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INTERNATIONAL ASSOCIATION OF PORTS AND HARBORS · IAPH

The Publisher
The International Association of
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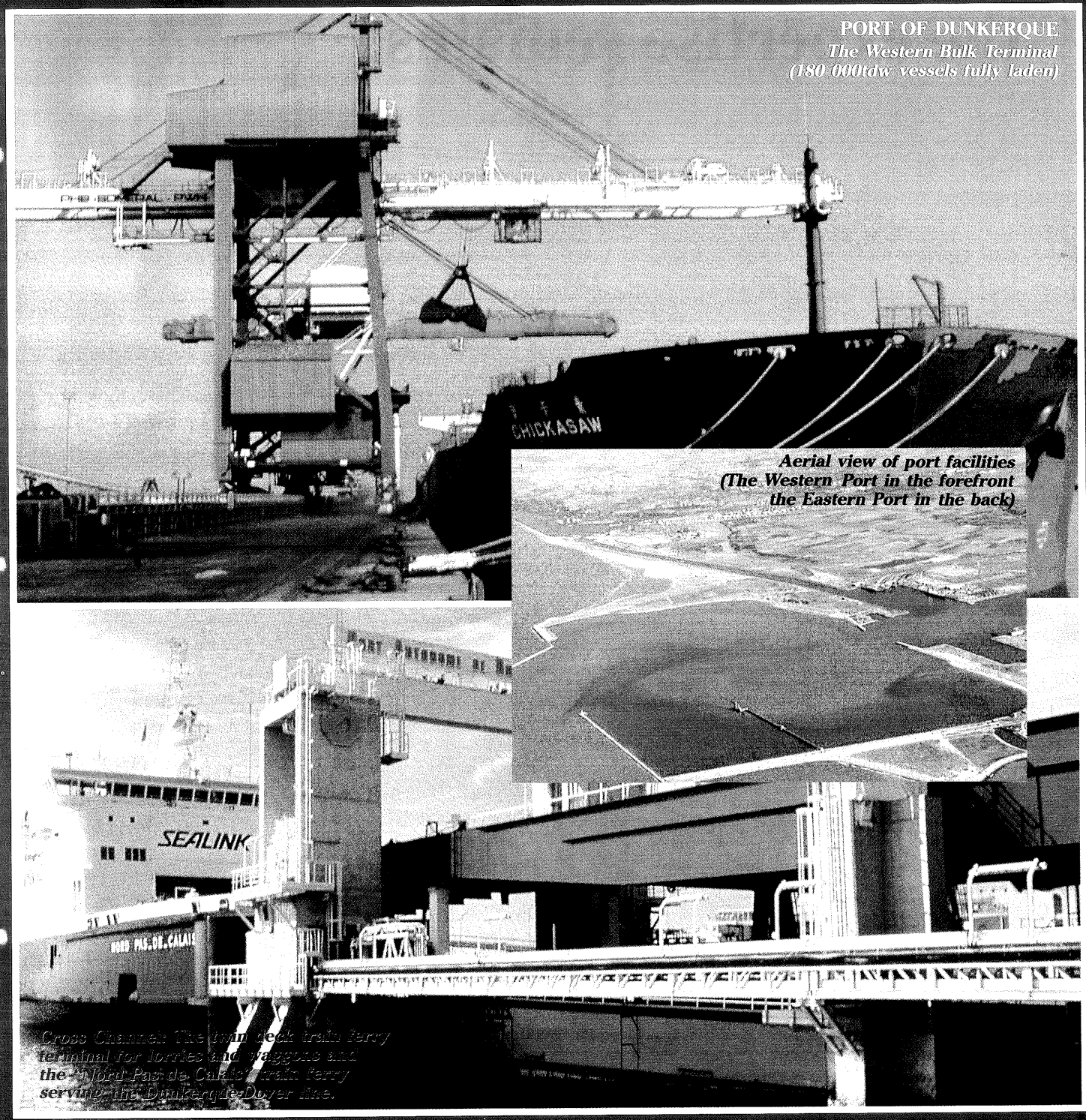

PORT OF DUNKERQUE
The Western Bulk Terminal
(180 000tdw vessels fully laden)

Aerial view of port facilities
(The Western Port in the forefront
the Eastern Port in the back)

Cross Channel: The twin deck train ferry terminal for lorries and waggons and the "Nord Pas de Calais" train ferry serving the Dunkerque-Dover line.

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Ports & Harbors

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Contents

IAPH ANNOUNCEMENTS AND NEWS
Exco Meeting in Fremantle: Evening Function Updated ● Report on LDC Group of Experts Meeting 3
New PACOM Chairman, Members Appointed ● Erosion of Monetary Values: IAPH Views Submitted to IMO 4
Survey on Container Dimensions Completed ● Study for ESCAP Re Over-size Containers 6
IPD Fund: Contribution Report 7
Membership Notes 27
OPEN FORUM
The Introduction of Over-size and High Cube Containers in Port Operations and Hinterland Connections 8
Meeting Report: Group of Experts on the Annexes of LDC Third Meeting January 15-19, 1990 12
INTERNATIONAL MARITIME INFORMATION
WORLD PORT NEWS
IHE Seminar on Port Management 17
Port Training Program in May in New Orleans ● Miami Conference: Terrorist Acts, Drugs 18
FIATA Congress in Glasgow September 9-12 ● Container Trade, Investment Growth Seen 19
Exhaust Emissions From Ships — a Global View 21
New Publications 23
The Americas
Gold-headed Cane to Captain Woods 24
Open for Business 365 Days a Year 25
Mr. Fyfe Elected Nanaimo Chairman ● Cameron Development Proceeding on Schedule ● Vancouver Posts Second Highest Tonnage Total ● Pollution Control Strict at Vancouver 26
Cargo Movements Through US Ports on the Increase 28
Port of Corpus Christi: Record Tonnage Again ● Houston Expects Steady Tonnage Increases ● '89 Tonnage at Houston Record for Second Year 29
To Expand Liquid Bulk Facilities at JAXPORT 30
Customer Service Expanded at Baltimore ● 2020 Program Office at WORLDPORT LA ● NCSPA Looks to Improving Conditions 31
North Carolina Ports Continue to Post Profit ● Pilot Project to Speed Up Cargo Clearance 32
Environmental Unit Formed at Oakland 33
Recovering Rapidly From Quake Damage ● Port of Seattle Studying Teleport Development ● Port of Tacoma Sets Cargo Movement Record 34
Africa/Europe
2 More Cranes for Limassol Terminal ● Bordeaux: 1989 Results, Prospects for 1990 35
Le Havre: Control of Bridges, Docks ● Rouen Users' Association Explains Activities 36
Bremerhaven Car Turntable in Full Swing 37
New Ro/Ro Terminal in Port of Lisbon ● Chairman of Clyde Port Authority Knighted 38
Asia/Oceania
Transport Minister Urges Australian Port Reforms ● Fremantle Launches EDI Information Service ● Fremantle: Wharfage Cut to Boost Cargo 39
PMA Corporate Plan 1989/90 in Brief 40
EDI Shipping's Future? 41
HK Transport Strategy for the Dacade Unveiled ● HK Continues to Be Largest Container Port ● Iran Rebuilding Khorramshahr Facilities ● Yokohama Symposium on Port Development 43
Expansion Project for Johor Port in Progress 44
On-line Info Service Launched at Johor Port ● Port Klang West Port Development Approved ● KPA Training Facility for Port Executives 45
New Radio Transmission System Adopted at KCT ● Kelang Terminal Orders Container Crane ● Penang Development in Full Swing 46
South Pacific Ports Conference at Tauranga ● HYCO Reach Stacker ● Tighter Security, Drug Control at Wellington 47
Services Improved at Manila Terminal ● To Minimize Disparity of Cargo-handling Rates ● Marketing Seminar for PPA Officers, Staff ● Jebel Ali: Sustained Growth in Tonnage 48

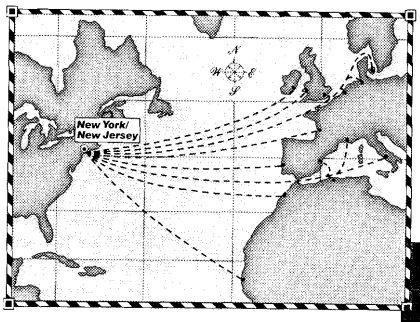
Stephen Berger,
Executive Director
Port Authority of NY & NJ

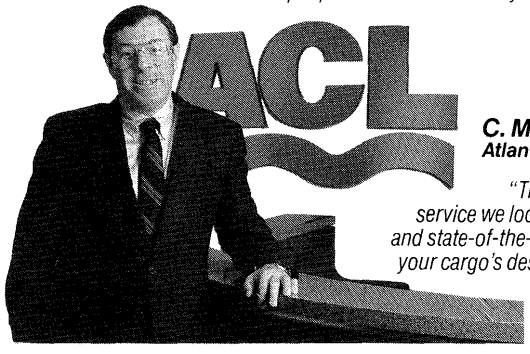
Lillian C. Liburdi,
Director
Port Department

"Geography makes us first. Our people make us fast. Together that makes us...

EXPRESSPORT

"Nowhere but in the Port of New York-New Jersey will you find the natural advantages of location and the very best facilities combined with solid experience and an unflagging commitment to the special needs of our customers. In the global marketplace, the road to business success passes first through the Port of New York-New Jersey. Let our people and services show you the way."





C. Michael Morse
Atlantic Container Line

"The Port of New York-New Jersey offers the all-around, first-class service we look for in a port; efficient facilities, qualified and dependable labor and state-of-the-art information systems that keep our ships on schedule. When your cargo's destined to the Port of New York-New Jersey, it can reach one-third of the population of the United States and Canada—overnight!"

Thomas Adamski
East Coast
Intermodal Systems

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Rahman Muhammad
Conrail

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Joseph Curto
Maher Terminals

"The Port of New York-New Jersey is the biggest and the best, and we'll put it all to work for you. We offer strategic location, a comprehensive transportation network, the most efficient labor, the best facilities and newest equipment in the trade. We also offer something no one can duplicate: a commitment to service that keeps the customer first; a commitment that's second to none."

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For information contact: *Keiji Imai, Director, Asia Pacific Region 213-2856/8*

IAPH ANNOUNCEMENTS AND NEWS

Exco Meeting in Fremantle: Evening Function Updated

According to Mr. Trevor Poustie, Chairman and General Manager of the host port, the reception which was formerly scheduled for the evening of May 9 has been rescheduled to take place on the evening of Friday, May 11, 1990 as the last activity of the formal programme.

An updated schedule is as follows:

Mid-Term Meetings of IAPH Committees in Fremantle

(As of February 28, 1990)

Day				0900/1200	1400/1700	Evening
Sun,	May	06,	1990	Registration Early Birds- Tour of Perth/Fremantle	Registration	Free
Mon,	May	07,	1990	CLPPI/PACOM/TF	CLPPI/PACOM/TF	Free
Tue,	May	08,	1990	**COPSSEC** **CHO**	**COPSEEC** **MEMBER/C-BL**	**IAPH Reception**
Wed,	May	09,	1990	**FINANCE**	Official Opening	**City of Perth Lord Mayoral Reception**
Thu,	May	10,	1990	**EXCO**	**EXCO**	**City of Fremantle Mayoral Reception**
Fri,	May	11,	1990	**EXCO**	**EXCO**	**Port of Fremantle Dinner**
Sat,	May	12,	1990	Departure — Post Conference Tours		

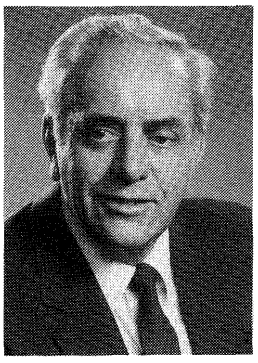
EXCO	Executive Committee (IAPH President: J.M. McJunkin, Long Beach)
C-BL	Constitution and By-Laws Committee (Chairman: R.P, Leach, Houston)
FINANCE	Finance Committee (Chairman: C.R. Langslet, Long Beach)
MEMBER	Membership Committee (Chairman: John Mather, Clyde Port)
CLPPI	Committee on Legal Protection of Port Interest (Vice-Chairman: P. Keenan, Cork)
PACOM	Public Affairs Committee (Chairman: Bob Calis, Fraser River Harbour)
TF	Trade Facilitation (Chairman: Fernand Suykens, Antwerp)
COPSSEC	Committee on Port & Ship Safety, Environment and Construction (Chairman: J. Smagghe, Le Havre)
CHO	Cargo Handling Operations Committee (Chairman: Bob Cooper, Auckland)
*CIPD	Committee on International Port Development (Chiarman: C. Bert Kruk, Rotterdam) - No meeting is planned, but the Chairman comes to Fremantle for his report to the EXCO.

Report on LDC Group Of Experts Meeting:

— *toward a ban on ocean dumping* —

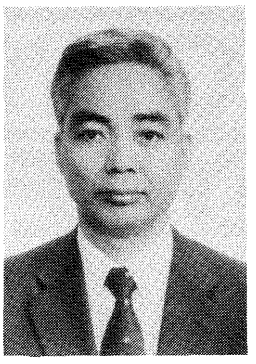
Mr. Herbert Haar, Jr. (Port of New Orleans), Chairman of the Dredging Task Force, has recently sent the Secretary General a report on the "Group of Experts on the Annexes of LDC" third meeting held in London from January 15-19, 1990. The report was prepared by Dr. Willis Pequegnat, IAPH's consultant in dredging, and circulated to the DTF members as part of documents for use at the forthcoming meeting of the Dredging Task Force, which is scheduled for May 7 in Fremantle.

Chairman Haar comments that the recent LDC meeting shows a strong new move by environmental protection entities to move toward a ban on the ocean dumping of any dredged mateiral. The report is introduced on pages 12-16 of this issue for the benefit of all members of IAPH, who, Chairman Haar says, will be hearing a lot more on these initiatives at future LDC meetings.



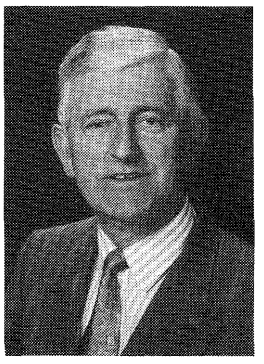
Mr. Calis

Mr. Poustie



Mr. Ashimi

Mr. Halling



Mr. Shanley

New PACOM Chairman, Members Appointed

Mr. A.F. (Bob) Calis, Commissioner, Fraser River Harbour Commission, Canada, who has been serving as the PACOM's Vice Chairman, has been appointed to chair the Public Affairs Committee (PACOM), succeeding Mr. R.N, Hayes, who retired from the Dublin Port and Docks Board in mid January 1990.

