
Bulk Maize	86	6	934	1.76	1.44	8	36

NOTE: All bulk vessels are working round the clock
 Depends on number of pipes being used
 Gangs
 No. of gangs per shift
 1st to 31st March 1987
 Normal Overtime
 3 3

Category	Comparative Years	No. of Vessels	Average Tonnage/Day	Average Turnaround Time (day)	Average Service Time	Average Waiting Time Hrs	Average Tonnage Per Gang Hour
CONTAINERISED	84	162	1,803	1.94	1.77	4	14
	85	170	1,844	2.18	1.91	7	18
	86	212	1,850	2.36	1.95	10	24
UNITIZED & BREAK BULK	84	60	1,698	4.23	3.60	15	15
	85	60	2,160	4.87	4.38	12	26
	86	71	2,145	5.48	4.56	22	26
BAGGED CARGO	84	23	1,161	3.90	3.73	4	18
	85	25	1,196	5.05	4.25	19	20
	86	15	1,242	5.42	4.79	15	17
GENERAL CARGO	84	14	416	3.96	2.56	34	13
	85	8	1,098	5.16	4.70	11	18
	86	11	840	5.69	4.83	21	19
BAGGED RICE	84	8	11,739	19.75	19.59	4	42
	85	6	11,888	26.87	25.33	37	37
	86	7	10,361	18.54	17.93	15	36
INNER ISLAND	84	27	735	7.99	7.40	14	10
	85	24	915	8.02	7.75	7	10
	86	19	1,185	8.40	8.20	5	10
BULK FERTILIZER	84	7	5,235	7.61	6.60	25	28
	85	6	6,298	9.58	7.28	31	32
	86	7	5,489	8.17	5.75	58	28
BULK COAL	84	1	24,946	5.46	5.42	1	123
	85	1	27,500	7.50	7.34	4	124
	86	2	27,578	6.37	6.20	4	131
BAGGED SUGAR	86	1	12,543	28.29	25.87	58	23

NOTE: Average berthing time maximum 1 hour
 MAURITIUS MARINE AUTHORITY

Annexure 6.1

EXISTING BERTH OCCUPANCY AT PORT LOUIS HARBOUR (in Percent)

Quays	Year	Net Utilisation	Gross Rate	Idle Occupancy
Quay 1	1984	28	47	19
	1985	30	55	25
	1986	36	63	27
	1987	44	75	31
Quay 2	1984	30	61	31
	1985	32	60	28
	1986	36	77	41
	1987	39	83	44
Quay 3	1984	23	58	35
	1985	29	66	37
	1986	30	70	40
	1987	36	83	47
Quay 4	1984	22	55	33
	1985	26	59	33
	1986	28	65	37
	1987	32	68	36
Quay D	1984	26	72	46
	1985	27	75	48
	1986	33	75	42
	1987	34	76	42
Bulk	1984	15	NA	—
Sugar	1985	9	20	—
Terminal	1986	15	24	—
	1987	9	22	—

SOURCE: Data supplied by Traffic Manager

Think warm. Think beach. Think Miami. Your Hosts Look Forward to Seeing You Soon!

We reproduce the conference programs in the state which they were forwarded from Miami in late February, although the readers of this journal are requested to note that, in accordance with the policy of our host, many more new additions will be made to the conference programs up until the last minute.

THE 16TH IAPH WORLD PORTS CONFERENCE "PORTS—THE INTERCONTINENTAL CONNECTION"

Fontainebleau Hilton Hotel
Miami Beach, Florida, U.S.A.
April 22-28, 1989

Provisional Program

SATURDAY, 22 APRIL 1989

09:00/12:00	Budget/Finance Committee	Bordeaux
09:00/12:00	International Port Development (CIPD)	Champagne
09:00/12:00	Port Safety, Environment & Construction (COPSEC) (Full)	Brittany
09:00/12:00	Marine Safety Sub-Committee (COPSEC)	Conf Room 2
09:00/12:00	Port Safety Sub-Committee (COPSEC)	Conf Room 4
09:00/12:00	Engineering Sub-Committee (COPSEC)	Conf Room 1
09:00/12:00	Ship Sub-Committee (COPSEC)	Louis Phillip
09:00/12:00	Dredging Task Force (COPSEC)	Monaco
14:00/15:30	Constitution & By-Laws Committee	Louis Phillip
14:00/17:00	Trade Facilitation Committee (TF)	Conf Room 2
14:00/17:00	Port Safety, Environment & Construction (COPSEC) (Full)	Brittany
15:30/17:30	Membership Committee	Conf Room 1
17:30/18:00	Nominating Committee (A conference committee)	Conf Room 4

SUNDAY, 23 APRIL 1989

09:00/12:00	Budget/Finance Committee	Bordeaux
09:00/12:00	Committee on Legal Protection of Port Interests (CLPPI)	Monaco
09:00/12:00	Cargo Handling Operations Committee (CHO)	Conf Room 2
09:00/12:00	Public Affairs Committee (PACOM)	Louis Phillip
09:00/12:00	COPSEC (reserve)	(To be decided)
09:00/12:00	Ad Hoc Committee (if any)	(To be decided)
11:00/12:00	Credentials Committee (A conference committee)	Conf Room 4
11:00/12:00	Resolutions & Bills Committee (A conference committee)	Conf Room 1
14:00/17:00	Pre-Conf. Joint Meeting: the Board and Exco	Brittany & Champagne
17:00/18:00	Meeting: Chairmen/Speakers/Panelists of Working Sessions	LeMans

MONDAY, 24 APRIL 1989

08:00/08:30	Resolutions & Bills Committee	Conf Room 1
08:30/09:40	Official Opening Ceremony	West Ball Room
Speakers (announced as of February 1989):		
	The Honorable Bob Graham, U.S. Senator from Florida	
	The Honorable Bob Martinez, Governor of the State of Florida	
10:00/12:45	1st Plenary Session	West Ball Room

14:30/17:00 Working Session 1: EUROPE/AFRICA

West Ball Room

Major Paper: "What Communities expect from ports"
Mrs. Smit-Kroes, Dutch Minister for Transport & Public Works.

Moderator: Sir Keith Stuart, Chairman, Associated British Ports

Panel: Six representatives of European/African ports will make up the Panel, with three spokesmen.

Speakers: "Impact of an integrated, post-1992 Europe on Ports"
F.L.H. Suykens, General Manager, Port of Antwerp
"Operational Review of Mediterranean Ports"
J.N. Costa, President, Barcelona Port Authority
"Regional & Inter-Port Cooperation"
J.M. Moulod, Director General, Abidjan Port Authority

Other panelists:

D. Noll, Director, Port of Rostock
J. Smagghe, General Manager, Port of Le Havre
J. Rommerskirchen, Port of Hamburg

TUESDAY, 25 APRIL 1989

08:00/09:00 Honorary Membership Committee (To be decided) 08:45/11:45 Working Session 2: TECHNICAL COMMITTEES-OPEN FORUM

West Ball Room

Moderator: Wong Hung Khim, Port of Singapore Authority, IAPH President
Panel: The panel presentation for Working Session II will be divided into two parts.
1. Presentation by the Chairman of each of the Technical Committees reporting on the current projects of the Chairman's Committee.

2. Operational issues relating to containerization as dealt with by the Technical Committee. This presentation will feature a scenario type review of the movement of containers through ports.

14:30/17:00 Working Session 3: CANADA AND THE AMERICAS LeMans, Bordeaux, Burgundy, Lorraine

Major Paper: "The Panama Canal", Chairman,



THE HONORABLE DANTE FASCELL
U.S. HOUSE OF REPRESENTATIVES

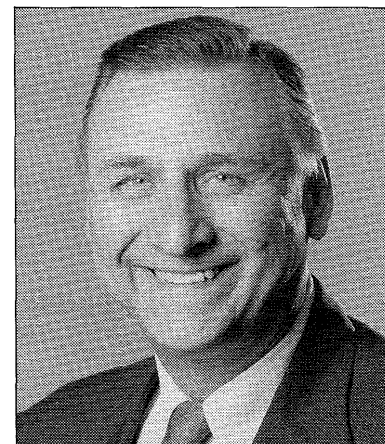
Dante Fascell has been a member of the U.S. Congress since 1954, and has chaired the Committee on Foreign Affairs since 1984. His diplomatic background includes:

- Served as a member of the U.S. delegation to the 24th General Assembly of the United Nations in 1969.
 - Served as Vice-Chairman of the U.S. delegation to the CSCE Conference in Belgrade, 1977-78; and to the CSCE Conference in Madrid, 1980-83.
 - Official Congressional observer to the Arms Control Tasks in Geneva.
- Chairman Fascell's luncheon speech on Monday, April 24, 1989 will address the role of the seaports in the development of international trade and the contributions of the marine industry to world economy.



THE HONORABLE BOB MARTINEZ
GOVERNOR OF FLORIDA

Governor Martinez will offer welcoming remarks during the Opening Ceremonies on Monday, April 24, 1989.



THE HONORABLE HENRY NOWAK
U.S. HOUSE OF REPRESENTATIVES
CHAIRMAN, WATER RESOURCES SUBCOMMITTEE

Congressman Nowak's Water Resources Subcommittee reviews port development projects for all U.S. seaports. His luncheon address on Friday, April 28, 1989, will focus on goals for the '90s.

Moderator: Panama Canal Commission
J.H. McJunkin, Port of Long Beach

Panel: "The New U.S. Port Director"
E. Stromberg, President, The American Association of Port Authorities
"Canadian Ports Overview"
J. Tessier, President, Ports Canada
"Impact of Strategic Planning on Port Management"
D. Welch, Executive Director, South Carolina State Ports Authority
"Latin—American Trade Overview"
Manuel LaSaga, Vice President, Southeast Bank, Miami, Florida

WEDNESDAY, 26 APRIL 1989

Fullday Technical Visit

THURSDAY, 27 APRIL 1989

08:45/11:45 Working Session 4: **ASIA & THE PACIFIC**

West Ball Room

Major Paper: "Japanese Port and Trade Overview"
T. Miyazaki, Mayor, Kobe, Japan

Moderator: Stan R. Beevor, Dy. General Manager, Maritime Services Board of New South Wales, Sydney, Australia

Panel: "Hong Kong Port Overview"
D. Hall, Director of Marine, Marine Department, Hong Kong
"Malaysian Port Overview"
H. Abdullah, General Manager, Kelang Port Authority
"New Zealand Port Overview"
R.P. Snodgrass, General Manager, Taranaki Harbour Board
"Impact of Australian Waterfront Development on Ports"
N. Samuels, Chairman, Port of Geelong Authority
"Korean Port Overview"
Il-Soo Jun, Korea Maritime Institute

14:30/17:00 Working Session 5: **COMMUNICATIONS**

West Ball Room

Major Paper: "Customs and Trade Facilitation in An Electronic Age"
T. P. Hayes, Secretary General, Customs Cooperation Council (CCC)

Moderator: F.L.H. Suykens, General Manager, Port of Antwerp

Panel: "Presentation of Electronic Terminal Operations"
Port of Singapore Authority
"Demonstration of Electronic Cargo Clearance"
Port of Miami
"Demonstration of Ship to Shore Communications Capability", INMARSAT

FRIDAY, 28 APRIL 1989

08:00/08:45 Resolutions & Bills Committee

Conf Room 1

08:45/11:45 Working Session 6: **CRITICAL ISSUES**

West Ball Room

Major Paper: "Impact of Ship Design on Ports"
J. Smagghe, General Manager, Port of Le Havre

Moderator: (To be advised)

Panel: "Impact of Intermodalism on Ports"
McNeil Porter, President, CSX-Sealand Intermodal
"Optic Fiber Use in Port Maintenance"
J.T. Scholes and Gerhard Weber Siemens Corporate Research & Support, Inc
"The Role of Port Labor in Port Operations"
J. Bowers, President International Longshoremen Association

12:00/12:30 Resolutions & Bills Committee

Conf Room 1

14:30/16:00 2nd Plenary Session & Closing Ceremony

West Ball Room

16:30/18:00 Post-Conf. Joint Meeting of the Board & Exco

Brittany & Champagne
Monaco

18:00/18:30 Exco Meeting

PROVISIONAL AGENDA

PRE-CONFERENCE JOINT MEETING OF THE BOARD AND EXCO

14:00/17:00, Sunday, April 23, 1989
The Fontainebleau Hilton Hotel, Miami, Florida, U.S.A.
(Brittany & Champagne Rooms)

1. Board Chairman's address
2. Secretary General's address
3. Internal and Conference Committee Chairmen's Report and Recommendation
 - 3.1 Membership Committee
 - 1) Chairman's report and recommendation
 - (1) Continuation of the status of Temporary Membership
 - (2) Adoption of a Board resolution
 - 3.2 Budget Committee & Finance Committee
 - 1) Chairman's report and recommendation on the settlement of accounts for 1987/1988
 - (1) Approval for submission to the Plenary Session
 - 2) Chairman's report and recommendation on the Budget for 1989/1990
 - (1) Approval for submission to the Plenary Session
 - (2) Adoption of Board Resolution, if dues revision is involved
 - 3.3 Constitution & By-Laws Committee
 - 1) Chairman's report and recommendation
 - (1) Referral to the Bills and Resolutions Committee
 - 3.4 Resolutions and Bills Committee
 - 1) Chairman's report and recommendation, if any
4. Conference Committee Chairmen's Report and Recommendation
 - 4.1 Nominating Committee
 - 1) The Nominations of the President and Vice-Presidents for the next term
 - (1) Approval for submission to the Plenary Session
 - 4.2 Honorary Membership Committee
 - 1) Board's recommendation, if any
 - (1) Referral to the Honorary Membership Committee
5. Technical Committee Chairmen's Report
 - 5.1 CIPD (Incl. UNCTAD Liaison matters)
 - 5.2 COPSEC
 - 5.3 Cargo Handling Operations
 - 5.4 Trade Facilitation (Incl. CCC Liaison matters)
 - 5.5 Public Affairs
 - 5.6 CLPPI
6. Report and Recommendation by Mr. A.J. Smith, IAPH Representative in Europe on the liaison work in Europe
7. Report and Recommendation by the Chairman of the Resolutions and Bills Committee concerning the issues submitted by the technical committees, if any
 - 7.1 Approval for submission to the Plenary Session
8. Introduction of the dates and site of the 17th Conference
 - 8.1 Presentation of the proposed dates and Venue of the 17th Conference of IAPH
 - 1) Decision for announcement at the Plenary Session
 - 8.2 Appointment of the "Conference Vice-President" for the next term
 - 1) Recommendation by the President
 - 2) Report and Recommendation by the Resolutions & Bills Committee Chairman
 - (1) Approval for submission to Plenary Session
9. Closing address by the Board Chairman

AGENDA

FIRST PLENARY SESSION

10:00/11:45, Monday, April 24, 1989
The Fontainebleau Hilton Hotel, Miami, Florida, U.S.A.
(West Ball Room)

1. Opening address
2. Report by the Credentials Committee Chairman
 - 1) Declaration of a quorum for the Conference
3. Report and Recommendations by the Secretary General, Chairmen of Internal Committees and Conference Committees
 - 3.1 Address by the Secretary General
 - 3.2 Membership Committee
 - 1) Chairman's Report and Recommendation
 - 3.3 The Settlement of Accounts for 1987/1988
 - 1) Board Chairman's report on the conclusion of the Board & Exco Joint Meeting
 - 2) Recommendation by the Budget Committee Chairman
 - 3.4 Budget for 1989 and 1990
 - 1) Board Chairman's submission of the Proposed and Recommendation
 - 2) Recommendation by the Budget Committee Chairman
 - 3.5 Amendment of the By-Laws
4. Presentation of the Akiyama Prize
 - 4.1 Introduction of the 1st Prize Winner by the Chairman of the Committee on International Port Development
 - 4.2 Presentation of the Silver Medal and Scroll
 - 4.3 Remarks by the Recipient of the Akiyama Prize
5. IAPH Liaison Activity with International Organizations
 - 5.1 International Maritime Organization (IMO)
 - 5.2 United Nations Conference on Trade and Development
 - 5.3 Customs Cooperation Council
6. Report and Recommendation by the Resolutions & Bills Committee Chairman concerning the resolutions related to the technical committee matters, if any
7. Closing Address

AGENDA SECOND PLENARY (CLOSING) SESSION

14:30/16:00, Friday, April 28, 1989
The Fontainebleau Hilton Hotel, Miami, Florida, U.S.A.
(West Ball Room)

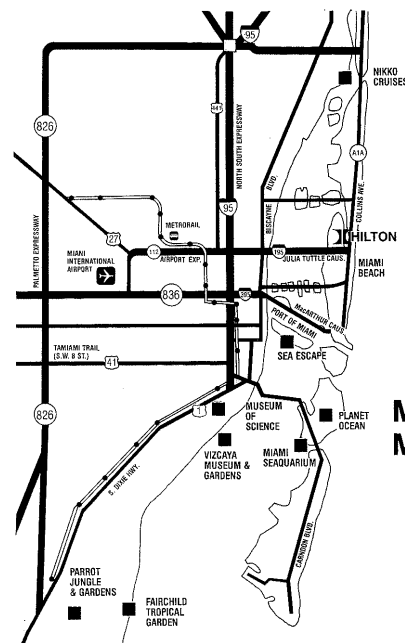
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| <ol style="list-style-type: none"> 1. Opening address 2. Report and Recommendation by the Chairman of Resolutions & Bills Committee <ol style="list-style-type: none"> 2.1 Resolution of Condolence 2.2 Others 3. Report and Recommendation by the Chairman of Honorary Membership Committee <ol style="list-style-type: none"> 3.1 Election 3.2 Presentation of the Certificate by the President 5. Report and Recommendation by the Chairman of Resolutions and Bills Committee <ol style="list-style-type: none"> 5.1 Resolution of Thanks to the Host 6. Report and Recommendation by the Chairman of Nominating Committee Chairman <ol style="list-style-type: none"> 6.1 Nomination of the President and Vice-Presidents for the next term | <ol style="list-style-type: none"> 6.2 Election 6.3 Address by the Outgoing President 6.4 Address by the Incoming President 7. Announcement of the Appointive Members of the Executive Committee for the next term 8. Announcement of the Chairmen of the Technical Committees for the next term 9. Announcement of the dates and venue of the 17th IAPH Conference in 1991 by the New President 10. Report and Recommendation by the President for the Adoption of the Resolution Pertaining to the Appointment of the Conference Vice President 11. Invitation Address by the Host of the 17th IAPH Conference 12. Declaration of the Closing of the 16th IAPH Conference by the President |
|---|---|

AGENDA POST-CONFERENCE BOARD AND EXCO JOINT MEETING

16:30/18:00, Friday, April 28, 1989
The Fontainebleau Hilton Hotel, Miami, Florida, U.S.A.
(Brittany & Champagne Rooms)

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| <ol style="list-style-type: none"> 1. Address by the Chairman 2. Election of the "Elective Members" of EXCO for the next term 3. Appointment of Legal Counselors, if any 4. Consideration on the "Terms of Reference" of the Technical | <ol style="list-style-type: none"> Committees for the next term 5. Selection of the site for the 18th IAPH Conference in 1993 <ol style="list-style-type: none"> 5.1 Presentations by the candidates 5.2 Decision of the host 6. Closing address by the Chairman |
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Miami Beach



**Map of
Miami**

OTHER INFORMATION

1. Registration

Saturday, April 22, 1989: 18:00/21:00
Sunday, April 23, 1989: 08:00/18:00
Monday, April 24, 1989: 07:00/18:00

2. Get-Together and Social Events

Saturday, April 22, 1989: 18:30/20:00
Poolside Reception for Early Arrivals (light hors-d'œuvre)
Sunday, April 23, 1989: 19:00/21:00
Welcome Reception and Buffet Dinner hosted by IAPH,
and Opening of Exhibition
Monday, April 24, 1989: 18:00
Buses Depart from Port of Miami for "Cruise to
Nowhere"
Tuesday, April 25, 1989: 18:00
Buses Depart from Port of Miami for "Caribbean Theme"

Reception and Buffet Dinner

Wednesday, April 26, 1989: 08:00
Buses Depart from all-day technical field trip to Kennedy
Space Center

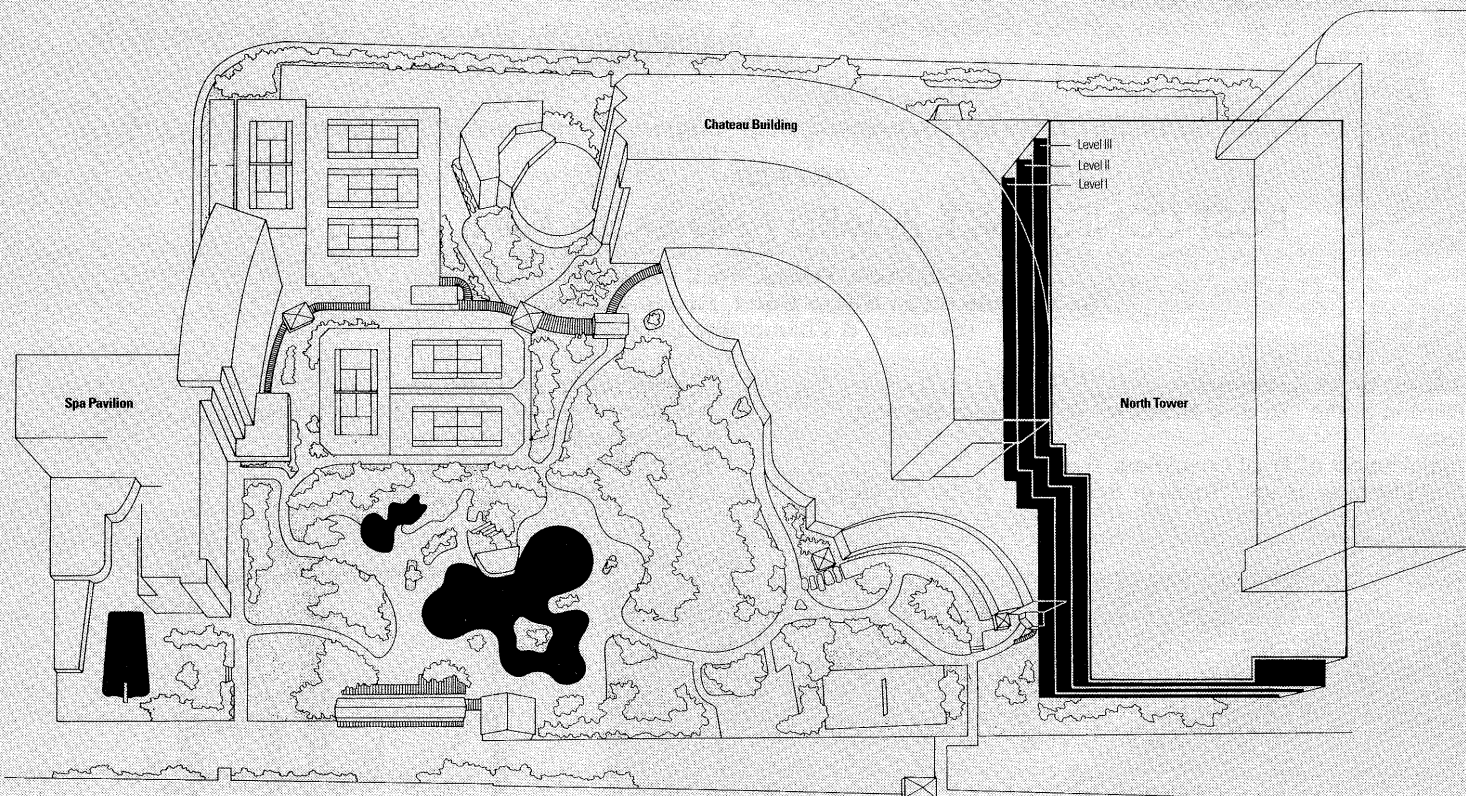
Thursday, April 27, 1989: 18:00

Buses Depart for Wild Hog Bar-B-Que at the Scaquarium
Friday, April 28, 1989: 19:00
Closing Gara Honoring Chairman and Mrs. Wong Hung
Khim

3. Breakfast and Luncheon Programs

Monday through Friday: 07:15/08:15
Continental Breakfast in Exhibit Area
Monday through Friday, except Wednesday: 11:45/12:20
Pre-Luncheon Cocktail Reception in Exhibit Area
Monday through Friday, except Wednesday: 12:30/14:15

FONTAINEBLEAU HILTON HOTEL



Facilities

Dining and Entertainment

The Dining Galleries

The Steak House
Chez Bon Bon
La Favorita
Under The Trees
Beach Broler
Granny Feelgood's
Award-winning
Continental Cuisine
Steak and Seafood Selections
Coffee Shop
Indoor Cafe
Dining al fresco
Poolside Snack Bar
Natural Foods at The Spa

Dining and Entertainment

Lagoon Saloon

Poodle Lounge

Garden Lobby Bar
Gallery Lounge

Fruit Smoothies,
Healty Snacks
Live Entertainment and
Dancing Nightly
Lounge with Pool View
Cocktail Lounge in
The Dining Galleries

Accommodations

3 Buildings

- Chateau Building
- North Tower
- Spa Pavilion

60 Suites

- Governor's Suite
- Frank Sinatra Suite

Oceanview Terraces
Lanais
Cabanas
Docks

Recreational Activities

2 Outdoor Pools
3 Whirlpool Baths
7 Tennis Courts

Hobie Cats
Volleyball
Windsurfing
Parasailing
1,200 ft Wide Beach
2.5 Mile Boardwalk
Aquacycles
Jet Skis
Beach Cabanas
Golf Nearby at Either
Bayshore of Normandy
Golf Course
Yacht and
Deep Sea Fishing
Charters
Kid's Korner

Spa

Christine Valmy Salon
Massage Center
Sauna, Steam, Jacuzzi
Individual Mineral Baths
Mount Sinai Sports Institute for
Fitness Evaluation and
Performance Training
Herbal Wrap, Loofa,
Salt Glow Treatments
Personalized Weight Training
Nutritional Counseling Programs
80 Weekly Aerobic Classes

Amenities

Shopping Arcade with 28 Shops
Game Room



Luncheon Programs

Luncheon Speakers (announced as of February 1989):

Monday, April 24

The Honorable Dante Fascell
U.S. House of Representatives
Chairman, Foreign Affairs Committee

Friday, April 28

The Honorable Henry Nowak
U.S. House of Representatives
Chairman, Subcommittee on Water Resources

4. Pre-Conference Optional Activities

Saturday, April 22, 1989

Everglades National Park or Hialeah Race Track

Sunday, April 23, 1989

Everglades National Park or Tour of Miami

5. Post-Conference Optional Activities

Saturday, April 29, 1989

Golf at Doral Country Club or Drift Fishing

6. Spouses Program

Monday, April 24, 1989

Villa Vizcaya

Tuesday, April 25, 1989

Sightseeing cruise or Fairchild Tropical Gardens

Wednesday, April 26, 1989

Will accompany delegates on Field Technical Trip

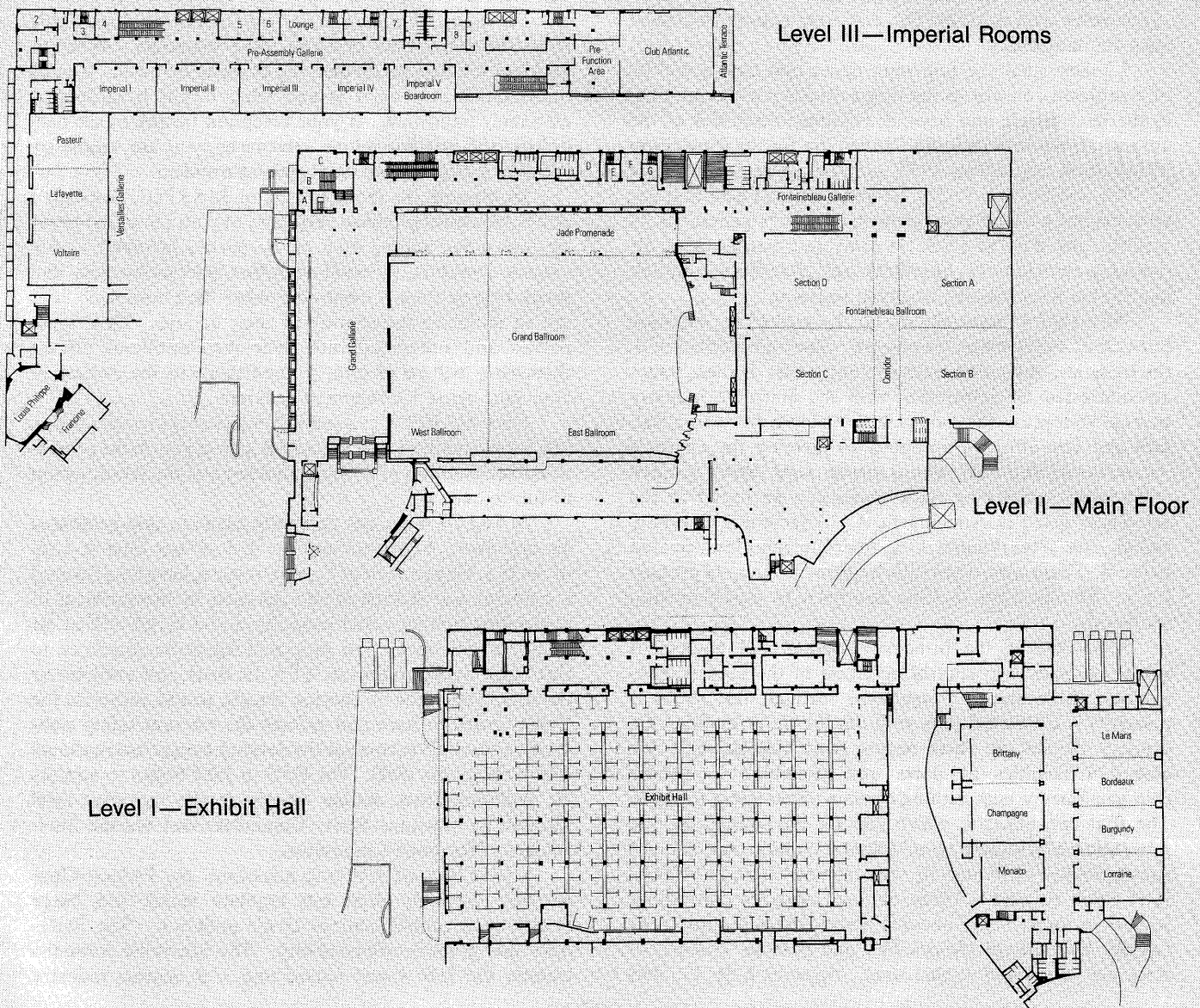
Thursday, April 27, 1989

Fashion show and Bal Harbour

Friday, April 28, 1989

Parrot Jungle

Floor Plan



(Continued from Page 21)

the United Nations Conference and Trade and Development (UNCTAD) in Switzerland on other port-related activities.

My remarks will focus on the need for port training in environmental planning and some major environmental issues related to port development in the near-term as well as the distant future. Before I begin, however, I would like to pose the following questions to you. What can you do about environmental issues and requirements impacting port development when you are preoccupied with trying to provide adequate facilities and services to handle your existing and projected shipping needs? Should you be concerned now about obtaining financing for improving your port facilities, channels and personnel?

While environmental protection may not be a high priority now in your port development planning, ignoring the current and projected issues and trends, I believe, would be very shortsighted. Your familiarity with these issues now may be of enormous value to you in the future in coping with the problems they present. Sooner or later as your country experiences increased economic growth, these environmental concerns will be a problem.