The other members newly appointed were **Mr. Trevor Poustie,** Chairman and General Manager, the Port of Fremantle Authority, **Mr. Tadashi Ashimi,** Director General, Port and Harbour Bureau, City of Osaka, **Mr. J.M. Halling,** Chief Executive, Port of Tauranga (in replacement of Mr. F.M. Williams), and **Mr. N. Shanley,** General Manager, Dublin Port and Docks Board.

Secretary General Kusaka wrote to Mr. Hayes expressing the Association members' appreciation for the valuable contribution he had afforded IAPH.

Erosion of Monetary Values: IAPH Views Submitted to IMO

At the initiative of Mr. Paul Valls (Bordeaux, France), Chairman of the Committee on Legal Protection of Port Interests (CLPPI), IAPH has submitted the following paper to the IMO presenting IAPH's viewpoint on the problems linked to the limitation of liability for consideration at the forthcoming IMO Diplomatic Conference on the Revision of the 1974 Athens Convention.

In view of the urgency of the matter, the presentation of the paper was authorized by the President as provided for in the By-laws (Resolution on Delegation), on the basis of advice obtained from our Legal Counselor Mr. Falvey of New York.

The paper presented was as follows:

Ref: International Conference on the Revision of the 1974 Athens Convention

THE LIMITATIONS OF LIABILITY IN MARITIME TRANSPORT AND THEIR PEGGING TO THE VALUE OF THE INTERNATIONAL MONETARY FUND'S SPECIAL DRAWING RIGHTS (SDR)

(An Information Note Submitted by the IAPH)

IAPH wishes to submit the following reflections on the conditions of compensation for the victims of major maritime disasters, given the principle of the limitation of liability of a carrier and the evolution over time of the International Monetary Fund's Special Drawing Rights (SDR).

It raises this question on behalf of Port Authorities, who sometime find themselves the authors of damage for which they are liable but are more often than not the victims of damage to their personnel or facilities. We see the situation as follows:

1. The Principle of the Limitation of Liability of the Maritime Carrier

This principle has traditionally been conferred on the carrier. It has provided the security which was indispensable for the exercise of his activities, given the numerous risks of the sea to which he is exposed, and has enabled him to cover his liability through the insurance industry.

The principle has validity only when the compensation for victims is equitable in all respects.

2. Fixing the Limitation Amounts

Since the 1976 London Convention, limitation amounts have been expressed in the IMF's SDR (or in the unit of account defined by State Parties who are not members of the IMF).

The SDR, however, is a complex composite of several major world currencies and is also subject to monetary erosion.

When translated into purchasing power as compensation for injury or damage, it can be seen to be undergoing

regular erosion.

3. The Lengthy Process of Drawing Up International Conventions

The lapses of time between the following phases of a convention are considerable:

- the examination of a draft in Committee, then at a Diplomatic Conference until its adoption; and
- the entry into force of the new convention, following the required number of ratifications.

The 1976 London Convention, for example, only entered into force on 1st December 1986.

In the same way, the process affecting revisions in the limitation of liability amounts has tended to become extended. Thus, as we see, the draft text for the revision of the 1974 Athens Convention on the Carriage of Passengers and Their Luggage provides for a series of phases involving a minimum of 8 years to complete. In addition, it stipulates maximum rates of increase when these amounts are updated.

4. Evolution in the Purchasing Power of the SDR

Using the example of the 1976 London Convention, the erosion of the purchasing power of the SDR between the inception of discussions in 1976 and the date of its entry into force on 1st December 1986 was approximately 65% in the Japanese, 45% in the French, 50% in the Canadian and 50% in the Danish markets.

The trend continues, while a revision to the limitations of this convention has not yet been inscribed in the work programme.

We have attached an annex* to this Note comprising a table which establishes the evolution from January 1976 to October 1989 of the value of the SDR with respect to some of the major world currencies. Fluctuations have been considerable over the years and can be complemented by the interior fluctuations in purchasing power within each nation.

* (Due to the space available, the attached annex has been omitted.)

We note, however, that later proposed conventions include a process for speeding up the review of the adequacy of the amounts of compensation where liability is limited. For example:

Revision of limitation amounts

(1) At the request of at least one quarter of the State Parties, the depository shall convene a meeting of a Committee composed of a representative from each Contracting State to consider increasing or decreasing the amount in article 6.

(2) If this Convention enters into force more than five years after it was opened for signature, the depository shall convene a meeting of the Committee within the first year after it enters into force.

(3) The meeting of the Committee shall take place on the occasion and at the location of the next session of the United Nations Commission on International Trade Law.

(4) In determining whether the limits should be amended, and if so, by what amount, the following criteria, determined on an international basis, and any other criteria considered to be relevant, shall be taken into consideration:

(a) The amount by which the limits of liability in any transport-related convention have been amended;
(b) The value of goods handled by operators;
(c) The costs of transport-related services;
(d) Insurance rates, including for cargo insurance, liability insurance for operators and insurance covering job-related injuries to workmen;
(e) The average level of damages awarded against operators for loss of or damage to goods or delay in handing over goods; and
(f) The costs of electricity, fuel and other utilities.

(5) Amendments shall be adopted by the Committee by a two-thirds majority of its members present and voting.

(6) No amendment of the limits of liability under this article may be considered less than five years from the date on which this Convention was opened for signature."

Conclusion

Taken together, the various aspects which have been mentioned:

- considerably reduce the compensation accorded to victims of maritime disasters;
- tempt certain courts to break the limitation of liability, however, carefully worded international conventions may be; and
- might inhibit certain States from ratifying conventions which may bind them more strictly than they desire.

This situation is prejudicial to the harmony and effective operation of International Maritime Law and it is to be hoped that IMO can find a solution to it.

Survey on Container Dimensions Completed

The Cargo Handling Operations Committee of IAPH chaired by Mr. Robert Cooper of Auckland, New Zealand, has been conducting a survey on the impacts on ports from the changes in the dimensions and weight ratings of ISO containers. Along with the Committee's guidelines as reached at the Miami Conference, the Tokyo Head Office circulated a questionnaire form to all Regular Members of IAPH in June 1989. The items IAPH members were asked to reply included:

- the current situation and future plans concerning the handling of ISO containers
- use of terminal and berths (common use/exclusive use)
- throughput of single client terminals
- questions of changed container dimensions/ratings with shipping lines/government agencies/ container handling equipment manufacturers, etc.

By the end of last year, altogether 97 out of the 227 recipients of the questionnaire, representing 40 countries, had returned the completed forms.

The Tokyo Head Office in consultation with the CHO Chairman Mr. Robert Cooper has recently compiled the survey result into a report and plans to print it for distribution to all IAPH Regular Members and a limited number of international organizations.

In this connection, Chairman Cooper represented IAPH at the United Nations Economic Commission for Europe Seminar in Geneva on The Impact of Increasing Dimensions of Loading Units on Combined Transport. The report of the Seminar, which was made available to the Tokyo Head Office through Mr. Cooper, is also to be included in the survey report.

The Chairman's introductory words to the report are reproduced below.

On behalf of the Cargo Handling Operations Committee, I would like to thank all those members who responded to the survey on the Implications of Changed Dimensions and Ratings of ISO Containers.

The survey has been completed and the analysis of the results should make interesting reading.

The importance of the subject remains and there is little doubt that the pressures for increased dimensions will continue, be they from the road or rail sectors, manufacturers looking to optimise the shipment of their particular products, or from shipping lines looking to exploit an opportunity for a competitive edge.

It is the view of your Committee, that whilst ports must be seen to be responsive to customers' changing demands, there is also a responsibility to protect existing investments and ensure that customers are aware that the costs of any re-equipment will be allocated appropriately.

We would still welcome any response or comments from members who did not respond to the initial request.

Robert Cooper
Chairman
Cargo Handling Operations Committee

The report contains the following information:

1. Analysis of respondents
   1.1 List of respondents
   1.2 Countrywise breakdown of respondents
2. Number of ports handling ISO containers
3. Total port container throughput
4. Use of terminals and berths
   4.1 How the terminals are used
   4.2 How the terminal berths are used
5. Throughput of single client terminals
6. Discussion of the question of changed container dimensions/ratings with the parties concerned
7. Types of port/terminal equipment used to handle containers

(Continued on Page 27)

Study for ESCAP Re Over-size Containers

Mr. C. Bert Kruk, Director, Technical and Managerial Port Assistance Office (TEMPO), the Port of Rotterdam, jointly with Mr. Tom C. Dekker, Senior Researcher, Department of Economic Research and Development of the Port Management, has executed a study on "the introduction of over-size and high cube containers in port operations" and hinterland connections at the request of the Economic and Social Commission for Asia and the Pacific (ESCAP) in Bangkok, Thailand.

Through the good offices of Mr. Kruk, who serves as Chairman of the IAPH Committee on International Port Development (CIPD), IAPH has been given permission by ESCAP to publish a summary report of the study, which is featured later in this issue. (See the article on pages 8-12)

IPD Fund: Contribution Report
No progress in fund-raising campaign

We regret we must report that there has been no progress in the fund-raising campaign since the last announcement. To achieve the goal, we still need to raise US$15,000, or a little over 20% of the targetted amount of US$70,000.

According to the chief accountant of the IAPH Secretariat, during 1989 a total of 12 bursaries were awarded and the balance carried over to the new term was US$40,000, including the amount so far received in contributions over the past several months. The recipients (organizations) and the courses they attended were as follows.

Thomas Ancil Rivers (PLPDECO, Trinidad & Tobago) — IPPPM New Orleans — April

F.N. Ukonu (Nigeria Ports Authority) — PACT Rotterdam, May/June

D.M. Kabungo (Kenya Ports Authority) — the IHE, Delft, May/June

Lam Loong In (Mauritius Marine Authority) — PACT Rotterdam, May/June

Augustine Adrian Yapp (Sabah Ports Authority) — the IHE, Delft, May/June

S. Vakatora (Ports Authority of Fiji) — PSA Course, June

Naginu Omaru Denn (Gambia Ports Authority) — PACT Rotterdam, May/June

M. I. Papaiacovou (Cyprus Ports Authority) — IPER/UNCTAD, Le Havre, June

Razak Salim (Bintulu Port Authority) — IPER Le Havre, June

G. Seewoopersad (Mauritius Marine Authority) — Humberside, U.K., September 89 — May 1990

Mr. J.M. Mabasso and S. Lucas Inguana (Port of Maputo, Mozambique), JOBMAR, Rostock, DRG, June/July/August

Pedro Rodriguez (ENAPU, Peru) — PACT Rotterdam, August/September

The CIPD Chairman has announced that for the purpose of making the financial assistance available to as many applicants as possible, the number of bursaries to be awarded to one member port will not be more than one per two years, effective from 1990.

Contributions to the Special Fund (As of March 10, 1990)

Contributors Paid	Amount Paid: (US$)
Associated British Ports, UK	3,000
South Carolina State Ports Authority, USA	1,000
Cyprus Ports Authority, Cyprus	700
Japan Port & Harbor Association, Japan	450
Toyo Construction Co., Ltd., Japan	234
Toa Corporation, Japan	500
Port Alberni Harbour Commission, Canada	200
Korea Dredging Corporation, Korea	300
Port Authority of New York & New Jersey, USA	1,000
Vancouver Port Corporation, Canada	1,000
Klang Port Authority, Malaysia	200
Saeki Kensetsu Kogyo Co., Ltd., Japan	250
Penta-Ocean Construction Co., Ltd., Japan	1,000
All French Ports by UPACCIM*	1,560
Shimizu Construction Co., Ltd., Japan	390
Taisei Corporation, Japan	390
Japanese Shipowners' Association, Japan	390
Port of Redwood City, USA	100
Puerto Autonomo de Barcelona, Spain	991
Port Authority of Thailand	100
Port Rashid Authority, UAE	500
Japan Cargo Handling Mechanization Association	390
Obayashi Corporation, Japan	400
Port of Copenhagen Authority, Denmark	1,000
Clyde Port Authority, UK	1,000
Public Port Corporation II, Indonesia	150
Toyama Prefecture, Japan	420
Georgia Ports Authority, USA	1,000
Port of Oakland, USA	350
Kuantan Port Authority, Malaysia	200
Port of Seattle, USA	1,000
Kajima Corporation, Japan	420
Port of Reykjavik, Iceland	500
Canada Ports Corporation, Canada	250
Nigerian Ports Authority, Nigeria	250
Port of Montreal, Canada	1,000
Ports Public Authority, Kuwait	1,000
Tanzania Harbours Authority	200
Junta del Puerto de Gijon, Spain	500
Sharjah Ports Authority, U.A.E.	500
Port of Yokohama, Japan	4,950
Port of Long Beach, USA	1,000
Mauritius Marine Authority	200
Chiba Prefecture, Japan	403
Dr. Frederik K. DeVos, Canada	100
Tokyo Metropolitan Government, Japan	3,941
IAPH members in the Netherlands**	3,209
Mr. Robert W. Innes, Canada	250
Autorite Portuaire Nationale (APN), Haiti	100
Hiroshima Prefecture, Japan	666
City of Kobe, Japan	4,438
Port of Houston, USA	1,000
Port Authority of Fiji, Fiji	300
Osaka Port Terminal Development Corp., Japan	697
Port of Halifax, Canada	300
Nagoya Port Authority, Japan	3,033
Kawasaki City, Japan	1,444
Port of Nanaimo, Canada	200
Niigata Prefecture, Japan	362
Maritime Services Board, N.S.W., Australia	390
Kobe Port Development Corp., Japan	698
Solomon Islands Ports Autho., Solomon Islands	100
Gambia Ports Authority, Gambia	100
7 Ports of New Zealand***	1,000
Cyprus Ports Authority, Cyprus ****	700
Port of Hakata, Japan	985
Total:	**US$ 55,351**

Pledged: Nil

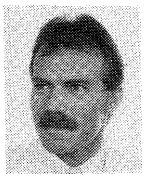
* *Union of Autonomous Ports & Industrial & Maritime Chamber of Commerce*

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

*** *Ports of Auckland, Port of Napier, Northland Port Corporation, Southport (NZ), Port Taranaki, Port of Tauranga, Port of Wellington*

**** *Contribution made for the second time in this fund raising term*

Mr. Kruk



OPEN FORUM

Mr. Dekker

The Introduction of Over-size and High Cube Containers in Port Operations And Hinterland Connections

By C. Bert Kruk, Director
Technical and Managerial Port Assistance Office (TEMPO),
and
Tom C. Dekker, Senior Researcher
Department of Economic Research and Development
Rotterdam Municipal Port Management,
Rotterdam, the Netherlands

February 1990

Note

This paper is a summary of the findings, conclusions and recommendations of a study of the Technical and Managerial Port Assistance Office (TEMPO) of the Rotterdam Municipal Port Management executed at the request of the Economic and Social Commission for Asia and the Pacific (ESCAP) in Bangkok, Thailand.