It's not too early to begin examining environmental needs as part of your port master planning. The more knowledgeable you become the better prepared you will be to meet the requirements of international environmental agreements, such as MARPOL, and other national and local laws you may enact.

I believe that the following issues and trends will be of significant concern to the international port community in the next decade and beyond: (1) implementation of the annexes to the International Convention for the Prevention of Pollution from Ships, 1973, as modified by the Protocol of 1978, (MARPOL 73/78), as amended; (2) safe and environmentally sound management of wastes generated by facilities and ships in ports; (3) control of marine vessel air polluting emissions; (4) beneficial uses of dredged material; and (5) sea level rise due to global warming.

All of these issues should not be viewed in isolation, but within a systematic framework. They all interact with the trade and transport needs of your ports. If these issues are addressed in cooperation with the maritime industry users of your ports, the end result should be a more practical, safe and cost-effective approach to meeting the environmental needs identified in your master plan. More detailed information concerning these issues can be found in the references listed in Attachment A. Attachment B briefly summarizes several major U.S. environmental laws related to ports. These laws, when fully implemented, could provide for a comprehensive, holistic approach to environmental protection.

MARPOL is the principal international agreement whose purpose is to control pollution of the marine environment from ships. Negotiated through the IMO, it presently is concerned only with marine water quality. Its primary impact on ports results from requirements for reception facilities at ports and terminals to handle ship-generated wastes without causing undue delay to ships. The first two annexes, which contain regulations for the prevention of pollution by oil (Annex I) and noxious liquid substances in bulk (Annex II), were included in the MARPOL ratification process. Three optional annexes concerning provisions for packaged or containerized harmful substances (Annex III), sewage (Annex IV), and garbage (Annex V) were not considered at that time. Annexes I, II, IV, and

V contain requirements for port and terminal waste reception facilities.

Annex I and Annex II took effect on October 2, 1983, and April 6, 1987, respectively. Annex V will enter into force on December 31, 1988. Annexes III and IV are likely to enter into force following revisions to make them more effective and to ease implementation. In the United States, the Coast Guard has promulgated federal regulations for Annexes I and II and is developing rules for Annex V. What about additional annexes to MARPOL? The IMO Marine Environmental Protection Committee has agreed. What about additional annexes to MARPOL? The IMO Marine Environmental Protection Committee has agreed to address pollution prevention for noxious solid substances in bulk and for air pollution from ships at future sessions. Thus, it may not be too long before MARPOL becomes a truly comprehensive treaty, addressing both marine water quality and marine air quality.

Wastes received from ships in ports as mandated by MARPOL and those generated by port facilities require safe, cost-effective, and environmentally sound management which is protective of the public health and welfare. This is especially important for wastes which are hazardous and, to accomplish this goal, comprehensive laws and implementing regulations are necessary. If your country is involved with MARPOL, you should know exactly what kind of noxious liquid bulk substances your ports are discharging from ships and then separate these materials. What to separate will depend on the type of waste involved. A clear understanding of what is and what is not hazardous is extremely important. If your reception facility mixes hazardous and non-hazardous substances, you are needlessly creating a larger waste management problem.

In meeting the requirements of MARPOL Annexes I and II, you must establish very early in your planning a clear understanding among each of the parties involved — ship owners/operators, terminal operators, port authorities, and waste transporters — regarding what their responsibilities are to minimize uncertainty in their actions. How these parties and others allocate their responsibilities among themselves will be of critical importance to the success of your port waste management program.

Since MARPOL can and will impact on your operations, you should monitor and, if possible, participate in the process of implementation of existing annexes and the development of future ones.

MARPOL does not currently regulate ship-generated air pollution. MARAD and the U.S. Coast Guard, both of the U.S. Department of Transportation, have long favored a national and international approach to the problem of controlling marine vessel propulsion and cargo-related air polluting emissions. The proposed legislative approach to this issue would authorize EPA to issue and enforce air pollution standards for marine vessels, would authorize the Coast Guard to issue and enforce the relevant safety standards, and would encourage the development of international standards by the IMO. The IMO in 1988 began to address air pollution from marine vessels at the technical level through its Maritime Safety Committee and Marine Environment Protection Committee.

Unlike aircraft and auto emissions, the Federal Government currently does not regulate vessel and barge emissions as mobile sources of air pollution. The States have this primary responsibility. The Maritime Administration, the U.S. Coast Guard and U.S. marine industry

have consistently supported the need to amend the Clean Air Act in order to establish nationwide uniform standards and federal preemption of State authority over port vessel emissions. In support of this proposed legislative approach, the Maritime Administration and the Port of Long Beach cost-shared the development of a Port Vessel Emissions Model that can determine the amount of air pollution emitted by marine vessel activity in a port. It reliably and accurately calculates both fuel combustion emissions from marine vessel engines and vapor emissions from various operating activities of liquid bulk vessels.

Several state governments in the United States have included air quality criteria for marine vessels in their implementation plans required by the U.S. Environmental Protection Agency (EPA) under the Clean Air Act. Due to concerns about the safety of marine vessel vapor control, the U.S. Coast Guard is sponsoring the development of safety recommendations for vapor control systems. On the basis of these recommendations, the Coast Guard intends to publish proposed rules dealing with tankship and tank barge safety, waterfront facility safety, and personnel qualifications and training by September 1989 and final rules by February 1990. MARAD has assisted the Coast Guard in this effort by funding a failure modes and effects analysis for vapor collection systems.

The control of marine vessel air polluting emissions, particularly vapor emissions generated during vessel loading, unloading, lightering, and bunkering operations, will have significant impacts on port operations. I strongly recommend that you closely monitor the current activity underway in the United States and all future work at the IMO in order to become more familiar with this complex issue.

The U.S. Army Corps of Engineers has the permitting authority for ocean disposal of dredged material. The Corps strongly supports the concept of beneficially using dredged material in a manner that is environmentally and economically acceptable while benefits accrue to society at large as well as specifically to navigation. Beach nourishment and shoreline stabilization are classic examples of beneficial use. Other examples include the use of dredged material for construction aggregate and for development of wildlife habitat. Over 95 percent of the total volume of sediments dredged each year in the United States from the coastal zone is clean and suitable for a variety of beneficial use applications. Furthermore, dredged material may become a critical resource for beach nourishment and shoreline stabilization purposes in the future if current predictions of accelerated sea level rise prove accurate.

Increasing atmospheric concentrations of carbon dioxide and other gases released by human activities are generally expected to warm the earth during the next century by a mechanism commonly known as the "greenhouse effect." Such a global warming could raise sea level by expanding ocean water, melting mountain glaciers, and eventually, causing polar ice sheets to slide into the oceans.

Although the timing and magnitude of future sea level rise are uncertain, there is an emerging scientific consensus that a significant rise is likely. Studies undertaken by EPA have generally found that even a one-foot rise in sea level has important implications for the planning and design of coastal facilities.

According to the National Research Council of the National Academy of Sciences and the National Academy of Engineering of the United States, a significant increase in sea level could cause widespread shoreline erosion and

inundation. The National Research Council recommends that, where possible, consideration of sea level changes be incorporated into coastal land-use planning. Design procedures for coastal structures should include a review of data on past water levels, including the maximum level, and should then provide some margin of safety to cover uncertainties.

To deal effectively with the environmental concerns in your port, you must have adequate training for the people with this responsibility. Proper training is the key to planning and implementing viable environmental programs in your port. Presently, there is a serious lack of appropriate training in developing countries. Existing programs are specific to the situation of particular industrial countries. Developing countries need training, for example, in the area of complying with Annexes I and II of MARPOL.

The Maritime Administration recently assisted the East-West Center in Honolulu, Hawaii with organizing a one-week workshop on implementing MARPOL Annex II for the People's Republic of China (PRC). The Environmental Protection Office of the PRC's Ministry of Communications and the Environment and Policy Institute of the East-West Center sponsored this training. The U.S. Coast Guard and the Argonne National Laboratory in the United States provided additional instructional support.

The PRC is a signatory to MARPOL and has been implementing Annex I through its Ministry of Communications. Due to the wide variety of noxious liquid substances in bulk quantities and their different physical properties, the implementation of Annex II is likely to be more difficult than Annex I. More than 30 kinds of chemicals subject to Annex II requirements are being handled by PRC ports. The annual tonnage and number of liquid bulk chemicals are increasing. Because of this rising demand for petrochemical products, the shipping enterprises in the PRC have increased the number of ships to transport them.

In order to implement MARPOL Annex II more effectively, the PRC requested assistance from the East-West Center in the following areas:

1. Techniques for receiving and treating chemical products and waste water from bulk carriers;
2. Regulations and design of equipment in coastal ports for receiving and treating water with chemical products;
3. Economic and technical policies for implementing Annex II;
4. Renovation of existing antipollution equipment in existing bulk carriers;
5. Monitoring techniques for contaminated water;
6. Techniques for cleaning holds of bulk carriers;
7. Emergency measures for dealing with chemical spills; and
8. Equipment and training of crews on bulk chemical carriers.

The Honolulu workshop was successful in meeting the above priority needs. The participants exchanged technical information and observed an on-site U.S. Coast Guard demonstration of its equipment and techniques used for dealing with accidental releases of hazardous liquid bulk chemicals in Honolulu Harbor. There was strong agreement that the workshop formed the basis for a more formal training program that could be conducted for developing countries implementing MARPOL Annex II. With some modification, the program could include training in Annex I as well. To begin this process, the Honolulu workshop participants

prepared a draft training program for use by the East-West Center in seeking financial support from various international agencies. This draft program recommends, in addition to the specific technical aspects of Annex II, that the training include instruction on how to conduct a national assessment of port reception facility needs in developing countries. An important element in this study would be the development of certain baseline information to analyze properly the actual toxic waste handling, transportation and disposal requirements in the ports and their surrounding regions of developing countries.

I strongly urge the IMO, the East-West Center, the International Association of Ports and Harbors, and the World Bank to discuss the potential for funding such a cooperative training program for developing countries implementing MARPOL Annexes I and II. The need for this training is great and the benefits would be enormous for the worldwide efforts to clean up our oceans.

ATTACHMENT A

USEFUL REFERENCES

1. *Convention on the Prevention of Marine Pollution by Dumping of Wastes and Other Matter, 1972, (LDC 1972), as amended*, International Maritime Organization, London, U.K.
2. *International Convention for the Prevention of Pollution from Ships, 1973, as modified by the Protocol of 1978, (MARPOL 73/78), as amended*, International Maritime Organization, London, U.K.
3. *International Convention for the Safety of Life at Sea, 1974, (SOLAS 1974), as amended*, International Maritime Organization, London, U.K.
4. *Protocol of 1978 relating to SOLAS 1974, (SOLAS Protocol 1978), as amended*, International Maritime Organization, London, U.K.
5. *International Maritime Dangerous Goods Code, (IMDG Code), as amended*, International Maritime Organization, London, U.K.
6. *Guidelines on the Provision of Adequate Reception Facilities in Ports, as amended*, International Maritime Organization, London, U.K.
7. *Regulations and Technical Guidelines for the Control of Incineration of Wastes and Other Matter at Sea, as amended*, International Maritime Organization, London, U.K.
8. *Code for the Construction and Equipment of Ships Carrying Dangerous Chemicals in Bulk, (IBC Code), as amended*, International Maritime Organization, London, U.K.
9. *Port Collection and Separation Facilities for Oily Wastes*, U.S. Maritime Administration, Washington, D.C., August 1973.
10. *A Study of the Economic and Environmental Viability of a U.S.-Flag Toxic Chemical Incinerator Ships*, U.S. Maritime Administration, Washington, D.C., December 1978.
11. *Port Planning Strategies and Policy Alternatives Governing Waste Reception Facilities for Chemical Tankers*, U.S. Maritime Administration, Washington, D.C., July 1980.
12. *Report of the Interagency Ad Hoc Work Group for the Chemical Waste Incinerator Ship Program*, U.S. Environmental Protection Agency, U.S. Maritime Administration, U.S. Coast Guard, U.S. National Bureau of Standards, Washington, D.C., September 1980.
13. *A Study of Industrial Plant Vessel Applications for Select Sites*, U.S. Maritime Administration, Washington, D.C., January 1981.
14. *Floating Vessels for Industrial Plants*, U.S. Maritime Administration, Washington, D.C., January 1981.
15. *Waterborne Alcohol Production Plants*, U.S. Maritime Administration, Washington, D.C., 1981.
16. *Financial and Legal Issues Related to Industrial Plant Vessels*, U.S. Maritime Administration, Washington, D.C., June 1981.
17. *Barge Mounted Resource Recovery Facility*, U.S. Maritime Administration, Washington, D.C., July 1981.
18. *Logistical Systems to Support Ocean Incineration of Liquid Hazardous Wastes*, U.S. Maritime Administration, Washington, D.C., August 1982.
19. *Technologies and Management Strategies for Hazardous Waste Control*, Office of Technology Assessment, U.S. Congress, Washington, D.C., March 1983.
20. *Guidance for Compliance with Annex I of the International Convention for the Prevention of Pollution from Ships, 1973, as Modified by the Protocol of 1978 Relating Thereto, (MARPOL 73/78)*, Navigation and Vessel Inspection Circular No. 8-83, U.S. Coast Guard, Washington, D.C., August 1983.
21. *A Special Report on Application of Classification Criteria to Dredged Material with Emphasis upon Petroleum Hydrocarbons and with Additional Consideration of Lead in Dredged Material*, International Association of Ports and Harbors (IAPH) for consideration by the Scientific Group of the London Dumping Convention, October 1983.
22. *An Updating of Special Care Measures for Safe Disposal of Polluted Dredged Material*, International Association of Ports and Harbors (IAPH) for consideration by the Scientific Group of the London Dumping Convention, October 1983.
23. *Ocean Incineration in the United States — Past, Present and Future*, U.S. Maritime Administration, at the ASTM Workshop on Ocean Incineration, May 1984.
24. *Acid Rain and Transported Air Pollutants*, Office of Technology Assessment, U.S. Congress, Washington, D.C., June 1984.
25. *A Special Report on Some Suggested New Annex Allocation Criteria of LDC Related to the Toxicant Binding Properties of Dredged Material*, International Association of Ports and Harbors (IAPH) for consideration of the Scientific Group of the London Dumping Convention, March 1985.
26. *Superfund Strategy*, Office of Technology Assessment, U.S. Congress, Washington, D.C., April 1985.
27. *Planning a Port Interface for an Ocean Incineration System*, U.S. Maritime Administration, Washington, D.C., June 1986.
28. *Transportation of Hazardous Materials*, Office of Technology Assessment, U.S. Congress, Washington, D.C., July 1986.
29. *Ocean Incineration: Its Role In Managing Hazardous Waste*, Office of Technology Assessment, U.S. Congress, Washington, D.C., August 1986.
30. *Port Vessel Emissions Model*, U.S. Maritime Administration, Washington, D.C., December 1986.
31. *Report of Inadequate Reception Facilities*, Navigation and Vessel Inspection Circular No. 4-87, U.S. Coast Guard, Washington, D.C., March 1987.
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Prepared by: U.S. Department of Transportation, Maritime Administration, Office of Port and Intermodal Development, November 17, 1988.

ATTACHMENT B

BRIEF SUMMARY OF SOME U.S. ENVIRONMENTAL LAWS RELATED TO PORTS

LAW	PROVISIONS	STATUS
Act to Prevent Pollution from Ships	Implements the provisions of the International Convention for the Prevention of Pollution from Ships, 1973, as modified by the Protocol of 1978, (MARPOL 73/78). Provides for the prevention of pollution from ships by the discharge of harmful substances or effluents.	MARPOL 73/78 Annex I — Oil, implemented October 2, 1983; MARPOL 73/78 Annex II — Noxious liquid substances in bulk, implemented April 6, 1987; MARPOL 73/78 Annex V — Garbage, implemented December 31, 1988. Public Law 96-478, October 21, 1980; as amended by Public Law 100-220, December 29, 1987.
Marine Protection Research and Sanctuaries Act (Ocean Dumping Act)	Regulates the dumping of materials at sea, preventing or strictly limiting the dumping of materials which would adversely affect the human health, welfare, amenities, or the marine environment, ecological systems, or economic potentialities. Activities under this Act are also governed by the International Convention	Public Law 92-532, October 23, 1972; as amended.

on the Prevention of Marine Pollution by Dumping of Wastes and Other Matter, 1972, (London Dumping Convention). Regulates Incineration of wastes at sea.

Resource Conservation and Recovery Act (RCRA)	Provides for cradle to grave management of hazardous waste by imposing management requirements on generators and transporters of hazardous materials and upon owners and operators of treatment, storage, and disposal facilities.	Public Law 94-580, October 21, 1976; as amended, particularly by Public Law 98-616, November 9, 1984, (Hazardous and Solid Waste Amendments of 1984).
	Prohibits continued land disposal of hazardous wastes unless the wastes meet specified treatment standards. Applicable treatment technologies include metals recovery, metals stabilization, wet air oxidation, biodegradation, chemical oxidation, carbon absorption, incineration, ash stabilization, and steam stripping.	
Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) or Superfund)	Provides for liability, compensation, cleanup, and emergency response for hazardous substances released into the environment and the cleanup of inactive hazardous waste disposal sites.	Public Law 96-510 December 17, 1980; as amended, particularly by Public Law 99-499, October 17, 1986, (Superfund Amendments and Reauthorization Act of 1986).
Clean Air Act	Protects and enhances the quality of the Nation's air resources so as to promote the public health and welfare and the productive capacity of its population.	Public Law 88-206, December 27, 1963; as amended, particularly by Public Law 91-604, December 31, 1970, (Clean Air Amendments of 1970) and by Public Law 95-95, August 7, 1977, (Clean Air Act Amendments of 1977).
Clean Water Act	Restores and maintains the chemical, physical, and biological integrity of the Nation's waters.	Public Law 92-500, October 18, 1972; as amended, particularly by Public Law 95-217, December 28, 1977, (Clean Water Act of 1977) and by Public Law 100-4, February 4, 1987, (Water Quality Act of 1987).
Ports and Waterways Safety Act	Increases navigation and vessel safety, protection of the marine environment, and protection of life, property, and structures in, on, or immediately adjacent to the navigable waters of the United States. Implements many IMO standards concerning maritime safety.	Public Law 92-340, July 10, 1972; as amended, particularly by Public Law 95-474, October 17, 1978, (Port and Tanker Safety Act of 1978).

Other U.S. environmental laws, as amended, which may impact on port include:

- * Coastal Zone Management Act
- * National Environmental Policy Act
- * Federal Insecticide, Fungicide, and Rodenticide Act
- * Noise Control Act
- * Occupational Safety and Health Act
- * Safe Drinking Water Act
- * Toxic Substances Control Act

Prepared by: U.S. Department of Transportation, Maritime Administration, Office of Port and Intermodal Development, November 17, 1988.

Contemporary Issues Facing European Ports

By **A.J. Smith**
IAPH European Representative

(The following is the text of a speech delivered at the IAPH Japan Seminar organized by the IAPH Foundation, in Tokyo on October 25, 1988.)

Introduction

In addressing the subject matter of this paper, I do so from the standpoint of a reasonably dispassionate and detached observer. Which can be said to afford me a distinct advantage.

I can allow my thoughts to range freely, alighting, from time to time, on this or that of the many varied and complex issues which, contemporaneously, our European ports are obliged to face up to and deal with in whatever manner and to whatever extent.

I need make no judgment on their particular significance or importance for this or that port. Assessment of their order in priority terms, for the purposes of action to be taken, is a matter for ports individually.

There is some disadvantage, however, to you the audience in this approach.

As experts in your respective fields, all of which are identified with the basic concept of maritime trade, you will be as familiar as I am with the general situation of our European ports. You are aware of their geographical locations and organisational structures, their relationships to and with their respective Governments including their strategic position in national and regional policy. What you cannot get from this paper, however, is the personalisation, in port terms, of the issues to which I refer. You will not be made aware of the options which have been examined by individual ports nor the decisions taken with an explanation as to why, nor the results obtained or expected.

To those of you who are therefore likely to be disappointed in my impersonal approach I can offer some positive encouragement—and at the same time actively promote IAPH as an organisation of world stature generally, and its 16th Biennial Conference to be held in Miami, USA, from April 22 to 28, 1989 in particular. Go there! You will hear directly from the Chief Executives of European Ports—and those of course located in the other IAPH Regions—precisely how they have dealt with the issues which I now address—and no doubt others of equal or greater importance to which I have not referred but which they, the Chief Executives, have considered, in their wisdom, as rating a high position on their operational agendas.

Contemporary Issues

There is an evident and close relationship between each of the issues discussed in this paper, with the possible exception of those which touch on environmental concerns.

As mentioned earlier, the priority order in which they are taken account of will be determined by European Ports individually with the fullest regard to their local circum-

stances and external trading relations and commitments. I am clear, however, that the issues themselves will feature at some point in the thinking of European Port Chief Executives.

The European Community

The European Community has no common port policy as such. It is developing a common transport policy for inland transportation based on the harmonisation and/or elimination of various current regulatory systems. It also can be said to have a developing maritime policy in which the principal issues being addressed are the removal of areas of competitive distortion either by unilateral or bilateral action; cargo reservation by Member and non-EEC States; the checks and commitments of Port State Control requirements.

Essentially, however, European Ports will have had regard and act in relation to well-established patterns of organization and national policies coupled with—or I should perhaps better say, in accordance with—the fundamental precept of the Treaty of Rome which established the Community, namely, equality of treatment in the opportunity to compete for traffic. By definition, that suggests that the policy of the Member States should not give rise to competitive distortions caused, for example, by charging or aid policies, marketing tariff/quota regulations.

The national policies which will significantly influence port planning and decision-taking processes range from the direct involvement of the national Government, as in France and Spain, the Local or Regional Government as in the Benelux countries and the Federal Republic of Germany, to the “go it alone” near-privatised situation which is current in the United Kingdom.

Fine judgments will be made, in these circumstances, of the extent to which “public” interests must/could/should impinge on, and indeed influence, decisions on port development. The standpoints taken will not accord with a rationale for the Community as a whole. The resultant developments will not have been based on purely commercial grounds.

These are important considerations when placed in the context of the highly charged competitive situation obtaining amongst the ports of mainland Europe, in particular, for they are clear that the post-1992 “Open Frontier” policy agreed by the Community’s Member Governments will impact significantly on their operational activities.

The Community’s intention, at any rate, is to free cross-frontier services; to put an end to restrictions on international road haulage, e.g., a shortage of permits, bilateral quotas; to liberalise the conditions of international rail transportation, e.g., by removing tariff discrimination; and to harmonise inland waterway codes.

In the light of Community policy, the extent to which ports, individually, can induce situations within the traffic/transportation policies of their respective Governments to secure most favourable competitive conditions, remains to be seen. We may suppose, however, that they will be giving some attention to that possibility.

The ports will have taken account of the fact that a vast internal market will have been created. Multinational industries will want to exploit it to the full. They will want to be located, most probably, at or near the European seaboard to take advantage of land availability, available labour and skills, lower transportation costs, warehousing

and the like.

The type, quantities, and transportation mode of commodities imported and exported will change (indeed in some cases have already done so) to accord on the one hand with the needs of the Community's population and its overseas trading partners, and on the other with the effects of changing policies/priorities of Community Governments and those, externally, with whom they have trading relationships.

Port planning will respond to these challenges. Community policy decisions also impact, of course, on Europe's "off-shore" ports in the U.K. and Ireland, though less fiercely than on mainland ports. Nonetheless, they too are competitive and will be looking to establish their own positions in relation to the opportunities afforded by Europe's "open" hinterland.

The intended opening of the Channel Tunnel in 1993 is a factor to be borne in mind in that regard.

It is estimated that the Tunnel, in 1993, will attract 13 million tonnes of freight (17% of the total flow between U.K. and the Continent) increasing to 19 million tonnes by 2003 (18% of the total flow).

Whilst mainly the Channel ports will be affected by this traffic diversion, at least in the first instance, short sea container/ro-ro traffic does afford transshipment possibilities. Some major mainland European ports, for example, with an eye on the U.K.'s deep sea import/export traffic, have no doubt already assessed the potential of direct road/rail links to the Tunnel and/or a feeder traffic policy. U.K. ports will have made similar assessments. None, however, will have overlooked the fact that over-capacity of Channel port investments could lead to fierce competition to the detriment of volumes and tariffs.

Overcapacity/Inter-port Competition

In strict statistical terms there is little doubt that there is an overcapacity of port facilities in Europe to deal with present and near future projections of Europe's maritime trading requirements.

The continuing strength of national convictions and the strategic requirements of the EEC notwithstanding, there is every indication that overcapacity will be a continuing spur to port efforts to bring themselves to a high state of readiness to withstand the rigours of the severe inter-port competition which is evident in Europe at the present time.

As Mr. F. Suykens, General Manager, Port of Antwerp has stated in a stimulating article in IAPH's *Ports and Harbors* magazine (July/August 1988) ports should have been looking hard at their strengths, weaknesses, opportunities and threats so as to be better prepared to formulate their competitive development strategies.

Each port, no matter its size, will have had to examine present and foreseeable constraints which blunt the competitive edge and take steps to reduce if not eliminate them. Determination of strategic objectives is thereby facilitated. The port is then able to use what influence it has to gain the support of potential customers, port users, inland transportation networks, local and national Governments for plans which, all must believe, are to their mutual advantage.

Parenthetically, not all of the constraints need necessarily be dealt with by the port in isolation. It is possible—some would say essential—to foresee situations in which collective action by European ports will facilitate the easing if not removal of unnecessary constraints, whether these be of an

administrative, legal, commercial, technical, technological nature or entail safety or environmental considerations.

In administrative terms, for example, collective action can bring pressure to simplify documentation procedures and checks for the processing of goods to meet Customs requirements. This must also be true as respects legal liability regimes, road/rail access to ports—often a commercial constraint, and from a technical/technological point of view, the possibility of influencing extraneous developments, such as for example container sizes, more favourably towards the ports' wishes.

Changing Trends

Port planning in Europe has certainly the fullest regard to changing trends. These include:

Shipping Rationalization/Restructuring: The size of the world's merchant fleet—particularly that element which supports Europe's maritime trade—has fallen appreciably during the last 20 years.

It can safely be assumed that shipowners/charterers will always be looking for ways to improve the profitability of their vessels. In a deep sea context we have seen a drive to secure better returns per container transported, for example, by associating in consortia; rationalizing port calls; increasing vessel size; and, to a growing extent, direct involvement in the processing of cargo particularly with regard to establishing warehousing and overland transport arrangements.

In a short sea context transshipment possibilities have opened up and short sea trade line established to profit from them.

Changing Commodity Flows/Traffic Patterns/Transport Modes: The structure of world trade and production is in a continuing process of change.

Europe's overseas trading partners in the developing world, for example, who would be expected to supply raw materials in bulk are just as likely these days to be looking to forms of industrialization to provide for the increasingly sophisticated needs and expectations of their populations.

European ports can therefore expect to receive increasing quantities of semi-manufactured and finished products from the developing world and a lessening volume of bulk commodities.

Again, the importing/exporting consequences of a rising European standard of living, an enlarged Community and political decisions affecting our basic agriculture and energy-related industries will also profoundly affect traffic patterns at our ports.

The most marked effect of these changing trends is seen, in my view, in the European ports' response to the transportation mode adopted, increasingly, for the movement of the traded commodities, namely containerisation.

It has been assessed that containerisation will increase on a worldwide basis from 18.3 million TEUs in 1975, to 76 million TEUs in 1990, to 115 million TEUs by 2000. Increases of that order—mostly at the expense of general cargo traffic—have focussed European minds sharply.

Ship sizes, container sizes, handling equipment, the supply-chain management concept (intermodalism, just-in-time), space availability, the port's location in relation to its hinterland—however described—road/rail/inland waterway connections, tariff structures are all very relevant factors in the determination of port development strategies.

Almost certainly, the varying approaches taken by European ports to financing the considerable capital investment outlay needed for port regeneration and reconstruction will have been decided upon after full regard to the impact of present and projected containerisation trends, and their capacity to deal with them.

Major European ports are very heavily committed to containerisation. They are well-equipped to move the traffic quickly and efficiently through the ports and on to its final destination by the selected transport mode. Additionally, however, they have had to provide facilities appropriate to the arrival in the port area of large-scale commodity groupings which, because of their sheer volume apart from other more commercially-oriented reasons, cannot or need not be so quickly dispersed.

These ports, and the services they provide are integral, even essential to the fulfillment of current acceptable commercial concepts such as intermodalism, just-in-time. Their storage and distribution facilities are controlled by multi-disciplinary specialists using the latest techniques and technology in harmony with Customs systems and requirements.

However, given the sheer scale and cost of such port enterprises, the issue which they must face sooner rather than later is where to draw the line. At what point will there be an over-extension of facilities and diminishing returns from the investment. Fine judgment is called for incorporating a heightened sensitivity to political nuances and stated priorities. Alternative options will have to be examined.

Increasing traffic volumes point the way towards potential benefits deriving from port specialization. The provision of specialist transshipment and/or load centre facilities commends itself in certain circumstances with, perhaps, an element of inter-port cooperation.

Whatever the decisions taken they will, from a competitive standpoint, be presumed to result in more effective, less costly and commercially attractive trading links. In "public interest" terms these results ought to generate new economic activities, an enhanced employment situation and additional revenues for the ports and their communities.

Changing Port Labour Trends: Port financial results show that wages and salaries constitute as much as 60% of port costs. It is therefore understandable in a highly competitive situation such as obtains in Europe, labour and management costs will be continuously scrutinized so as to effect possible reductions. At the same time it will always be hoped that ways can be found of increasing the workforce's productivity.

Containerisation and unitisation have speeded the process of change.

The advent of mechanization and computerisation of cargo-handling and documentation systems, allied to the need to secure rapid, efficient and cost-effective processing of shipping and cargo through the ports has led to an appreciable fall in the numbers of port workers.

ILO survey figures for the period 1970 to 1982 are emphatic in that regard. In Antwerp, Hamburg, Liverpool and Rotterdam, for example, the falls, respectively, were 38.9%, 11.4%, 78.8% and 22.9%. Numbers continue to fall.

Very evidently, port workers were faced with a dilemma. Adoption by them of practice in support of job preservation, inexorably leads to rising costs, loss of the port's competitive edge, traffic loss and more job losses.

It was incumbent, therefore, on port management and workers to develop starkly realistic "understandings" in which social planning and identification with the ports' prosperity would be emphasized.

That situation is currently under way. Restrictive practices are on the wane and productivity rises are being reflected in lower port tariffs and greater efficiency.

Changes in Marketing Strategy: Ports have traditionally defined their markets and tailored their marketing strategies to the presentation of their importance and unique position in a transport chain geared expressly to the goods transported.

European Ports must now face up to a new situation. Increasing containerisation has diminished the importance

of the goods structure. Transportation modes have also become more flexible. A situation has arisen in which the ports' market is not now what it was. It has, if anything, markedly increased in size and geographical location. Inter-port competition, in these terms, has become more acute. The active, aggressive marketing strategies which are now developed place emphasis on a port's role in so-called logistic concepts (tracking the movement of cargo) and the development of special service packages (geared to individual customer requirements).

New information and communication technologies are of singular importance in that competitive situation. These, therefore, are under active development by European Ports with the prime objective of establishing their uniquely special support to, and identification with the supply chain.