In view of the importance of the subject to all ports in the world, and therefore to all IAPH members, TEMPO sought and was given permission by ESCAP to publish this article.

Introduction

In the latter half of the last decade, the international port and transport community was confronted with the introduction of containers longer and higher than the common ISO standard containers.

The members of the port and transport world, particularly developing countries, are still adjusting themselves to handling and transporting standard ISO 20 ft and 40 ft containers of which the majority are 8 ft 6 inches high. Intermodal transport, first introduced in the United States of America, has led to the development of longer and higher containers. First came 45 ft and 48 ft boxes and now 52, 53 and even 60 ft boxes are already existing or planned. Container heights increased to 9 feet 6 inches, the latter being more popular.

If these containers had remained in the USA, there would have been no reason to write this paper.

They did not, predictably, and were incorporated into the maritime fleet. Soon they were seen in other ports in the world as well.

As soon as this happened, it became clear that many problems in the transport and handling of these large containers in ports, but above all in hinterland transport, could be expected.

The IAPH also became concerned about these developments, as was for instance expressed at the Miami Conference in 1989.

The Chairman of the Cargo Handling Committee, Mr. Robert Cooper, the Chairman of the Committee on Port and Ship Safety, Environment and Construction, Mr. Jean Smagghe, and the author C. Bert Kruk (the Chairman of the Committee on International Port Development) identified several problems anticipated and warned against a full-scale introduction of these containers.

Also, in the maritime press articles about this problem appeared and organisations like the Economic Commission for Europe (ECE) and the Economic and Social Commission for Asia and the Pacific (ESCAP) expressed their concern.

The ISO Working Group which deals with the standards of containers has already devoted much time to the subject. At a recent container and multimodal conference held in Hamburg, West Germany, a full session was devoted to standards in transportation.

The present status is that the Working Group intends to make a recommendation to add to the present container standards the dimensions of:

49 feet long,
9 feet 6 inches high
and 8 feet 6 inches wide.

It should be mentioned here that, in case this proposal is accepted, it may still take some 10 years before this recommendation is made an official (additional) standard.

At the Twelfth ESCAP Session held in Bangkok in December 1988 the Committee on Shipping, Transport and Communications noted that the introduction of high cube and over-size containers might pose particular problems for the developing ports in the ESCAP region. The Secretariat was requested to undertake an impact study on the costs and benefits of these latest developments in containerisation.

Since UNCTAD was already taking action in this field,

it was proposed that UNCTAD and ESCAP undertake a joint study which would include case studies from the ESCAP region.

ESCAP requested TEMPO to execute this project in Asia.

The purpose of this article is to report on the major findings, conclusions and recommendations of this study.

A MAERSK trailer

Terms of Reference of the Project

The terms of reference of the study assigned by ESCAP were as follows:

- the estimation of the present and future demand for inland movement of ISO containers, and in particular high cube and over-size containers;
- the identification of constraints in handling and transport of non-ISO standard containers in ports, rail, road and inland waterway trunk routes;
- the recommendation of alternative methods to alleviate these constraints including the stripping of containers; and
- the provision of broad estimates of the costs/benefits of the implementation of these recommendations.

The study entailed the following components:

- the execution of a desk study about this problem;
- the drafting of an initial report;
- the drafting of a questionnaire to be sent to a large number of ports in the ESCAP Region in order to quantify the penetration of this new generation of containers in the region and to obtain information of problems encountered;
- the execution of a field mission to India, Thailand, the Philippines and Indonesia to investigate the problems in a selected number of ports and hinterland trunk routes; and
- the drafting of a final report on the activities undertaken, including conclusions and recommendations.

Major Findings

- As to the date of the submission of the report, no complete data on the exact number of high cube and over-size containers could be obtained. The latest survey (1986 data supplied by Containerization International) lists the following numbers:
  - Over-size containers formed approx. 1%, and
  - High cubes formed approx. 3%

of the world container population which, in 1986, amounted to 3.62 million units.

- The introduction of containers larger than the standard ISO dimensions does not always have to lead only to negative effects. Depending on the local circumstances in each country, the following advantages may come into focus:
  - The number of container movements in the port(s) is reduced. If a uniform box tariff is applied, the use of larger containers may lead to a decrease in the market price of the product in the container.
  - If road, rail and/or inland waterway transport allow the transport of larger containers, the number of movements may be reduced, leading to savings in energy consumption and reduction of pollution.
  - Most container movements in the vicinity of ports are by means of road transport, often in a congested area. Larger containers may reduce the number of transports and thereby contribute to a reduction of this road congestion.
  - Larger containers have specifically been developed for the movement of so-called volume products (low weight combined with a large volume). Many developing countries export such products and could achieve competitive market prices by the introduction of larger containers.
- At least in the countries/ports visited, the introduction of non-ISO standard containers does not necessarily require adaption to and/or investment in infrastructure such as roads, railways, tunnels and bridges.

With some flexibility, adaptability and/or investment in adequate transport equipment such as terminal and road chassis and railway wagons it will be possible, at least in the countries visited, to transport high cubes and over-size containers.

Decisions in this respect are closely related to the number of non-ISO standard containers handled.

- The study resulted in a container flow diagram (see Fig. 1) which identifies all the problems to be encountered when non-ISO standard containers appear in a certain port/hinterland system. It is expected to further refine this flow diagram and to describe all focal points of conflicts or problems in much more detail. On the basis of this model, combined with local information on costs, each port and hinterland trunk route system in each country can be analyzed to quantify additional costs that might be incurred.
- One of the conclusions of the field study (and confirmed by similar experiences of the authors) was that many port authorities are not (yet) aware or sometimes even concerned about the problem of non-ISO standard containers. There may sometimes be some basic awareness, but certainly not a complete overview of all the problems as described in the flow diagram.

This, by itself, is quite understandable because in most developing ports in the world these large boxes have not yet appeared or have done so only in small quantities. The field study, however, showed that for some ports such situations may change very rapidly. A good example is the Port of Manila, the Philippines, where the number of 45 feet long and 9 feet 6 inches high containers has formed, since 1983, only 0.3% of all the boxes handled in that port. In 1988 this figure however increased to approximately 1% and for 1989 is expected to even increase to 1.4%. Please refer to Fig. 2.

- It appeared, at least in the countries visited, that no statistics are being kept on the heights of containers passing through the port. The lengths were usually recorded.

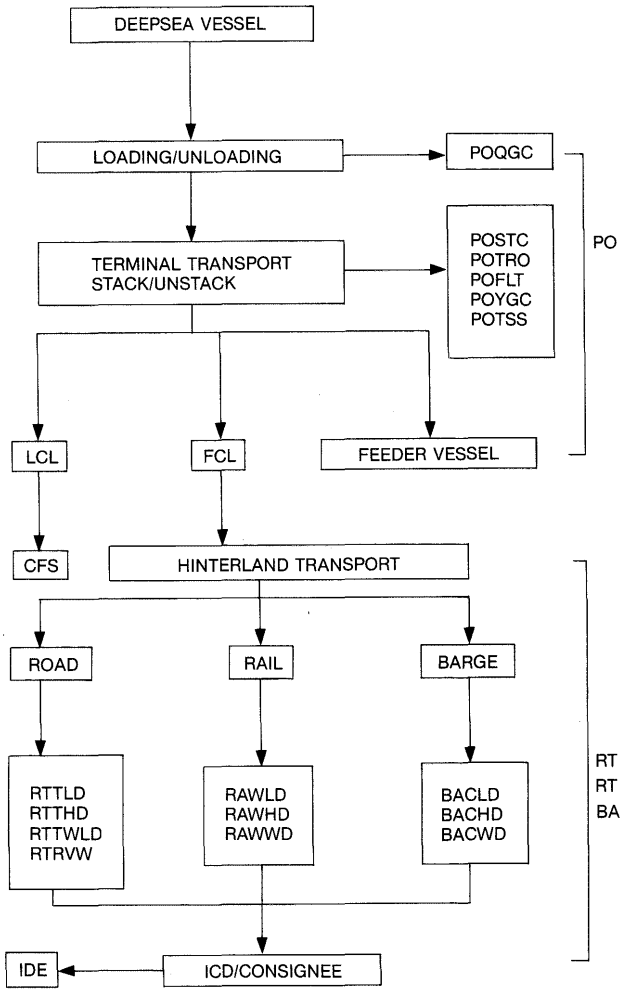


Fig. 1 Flow Diagram

Explanantion of Flow Diagram Abbreviations

PO = Port Operations
RT = Road Transport
RA = Rail Transport
BA = Barge Transport
LCL = Less (Than) Container Load
FCL = Full Container Load
CFS = Container Freight Station
ICD = Inland Clearance Depot

POQGC = Quayside Gantry Crane
POSTC = Straddle Carrier Operations
POTRO = Trailer Operations
POFLT = Fork Lift Truck Operations
POYGC = Yard Gantry Crane Operations
POTSS = Terminal Stacking Space
RTTLD = Truck Length Dimensions
RTTHD = Truck Height Dimensions
RTTWD = Truck Width Dimensions
RTRVW = Road Vehicle Weight
RAWLD = Wagon Length Dimensions
RAWHD = Wagon Height Dimensions
BACLD = Container Length Dimensions
BACHD = Container Height Dimensions
IDE = Inland Depot Equipment

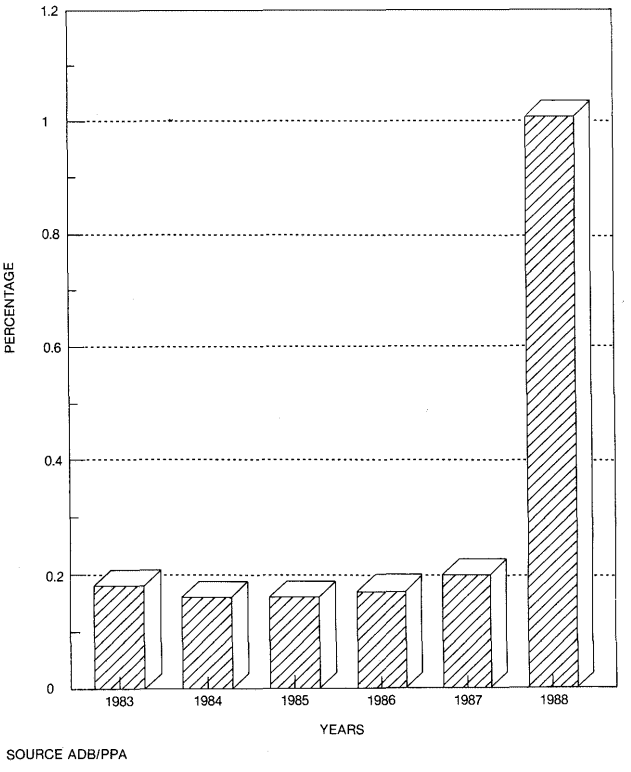


Fig. 2 Percentage of 45 ft Containers of the Total Container Throughput 1983-1989 of the Port of Manila

Policy Guidelines

The combined findings of the desk study and the field study led to a number of policy guidelines which were formulated in the final report.

In short these policy options are as follows:

1. Zero Option — A country may decide not to allow the new generation of containers to enter the country at all

   This option, the simplest one, may not always be the best, in particular if the country concerned is exporting considerable quantities of 'volume products'. The advantage (as explained earlier) of larger containers carrying these cargoes may be lost and the country may be in a worse competitive situation than a neighbouring country exporting the same products and allowing the use of larger containers.

The acceptance of larger containers does not necessarily have to lead only to negative costs.

The following options are possible.

Option 1 — Avoid major problems by changing routes and/or modes of transport

See Fig. 3

If road connections cannot be used, the use of trains or inland waterways may provide the solution. It may also be possible to change routings in order to by-pass obstructions.

This option may lead to higher transport costs per box.

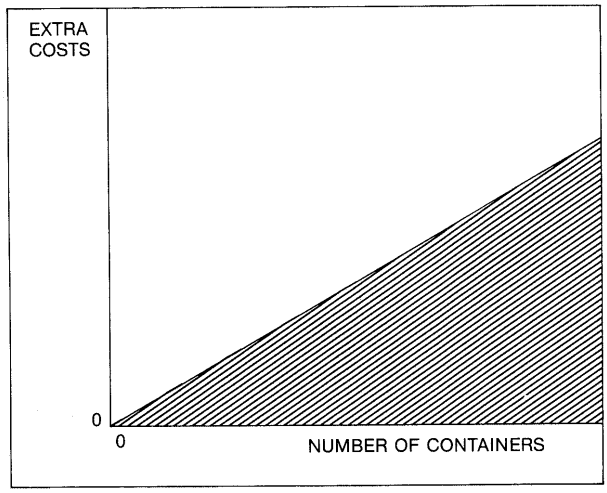


Fig. 3 Option 1

Option 2 — Ensure new equipment to be purchased can handle the larger containers

In this respect, in view of new equipment to be purchased in the near future, one may think of such solutions as low bed railway cars or low bed road trailers.

It is possible that such equipment will be more expensive in terms of investment and use.

See Fig. 4

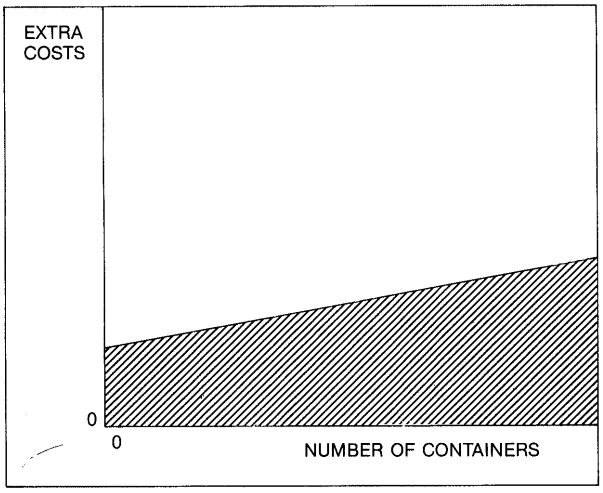


Fig. 4 Option 2

Option 3 — Down-grade the concept of multi-modal container transport

If it is not possible to transport non-ISO standard containers to and from the hinterland, one might consider stripping and stuffing such containers in the port area.