Safety and Environmental Concerns

There is a marked public awareness of the dangers and problems associated with marine transportation. The additional factor of the growth in the traffic of noxious and hazardous substances has heightened the public's sensitivity to the potential threats to the environment which may arise from marine accidents/incidents.

It should not therefore be surprising that European Ports are reacting to that situation by taking lead action in the development of acceptable standards and procedures covering safety and environmental protection.

Every effort is made to guard against the consequences of marine accidents/incidents in port waters. More positively, the ports acting individually or collectively are taking steps to reduce the threat of accidents. Attention continues to be given to improving Vessel Traffic Services and ship-handling generally. The conditions of the vessels and their cargoes are subject to greater scrutiny and control.

Environmental pollution has become the focus of Ministerial attention. Decisions taken by two Ministerial Conferences so far held on Protection the North Sea have impacted, as anticipated, on European port operations.

In that respect, the provision of reception facilities, without which the objectives of MARPOL 73/78 would not be realised, continues to be an issue to which ports must respond—the more so in light of a Ministerial intention to press for the designation of Special Area Status for the North Sea at least as far as Annex V of MARPOL (Garbage) is concerned. There is evidence also that air and noise pollution issues feature increasingly on port operational planning agendas.

Conclusion

The foregoing references to contemporary issues facing European Ports have necessarily, in the time available, been very superficial.

Again, as mentioned earlier, the references made are by no means all-embracing. I have not, for example, referred to the reorganization of port structures; the growth of a more highly developed sense of commercialism; or indeed a range of day to day operational issues, all of which must continuously be addressed by European Ports.

What I sincerely hope can now be the better appreciated is that in what we all are aware is a highly competitive European port situation, enterprising management have noted and are responding to old and new trading opportunities which have become apparent. In doing so, they will, in a real sense, have laid the foundations for the next phase in their ports' prosperity. Managerial skills and techniques have been deployed and decisions taken which may well come to be seen as being quite revolutionary in character—and quite far removed from those we have long associated with traditional port operations.

International Maritime Information

WORLD PORT NEWS

IPER-UNCTAD Seminar On Port Finance

Financial techniques, investment issues and port tariffs;

Le Havre, Monday 12 June to Thursday 22 June 1989

Of interest to: All the executives who hold financial or economic responsibilities whether they belong to a port authority, an administration, or a company which utilises port facilities and who are in charge of defining and implementing a policy regarding budgetary control, investment issues and port tariffs.

Course fee: 9,900 FF. Payable to Chambre de Commerce et d'Industrie du Havre. By bank transfer: Crédit Industriel de Normandie. Account: 041 19 70 00 9W. Course fee includes tuition fee and midday meals (Monday to Friday).

Registration: Complete the form and mail to: Institut Portuaire

d'Enseignement et de Recherche (IPER). 9, rue Émile Zola, 76087 LE HAVRE CEDEX, FRANCE. Tel.: 35.42.09.23 — Telex: CHAMCOM 190091 F. Telefax: 35.21.32.96. Registration deadline: 20 May 1989.

Course Director: M. Jean-Georges Baudelaire.

Lecturers: M. DE MONIE, Economist, Director of APEC; M. FAURANT, Economist, PORT OF LE HAVRE; M. GROSDIDIER DE MATONS, Consultant; M. LELARGE, Development Manager, PORT OF LE HAVRE; M. WILLEMS, Financial expert, PORT OF LE HAVRE.

Working language: English.

UNCTAD-CMC Training Programme Operational

February 1, 1988, marked the start of a new on-the-job training by the

Shipping Division of UNCTAD. The initiative is named JOBMAR and its mission is to improve maritime industry performance in developing countries.

The JOBMAR strategy is to transfer up-to-date management techniques to middle/senior managers by providing them with an opportunity to work "on-the-job" in countries with a more advanced maritime sector. Experience will be gained by effectively dealing with business situations under actual commercial pressures and individual progress will be measured by practical results.

UNCTAD will be liaising with the International Chamber of Commerce's specialized division, the Centre for Maritime Cooperation (CMC). The Centre was set up in 1985 to stimulate and facilitate international business cooperation between the industries of the traditional and newly emerging maritime nations. The CMC's role in JOBMAR will be to identify host companies and strive to ensure that placements are successful for all parties involved.

Assignments will be about three months with positions tailored to meet the specific training needs of participants and the capabilities of host organizations. Examples of training areas that may be offered are: strategic planning; marketing/sales; management information systems/container control; financial control/analysis; chartering/bunkering; multimodal operations; agency management; conference negotiations; claims/insurance; maintenance and repair; stevedoring/warehousing; port and terminal management; port security.

Another aspect of JOBMAR is the Maritime Short Term Advisory Service (MARSTAS). This programme enables senior maritime executives to be seconded to developing countries for one week to three months. Placements will be coordinated with the UNDP's Short Term Advisory Services and other maritime industry organizations offering similar programmes. Under the

IMO Programme of Meetings 1 Feb. — 31 Dec. 1989

13-17 February

GESAMP working group on the evaluation of the hazards of harmful substances carried by ships (EHS 24th meeting)

27 February-3 March

Sub-committee on fire protection — 34th session

13-17 March

Marine Environment Protection Committee — 27th session

3-12 April

Maritime Safety Committee — 57th session

10-14 April

LDC scientific group on dumping (12th meeting)

17-28 April

International conference on salvage

5-9 June

Council—62nd session

8 June

Technical Co-operation Committee — 32nd session

11-15 September

Sub-committee on bulk chemicals — 19th session

25-29 September

Joint Intergovernmental Group of Experts on Maritime Liens and Mortgages and Related Subjects — 6th session

8-29 September

Legal Committee — 61st session

6 October

Council — 15th Extraordinary session

9-20 October

Assembly — 16th session

20 October

Council — 63rd session

23-27 October

International Oil Pollution Compensation Fund — Assembly — 12th session

30 October-3 November

Twelfth Consultative Meeting of Contracting Parties to the London Dumping Convention

MARSTAS, programme advisers are provided, salary-free, to developing countries requesting assistance. Travel,

lodging and incidental expenses, however, are usually met by the beneficiary organization.

JOBMAR Participation Form

Instructions

Please complete and return to the JOBMAR programme. The information is to be used for identifying companies that may be willing to participate. No other commitments will be made with at your express approval. Send to: UNCTAD Shipping Division, Palais des Nations, CH — 1211 Geneva 10, Switzerland.

1. Contact First Name Last Name
2. Title
3. Company Name
4. Mail address
5. City 6. Country 7. Region
8. Telex No. 9. Telefax No. 10. Telephone
11. Company annual sales 12. Number of employees
13. Services provided
14. Geographic trading areas
15. Please check possible interest in:
JOBMAR MARSTAS
16. Comments
Please check areas for training:
 1. Agency management
 2. Bulk Shipping
 3. Brokerage
 4. Chartering: Dry Liquid
 5. Claims/Insurance
 6. Crew management
 7. Conference activities
 8. Container control
 9. Contract administration
 10. Electronic data processing
 11. Feasibility studies/Economics
 12. Financial controls/analysis
 13. Inland transport management
 14. Legal/Government relations
 15. Liner management
 16. Marketing/sales
 17. Multimodal operations and management
 18. Physical distribution
 19. Port administration and management
 20. Port development and policy
 21. Port engineering
 22. Port legislation
 23. Port operations and procedures
 24. Port planning
 25. Port pricing and accounting
 26. Port statistics
 27. Port training
 28. Sale and purchase
 29. Ship management
 30. Shipping policy
 31. Strategic planning
 32. Other please specify
17. Completed by
Name
Title
Date
18. JOBMAR file number (supplied by UNCTAD)

Deadweight or Displacement?

— *Oil Companies International Marine Forum* —

1.0 PREAMBLE

It has been convenient for those engaged in the shipping industry and tanker and bulk trades, to use "summer deadweight" as the means of giving a reasonable description of the physical size of ship as well as being an approximate guide to her cargo carrying capacity.

The introduction of OBO ships, segregated ballast tankers (SBT) and a recent trend towards variable load line positions has resulted in a situation where different types of ships with a wide range of physical sizes may well have the same "summer deadweight." Furthermore, while deadweight remains a good way to broadly describe a ship's carrying capacity, the potential for varying the summer draught mark means that a more exact description is required to ensure that a ship is suitable for a particular port and/or berth. This paper proposes an appropriate way to describe the maximum size of a tanker/bulk carrier which can safely navigate within a port.

The convenience of a single measurement guide like "summer deadweight" is no longer possible, and the bulk trades and shipping industry must prepare for an increased complexity of ship measurement if errors are not to be made or safety impaired.

2.0 RECOMMENDATIONS

It is recommended that port authorities and/or berth operators establish maximum port entry and/or berth approach parameters.

Discussion with terminal representatives within a port is important to ensure that the historical experience with maximum ship size assigned to a particular berth is taken into account when establishing port entry limits. The parameters for port entry and thence berth approach are as follows:

2.1 Port Authorities Requirements

2.1.1 Ship Size Limitations

- (a) Length overall (LOA)
- (b) Beam
- (c) Draught
- (d) Air draught

2.1.2 Other Factors if Appropriate

- (a) Maximum trim
- (b) Minimum draught
- (c) Maximum broadside windage area (end-on windage area if appropriate)
- (d) Arrival displacement

2.2 Berth Operators' Requirements

For berth limitations the following ship parameters should be considered by the berth operators:

2.2.1 Ship Size Limitations

- (a) Length overall (LOA)
- (b) beam
- (c) Draught
- (d) Air draught
- (e) Arrival displacement

2.2.2 Other Factors if Appropriate

(a) Maximum/minimum height of manifold or hatch coaming above waterline.

(b) Maximum trim and minimum draft for berthing and unberthing.

(c) Maximum longitudinal distance between foremost and aftermost cargo hatches (applicable to bulk solid trades).

(d) Maximum/minimum distance bow/stern to centre of manifold and maximum/minimum distance ship side rail to manifold.

(e) Special mooring requirements such as size, number and breaking strength of wires/ropes, SPM mooring equipment requirements etc.

(f) Parallel length of hull.

(g) Maximum broadside windage area.

(h) Minimum SWL of crane/derrick for hose connection.

2.3 Shipowners and Users

It is appreciated that shipowners and users have a need to describe the bulk carrying capacity of a ship.

However, they are asked to cooperate with the contents of this paper in order that the port authorities and berth operators may safely handle their ships.

3.0 PHYSICAL DIMENSIONS

(a) **LOA:** The length shall be taken as the overall length of the ship.

(b) **Beam:** The beam shall be taken as the maximum breadth of the ship.

(c) **Draught:** The draught shall be taken as the maximum or minimum draught permissible as the case may be, which on occasions may require that a forward and aft draught be given. In general a single draught figure will be adequate.

(d) **Air draught:** The maximum distance from the water level to the highest

point of the ship at the prevailing draught.

(e) **Bow to centre manifold/stern to centre manifold:** The distance from the extreme points of bow or stern to the manifold centre line.

(f) **Trim:** The trim is the difference between the aft and forward draughts.

4.0 SEGREGATED BALLAST

TANKS

A segregated ballast tanker is a tanker which meets the segregated ballast requirements of MARPOL 73/78 and whose ballast water is introduced into tanks, completely separated from the cargo oil and fuel oil systems, which are permanently allocated to the carriage of ballast.

The deadweight of a ship is her carrying capacity at a particular draught expressed in tonnes weight, and summer deadweight is the normal reference when describing the ship's size. However, for SBT tankers the situation is complicated because of the added volume of segregated ballast tanks. Various draft marks may be used:

(a) **The statutory minimum freeboard draught:** This is the draught at which the minimum freeboard value is determined by the Loadline Regulations.

(b) **The scantling draught:** This is the draught for which the structural strength of the ship has been designed.

(c) **The designed draught:** This is the draught on which the fundamental design parameters of the ship are based.

(d) **The draught selected by the owner:** This may be any draught less than the statutory minimum freeboard draught.

It should be noted that a loadline mark (and the corresponding loadline certificate) may be at any one or all of the draughts mentioned above.

5.0 SUMMARY

In respect of a port limitation, as distinct from a jetty limitation, there should be no concern about the deadweight or for that matter about the displacement of a ship. The only concern is the physical size of the ship transiting the waters within the harbour limits. Therefore from a port authority's point of view the loa, beam, draught, and air draught should normally be the only criteria for restrictions.

On the other hand the terminal

owner/operator is vitally interested in the physical size of the ship and her arrival displacement. Since displacement is the true weight of the ship and her contents, it, coupled with speed of approach, provides the essential data needed for energy absorption limits at the jetty.

The displacement was used in order to establish the strength required for the breasting points. Therefore the terminal owner/operator should be satisfied providing the ship's loa, beam, draught, air draught and displacement are within the design criteria used at the time the jetty was built or rebuilt/modified.

Barcelona to Host TransMed Conference

The second TransMed Conference will take place in Barcelona, Spain May 9-11, 1989.

Full information on TransMed '89 and the Mediterranean Freight Show can be obtained from:

The secretariat, TransMed '89/ Mediterranean Freight Show

8A West Smithfield, London EC1A 9JR, England

Tel: 01 236 0246. Fax: 01 248 3336. Tlx: 922015PDIG

New Publications

Guidelines for the Implementation of Annex V of MARPOL 73/78

Sales No.538.88.09.E, price £6.50 (English).

In either English, French or Spanish. French and Spanish available later.

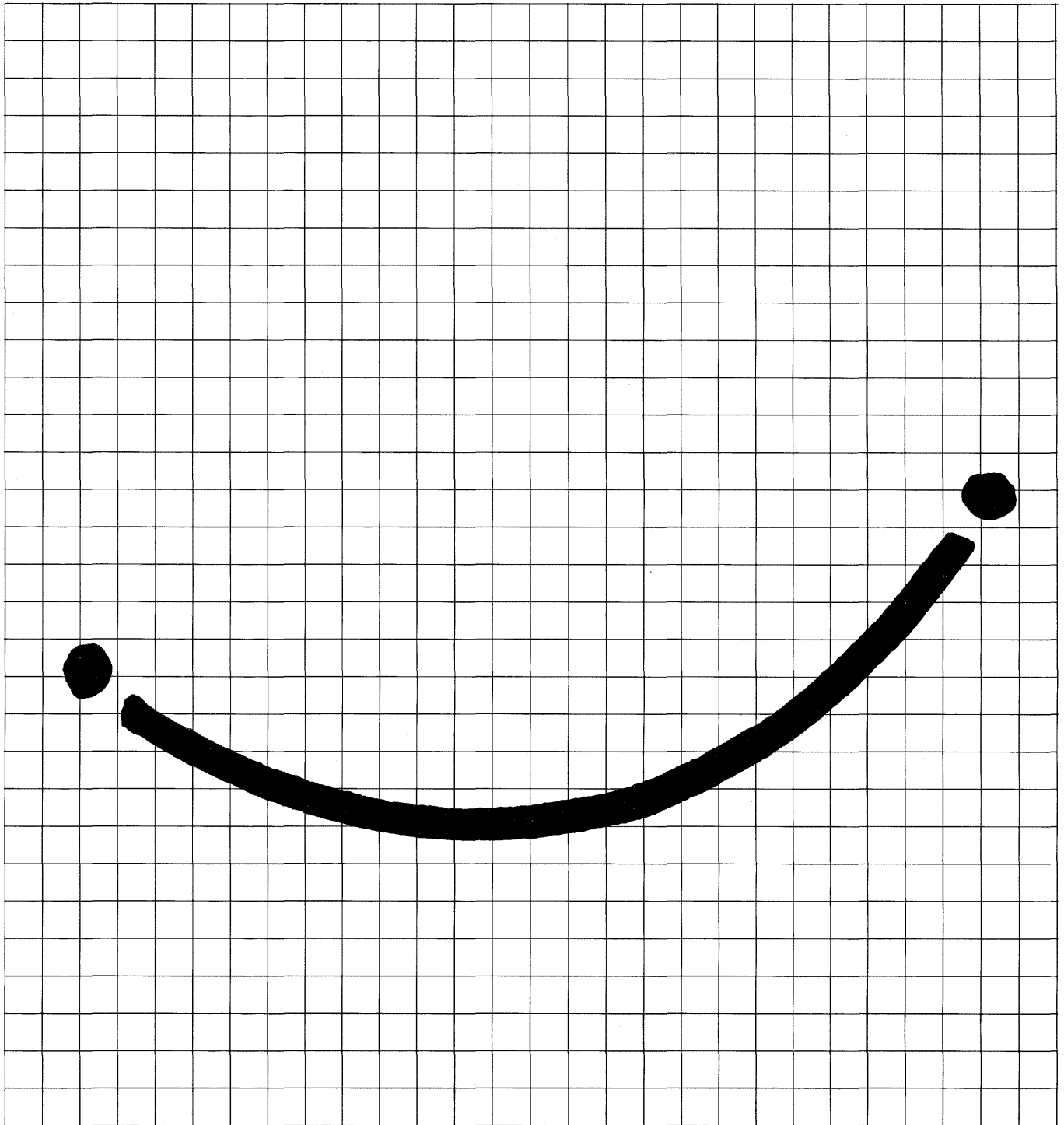
International Conference on the Suppression of Unlawful Acts Against the Safety of Maritime Navigation (Rome 1988)

Sales No.462.88.12.E, price £5.00 (English).

In either English, French, Russian, Spanish, Arabic or Chinese.

Editions other than English available later.

To: IMO Secretariat, Publications Section, 4, Albert Embankment, London SE1 7SR, U.K.



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The Americas

Port of Halifax, 1988: Steady Cargo Growth

Cargo volumes at the Port of Halifax have grown steadily over the years, and the cargo mix has changed significantly. In the early 19th century, the Port's inbound commerce consisted, curiously enough, of "prizes" captured by the British Fleet and miscellaneous privateers. These prizes were regularly auctioned off in Halifax by a Court of Vice Admiralty. In those days, inbound cargo was just as likely to consist of a brig or a schooner, as of barrels of rum or boxes of goods.

In 1818, Halifax became a free port allowing foreign ships to move cargo in and out of Halifax. One hundred and seventy years later the Port continues to grow and prosper, setting cargo records and boasting liner services to almost every corner of the world.

Over the last three years, Halifax has added 13 new container liner services to its schedule. The four which initiated services in 1988 are: Evergreen, Costa Line, Maersk Line and OOCL (in its North Atlantic service).

The Port in 1988 also saw the celebration of 20th anniversaries by Dover Mills and Atlantic Container Line, as well as a celebration at the former immigration facility called Pier 21 in honor of its 60th anniversary. Autoport reported that, by early 1988, 1.5 million vehicles had passed through their facility.

The 1987 decision of the provincial government to lift the bunker fuel tax met with success in 1988 with the handling of over 150,000 tonnes of bunkers, up 56%. Other efforts to ensure the continued competitiveness of the Port includes the industry's formation of an electronic data interchange group, and the completion of a feasibility study on double-stack rail service to and from central Canada.

Capital investments of the year included a \$5 million extension to Halifax's oldest container terminal, Pier C, operated by Halterm Ltd. Also initiated was a \$5.5 million redevelopment at Pier B, which will prepare it for increasing container operations.

Several cargo records were set during the year. While total imports remained level at 7.7 million metric tonnes, exports increased by 5% (to 8.1 million tonnes) over 1987.

Container cargo shot up by 27% in 1988. Each day in Halifax, 10,000 metric tonnes of containerized goods are loaded and offloaded. Imports, to a great extent composed of food and beverages, grew by 18% to 1.5 million tonnes, and exports grew at an enviable rate of 34% to 2.0 million tonnes. The major containerized exports included: asbestos; lumber, woodpulp and newsprint; and frozen fish. In terms of container traffic, Halifax handles more Canadian cargo than any port in

(Continued on Page 47 Col. 3)

Long Beach Realigns Harbor Department

Mr. Joseph F. Prevratil, Executive Director of the Port of Long Beach, has announced a management reorganization of the Harbor Department which was unanimously approved by the Board of Harbor Commissioners on February 6.

Mr. Prevratil's realignment streamlines the Port's lines of authority and modifies the departments under each Managing Director. Four of the 10 Port departments were shifted so that each of the Managing Directors will oversee approximately one-third of the Port's employees.

Critical issues facing the Port of Long Beach include highway and rail improvements, on-dock rail, mitigation for landfill, the environment, and trade and commerce fluctuations. Mr. Prevratil stated the new structure will enable the Port to be more responsive to the dynamics of a changing market and will enhance its strategic planning capabilities. An organization that addresses these issues in a timely, creative manner will meet the Port's requirements and those of its tenants, and will be more responsive to the community.

Port of Palm Beach: Revenues, Earnings Up

1988 was another successful year for the Port of Palm Beach, with revenues

and retained earnings up. Total revenues rose from \$4.3 million to an all-time high of \$5.3 million, an increase of 4 percent, while expenses rose less than 1 percent.

Net port income for fiscal '88 was up approximately 17 percent or close to \$1.3 million. Although total tonnage was down slightly, from 3.36 million tons to 3.31 million tons, several categories continued their upward trend. Cement showed an increase of 3.9 percent, sugar 5.3 percent, and molasses 4.7 percent. The biggest increase was in our cruise business, with passengers expanding from 210,135 in 1987 to 239,798 this year, a substantial 17 percent rise.

Port Director Ben Murphy, pleased at the year-end results, attributes continuing fiscal stability to the steady support of the Port's users, carriers, tenants, and governmental agencies.

Port of Redwood City to Boost Lumber Trade

The Port of Redwood City has recently completed an expansion of the Pope & Talbot Lumber Terminal at Wharf #5. This expansion is part of Pope & Talbot's commitment to the lumber market in northern California.

Mr. Jerry Clark, Resident Manager at the Pope & Talbot Lumber Mill in Port Gamble, Washington, said, "The additional 1.54 acres of paved area will allow us to put an additional 20 million board feet of lumber products through the Port facilities which is an increase of approximately 40%."

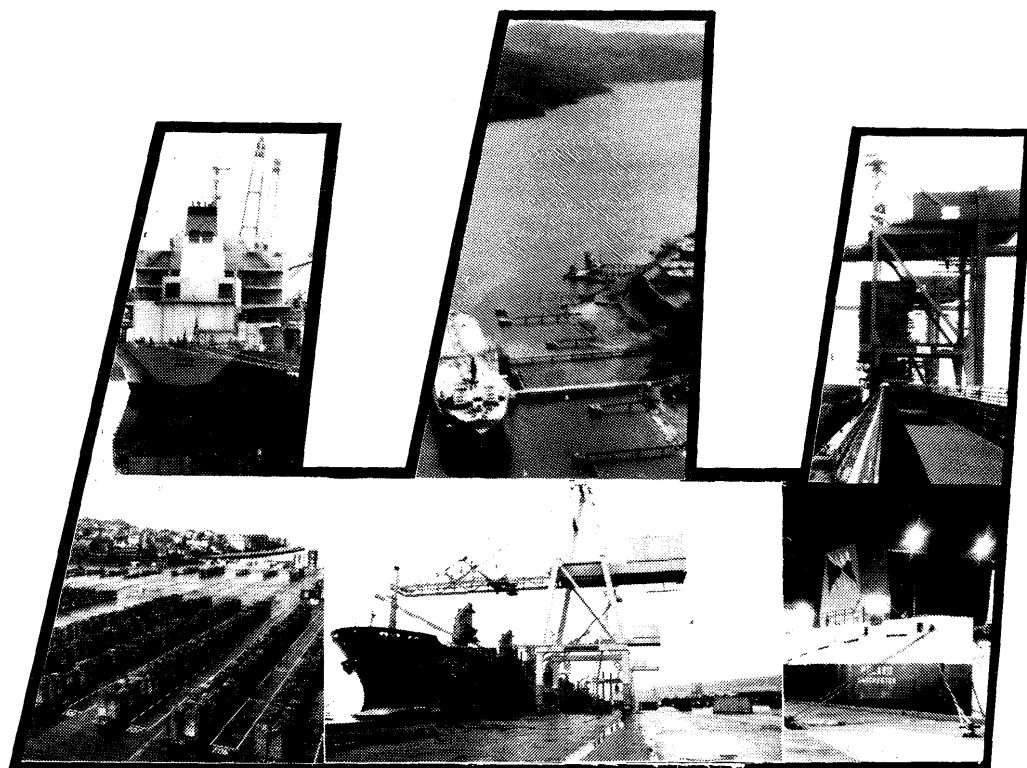
The lumber shipped through the Port is used in housing, apartment and shopping mall projects and various other construction projects. The terminal is located adjacent to the United States Geologic Survey facility, off Seaport Boulevard.

Pope & Talbot has been at the Port of Redwood City for two years. The lumber company was founded in San Francisco and now has sawmills in Washington, Oregon, South Dakota and British Columbia and pulp and paper mills throughout the nation.

"The Port was extremely cooperative and helpful," said Mr. Clark. "(Port Executive Director) Floyed Shelton and other port officials did everything

Clydeport, Scotland

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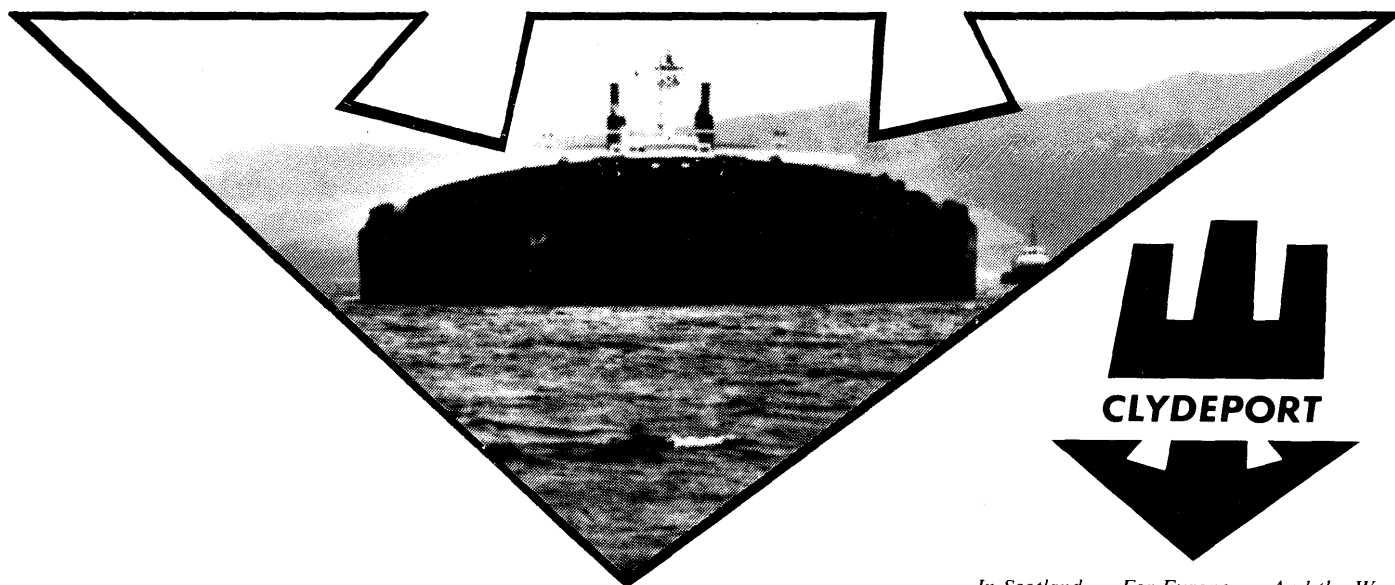
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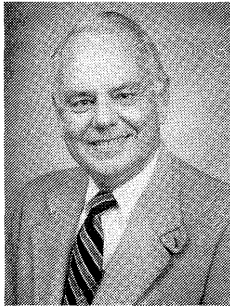
possible to meet our needs."

Said Port Executive Director Floyd Shelton, "This successful joint venture demonstrates our marketing strategy to provide our tenants and customers with the best service as possible."

It is the Port's primary objective to "help our tenants become as profitable as possible here at the Port," Mr. Shelton added. "Helping them, helps us."

Mr. Saunders Appointed Stockton Port Chairman

Commissioner Frank H. Saunders has been appointed to the position of Chairman of the Stockton Board of



*Mr. Saunders
Chairman of
the Stockton
Board of Port
Commissioners*

Port Commissioners and will serve in that capacity until January of 1990. Commissioner Ossie Harrell was appointed Vice Chairman. Mr. Saunders has been a member of the Commission since 1973, and will now serve as Chairman for the fourth time during his tenure. Mr. Harrell was appointed to the Board in 1986.

Port Director Alexander Krygsman has also reported unprecedented increases in tonnages and earnings for the first half of the 1988-89 Fiscal Year, July 1 through December 31, 1988.

General cargoes, he said, had increased from 33,481 to 201,268 tons and dry bulk cargoes from 217,302 to 306,625 tons. Earnings for the six month period were \$956,437 as compared to \$681,192 during the same period in FY 1987-88.

"For more than a decade we have aggressively worked to improve the Port's operating capability. We have upgraded our facilities and equipment and we have deepened our Channel which has placed the Port in a better position to compete for cargoes as they become available," Mr. Krygsman stated.

Mr. Krygsman also indicated that

several industrial development projects are under construction: a new, completely automated refrigerated warehouse storage complex and a liquid bulk storage and distribution facility.

According to Mr. Krygsman, the Port is moving ahead to further increase its dock handling capability and productivity and will purchase three more 30/40,000 pound lift trucks and an additional 40-ton multi-purpose, traveling bridge crane.

"The crane will be modified to handle bulk cargoes as well as containers and steel products. It will be connected to dry bulk storage facilities by covered conveyor belts, as is the container/bulk crane the Port installed in 1987," the Port Director added. Noting that the improvements would be of a "major nature," Mr. Krygsman said the Port will issue and sell \$10,000,000 in "Port Facility Improvement Revenue Bonds" to finance these and other improvements.

Mr. Terpstra Named Tacoma Exec. Director

Mr. John Terpstra, senior director of facilities, has been named by the Port Commission to head the Port of Tacoma



*Mr. Terpstra
New Executive
Director of the
Port of Tacoma*

as its executive director. Mr. Terpstra succeeds Mr. Larry Killeen, who is leaving the position for a job with the Sabey Corporation in Seattle, Washington.

The Port Commission's decision to hire Mr. Terpstra ends a month-long evaluation of candidates from the Port of Tacoma's current staff. Port Commission President Jack Fabulich, in announcing the decision, said, "The fact that we were able to choose an inhouse candidate speaks very well for the quality of people we have on our staff. John Terpstra and our staff will do a great job keeping the momentum going for the Port of Tacoma."

Africa/Europe

New Bordeaux President Suggests 4 Directions

The Port of Bordeaux Authority's new Board of Administration was set up on Monday 20th February 1989, by Mr. Pierre Chassigneux, the Prefect of the Aquitaine Region.

The Board then elected, its new President, namely Mr. Bernard Hanquiez; the officers, in addition to Mr. Hanquiez being Messrs Guy Deboulle, Vice-President and Jack Negre, Secretary, together with the Port's Administrative Committee. The latter includes, in addition to the officers of the Board of Administrators, Messrs Pierre Ducout, Hughes Martin and Georges Bague.

Mr. Bernard Hanquiez is currently Director General of Human Resources and Public Relations with the Docks de France Group as well as Honorary President of both the Aquitaine Chamber of Commerce and Industry and the Bordeaux Chamber of Commerce and Industry.

Having paid homage to his predecessor, Mr. Jean-Henri Schyler, on whom the Board conferred honorary status of his previous post, President Hanquiez thanked the Administrators for having chosen him to lead them.