Such a policy eliminates the advantages of the door-to-door container concept and will lead to an increase in transport costs for a percentage of import and export cargo.

For this option the same type of graph as for Option 1 can be applied.

Option 4 — Change the infrastructure

This policy is characterized by the high costs involved, although these will differ from one country to another.

Changing the infrastructure will invariably require considerable investment, and should be considered only when no other options are feasible.

See Fig. 5.

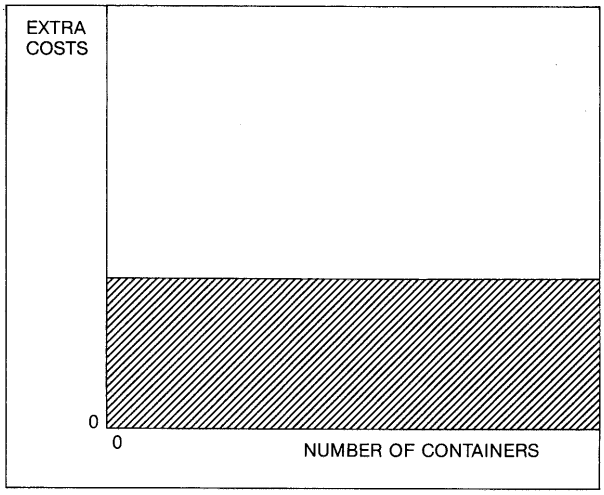


Fig. 5 Option 4

Conclusions

— To date, accurate and updated statistics regarding the exact number of high cube and over-size containers are not available.

— The intention to include the new container dimensions as official ISO standards is to be regretted. This will lead to confusion in the port and transport environment. It would be preferable to regard such containers as 'specials'.

— The use of non-ISO standard containers does not necessarily lead only to higher costs. Its use, in particular in the transport of 'volume goods', may lead to more competitive prices on the export market.

— Most ports, certainly the ones visited and questioned in the ESCAP region, do not yet keep statistics on high cube containers. In many ports the statistics on over-size boxes are usually kept.

— Since the height of containers may also lead to many problems in handling and transport activities and in view of future developments all ports in the world are strongly recommended to start recording all dimensions of containers.

— It is recommended that port and transport authorities commence studying the problems related to the introduction of the larger containers immediately.

This recommendation has been made particularly in view of the rapidly increasingly number of containers to be handled and transported (at least in many countries in the ESCAP region), which may soon lead to the necessity of purchasing new container equipment. The specifications of new equipment should include the new dimensions to ensure the new equipment is capable of handling the entire spectrum of container dimensions.

— The project has led to the first set-up of a container flow diagram, which will assist developing countries in identifying bottlenecks and in making a first assessment of

the financial consequences related to the introduction of non-ISO standard containers. In the second phase this initial flow diagram will be detailed further and its effectiveness and accuracy checked by means of additional field studies.

— The report identifies a number of policy options to be adopted by developing countries when confronted with non-ISO standard containers. The policy to be chosen largely depends on the present and future quantities of the non-ISO standard containers to be handled.

If the throughput of such containers is high, it is likely that the policy to be followed will be either to adapt the infrastructure (Option 3) or the equipment (Option 2). A combination of these two options might be the most feasible solution.

If the throughput is (and is expected to remain) low, the best policy will be to re-route or change the mode of transport or to consider not allowing these containers to enter the country. Please refer to Fig. 6.

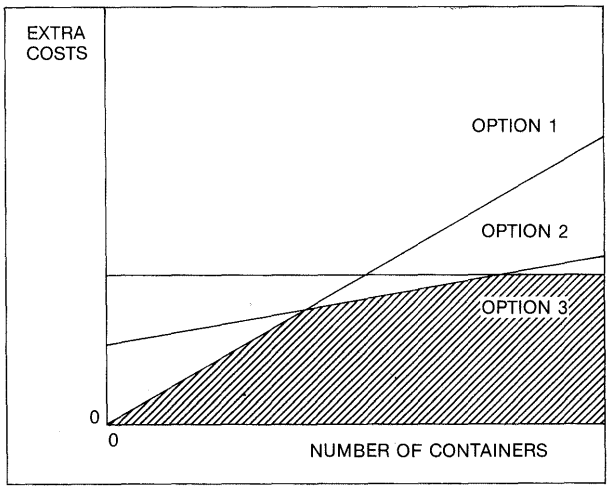


Fig. 6 Combined Options

Meeting Report Group of Experts on the Annexes of LDC Third Meeting: January 15-19, 1990

By Willis E. Pequegnat

Directed to Herbert R. Haar, Jr. **January 25, 1990**

This is a brief report on the above referenced meeting that will focus primarily upon those issues discussed in the meeting that will impinge upon people concerned with dredging and the need to dispose of harbor or port sediments in the open ocean. As will be noted at the end of the report, Greenpeace is initiating a campaign to have LDC sanction a ban on disposing of dredged material into the ocean.

This third meeting of the Group managed to finish the draft of a new waste assessment plan in answer to a request from the Contracting Parties. In simplest terms the plan embodies a decision schematic that will determine the suitability of wastes for disposal in the ocean and will complement, if not replace, Annex I (the black list of substances), Annex II (the gray list involving special care), and Annex III (the how to do it annex).

The original charge to the Group from the Contracting Parties through the Scientific Group stressed the following:

- the aim of the Expert Group (constituted of about 15 people) was to improve the scientific basis for regulating waste disposal at sea but changes to the Annexes to the Convention should only be supported if there was convincing evidence that they would significantly improve the effective implementation of the Convention;
- the application of established waste management principles should be adhered to;
- any product of the Group should be in conformity with the existing requirement of Annexes I and II and could provide an acceptable ranking of the various Annex III provisions; and
- the importance of measures leading to waste reduction and clean technologies should be recognized.

The schematic and accompanying documentation will be submitted to the next full meeting of the Scientific Group, which is now scheduled for April 1990. If the SG approves of the schematic or a modified version thereof, it is likely that it will be presented to the next meeting of Contracting Parties. The SG will also suggest that if they are willing, Contracting Parties should present the document to those authorities in their governments who are responsible for issuing permits covering disposal of wastes into the ocean. If this review by various governments does occur and useful feedback is received, the Group of Experts will meet again to consider any and all suggestions, and construct the final version of the assessment scheme.

The most significant thrust of the procedure embodied in the schematic is a new approach to the interpretation of Annexes I and II. This procedure is represented in the schematic by a "Prohibition List" (box 1) and an "Action List" (box 5). These lists will contain, as a minimum, all substances and wastes currently specified in Annexes I and II. Note, however, that the lists should be completed by Contracting Parties individually, according to their needs and dictates. A most important element is that the Prohibition List will contain only those wastes that can be described in unambiguous terms and for which disposal at sea is clearly prohibited by the Convention, or by national regulations, without exemption. Since no exemptions will be allowed,

the terms "trace contaminants" and "rapidly rendered harmless" that caused many problems in applying Annex I will be eliminated. All remaining substances and wastes covered by Annexes I and II will be assessed by either

1) references to numerical limits, to biological properties, or combinations thereof specified in the Action List, or by other criteria; or
2) by means of detailed testing and/or rigorous hazard assessments specifically designed for the waste and dumpsite concerned.

As noted above, the new assessment procedure is illustrated by the schematic attached to this report. In summary,

a) the schematic constitutes a framework for use by regulatory agencies in assessing the suitability of wastes for disposal at sea. Depending on the type and characteristics of the waste under evaluation, the schematic or parts thereof may be applied in an iterative manner with varying levels of sophistication in the requirements;
b) the schematic illustrates the relationship between the operational procedures of the London Dumping Convention and contains the following elements:
   - a prohibition list (Box 1);
   - an assessment of alternatives to disposal at sea (Box 2);
   - the waste characterization process, including the Action List (Boxes 3,4, and 5);
   - a dumpsite characterization (Box 6);
   - an evaluation of potential impacts (Boxes 7, 8, and 9); and
   - monitoring design (Box 10).

While the schematic is not designed as a conventional "decision tree", it nevertheless provides a clear indication of the stages in the assessment procedure where important decisions can and should be made. In general, national authorities would apply the schematic in an iterative manner (i.e. repetitive passes through the complete procedure) and the final decision on the acceptability of any waste would seldom be based on a single run through the procedure. It would, for example, be preferable to combine chemical, physical, and biological considerations for the preliminary screening of applications to dispose of wastes at sea.

Finally, national authorities applying the assessment procedure will need to develop appropriate entries for the Prohibition List and Action List before the procedure becomes operational. Priority should be given to the wastes and substances listed in Annexes I and II of the Convention. Additional materials of national relevance or concern may subsequently be added to the lists at the discretion of the national authority.

In closing it should be mentioned that dredging has come under fire primarily from Greenpeace. This organization has hired a consultant to come up with documents showing why the disposal of dredged material into the ocean should be stopped worldwide. The approach is to burden ports with unreasonable requirements that must be met before dredging permits to meet their needs can be issued. For example, in their view ports will have to locate all sources of pollution of their sediments and implement plans to stop such pollution at source before a dredging/disposal permit can be issued. Some of us have seen to it that this requirement did not get into the new procedure at this time, but it is quite clear that they will be back trying to recruit support at the next Scientific Group meeting.

UNITED STATES
Mr. Robert M. Engler, Senior Scientist, U.S. Army Service Waterways Experiment Station
Mr. Darrell Brown, Chief, Marine Permits and Monitoring Branch, Office of Marine and Estuarine Protection

INTERNATIONAL ASSOCIATION OF PORTS AND HARBORS
Mr. Willis E. Pequegnat

GREENPEACE INTERNATIONAL
Mr. Kevin Callahan Stairs, Advisor on Treaties and Conventions
Mr. Tim Jackson, Scientific Adviser
Mr. Peter Taylor, Scientific Consultant

BOX 1
PROHIBITION LIST

1 Box 1 of the framework will contain wastes which are prohibited from dumping at sea. The Prohibition List is a list of wastes, waste sources, and other matter which are prohibited, reflecting the application of sound waste management principles as well as a precautionary approach to disposal at sea. Well-defined wastes with broadly recognized environmental risk potential and for which universally preferable disposal alternatives are available should not be dumped at sea. Prohibition should be absolute, and the resulting list should be at least as stringent as the specifications of the present Annex I. This might include:

.1 Wastes, waste sources and other matter considered to be socially and politically unacceptable, e.g., materials in whatever form produced for chemical and biological warfare, high-level radioactive waste, organohalogen compounds in waste streams arising from any source which yields these compounds as an integral part of the production process, and crude oils (Annex I, paragraph).
.2 persistent plastics and other persistent synthetic materials which may float or may remain in suspension in the sea in such a manner as to interfere materially with fishing, navigation or other legitimate uses of the sea (existing Annex I prohibition); and
.3 certain well-defined wastes containing certain substances, identified on the basis of established criteria for the allocation of substances to Annex I of the Convention, and also on the basis of experience with the Action List used in the characterization and screening of wastes.

2 Wastes not specified in the Prohibition List and containing mercury and cadmium and their compounds, organohalogens and crude oil as specified in Annex I of the Convention, would be subject to prohibition in accordance with the provisions of the Action List (upper level).

BOX 2
CONSIDERATION OF ALTERNATIVES TO DISPOSAL AT SEA

1 Consideration of alternatives to the disposal of wastes at sea is a two-step process. The first step is a waste prevention audit. The next step involves comparison of waste management options.

2 Technical assistance and information exchange are essential elements in the assessment of alternatives to disposal at sea, particularly in respect of developing nations. The role of the Convention in this respect is recognized in Article 9(c) of the Convention.

Box 2A — Waste Prevention Audit

3 The initial stage in assessing alternatives to disposal at sea shall encompass a requirement for any new applicant or existing permit holder to carry out an appropriate waste prevention audit.

4 Applications for permits may be refused and existing permits may be reviewed if any of the following factors have not been adequately addressed:

.1 the types, amounts, and relative hazard of wastes generated;
.2 details of the production process and the sources of wastes within that process; and
.3 the feasibility of each of the following techniques of waste prevention:
.3.1 product reformulation;
.3.2 clean production technologies;
.3.3 process modification;
.3.4 input substitution;
.3.5 on-site, closed-loop recycling; and
.3.6 good housekeeping.

5 Detailed technical assistance on particular techniques is available from a wide range of sources. A list of contacts and addresses for such sources can be obtained from the Secretariat.

6 In general terms, if the required audit reveals that opportunities exist for waste prevention at source, an applicant will be expected to formulate and implement a waste prevention strategy which includes specific waste reduction targets and the provision for further waste prevention audits to ensure that these targets are being met. Permit issuance or renewal should be subject to compliance with this requirement.

7 In the case of new investments, no initial permit should be granted until all feasible measures for waste prevention identified in the audit have been implemented.

8 For wastes such as dredged material and domestic sewage sludge, the goal of waste management should be to ensure that sources of contaminants to these wastes are identified and removed. This could be achieved through the implementation of waste prevention strategies.

Box 2B — Consideration of Waste Management Options

9 Applications for permission to dispose of wastes at sea shall demonstrate that consideration has been given to each element in a hierarchy of waste management options. The hierarchy is based on the generally expected increasing order of environmental impact:

.1 waste prevention (including the techniques outlined under Box 2A);
.2 off-site recycling;
.3 re-use;
.4 destruction of hazardous constituents;
.5 treatment to reduce or remove the hazard;
.6 disposal into land, air and water.

10 Generally speaking, a permit to dispose of wastes at sea will be refused if opportunities exist to recycle, re-use or treat the waste without risk to human health and without incurring disproportionate costs. The practical availability of other means of disposal should be considered in the light of a comparative risk assessment involving both sea disposal and the alternatives (Annex III Guideline C4; resolution LDC.32(11)).

BOXES 3,4 AND 5 WASTE CHARACTERISATION

Process

1 Boxes 3, 4 and 5 describe a process in the waste assessment scheme (see LDC/SG 12/2, annex 3) which can be described as waste characterization. A sound description and characterization of the waste forms an essential precondition for both the comparison of the options in Box 2 and the actions taken in Box 5 (the "action list"). In this context, Boxes 3, 4 and 5 with the addition of Box 7 form one functional unit in the waste assessment scheme, which will provide for a decision as to whether a quantity of waste might or should not be dumped. Box 7, which considers the contribution of the waste to local and regional land-sea fluxes, is also important for the assessment at other levels of the scheme; this Box will be described separately.