"We are," he explained, "going to work together because, gathering together as it does representatives from the State, the local Public Services, the port users and the personnel, our Board is the very centre where a consensus of opinion must grow, for without it, the port cannot go forward. I would like to improve it, to stress this particular role of the Board, highlight it and strengthen the vital role played by the management team and all those with whom they work."

The new President of the Port Authority declared that he was ready to fight with a will, with imagination and with energy and wished the Board to take as their examples the best European ports, so as to obtain a better share or the markets which correspond to the specific interests of Bordeaux and its region.

"We must not forget that we have

a time limit. With the prospect of 1992 ahead, the Port of Bordeaux, its administrators, its partners and its contributors are being called upon to revolutionize their way of thinking and their habits.

"This is why I want to suggest four directions, which might serve to orientate our action. The first involves our commercial action and I am delighted that, at the last Board Meeting, it was decided to set up a fund to intervene in the commercial field. We must give it life, not only in terms of a means but in terms of an image and a communication as well, and particularly in this respect, to make the Borderlais and the Aquitainians feel they want to be more closely associated with their port, by projecting a dynamic image to the outside world.

"The second direction concerns the opening up of the port, because of the sheer size of its hinterland. It is true that improvements to overland connections are not the direct responsibility of our Board, but it is up to us to draw the attention of those who are responsible whether politically or administratively to those files which govern overland access conditions to Bassens and Le Verdon, as well as to the spanning of the estuary, the dual carriage conversion of the RN 10 between Angoulême and Bordeaux, together with the construction of the Bordeaux-Clermont-Lyon-Geneva motorway and the dual carriage link between Bordeaux and Pau.

"The third priority involves mobilizing effort. It is up to us, with the Director, to find ways of further motivating those who contribute to the life of the port, whilst still maintaining the efforts devoted to improving productivity and making us competitive. From such motivation, the port will gain a new enthusiasm, that favours the quality of service provided to customers, and complement our active commercial policy.

"Finally, the fourth direction concerns mobilizing all our partners. The undertakings of the Port of Bordeaux Authority must, obligatorily, respect our partnership with the port users and organizations who contribute to economic development, such as the Chamber of Commerce and Industry, the Maritime Federation and with the management of the different Local and

PORT OF LISBON

A Unique Mild Inlet on the Doorstep of the Common Market

*Salty Seas! Salty Seas!
Much of your salt
Are Portuguese tears...*

Fernando Pessoa

Background

Of all the seaports in Europe, Lisbon is the one which offers vast and sheltered natural conditions.

State Department Public Services."

President Hanquiez concluded: "At this time when many personalities in the political and economic fields are stressing the necessity of a major project to motivate people, I feel that mobilizing all our partners in the port community would be a contribution to a project for Bordeaux, for the Gironde and indeed for the whole of Aquitaine."

Bordeaux Is Heading Towards EDI System

Faced with the logistic needs of both shippers and shipowners, the necessity of keeping turn-round times to a minimum for both ships and cargo, has become one of the principal concerns of the shipping trade and port authorities.

In addition, competition has become increasingly keen between ports in Europe and this has led to the development of computer and telematic applications for monitoring goods in transit.

This is why the Bordeaux Port Community, within the context of its policy to become more competitive, has undertaken a study with the view to the introduction of an inter-company EDI system that is open to its outside partners.

Research into the processing of the traffic flows going through import and export procedures was carried out with the help of France-Telecom, and highlighted three areas where computer technology could be applied and developed. These areas are those of voyage-call management, monitoring

It seems that the first to take advantage of this were the Phoenicians, daring navigators whose spirit of adventure was continued by the Portuguese in the 15th/16th centuries.

Indeed, the natural conditions of the vast, deep and sheltered Port of Lisbon were moulded to serve the ever-growing needs of navigation during the 15th century, the landmark of the Portuguese Discoveries. As a matter of fact, Port of Lisbon was the departure point of the fleets that sailed to Africa-Guinea (1445), pioneered the Cape of Good Hope crossing (1487), established the first connection Europe-India by sea (1497-1499), disembarked in Ameri-

customs clearance operations and linking needs/resources of bulk lorry transport closer together.

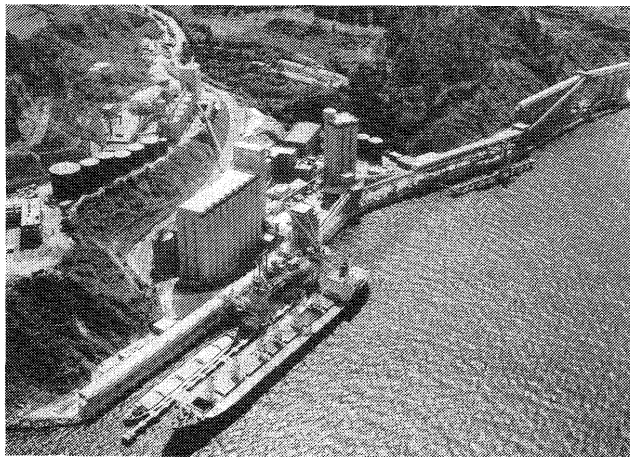
Voyage-call management involves making all information concerning a call (date, type of voyage, route, ship's characteristics, berth, etc.) available to the shipping trade.

With respect to the monitoring of customs clearance, the project involves introducing a new method which enable goods to be cleared earlier. The system would be an extension of the SOFI computerized customs clearance system, which has been operating in Bordeaux since 1984.

Finally, the growth in both the bulk agro-food and agro-chemical trades, as well as the balance obtained between import and export traffic merits the introduction of module which would speed up loading and unloading operations for lorries, and obtain optimal rotation for them, particularly at Bassens.

In this way, at a time when stocks are being reduced to a minimum and the concept of "just-in-time" management is being applied to the logistics chain by an increasing number of companies, the Port of Bordeaux, the Maritime Federation and their main partners (The Bordeaux Chamber of Commerce and Industry, Customs and France-Telecom, in particular) are seeking to find an instrument which will reply to these concerns.

A time schedule has been drawn up for the introduction of the three phases: voyage-call management should be available at the end of 1989, while the two other areas are to be linked into the computer system next year.



The Palença oil seed terminal



The Santa Apolónia terminal

ca-Florida (1499), discovered Brazil (1500), contacted Samatra and Malacca (1509), arrived in China (1511-1512) and Japan (1542-1543).

At the beginning of the 16th century, Lisbon was the great emporium of Western Europe; however, the world is in permanent change, the development axes shifted and the port lost its important position.

Now Portugal belongs to EEC. With the advent of the unified single market, trade barriers are expected to break, the protective systems will come to an end: place for ports with splendid natural conditions rises again.

90 percent of Portugal's foreign trade are done through shipping, 30 percent of which refer to the Port of Lisbon. The Port of Lisbon serves an extensive developed hinterland, since it is the most significant in Portugal, as to solid bulk, general cargo and containers throughput.

With an excellent position regarding the world shipping routes, the vast basin forming the Tagus estuary, in which the Port of Lisbon is located, has the exceptional physical characteristics inherent to a natural harbour, with a mild inlet providing easy access to ships throughout the year. It offers all the favourable characteristics to multi-purpose trade activity, owing to its fine conditions for the installment of transshipment centers of sea cargo, with already available wharves and vast shore areas next to deep water.

Facilities

Port activity is carried out over an area of 980,000 square meters, the total area under the jurisdiction of the Port of Lisbon Authority being 2,720 acres.

There are about 16 km of alongside wharves (13 km on the north bank and 3 km on the south bank), with depths varying between 4 and 17 meters.

Noteworthy for containerized cargo are the two specialized terminals: Santa Apolónia and Alcântara South. Santa Apolónia terminal is served by an 870 m wharf, with 8/10 m depths. This terminal is equipped with three 35 tons container-carrier cranes, seven 35 tons park transtainer gantry cranes, mobile cranes, front fork lifts and trucks with trailers. Alcântara South terminal has a 650 m wharf, with 10/13 m depths. It is equipped with two container-carrier cranes, with 45/60 tons hoisting capacity. This new terminal was designed mainly to develop a transshipment service in the Port of Lisbon.

On the south bank there are important solid and liquid bulk facilities, terminals for chemicals, fertilizers, minerals and bunkering, shipyards and a station for degasifying and cleaning oil tankers. Noteworthy on this bank are the big Margueira ship-repair yard, the Palença oil seed terminal and the new Trafaria grain terminal. The Margueira shipyard LISNAVE is one of the largest in the world and has four big dry docks, the largest of which has a capacity for oil tankers of up to one million tons deadweight. Palença oil seed terminal TAGOL has storage capacity for 90,000 tons of seed and includes an edible-oil factory with storage tanks for 20,000 cubic meters of oil. Trafaria grain terminal has a jetty with adjacent depths of 14/17 meters and a modern computerized silo with a 200,000 tons capacity. It is considered to be one of the largest plants of its kind in Europe, offering good condi-

tions for grain transshipment.

Future Developments

The Port of Lisbon Authority is proceeding to deep structural changes in its management policy so as to achieve a better performance in the port services.

Technical-economic-financial research is now being done by an international consortium in order to give the Port of Lisbon management some guidelines for the Port's future development facing the significant advent of the European single market in 1993.

Port of Lisbon has excellent expansion conditions, especially on the estuary south bank, where extensive areas for port and industrial purposes with deep adjacent water are found.

A study is being developed to Trafaria-Bugio, for multipurpose terminals, with an area of about 2,000 acres, 17 m water depth.

A new Ro-Ro terminal in Alcântara is under progress looking the increased traffic of this kind between Portugal and other countries in Europe and North Africa.

A Teleport is now under study by the World Trade Center of Lisbon, which will introduce a computerized communication and data bank system.

An international marina with 1,000 berths is also being studied, considering the fact that the pleasant climate and the calm waters of the Tagus offer excellent prospects for tourist and leisure activities.

With the industrial and trade development forecasted for the near future, Port of Lisbon shall certainly reconquer its ancestral status of Western natural quay of Europe.

Asia/Oceania

Major Functions of Fremantle Port Authority

The Fremantle Port Authority is a corporate body established under the Fremantle Port Authority Act 1902-1987 which defines its powers and authorities.

As empowered and enabled by the Act, the major functions undertaken by the Authority are to:

- provide, maintain and operate port facilities with responsibility for navigable channels, navigation marks, berths, jetties, sheds, cargo handling areas, cargo handling equipment support facilities incidental to the above.
- undertake a regulatory and controlling role over the operation of the Port of Fremantle, providing security, fire prevention, shipping movement control, parking and watching services.
- provide services including pilotage, mooring, water and electricity supply, garbage collection and general cleaning

- operate a (cargo handling) service for the handling of cargo on shore.

- provide engineering, consulting, construction and maintenance services to port clients as and where required.

- control the utilisation of land owned or vested in it and to arrange leases generally for port related purposes.

- monitor and manage the natural resources and environment of the Port of Fremantle.

- implement, manage and continually review the Port Counter Disaster Plan embracing provisions for oil pollution prevention and control.

- liaise and consult with the Government and private sector on matters affecting the Port of Fremantle.

In providing all of the necessary facilities and services for port users at Fremantle and to become more commercially orientated, the Fremantle Port Authority has set down the following corporate goals.

Corporate Goals

At their meeting in June 1988, the Commissioners approved the following

mission statement:

"To promote and facilitate trade through the Port of Fremantle through the commercial utilisation of the natural and developed resources by ensuring the provision, maintenance, operation and administration of facilities and services in a safe, expeditious and cost-efficient way."

Within the parameters of the Fremantle Port Authority Act and Regulations and in a manner consistent with Government policy and in compliance with its mission statement, the principle goals of this commercially-orientated statutory authority in the exercising of its powers and responsibilities are to:

- promote and facilitate trade through the Port of Fremantle,
- promote and develop the maximum utilisation of the port; its natural and provided resources,
- develop, provide and operate cost-efficient and safe port facilities and services to meet the needs of cargo owners and the shipping industry,
- encourage employee interest in the execution of their work and to recognise



27th International Navigation Congress

Ports and Waterways-A New Dimension for the Earth

May 20 (Sun.) - May 26 (Sat.) 1990
OSAKA, JAPAN

The Congress will be held under the auspices of:

Permanent International Association of Navigation Congresses
Japan Organizing Committee for the 27th Congress of PIANC

The 27th International Navigation Congress, to be held in 1990 in Osaka, will be the first such congress held in Asia. The unprecedented number of participants from Asia will add greatly to the significance of this event.

Experts in ports and coastal areas will gather in Osaka from around the world, to discuss research achievements vis-à-vis current problems and to inspect Japan's representative ports and related projects. This Congress will thus provide an unsurpassed opportunity to deepen insights into the future upgrading and technological development of commercial and fishing ports and coastal areas.

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Join us for contributing to the future of our planet.

that our success depends on a high standard of performance and integrity from all employees,

- conduct the financial affairs of the Authority in accordance with sound business principles and with a view to achieving self-sufficiency for the benefit of both present and future customers,
- adopt charging systems which are fair, simple to understand and administer and which reflect the efficient use of resources,

- utilise the resources of the Port to make a positive contribution to economic well being and progress of the community as a whole, and in so doing, assist in the wider development of the State of Western Australia through the advancement of intrastate, interstate and overseas trade.

(Annual report 1987-1988)

HK First to Break 4-Million TEU Mark

The Port of Hong Kong is the first in the world to register a container throughput in excess of 4 million TEUs.

The Director of Marine, Mr. Derick Hall, said this at a meet-the-media session during which he released the major port and shipping statistics for 1988 and outlined the major events ahead.

Mr. Hall said container figures finalised showed that 4,033,427 TEUs were handled in the Port of Hong Kong in 1988, representing a 16.7 percent increase over the previous year's 3,457,182 TEUs.

In terms of tonnage, Mr. Hall said a total of 81,262,233 tonnes of cargo were loaded and discharged in the Port of Hong Kong last year, recording an increase of 15.2 percent over 1987.

On the present and future developments of container terminals, Mr. Hall said the first berth of Terminal 6 had been operational since May last year and that full completion of the terminal was expected in May this year — some 12 months ahead of schedule.

The tender for the development of Terminal 7 was awarded in April last year and it was contracted to be finished by 1993.

"Completion could, however, be as early as 1991, by which time the total capacity at Kwai Chung would be about 5 million TEUs," he noted.

Mr. Hall said the government was

still considering the locations of Container Terminals 8 and 9 and a decision would be made later.

"The container port committee will meet on February 27 to decide on the planned rate (trigger point mechanism) of expansion of terminals," Mr. Hall said, adding that the present rate was 12 percent.

He said he expected Terminal 8 to be triggered later this year with the first berth coming on stream by about March 1994 and full completion by 1995.

Terminal 9 was anticipated to be triggered in 1990, he added.

Mr. Hall pointed out that the port and airport development strategy study (PADS) was expected to make recommendations later in the year regarding port development well into the next century.

The financial and institutional study (FINS) would make recommendations regarding the financing and managing aspects of these new developments, said Mr. Hall, while noting that the Marine Department had an input through its planning branch into both PADS and FINS.

On the subject of vessel traffic management, Mr. Hall said that a new radar-cum-computer vessel traffic system (VTS) was scheduled for completion in July this year and would become operational in October.

"The Vessel Traffic Centre will be manned by a total of 36 trained officers in six teams on a 24-hour basis.

"The new system will greatly enhance the efficiency and safety of marine traffic control," Mr. Hall said.

On the level of fees and charges, Mr. Hall explained that while this was a matter for the Executive Council, government policy was that departments should recover operational costs.

"In line with this policy I have therefore made recommendations for increasing fees for public cargo working areas, registry and survey of shipping, the mercantile marine office, examinations (for certificates of competency) and vessel licensing.

"Seamen's recruiting office and pilotage fees are also under consideration," he said.

Mr. Hall said that when the VTS became operational, port and light dues and passenger embarkation fees would be increased.