2 Boxes 3 and 4 represent the collection of information on the physical, chemical and biological properties which are considered necessary for the assessment of the waste. Existing relevant technical guidance contained in Annex III to the Convention and its supporting documentation (resolution LDC.32(11)) can, with only minor modification, be used to complement Boxes 3 and 4 of the schematic. In addition, special guidance already exists for individual waste types or practice, i.e. dredged material (resolution LDC.23(10)) and for marine incineration. This information should also be referenced for consideration at this stage of the assessment procedure.

Characteristics

3 Guidelines for the Implementation and Uniform Interpretation of Annex III contain detailed information on which appropriate technical guidance is required for Boxes 3 and 4 of the schematic (resolution LDC.32(11)). Examples of parameters to be measured under the provisions of Boxes 3 and 4 are:

.1 origin, total amount and average composition;
.2 form;
.3 properties: physical, chemical, biochemical and biological;
.4 toxicity;
.5 persistence: physical, chemical and biological; and
.6 accumulation and biotransformation in biological materials or sediments.

For detailed technical guidance, reference should be made to resolutions LDC.23(10), LDC.24(10), LDC.31(11) and LDC.33(11).

Action List

4 On the basis of the waste characteristics, a further screening of the waste can be applied which eventually results in a decision on its potential dumping. To this end the properties of the waste have to be compared to assess their environmental acceptability. The evaluation of these environmental effects is provided in Box 5 of the schematic and is known as the Action List.

5 The Action List is a screening mechanism for comparing properties or characteristics of waste materials with a set of criteria that is based on experience gained with the relevant categories of waste and on published scientific

research relating to the potential effects on human health or the marine environment. Two criteria are defined in the Action List, an upper and lower level, giving three possible actions:

.1 wastes presenting a combination of specific substances, and biological responses in specified tests, in excess of the relevant upper levels would generally be considered unsuitable for sea disposal;

.2 wastes presenting a combination of specified substances, or biological responses in specified tests, below the relevant lower levels would generally be considered of little environmental concern; and

.3 wastes of intermediate quality would constitute those that require more detailed assessment before their suitability for disposal at sea could be determined.

6 However, for certain waste types for which neither chemical nor biological properties are relevant, e.g. construction rubble, a single action level may be appropriate.

7 The Action List, represented in Figure 1, is an array of waste types and waste properties. The column of waste types represents general waste categories for which disposal at sea has been reported to the Secretariat of the London Dumping Convention; it is not necessarily exhaustive. For each row/column combination in the array (Figure 1), it should be possible in principle to set action level(s). In the first instance priority should be given to the substances noted in Annexes I and II of the Convention. The characteristics describing each waste will be compiled during the previous step in the schematic and may include information on chemical, physical, biological and microbiological characteristics, as well as details on the waste source and load. Clearly for some waste types, the relevant information may comprise only a restricted range of parameters, for example, construction rubble or vessels for scuttling.

8 For each of the waste parameters relevant for an individual waste category, it is possible to define action levels for practical application in the screening process. Lower levels might be set on the basis of numerical concentration limits, biological response or by reference to environmental quality standards. For the upper level, where an unacceptable environmental consequence might be predicted, the criterion must be defined in terms of the biological responses observed in at least two tests (such as toxicity and accumulation or toxicity and degradability) with, in some circumstances, qualifications related to load and flux considerations.

FIGURE I

ACTION LIST ARRAY

Waste Type	Load Source Consideration	Property Physical	Biological Acute/Chronic/Bioaccum	Chemical Priority Listed	Microbiological Viruses/Bacteria
Liquid Industrial	See example at 9.1				
Solid Industrial					
Sewage Sludge	See example at 9.2				
Fishing Waste	See example at 9.3				
Dredged Material	See example at 9.4				
Construction Rubble					
Vessels & Structures					
Mine Tailings					
Agriculture Wastes					
Ammunition					
Etc.					

9 The following examples illustrate how upper and lower action levels might be established for dredged material, sewage sludge, liquid industrial wastes and fish processing wastes. The numbers in brackets are purely hypothetical.

9.1 Liquid industrial waste:

Environmental concern: toxicity of wastes to sensitive marine organisms and degradability of polar organic substances. Contamination of marine organisms with Annex I and Annex II metals.

Lower criterion: wastes with acute toxicity less than [ ]mgl -1.
Degradation of polar organic substances in less than 24 hrs.
Waste for which metallic elements do not form part of the production process.

Upper criterion: wastes with acute toxicity less than 100mgl -1.
Polar organic substances degrades with a half life of greater than 5 days. Increase in metal body burden of [10%] in organisms exposed in standard bioaccumulation tests.

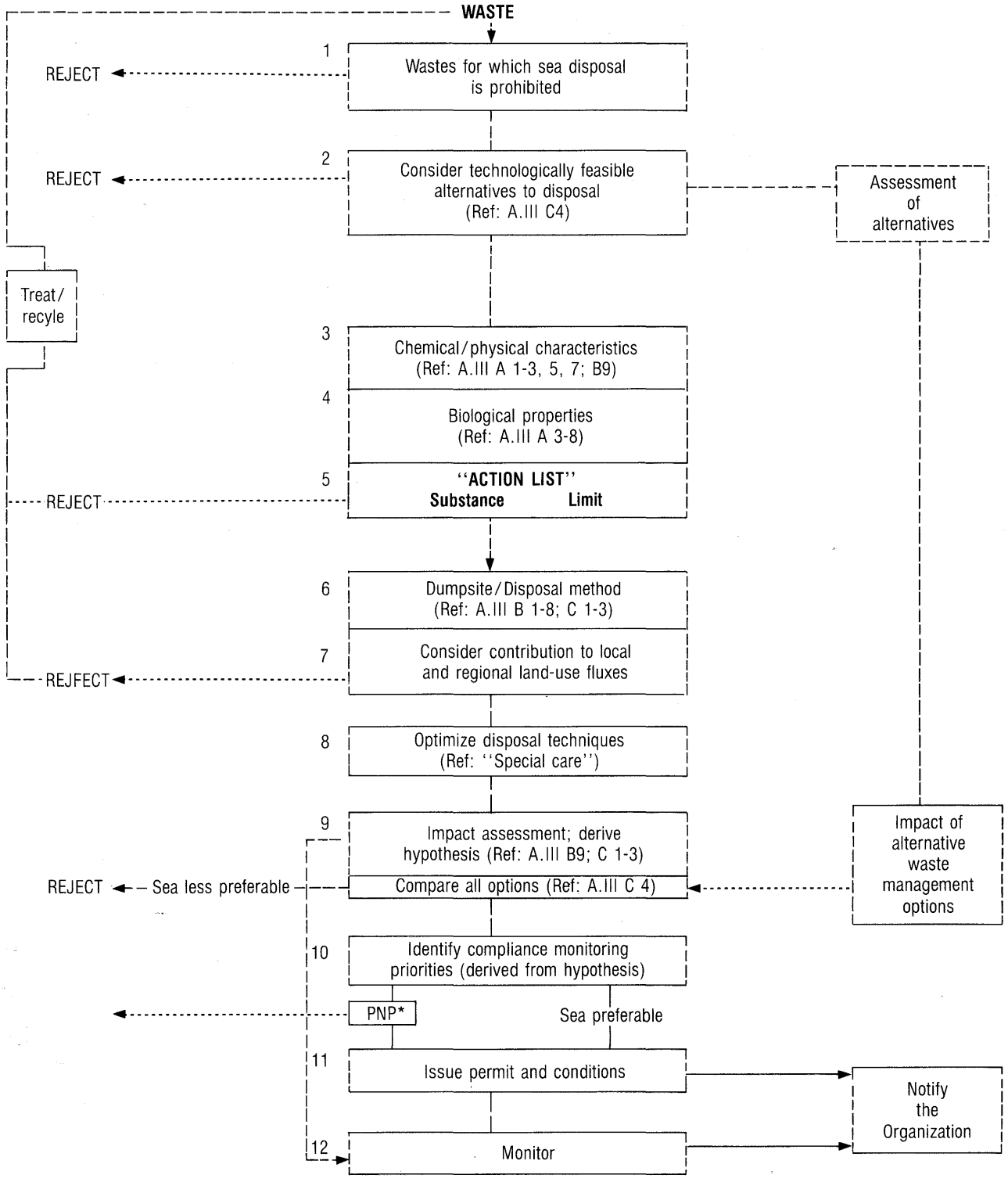
9.2 Sewage sludge:

Environmental concerns: accumulation of contaminants in marine organisms, chronic effects due to long-term exposure, increased inputs of contaminants

(Continued on Page 17)

ANNEX III

SCHEMATIC RELATIONSHIP BETWEEN OPERATIONAL PROCEDURES OF THE LONDON DUMPING CONVENTION (Draft 2)



*Prior Notification Procedure

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IHE Seminar on Port Management

The International Seminar on Port Management provides port administrators and officials from all over the world with new information and know-how on port management. The seminars have been enormously successful as proven by the programme's 25-year history and by the increasing number of applicants.

Twenty-five previous seminars and tailor-made courses have brought together more than 730 port officials from almost 100 countries. Every year the contents of the seminar is updated according to the latest developments in ports in Europe as well as abroad. Special attention is drawn to subjects which are of paramount importance in a particular year. This year's theme is **Intermodal Transport.**

The seminar is organized by the International Institute for Hydraulic and Environmental Engineering (IHE) in Delft in close cooperation with the Port Authorities of Amsterdam and Rotterdam.

The Directorate General for International Cooperation of the Netherlands Ministry of Foreign Affairs provides its valuable support.

The International Institute for Hydraulic and Environmental Engineering also offers one-year postgraduate programmes and an M.Sc. programme for civil and environmental engineers, including port and coastal engineers. It is obvious that the same ground cannot be covered in a six-week seminar as the above-mentioned regular course. Therefore the seminar programme does not include constructional and hydraulic aspects but is confined to a thorough treatment of the organization and management of ports.

The seminar programme comprises regular study visits to the ports of Amsterdam and Rotterdam. These cities are located only short distances from the Institute in Delft. A few smaller ports in The Netherlands will also be studied. As part of the programme a study tour will be made to

Course name	Start date	Duration
Port Management	7 May 1990	6 weeks
Anaerobic Waste Water Treatment	25 June 1990	6 weeks
Low-Cost Water Supply & Sanitation	25 June 1990	8 weeks
Water Quality Management for Decision Makers	25 June 1990	8 weeks
Hydraulic Engineering	18 October 1990	one year
Hydrology	18 October 1990	one year
Sanitary Engineering	18 October 1990	one year
Environmental Science & Technology	18 October 1990	one year
Water Quality Management	18 October 1990	one year
Graduate Course Transportation & Road Engineering in Developing Countries (TREND)	18 October 1990	two years

LDC Third Meeting—

(Continued from Page 15)

and nutrients.

Lower criterion: sludge derived from purely domestic sources and with concentrations of Annex I and II metals not exceeding those in sewage sludge from small rural communities. Contribution to local inputs of nitrogen and phosphorus of less than 1%.

Upper criterion: contribution to local inputs of nitrogen and phosphorus in a specified area of greater than 10%. Chronic toxicity response in standard test of [ ] and organisms exposed to sewage sludge in standard accumulation tests should not increase their total body burden by [10%] for natural substances and [2%] for synthetic substances.

9.3 Fishing waste:

Environmental concerns: disruption of redox environmental disposal site due to oxygen consumption.

Lower criterion: 100 kg fish waste per day, greater than 90% O_2 saturation, 0 depression of sediment Eh.

Upper criterion: 5,000 kg fish waste per day, greater than 50% O_2 saturation, development of anoxia in sediments.

9.4 Dredged material:

Environmental concerns: impact of anthropogenic component of material substances and man-made substances on marine organisms.

Lower criterion: Taking into consideration local geology and geochemistry, the concentration of Annex I and Annex II metals should not exceed typical concentrations of uncontaminated clays. For man-made substances, no detectable accumulation of specified compounds in a standard exposure test.

Upper criterion: Acute toxicity of the material should not exceed [10%] and organisms exposed to the spoil in standard bioaccumulation tests should not increase their total body burden by [10%] for natural substances and [2%] for synthetic substances.

ports in Belgium and France.

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Port Training Program In May in New Orleans

The International Program for Port Planning and Management (IPPPM), an intensive two-week training program for upper level maritime executives, will be held in New Orleans from May 7 to May 18, 1990.

IPPPM provides port officials and maritime industry leaders a unique opportunity for further professional education and personal enrichment. Mr. Richard O. Baumbach, Jr., director of IPPPM, said that two weeks of lectures, group discussions, and field investigations sharpen IPPPM participants' practical skills, and strengthen their conceptual understanding of port operations, planning and management.

IPPPM participants spend over 80 hours in 23 courses, Mr. Baumbach noted. These courses include According and Finance; Cargo Handling; Port Computerization; Containerization; Dredging; Port Engineering and Maintenance; Port Environmental Considerations; Industrial Development; Port Investments; Labor Relations; Port Marketing; Personal Behavioral Management; Port Planning and Development; Political and Community Relations; Port Administrator Functions; Port Pricing and Economics; Problems of Developing Nations; Ship Sizes and Characteristics; What Shipping Lines Look for in a Port; and Working with Governing Boards.

This general curriculum, Mr. Baumbach added, is supplemented by site visits to terminal facilities, riverfront development projects, and a mobile workshop on port installations.

Mr. Baumbach said IPPPM courses are taught by a distinguished faculty which is comprised of public and private sector maritime officials from throughout the United States, international experts from the World Bank in Washington, personnel from the Port of New Orleans, the University of New Orleans, and Louisiana State University's Ports and Waterways Institute, and practitioners from the local maritime industry.

During the last five years, 114 individuals from 36 countries have graduated from IPPPM, Mr. Baumbach said. Graduates have come from Aruba, the Bahamas, Canada, Cameroon, Chile, Colombia, Djibouti, Ecuador, Egypt, France, Germany, Ghana, Honduras, Indonesia, Jamaica, Kenya, Liberia, Malaysia, Mauritania, Mexico, the Netherlands Antilles, New Zealand, Nigeria, Panama, Papua New Guinea, Portugal, Saipan, Senegal, Somalia, South Africa, Spain, Thailand, Trinidad and Tobago, United Arab Emirates, the United States, and the Yemen Arab Republic. IPPPM is truly an " international program, Mr. Baumbach noted, with participants coming from every region in the world. For example, 21% of the participants come from the Caribbean and Central America, 7% from South America, 6% from Europe, 7% from the Middle East, 14% from Africa, 20% from Louisiana, 12% from the rest of the United States, 3% of the participants come from Canada, and 8% from the Pacific.