Turning to the review on local craft,

Mr. Hall said a detailed document outlining all major proposals on the matter would be published for public consultation which would last until June 1.

Mr. Hall also reported that work on the new shipping register was progressing well and it was expected to be "launched" on schedule in 1990.

"The main characteristics of the proposals by the steering committee were released at a press conference in October last year and were well received by the shipping community," he added.

Mr. Hall also spoke on a number of other issues concerning the department such as the government dockyard, which was in the process of restructuring and undergoing a five-year expansion and modernisation programme; the Macau and China ferry terminals; the results of several shipping inquiries; and the work of floating refuse collection.

Bay of Plenty Harbour Board Annual Report

(Summary)

Introduction

The year 1988 saw the first stage of the port reform process completed. On 1 October 1988, the Bay of Plenty Harbour Board will hand over its port related commercial activities to the Port of Tauranga Ltd.

The year also saw rapidly increasing unemployment and a decline in business confidence and profitability. Our international competitiveness as measured by the Bank of New Zealand's real effective exchange rate has fallen 32% over the last 3 1/2 years, which has created difficulties for the ports customers.

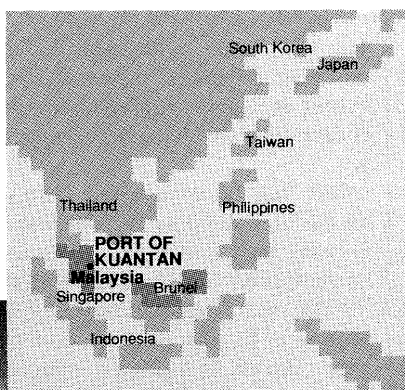
It is therefore remarkable that the Port of Tauranga achieved a record year of cargo throughput of 4.15 million tonnes, an increase of 17.5% over last year.

Export cargoes increased 25% to 2.63 million tonnes and import cargoes increased 5.5% to 1.52 million tonnes. The most notable increase was logs with a 100% increase over the previous year's figures.

Shipping

Total shipping movements increased 14% to 589 arrivals. The average tur-

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resource-rich hinterland comprising the States of Pahang, Terengganu and Kelantan. It lies within a region which is the chief producer of timber, palm oil, petroleum and gas in Peninsular Malaysia. The hinterland thus provides ample opportunity for down-stream activities in these commodities.

Container facilities to handle domestic trade are currently available. Sophisticated container handling facilities will be installed by early 1990. Container lines are welcomed to start operations.

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naround time improved from 5.4 days to 4.6 days, but berth and wharf occupancy increased. The berth occupancy level of 65% has been of some concern to the Board and its customers.

Port Development and Improvements

Two wharf extensions were completed increasing the number of berths from nine to eleven.

The Bay of Plenty Harbour Board in conjunction with the Harbour Boards of Timaru and Taranaki contracted with the New Zealand Dredging Company Ltd. to undertake dredging at each port for the next five years.

Two key factors in the success of a port are adequate space to receive and store cargoes and ease of access to the hinterland. The reclamation at Sulphur Point will provide additional space for cargo storage. The completion of the Harbour Bridge makes the integration of Sulphur Point with the rest of the port a practical reality.

Traffic volumes on the new harbour bridge opened in March 1988 have exceeded our expectations and those that were involved in the project can be proud of their achievements.

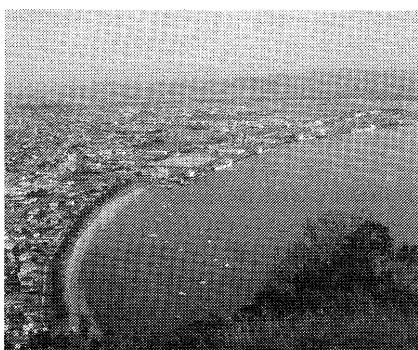
Financial

Resulting from the increase in shipping movements and cargo tonnage, revenue from port operations increased 16.5% to \$20.8 million. Operating expenses rose 17.0% to \$11.7 million. Net profit from port operations of \$3.3 million was comparable to the previous year. The return on assets was 6.7% compared with 7.6% in 1987. Net Profit after abnormal items and taxation was \$736,000.

Industry Affairs

The Port Companies Act was passed on 27 April 1988 and required Harbour Boards to establish Port Companies to take over the port-related commercial undertakings of the Harbour Boards on 1 October 1988. The time frame to achieve the required tasks was very tight and it was only the dedication of everyone involved that saw this deadline achieved.

I believe it is important to note that while Harbour Boards have frequently been criticised when anything goes wrong, they have had only limited influence on quayside operations in spite



The Bay of Plenty

of the fact they own the facilities. The new port company will not have any more control over their assets than the Harbour Boards.

To be successful in the future, port companies must have more control over activities in the port and establish guidelines for private companies who wish to operate on port company property. These and other changes will be required if our port is to remain competitive.

Industrial Relations

The year under review saw the first full period of operation under the Labour Relations Act. It was under those new provisions as well as those of the Port Companies Act which determined the principles under which staff were transferred into the port company structure. Demarcation issues were being addressed by the Labour Court to determine work coverage provisions on the wharves.

Staff

In the rationalisation leading up to the formation of the Port Company 24 people voluntarily terminated their employment, most of whom had in excess of 10 years service with the Board.

Epilogue

This year has been difficult for those associated with the Harbour Board. The uncertainty created by government restructuring proposals, the short time frame to implement those proposals and the various perceptions held as to how the new structures be best developed all contributed to pressure on time and patience. I would compliment all Harbour Board members and staff for their tolerance and forbearance throughout the year.

I would like to record my appreciation to those Members of Parliament who have been ready to meet with us to discuss concerns and to journalists who have assisted the Harbour Board in informing the public about the port.

I record my appreciation to Harbour Board members and in particular my Deputy, Tony Grayburn for their support and encouragement throughout the year.

My sincere thanks go to General Manager, Mike Williams and his senior executive staff for the exemplary manner in which they have assisted me by carrying out their duties which were considerably above normal this year.

The staff and members of the Bay of Plenty Harbour Board have served this port with distinction, particularly since 1953 when the new port was established at Mount Maunganui. The port's record of growth has been a major factor in the development of the Bay of Plenty.

While the fact that the Harbour Board has handed over its major functions to the Port Company is a great sadness to me, I believe the Port of Tauranga will continue to develop and prosper and serve the area for the benefit of all.

F.G. McKenzie, Chairman

Port of Halifax, 1988

(Continued from Page 39 Col. 2)

the world. In terms of TEUs, Halifax handled 199,000 inbound and 213,000 outbound.

The Port's total bulk traffic fell by 2% in 1988, primarily due to low crude and refined oil movements. On the positive side, grain cargo fell by less than 13%, admirable in light of the summer Prairie drought which cut Canadian exports in half. High volume gypsum movements increased yet again to a level of 3.2 million tonnes, up by 6% over 1987 levels.

Indications are that 1989 will be another record-breaking year. The newest shipping services are building cargo volumes, and mature callers continue to experience traffic gains. To serve these carriers optimally, the Port has a continued commitment to facility investment, exhibited this year by Pier B redevelopment work.

PSA PORTNET System Operational by October

By Chung Suat Lay

Cargo Systems Department

When the PORTNET system for cargo operations is fully implemented by October 89, the shipping community will be able to clear documents at the press of a button, whether delivering cargo from or bringing cargo into the port. This is achieved through the electronic pre-operations processing facilities provided by PORTNET.

Inward Cargo

For Shipping lines/agents who are receiving cargo manifests electronically from their overseas counterparts, a computer-to-computer link can be established with PSA to transmit the details of the cargo manifests from their computers to PSA's.

For manifests that are not transmitted electronically, shipping lines/agents will be able to use the Inward Declaration submitted by traders to submit their manifest for import cargo when authorising delivery. However, they are required to key in the manifests for transshipment cargo. Within 3 days of completion of discharge of vessel, shipping lines/agents have to submit the outstanding manifest details to PSA for checking of cargo balance.

Authorisation of delivery to consignee by shipping lines/agents is done via PORTNET instead of raising Delivery Orders. This is an example of moving to paperless transactions through EDI. Consignees can access the system to nominate their freight forwarders to deliver the cargo. If they have arrangements with specific freight forwarders, they can indicate this to the system. The system would retrieve and display this on the screen for all his cargo consignments, thereby minimising data entry.

Once nominated by the consignee, the freight forwarder too has the option of specifying a particular driver to take delivery of the cargo.

At the freight station or godown, the lorry driver will load the cargo for delivery. He will then register the delivery through self-service terminals (SST) located in the godown. The SST will then print the Delivery Note. These

terminals are similar to ATMs (Automated Teller Machines) and the driver will use his PSA card to activate the transaction.

At the out-gate, the PSA Police checks the cargo and retains the lower portion of the Delivery Note.

Outward Cargo

When the shipping line/agent accepts a booking, he has to key in the booking reference to indicate that the shipment is approved. PORTNET will then accept the cargo details keyed by the shipper (or freight forwarder on behalf of shipper) for shipment of cargo on-board the vessel.

The process of nominating the freight forwarder and registering the cargo brought into the port is similar to the Inward Cargo Operations. Before leaving the port, lorry drivers have to obtain PSA's endorsement on the off-loading slip printed by the SST.

To account for the cargo loaded on board the vessel, the Loading Progress List (LPL) is printed at the start of loading operations for shipping lines/agents' checkers to record the cargo loaded. At the end of each shift, an updated LPL will be printed to replace the previous LPL. After loading, a preliminary outward manifest can be printed for the ship master before the vessel unberths. For dutiable and controlled cargo loaded, a Load List indicating all Customs permits obtained electronically through TRADENET will be printed for the ship master's endorsement. This will then be forwarded by shipping lines/agents to the Customs.

Transshipment of Cargo

Shipping lines/agents of the first carriers nominate the second carriers through PORTNET. The second carriers' shipping lines/agents will in turn approve the shipments. These approvals constitute authorisation for PSA to remove the cargo from the stock godown to the loading godown.

Benefits of PORTNET

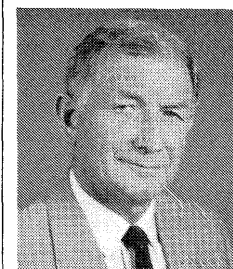
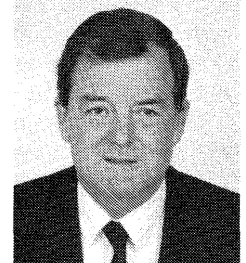
PORTNET provides for electronic data communication and sharing of information among the parties involved in the sea cargo trade. It does away with the time consuming process of handling paper documents, enabling faster flow of information and thereby

faster delivery and receipt of cargo at the port. There are also significant savings in paperwork and the associated cost in raising multiple documents and obtaining signatures. (PSA News)

Port Rashid Authority's New General Manager

Mr. John Arundell, General Manager of the highly successful Port Rashid in Dubai, is to leave the port

Mr. Arundell
Outgoing General Manager
of Port Rashid



Mr. Gibbons
New General
Manager of Port
Rashid

on 1 March 1989. Port Rashid is managed for the Ruler of Dubai by Gray Mackenzie International who are part of the worldwide Inchcape Group, and it is expected that Mr. Arundell will remain within the Inchcape Group where he will be involved with a project in the Far East.

Mr. Arundell has been in the Middle East for 15 years and during his tenure as General Manager at Port Rashid has guided Port Rashid through four successive years of growth and development with cargo volumes increasing by 40% to establish Port Rashid as the premier port in the Arabian Gulf.

His successor is Mr. David Gibbons who was formerly with MATSS, Gray Mackenzie's joint venture company in Saudi Arabia, where he was Chief Executive between 1985 and 1988. Amongst other activities, MATSS was contracted to provide management consultancy services to the Saudi Ports Authority in Riyadh, management services in Jeddah Islamic Port and Jubail Ports, and stevedoring services in Yanbu Commercial Port.

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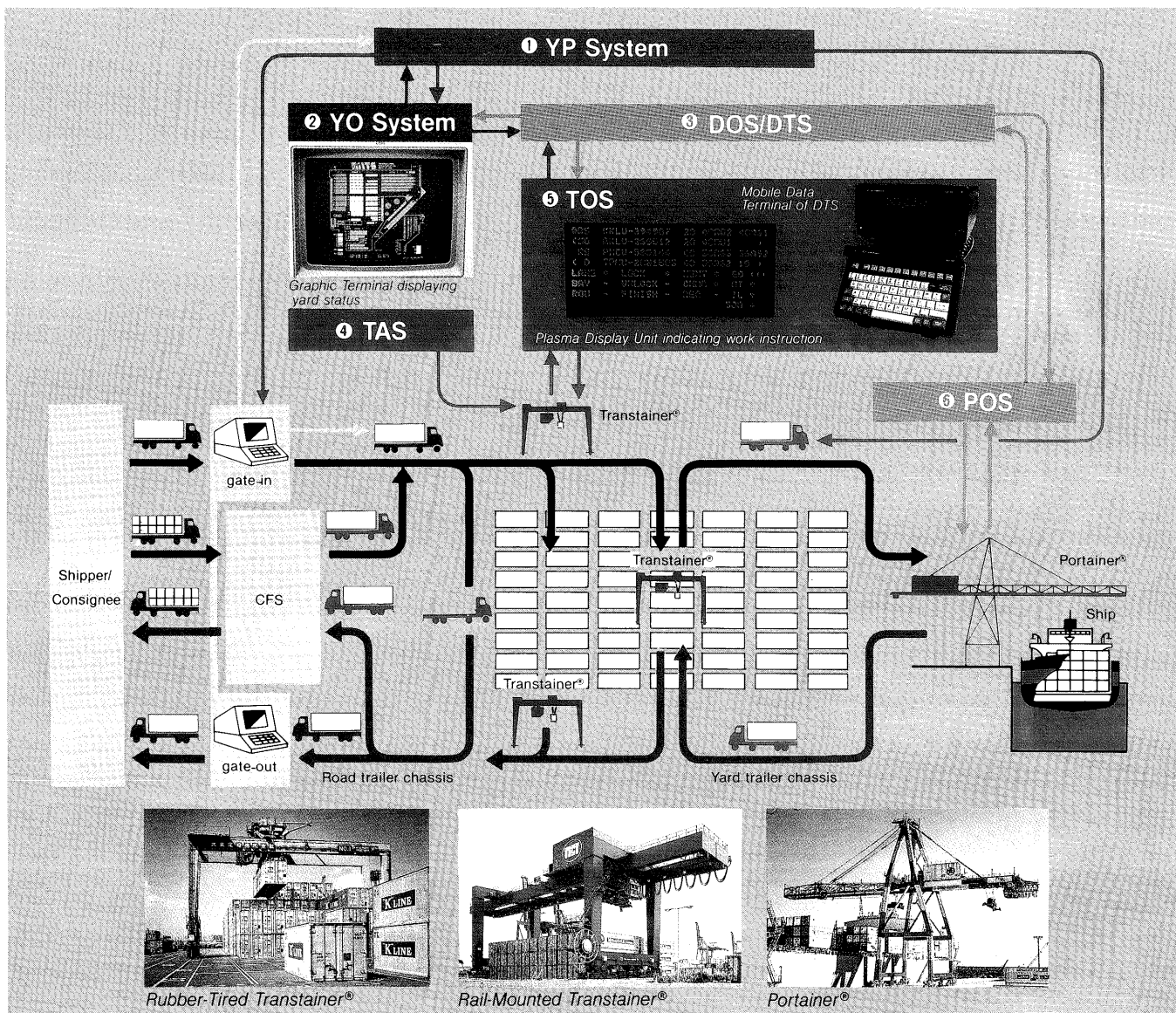
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- ① YP System: Yard Plan Computer System
- ② YO System: Yard Operation Computer System
- ③ DOS: Data Transmission & Oral Communication System (Inductive radio)
- ④ TAS: Transtainer® Automatic Steering System
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-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



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