The basic premise of IPPPM, Mr. Baumbach contended, is that upper-level managers need a broad array of planning and management skills and insights. Far too often, Mr. Baumbach believed, maritime managers make crucial, far-reaching decisions without extensive prior experience in a particular area. IPPPM helps provide maritime executives with a background to make these decisions, or a network of instructors and colleagues who can help them find the most appropriate solutions to their problems.

Participants pay $1,500 to attend the two-week training course. Instruction is in English. Financial assistance may be obtained for foreign participants from the U.S. State Department's Agency for International Development (AID). During the last five years, AID has provided financial assistance to 30 of IPPPM's 79 foreign participants. Mr. Baumbach said the federal government has funded IPPPM participants because it believes the program fosters closer ties between the United States and other countries, facilitates international trade through the establishment of friendly contacts in many nations, increases maritime expertise around the world, and builds a network of international problem solvers.

New Orleans is an ideal site for the two-week seminar, Mr. Baumbach believes. Participants meet daily from 8:30 a.m. to 5:00 p.m. in the Executive Suite of the World Trade Center.

They have access to a well-equipped laboratory—the Port of New Orleans—one of the world's great ports. While IPPPM is a concentrated, intensive program which requires a high level of personal commitment, it is not all work, Mr. Baumbach indicated.

After class, participants do get free time to enjoy New Orleans — one of America's most interesting and colorful cities, with its historic French colonial district, its world-renowned cuisine, and its year-round, Carib-Mediterranean atmosphere and nightlife.

IPPPM is a non-profit organization sponsored by the Port of New Orleans, the World Trade Center of New Orleans, Louisiana State University's Ports and Waterways Institute, the University of New Orleans, and the American Association of Port Authorities. The Louisiana Urban Technical Assistance Center (LUTAC), the professional public service arm of the College of Urban and Public Affairs at the University of New Orleans helped create IPPPM and has managed the program for the last four years, Mr. Baumbach indicated.

Miami Conference: Terrorist Acts, Drugs

The following are the highlights of the International Working Conference on Maritime and Port Security 3-5 January 1990, Miami.

The purpose of the working conference was to raise the awareness of Terrorism, the extent of the drug smuggling problem and the linkage between the two.

Opening with a keynote address by Ambassador Morris D. Busby, Coordinator for Counterterrorism, U.S. Department of State, which graphically outlined the threat of terrorism and the extent of terrorist acts being committed daily in several regions of the world,

along with the position of the U.S. Government on the subject of terrorism.

This was followed with an overview on International Perspectives by the U.S. Federal Agencies concerned with transportation industry, namely the U.S. Customs Service, U.S. Coast Guard, U.S. State Department and U.S. Department of Transportation. The initiatives taken to combat drug interdiction and maritime terrorism were both revealing and informative.

The International Association of Airport & Seaport Police will be pleased to note the assurance of Mr. Sam Banks, Acting Deputy Commissioner of Customs, that passenger vessels and ships of the merchant marine, who can demonstrate that they are taking reasonable precautions to assist in the interdiction of drugs, would receive favourable consideration in mitigating any penalty imposed in the event of a drug seizure. It was also emphasized that the IAASP stands ready to assist "Carriers" in reaching that objective.

The participants were made aware of the enormous profits derived from the sale of illicit drugs and how those profits were being used to terrorize entire countries as in the case of Colombia, Panama and others. Almost daily, both television and the print media carry reports of the many murders of judges, prosecutors and political figures who have taken a position against drug lords. But a further example, of the extent to which these criminals will go, was the landing of a small group of mercenaries, with a substantial arsenal, or Canadian soil by the Colombian Drug Cartel. The mission was to effect the escape of two pilots arrested after their airplane loaded with drugs crashlanded in Eastern Canada. Fortunately they were also arrested before they were able to take any offensive.

In his presentation Admiral Paul A. Yost, Jr., Commandant of the U.S. Coast Guard outlined the continuing efforts of the U.S. Government to establish monitoring equipment for the identification and interception of aircraft and ships carrying illicit drugs to the United States. These defences will undoubtedly result in the shipment of narcotics through other countries and continents to reach the North American market.

A recent example was the shipment of a seagoing container containing illegal drugs via the Siberian land bridge from Asia to Europe and then by sea to North American where it was intercepted through the cooperative efforts of the KGB and the RCMP after it landed in Canada.

The need for continued and improved training was identified and cannot be over emphasised. There are a number and variety of private consultants and Agencies, both private and governmental, with the capability of supplying such training. Again, the IAASP is able and willing to furnish training without cost, except for the actual out of pocket expenses of Association members involved.

Setting aside the tragic loss of life which in itself is beyond monetary consideration, acts of violence can and do have a substantial impact on the transportation industry. The decline in tourist traffic in the Mediterranean after the Achilles Lauro incident being one example and in the last few days two airline companies suffered substantial losses in passenger revenue because they made announcements regarding bomb threats.

Combatting drug smuggling and terrorism is everyones business. Law enforcement cannot and should not be expected to peruse this fight alone. Only through the cooperation, communication and coordination of effort by Law Enforcement Agencies, the Transportation Industry and the Travelling Public can we ever expect to achieve any success in the fight against Narco-terrorism.

No specific solutions came out of this working conference and none were intended. The original purpose of making industry more "AWARE" was accomplished. However, it is the intention of the International Association of Airport and Seaport Police to continue to work toward finding solutions to the problems identified at the conference.

FIATA Congress in Glasgow Sept. 9-12

1990 FIATA Congress and the Freight 2000 Conference Exhibition will be held in Glasgow, Europe's City of Culture 1990 on September 9-12, 1990.

For further information, please contact:

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Container Trade, Investment Growth Seen

The effect of 1992-legislation on European container trade volumes will be far-reaching. These demand-led changes will have a corresponding effect on the level of required shipping and port and terminal investment in the European trades. According to a major new study* from UK-based Ocean Shipping Consultants it is forecast that total European container traffic will increase by round 91 percent over recorded 1988 trade to reach a total of up to 36.7m TEUs in 2000. This will be a result of both a continuation of underlying trends towards increased container penetration and in line with the increase in economic growth levels that will follow-on from the completion of the single Internal Market in the EC countries in the 1990s.

Container Market Structure

The study provides a detailed analysis of the likely structure of European container trades in the 1990s and identifies the market share of feeder, inter-European and deep-sea trades that can be anticipated over the forecast period. As is to be expected, the increased integration of the European market is set to result in far more rapid increases in the level of inter-European traffic — but the study also concludes that there will be no absolute decline in European trade with other deep-sea markets and that significant trade growth will continue to be recorded in these sectors.

The study represents the conclusions of an 18-month study into the level of European container traffic that was initiated to provide a consistent assessment of the rapidly changing market of the 1990s in line with more general analysis of the effects of the 1992 programme on a macro-economic level. With a general consensus that removal of trade barriers will have a uniformly positive effect on GDP growth it is forecast that this will pass directly through into the area of box trade

development.

Whilst initially conceived as an evaluation of the effects of 1992 the study also provides a preliminary assessment of the likely effect of the current reforms in Eastern Europe on container trade levels. Whilst any detailed prognosis is difficult at this stage it is clear that a further boost to demand will originate from this quarter. The study provides a preliminary assessment of these factors.

Considered in total it is forecast that the level of container traffic handled by European ports and terminals is set to increase steadily across the 1990s and the level of market integration following the completion of the Single Market will effect the pace and not the direction of these changes. The accompanying analysis of demand development provides a picture of total trade — analysed in terms of mode and also the level of trade expansion on a sub-regional basis. Beyond 1990 two cases have been utilised that relate to the pace of integration of EEC economies and are based on alternate developments identified by the European Commission. Case B assumes the rapid increase in scale economies throughout the EEC and the implementation of fiscal factors to speed the integration of the market. Case A focusses on a generally slower uptake of these trends. In both cases a uniformly positive outlook is generated.

With maximised integration of the EEC economies (and continued increased bilateral relationships with other European markets) total seaborne box trade is set to almost double across the forecast period. Within this total the market share of inter-European traffic will increase from 28 percent in 1988 to a peak level of 36.4 percent in 2000. Under the more restricted Case A conditions the corresponding proportional market share is lower at some 29.5 percent. It is clear from this analysis that there will be a limited effect on deep-sea container trade as a result of the integration of the Single Market. Having said this, however, the sheer pace of total trade expansion will minimise these effects.

Table 2 presents an analysis of the same data in terms of market sub-region where it is apparent that the pace of expansion will generally be uniformly felt throughout the region, although

Table 1: Forecast Container Trade Development by type to 2000

('000 TEU)

			1995		2000	
	1988	1990	Case A	Case B	Case A	Case B
Inter	5437.8	6343.7	8102.0	8696.7	11002.8	13350.0
Feeder	2396.1	2787.1	3706.0	3513.5	4333.6	3924.9
Deep-sea	11748.4	13609.1	17867.5	17344.7	219808.8	19426.3
TOTAL	**19582.3**	**22739.9**	**29675.5**	**29554.9**	**37317.2**	**36701.2**

Source: Ocean Shipping Consultants

Table 2: Forecast Container Trade Development by region to 2000

('000 TEU)

			1995		2000	
	1988	1990	Case A	Case B	Case A	Case B
UK/Ireland	4211.6	4926.6	6269.8	6245.0	7920.8	7991.8
Scandinavia/Baltic	1881.8	2152.4	2923.0	2966.0	3733.9	3947.5
Channel	8782.3	10131.5	12753.4	12792.9	15663.6	15145.2
Atlantic	1257.9	1479.5	2116.6	2123.0	2803.4	2910.4
South Europe	3448.7	4049.9	5612.7	5428.0	7195.5	6706.3
TOTAL	**19582.3**	**22739.9**	**29675.5**	**29554.9**	**37317.2**	**36701.2**

Source: Ocean Shipping Consultants

Table 3: Estimated Required Containership Investment 2000

(million 89 US$)

	Fully-Cellular	Semi-Container	Ro-ro	Total
1988/1990	158.4	210.8	299.1	**668.3**
1990/1995A	433.4	640.9	973.6	**2047.9**
1990/1995B	477.3	718.8	1076.0	**2272.1**
1995/2000A	747.5	564.0	1504.6	**2816.1**
1995/2000B	999.9	908.0	2061.5	**3969.4**

Source: Ocean Shipping Consultants

Table 4: Forecast Additional Required Container Berths to 2000

(Kilometres of quayage)

	to 1990	1990/1995A	1990/1995B	1995/2000A	1995/2000B
UK/Ireland	3.41	6.41	6.29	7.88	8.33
Scandinavia/Baltic	3.41	9.72	10.26	10.23	12.38
Channel	8.46	16.45	16.70	18.26	14.76
Atlantic	1.57	4.52	4.56	4.87	5.58
South Europe	5.53	14.36	12.67	14.55	11.75
Total	**22.38**	**51.46**	**50.48**	**55.79**	**52.80**

Source: Ocean Shipping Consultants

Table 5: Forecast Additional Required Container Gantries to 2000

(no. of units)

	to 1990	1990/1995A	1990/1995B	1995/2000A	1995/2000B
UK/Ireland	12.4	23.3	22.8	28.6	30.3
Scandinavia/Baltic	4.3	12.3	13.0	12.9	15.7
Channel	24.9	48.4	49.1	53.7	43.4
Atlantic	5.6	16.2	16.4	17.5	20.0
South Europe	13.8	35.8	31.5	35.9	29.3
Total	**61.0**	**136.0**	**132.8**	**148.6**	**138.7**
Investment (1989 US$)	$93.9m	$209.9m	$204.5m	$228.8m	$213.6m

Source: Ocean Shipping Consultants

the importance of deep-sea traffic for Channel container ports is reflected in considerable divergence in total trade in the 1990s under the various case assumptions.

Forecast Investment Needs

On the basis of in-depth analysis of the relation between trade development and shipping and port/terminal demand in the 1980s the study goes on to assess the effect of forecast changes on the level of industry investment.

With regard to the level of containership investment that will be generated from the inter-European and feeder trades the approach is to identify current productivity for the various sectors of the fleet (fully-cellular, semi-container and ro-ro vessels) over the 1980s and to apply this to forecast demand levels. By including identification of typical vessel specifications in each sector and including newbuilding cost projections the study identifies total required shipping investment for the European container trades in the period to 2000. The results of this analysis is summarised in Table 3.

The level of required additional shipping capacity is closely related to underlying demand growth and this is reflected in terms of total required investment under Case A and Case B. Under lower demand Case A conditions it is forecast that total real investment (that is, excluding the effects of inflation) will reach some $4.9bn in the 1990s. The higher case generates a shipping requirement considerably higher at some $6.2bn. Given higher unit costs the greatest proportion of this investment will be directed towards the ro-ro sector. Considered in general terms it is forecast that if current average productivity is sustained then the fleet capacity will need to nearly double over the forecast period. This will have far-reaching implications for shipowners and yards in the 1990s.

As is to be expected a similar prognosis is generated for the port and terminal industries. In this sector underlying costs are more difficult to estimate given the variety of specific development factors. The study identifies required additional container berthage generated from average established productivity and forecast demand. The results are summarised in Table 4. Once again a general doubling of capacity is generated and up to 53 km of additional container berths will be required to handle forecast total European trade (including deep-sea) in the period to 2000. Demand levels will be closely linked to sub-regional market share but it is apparent that massive expansion will be generated across the board.

In order to indicate the scale of the European container handling equipment market an assessment has been produced of the need for additional container gantry cranage. It is forecast that between 140/150 additional units will be required in the 1990s. Although the Channel sector will continue to dominate this demand there will be considerable increases in required installations in each major region. Whilst costs are becoming far more specific in this sector it is forecast that this will represent a total market of between $420/440m in the 1990s.

Against this background it is apparent that each container handling market sector will record proportional developments of the same magnitude.

The general picture is therefore one of sustained expansion in each sector, with the Internal Market moves having far-reaching effects on the scale of the European container industry in the 1990s. The study runs to some 170pp and includes detailed analysis of existing and projected trades structure, fleet deployment and productivity and forecast shipping and port and terminal needs. The study also includes detailed appendices listing the current status of the European container port industry.

* *The European Container Market in the 1990s* — an analysis of trade development, port facilities and shipping demand. Price £390 (UK) or US$675 (all overseas sales)

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Exhaust Emissions From Ships — a Global View

Submitted by Norway

(Reproduced from the IMO document: MEPC 29/18)

SUMMARY

Norway invites the Marine Environment Protection Committee to take note of this paper and recognize it as a basis for further discussions on whether emissions of air pollutants from ships ought to be subject to international regulations.

Recalling that Norway at MEPC 26 presented a proposal to include air pollution from ships in the MEPC's work programme and the decision on establishing a working group, we submit the enclosed report prepared by the Norwegian Marine Technology Research Institute A/S, the Norwegian Shipowners' Association and the Norwegian State Pollution Control Authority.

The estimations indicate that ships in international trade contribute to 7% of the world total emission of nitrogen oxides (NOx) and 4% of the total emission of sulphur compounds (SO_2).

In densely trafficked seaways, like the English Channel, ships probably have a significant influence on the air quality and the observed strain on the environment.

Different technical solutions for reducing emissions and the economical consequences are also discussed.

We recommend that MEPC encourages the member states to chart their own emissions from domestic shipping as soon as possible.

We propose that MEPC gives one member state the responsibility for drafting a programme for further actions to be taken to clarify whether international regulations are required. The programme, which should be presented to the Working Group in November 1990, should also give outlines on possible strategies on how regulations can be implemented.

INTRODUCTION

The marine Environment Protection Committee decided at its 26th session that air pollution from ships should be included in the Committee's work programme (MEPC 26/25) and that a Working group on this topic should

be established.

The Norwegian concern about air pollutants from ships is i.a. based on Norwegian investigations which indicate that ships contribute considerably to our national discharges of air pollutants. 40% of our NOx emissions and 14% of our SO_2 emissions are due to domestic shipping.

Internationally it has not been paid much attention to seatransport as a contributor to air pollution, and limited data are available. Within the ECE-EMEP system rather great discrepancies between models and measurements have been observed for several stations situated nearby coasts, and searching for an explanation attention has now been drawn to seatransport.

The problems of concern are threefold. The emissions of CO_2, CFCs and halones from shipping contributes to global warming and depletion of the ozon layer. SO_2 and NOx cause regional problems with acid rain and on a local scale shipping contributes to health problems in harbours and their surroundings. NOx and hydrocarbons may produce photochemical oxidants as i.e. ozon.

Ozon is a greenhouse gas, harms crops and vegetation and causes health problems and thus contributes to both global, regional and local problems.

Sea transport is effective and economical on long distance transportation. From an environmental point of view the high rate of transported tons of goods per unit of energy consumed implies that in many cases it would be favourable to increase sea transport at the expense of road transport.

Western Europe, USA and Canada are all aiming at certain percentage reductions of pollutants from landbased activities, and international agreements have been signed. As long as measures are not taken to reduce emissions from ships, the ratio of emissions at sea and land will increase in the western part of the world. However, the consumption of fossil fuels will probably increase rapidly in the developing countries and the question is whether this increase will exceed the reductions which will be obtained in the western world.

In 1989 Norway (by the State Pollution Control Authority, the Norwegian Shipowners' Association and Norwegian Marine Technology Research Institute A/S (Marintek)) carried out an investigation to get a first survey of the emissions of pollutants from international sea traffic. Below we would like to present the results of this investigation. NOx is the main object of the report, but other pollutants are also discussed.

Discharges of air pollutants from international shipping

Estimations of discharges of NOx, SO_2, hydrocarbons, particles, CO and CO_2 from international shipping (the nations' domestic shipping is not included) have been carried out and compared with the global emissions of these pollutants as given in OECD statistics. The most dominating pollutants from ship engines seem to be NOx and SO_2 (and CO_2). International shipping emits approximately 7% of the total discharges of NOx on a global scale and approximately 4% of the total discharges of sulphur compounds.

The estimations are based on statistics for bunker consumption and emission factors elaborated by Marintek.

Distribution of the discharges

The emissions of NOx and SO_2, calculated as tonnes per nautical mile per year, are charted on a series of maps enclosed in the report. This work is based on UN trade statistics, bunker consumption and emission factors. In general, the emissions on the open seas are spread over a variety of routes which each represents a moderate discharge of pollutants. However, emissions along the most densely trafficked coastlines are highly concentrated. The English Channel, the Straight of Gibraltar and the coastline between them, the South China Sea, the Strait of Malacca, the Persian Gulf and the Red Sea are examples of areas where emissions from ships obviously deteriorate the air quality and contribute significantly to the observed strain on the environment.

At Dover in The English Channel, as an example, the NOx emission from ships per square km is higher than in France, all sources included.

Technical solutions

There are great potentials for reducing the emissions from ship engines, because the emission factors are higher than for other sources.

Examples of measures which can be taken to reduce the emissions from marine propusion engines and generator engines, are optimizing the engines with regard to emissions instead of fuel economy, using alternative fuels (destillates, gas, emulgations of oil and water) and applying alternative propulsion systems.

Selective catalytic reduction (SCR) is adopted from the power plant industry, and the two first ships with this NOx-reducing outfit are now being built in Denmark. SCR may reduce the NOx emissions with 80-90% by the use of ammonia (NH_3) to give N_2 and H_2O. SCR may also reduce emissions of hydrocarbons with 60%.

A SCR plant is, however, voluminous and it is probably most adequate to apply this technology on larger ships with slow speed main engines.

Today it may be difficult to state which technologies that are best suited. Until recently no incentive has existed for pushing the technology towards less polluting engines. An incentive in form of an international regulation would, however, certainly accelerate the development.

RECOMMENDATIONS

1. National regulations which possibly may be implemented in some countries and possible international regulations should be harmonized. It would be advantageous to obtain a more comprehensive picture of the amount of pollution from ships and the problems this causes at an early stage. We would therefore propose that MEPC encourages the member states to chart their own emissions from domestic shipping as soon as possible.

2. We recommend that MEPC maintains the previous decision on establishing a Working Group.

The Working Group should in due course discuss a concrete programme for further action. We therefore propose that at the MEPC meeting in March 1990 one of the member states is given the responsibility for drafting a programme. The programme should identify gaps in present knowledge with regard to problem description and point out where further investigations are needed. The programme should also give outlines on possible strategies on how international regulations can be implemented.

New Publications

Review of Maritime Transport 1988

By the UNCTAD Secretariat. (New York: United Nations, 1989). 91 pages. Introduction. Tables. Annexes. Graphs. Notes. Order from: United Nations, Sales Division, Palais des Nations, CH121 Geneva 10, Switzerland. Price: n/a.

This authoritative review of maritime developments in 1988 includes chapters on international seaborne trade, the world shipping fleet, productivity and tonnage oversupply in world shipping, shipbuilding, ocean freight markets, multimodal transport and technological developments, and a final chapter updating the status of various international maritime organizations and agreements.

The International Maritime Dangerous Goods Code (IMDG Code) 1990 consolidated edition

Background to the Code

Many maritime countries, representing some 84% of the world's tonnage, have taken measures to regulate the transport of dangerous, hazardous and harmful cargoes in ships, based on part A of chapter VII of the 1974 SOLAS Convention, as amended.

The establishment of international regulations was first recommended by the International Conference on Safety of Life at Sea (SOLAS) 1929. As a result of SOLAS 1960, the International Maritime Organization, with the co-operation of the United Nations Committee of Experts on the Transport of Dangerous Goods, drafted the first IMDG Code, which was adopted and recommended to Governments by the Assembly of IMO.

These recommendations were reiterated in chapter VII of SOLAS 1974, which entered into force on 25 May 1980. In 1983 IMO adopted a revised chapter VII which entered into force on 1 July 1986.

Publication of the Code

Since its inception, the IMDG Code has undergone many changes both in layout and content in order to keep

World seaborne trade* in 1970, 1986, 1987 and 1988 (est.) by types of cargo and country groups**

Country group	Year	Goods loaded				Goods unloaded			
		Oil		Dry cargo	Total all goods	Oil		Dry cargo	Total all goods
		Crude	Products			Crude	Products		
		(Trade in millions of tons)							
World total	1970	1 110	330	1 165	2 605	1 101	302	1 127	2 530
	1986	1 123	410	1 945	3 478	1 105	401	2 024	3 530
	1987	1 107	441	1 977	3 525	1 094	407	2 084	3 585
	1988	1 160	460	2 050	3 670	1 170	430	2 120	3 720
		(percentage share of each category of goods in total)							
Wold total	1970	42.6	12.7	44.7	100.0	43.5	11.9	44.6	100.0
	1986	32.3	11.8	55.9	100.0	31.3	11.4	57.3	100.0
	1987	31.4	12.5	56.1	100.0	30.5	11.4	58.1	100.0
	1988	31.6	12.5	55.9	100.0	30.5	11.4	58.1	100.0
		(Percentage share of trade by groups of countries)							
Developed market-economy countries	1970	2.0	27.1	60.0	31.1	80.4	79.6	79.1	79.9
	1986	16.2	27.0	64.7	45.1	72.3	82.4	61.4	67.2
	1987	15.7	30.1	64.1	44.6	72.4	82.0	62.2	67.6
	1988	15.2	30.5	65.1	45.0	72.6	82.4	62.6	68.0
Socialist countries of Eastern Europe and Asia	1970	3.4	8.0	8.1	6.1	1.7	1.1	5.8	3.5
	1986	9.4	17.5	6.1	8.5	3.5	0.7	10.1	7.0
	1987	9.5	17.3	5.8	8.4	3.7	0.7	10.1	7.0
	1988	9.5	17.4	5.9	8.5	3.8	0.8	10.1	7.1
of which:									
in Eastern Europe	1970	3.4	8.0	6.9	5.6	1.2	1.0	3.8	2.3
	1986	6.0	15.8	4.8	6.5	3.2	0.4	6.5	4.8
	1987	6.0	15.5	4.4	6.3	3.4	0.4	6.6	4.9
	1988	5.9	15.5	4.4	6.3	3.4	0.4	6.6	4.9
in Asia	1970	—	—	1.2	0.5	0.5	0.1	2.0	1.2
	1986	3.4	1.7	1.3	2.0	0.3	0.3	3.6	2.2
	1987	3.5	1.8	1.4	2.1	0.3	0.3	3.5	2.2
	1988	3.6	1.8	1.5	2.2	0.3	0.3	3.5	2.2
Developing countries	1970	94.6	64.9	31.9	62.8	17.9	19.4	15.1	16.6
	1986	74.4	55.5	29.2	46.4	24.2	16.9	28.5	25.8
	1987	74.8	52.6	30.1	47.0	23.9	17.3	27.7	25.4
	1988	75.3	52.1	29.1	46.5	23.6	16.8	27.3	24.9
of which in:									
Africa	1970	25.5	2.4	9.1	15.2	1.7	4.7	3.6	2.9
	1986	21.8	8.1	5.0	10.6	5.9	2.3	4.6	4.7
	1987	21.5	7.2	5.0	10.5	6.0	2.5	4.4	4.6
America	1970	12.2	35.4	13.8	16.0	10.5	5.6	4.4	7.2
	1986	11.7	12.2	13.8	13.0	5.5	4.1	4.4	4.7
	1987	12.9	11.3	13.3	13.0	5.0	4.3	4.5	4.6
Asia	1970	56.9	27.0	8.1	31.3	5.5	8.5	6.7	6.4
	1986	40.9	34.8	9.6	22.4	12.1	9.4	18.5	15.5
	1987	40.4	33.8	11.0	23.0	12.1	9.3	17.9	15.2
Europe	1970	—	—	—	—	—	0.1	0.1	—
	1986	—	0.2	0.3	0.2	0.7	0.5	0.8	0.8
	1987	—	0.2	0.4	0.2	0.8	0.6	0.8	0.8
Oceania	1970	—	0.1	0.8	0.4	—	0.5	0.3	0.2
	1986	—	0.1	0.4	0.2	—	0.6	0.2	0.1
	1987	—	0.1	0.4	0.2	—	0.6	0.1	0.2

Source: Based on statistics provided by the United Nations Statistical Office, the UNCTAD data bank, and other specialized sources.

* Including international cargoes loaded at ports of the Great Lakes and St. Lawrence system for unloading at ports of the same system, but excluding such traffic in main bulk commodities.

** The estimates presented here reflect the inclusion of Yugoslavia in 1986 in the group "Developing countries in Europe"; in previous years Yugoslavia was classified as a developed market-economy country.

pace with the expansion and progress of industry. IMO's Maritime Safety Committee is authorized to adopt amendments to the Code, thus enabling the Organization to respond promptly to transportation developments.

The Code was first published in 1965, and was followed by a revised edition (three volumes) in 1972 and a new edition (four volumes) in 1977. In 1981, 1986 and 1988 consolidated editions, in five volumes, were published, incorporating all amendments up to and including Amendment 24-86.

This new consolidated four-volume 1990 edition incorporates the extensive revisions made by Amendment 25-89. For practical reasons, the General Index and the Numerical Index of the IMDG Code have been incorporated with the General Introduction and Annex I in Volume I. The publications which relate to the Code have, for ease of reference, been consolidated in a Supplement.

Application of the Code

The International Convention for the Safety of Life at Sea, 1974 (1974 SOLAS Convention) deals with various aspects of maritime safety and lays down in part A of chapter VII the mandatory provisions governing the carriage of dangerous goods in packaged form or in solid form in bulk. Regulation VII/1.3 prohibits the carriage of dangerous goods except when carried in accordance with the provisions of part A of chapter VII, which are amplified by the International Maritime Dangerous Goods Code (IMDG Code).

The International Convention for the Prevention of Pollution from Ships, 1973, as modified by its Protocol of 1978 (MARPOL 73/78) deals with various aspects of prevention of marine pollution, and lays down in its Annex III the mandatory provisions concerning the prevention of pollution by harmful substances carried by sea in packaged form. Regulation 1(2) prohibits the carriage of harmful substances in ships except when carried in accordance with the provisions of Annex III, which are also amplified by the Code.

The IMDG Code is recommended to Governments for adoption or for use as the basis for national regulations in pursuance of their obligations under regulation VII/1.4 of the 1974 SOLAS Convention, as amended. Observance of the Code harmonizes the practices and procedures followed in the carriage of dangerous goods by sea and ensures compliance with the mandatory provisions of the 1974 SOLAS Convention, as amended.

Although the information contained in the IMDG Code is primarily directed at the mariner, its provisions may affect industries and services at levels ranging from the manufacturer to the consumer.

Manufacturers, packers and shippers should find reliable advice in the Code on terminology, packing, labelling and placarding.

Feeder services such as road, rail and harbour craft may need to adopt, or at least recognize, the Code's provisions for classification, packing, labelling and placarding.

Port authorities may use the information in the Code and its Supplement to effect suitable segregation within loading and discharge areas at terminals and for emergency response action.

Contents of the Code

The Code lays down basic principles: detailed recommendations for individual substances, materials and articles; and a number of recommendations for good operational practice, including advice on terminology, packing, labelling and placarding, stowage, segregation and handling, and emergency response action.

The Code is divided as follows:

Volume I

List of abbreviated units
General Introduction to the Code
Annex I — Packing recommendations
General index (alphabetical) of dangerous goods
Numerical index (table of UN numbers with corresponding IMDG Code page numbers, EmS numbers and MFAG table numbers)
List of definitions

Volume II

List of abbreviated units
Class 1 — Explosives
Class 2 — Gases: compressed, liquefied or dissolved under pressure
Class 3 — Flammable liquids

Volume III

List of abbreviated units
Class 4 — Flammable solids; Substances liable to spontaneous combustion; Substances which, in contact with water, emit flammable gases
Class 4.1 — Flammable solids
Class 4.2 — Substances liable to spontaneous combustion
Class 4.3 — Substances which, in contact with water, emit flammable gases
Class 5 — Oxidizing substances and organic peroxides
Class 5.1 — Oxidizing substances (agents)
Class 5.2 — Organic peroxides

Volume IV

List of abbreviated units
Class 6 — Poisonous (toxic) and infectious substances
Class 6.1 — Poisonous (toxic) substances
Class 6.2 — Infectious substances
Class 7 — Radioactive materials
Class 8 — Corrosives
Class 9 — Miscellaneous dangerous substances and articles

SUPPLEMENT

List of abbreviated units
Emergency Procedures (EmS)
Medical First Aid Guide (MFAG)
Solid Chemicals in Bulk (BC Code)
Reporting Procedures
Packing cargo transport units
Use of pesticides in ships

IMDG Code 1990 Edition Volumes 1 — 4 $275.00
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Sarasota, FL 34230, USA

The Americas

Gold-headed Cane To Captain Woods

The General Manager and Chief Executive Officer of the Port of Montreal, Mr. Dominic J. Taddeo, on January 4 presented the famous Gold-Headed Cane to Captain Peter A. Woods, master of the M/V *CanMar Venture,* the first ocean-going vessel of the year to reach port without a stopover.

The Port of Montreal, once a seasonal port, has been open for business 12 months a year since January 4, 1964, when the Danish vessel *Helga Dan* inaugurated year-round navigation in Montreal. Last year marked the 25th anniversary of year-round navigation at the port.

The first arrival of 1990, the M/V *CanMar Venture,* is a British container carrier. Owned and operated by Ca-

nada Maritime Ltd., it is represented in Montreal by Canada Maritime Agencies Ltd., steamship agents.

The ship came from the Port of Cadiz in Spain and opened the navigation year in Montreal by crossing the port's limits at Sorel at 2:44 p.m. on January 1, 1990. It then proceeded to tie up at Berth 59 of Racine Terminal, where its cargo of 570 containers is being handled by Racine Terminal (Montreal) Ltd., terminal operators and stevedores.

The happy recipient of the Gold-Headed Cane, Captain Woods, was born in Liverpool, England, in 1943. He went to sea for the first time at age 16 and attained the rank of captain in 1974. He has been with Canada Maritime and Canadian Pacific for 23 years.

Captain Woods won the Gold-Headed Cane for the first time.

The Port of Montreal also paid tribute to the pilots of Saint-Laurent Central Inc. who brought the M/V *CanMar Venture* safely into port. Pilots Jacquelin Carré and Réjean Côté were each presented with wine goblets.

Before an audience of dignitaries, among them the Acting Consul General of Great Britain in Montreal, Mr. David Herbert, Mr. Taddeo spoke of the reasons that still motivate the port to perpetuate the tradition of the Gold-Headed Cane.

Mr. Taddeo stated: "Now, in addition to honouring the master of the first ocean-going vessel of the year, the Gold-Headed Cane also reinforces the importance of year-round navigation to Montreal.

"The Gold-Headed Cane not only acknowledges the experience, training and sound judgment of the officers and crew who bring the first ocean-going vessel safely into port each year, but it also pays tribute to the imagination, ingenuity and determination of those Canadians who have made winter navigation a reality.

"For many, it still comes as a surprise to learn that we do not close for the winter. The fact that the Port of Montreal is a vibrant, bustling hub of domestic and world trade year-round is one we cannot stress enough."

In fact, winter navigation is extremely important to the Port of Montreal, which handles approximately one-quarter of its annual volume of general cargo in the winter months. Without the container traffic loaded and unloaded at its docks in January, February and March, the Port of Montreal would not have been able to attain its current status as Canada's number one container port and the second-largest container and general cargo port on North America's eastern seaboard.

Mr. Dominic J. Taddeo, General Manager and Chief Executive Officer of the Port of Montreal, congratulates Captain Peter Woods, Master of the M/V CanMar Venture, the first ocean-going vessel in the Port of Montreal in 1990. Captain Woods, wearing a top hat to mark the beginning of a new decade, proudly shows off his Gold-Headed Cane.

The Port of Montreal generates an economic impact of approximately $1.2 billion per year for the Greater Montreal region and Quebec.

Open for Business 365 Days a Year

The Port of Montreal is a vibrant, bustling hub of domestic and world trade all year long.

In an effort to continue stressing this fact, the port launched a special campaign at the beginning of 1989 as a reminder that it is open for business 365 days a year — even in winter.

The campaign will continue as the snow falls again this season.

Because of the harshness of Canadian winters, many people are still surprised to learn that the Port of Montreal never closes. In fact, approximately one-quarter of its annual volume of general cargo is handled in January, February and March.

Without this traffic, the Port of Montreal would not have been able to attain its current status as Canada's number one container port and the second-leading container and general cargo port on North America's eastern seaboard.

Once a seasonal port, the Port of Montreal has been open 12 months a year since January 4, 1964, with the arrival of the Danish vessel *Helga Dan*.

The year 1989 marked the 25th anniversary of year-round navigation in Montreal as well as the 150th presentation of the Gold-Headed Cane, awarded annually to the master of the first ocean-going vessel to arrive in port without a stopover.

To coincide with these two important events, the Port of Montreal unveiled last December a book entitled The *Gold-Headed Cane*, which reiterates the importance of year-round navigation to Montreal and tells the story of the tradition of the Gold-Headed Cane.

Following the launch of the book, the port organized special publicity and advertising campaigns early in the new year focusing on the fact that the Port of Montreal is open all year long — 365 days a year, 366 days a leap year.

The public relations campaign included articles in daily newspapers and transportation publications, as well as

interviews on television and radio, highlighting the fact that the port operates every day of the year.

In its advertising campaign, the Port of Montreal placed full-page ads in Montreal's daily newspapers, as well as the *Toronto Star,* and in various business and trade publications.

The ad, a sketched wintertime scene of a containership docked at its berth, featured the headline "The Port of Montreal. Open for business 365 days a year."

The message at the bottom of the ad read:

"Whatever the weather, whatever the season, the Port of Montreal provides the same efficient and reliable service that has made its reputation throughout the world.

"No wonder it has become a leader on North America's eastern seaboard and on the North Atlantic.

"For exporters and importers, manufacturers, distributors and consumers as well, the Port of Montreal means business... every day of every year."

The advertisements are appearing once again this December in Canadian maritime publications as well as American and European trade publications.

The Port of Montreal is proud of the fact that it has overcome the elements of the season to remain open year-round and cannot stress enough the importance winter navigation plays in its overall success.

Mr. Fyfe Elected Nanaimo Chairman

Commissioner Jack Fyfe is the new Chairman of the Nanaimo Harbour Commission. He was elected at the January 22 meeting.

Under the general bylaws of the Nanaimo Harbour Commission, Mr. Fyfe will serve a two-year term. Mr. Fyfe is the appointee of the Nanaimo Regional District to the Commission.

In accepting the post, the new chairman expressed his appreciation for his election and asked his fellow Commissioners for their support in continuing the team approach established by the board in recent years in setting the tone and direction for the Port and its operations.

(Nanaimo Harbour News)

Cameron Development Proceeding on Schedule

Planning is right on track for the $60 million Cameron Island development in Nanaimo Harbour.

The major portion of demolition work on the old buildings on the site has been completed, and planning is on schedule, according to Port Manager Bill Mills.

"Work is proceeding at the city planning level toward the necessary subdivision approvals, and we expect everything to be in place for the start of construction during the first half of this year," Mr. Mills said.

Bosa Development Corp. who are developing a condominium and commercial complex on the site, held a demolition open house early in January, attracting an excellent turnout which included officials from the Nanaimo Historical Society, Nanaimo Centennial Museum and Civic officials.

Centrepiece of the project will be a 22-storey lighthouse-shaped tower which will serve as a landmark.

(Nanaimo Harbour News)

Vancouver Posts Second Highest Tonnage Total

The Port of Vancouver maintained its status as Canada's largest port in 1989 by registering an all-sector throughput of 64,025,000 tonnes—the port's second highest all-time total behind the record 1988 figure of 71,316,000 tonnes.

Details of the port's 1989 tonnage statistics, released by the Vancouver Port Corporation, reveal a strong performance by all cargo sectors in spite of the overall decline.

According to Captain Norman Stark, Deputy Port Manager and Chief Operating Officer, the downturn in total tonnage can be attributed mainly to lower grain volumes and reduced demand for some of the port's bulk commodities.

"Unstable international trading relations had a significant effect on port tonnages, particularly in the fertilizer-related sectors," said Mr. Stark, pointing to a trade dispute between Morroco and India that contributed to a 30% drop in exports of Alberta sulphur. Mr. Stark also noted that Saskatchewan potash exports through the port suffered a 27% drop, due mainly to a lapse in demand from traditional customers. The 26% decrease in grain shipments is a direct result of the poor 1988 prairie grain crop.

On a more positive note, coal, the port's leading bulk commodity, set a new throughput record at 23.8 million tonnes. And bulk shipments of wood chips climbed 19% in 1989 to a 2.0 million total.

General cargo shipments of pulp held steady at 1.4 million tonnes, while lumber shipments decreased by 8.6% to 3.0 million tonnes, a decline attributed to slower housing starts in the U.S. and the U.K.

Container volumes remained virtually unchanged, a result of the healthy Canadian appetite for Asian-made consumer goods, and growing availability of containerized export cargoes such as lumber, pulp, and specialty grains. Measured in TEUs, the port's 1989 container numbers dipped slightly: 305,688 compared to 1988's record of 305,738 TEUs.

The Port of Vancouver's "glamour sector"—the Vancouver Alaska cruise industry—set yet another record in 1989 with a revenue passenger count of 33,189. The 1989 total represents a 2.8% jump and the port's seventh consecutive revenue passenger increase.

Cruise ship sailings during the May through October season totalled 193.

Captain Stark concluded his comments by praising all port sectors for their efforts in 1989 to improve operating efficiency and find new markets.

"The port and exporting community have managed to turn slower throughput situations into opportunities to find new customers and improve their facilities," he said. "These are valuable lessons that will help the Port of Vancouver continue to grow in stature and importance as a national trade/transport resource in the '90s."

Pollution Control Strict at Vancouver

The Port of Vancouver handles close to 10,000 vessel calls annually, 3,000 of which are by foreign vessels.

To minimize risk of harbour pollution, all cargo ships calling the Port of Vancouver are subject to strict traffic

regulations and ship inspections. Additional restrictions apply to the movements of tankers. The Vancouver Port Corporation's Harbour Master's Department and the Canadian Coast Guard are enforcement agencies.

SHIP INSPECTIONS

All deep-sea vessels entering the port are subject to on-board inspections during which crews of the Harbour Master's office will:

— seal the ship's engine room and hold bilge discharge valves;

— inspect ballast water to ensure that it does not contain oil or other contaminants;

— advise the ship's master or 1st officer of bunkering procedures and other harbour regulations.

BALLAST

Ballast water is taken on by all vessels that are empty or travelling in a light condition. The ballast serves to maintain the vessel's trim and to keep the propeller submerged.

Ballast is pumped aboard and discharged through intakes usually located underwater low down on the ship's side. This procedure minimizes pick-up of floating petroleum and other harbour wastes.

In the Port of Vancouver, ships must request permission before discharging ballast, and as a rule, Harbour Master's boat crews attend and watch the start of the discharge to make sure that it is not polluted. Oily ballast water must either be retained on board or discharged to a slop barge.

SEWAGE

Most deep-sea ships are fitted with holding tanks for sewage because they are required to use them in U.S. ports.

Currently, no legislation exists requiring cargo vessels to have or use holding tanks in Canadian waters, other than the Great Lakes.

Passenger ships have a two or three day capacity for the full complement.

BILGE WATER

Engine room bilge water and oily water slops can only be discharged to a slop barge.

If hold washings are to be discharged, the Harbour Master's boat crews attend and supervise the breaking of the seals, inspect the discharge, and — if free of oil — permit pumping and re-seal bilge valves on completion.

Tanker Traffic

In 1988, the Port of Vancouver handled 161 tanker visits. Of those, 14 tankers loaded crude oil. The rest carried a wide range of cargoes including refined petroleum products, liquid chemicals, grain oils, animal fats and tallow.

Governed by the Second Narrows Movement Restriction Regulations (1981), tanker movement regulations in the Port of Vancouver are among the most stringent anywhere.

SPECIAL REGULATIONS

Tankers calling the Port of Vancouver are inspected by the Canadian Coast Guard to ensure that they meet all International and Canadian Safety Requirements.

All foreign deep-sea vessels including tankers carry a pilot in and out of Burrard Inlet.

Tankers are given priority for transit of the 1st and 2nd Narrows. No other vessel traffic is allowed through the

Membership Notes:

New Member

Associate Member

Port Management Consultants [Class A-III-1] (Netherlands)
Address: P.O. Box 6583, 3002 AN Rotterdam
Tel: 31-10-4780766
Fax: 31-10-4780288
(Dr. Christiaan van Krimpen, Senior Partner)

Changes

IAPH Directors from New Zealand have been elected recently. Mr. K.J. Gilligan, Managing Director, Port of Napier Ltd. is serving as Director and Mr. Robert Cooper, Chief Executive, Ports of Auckland Ltd. is serving as Alternate Director.

Turkish State Railways (TCDD) [Regular] (Turkey)
Director of Ports Department:
Mr. Adnan Yardimci
Assistant Director of Ports Department (Port Marketing, Tariffs, International Trade and Training):
Mr. Ferit Erkekli
Port Marketing Manager:
Mr. Remzi Sivaslioglu
* Mr. Yardimci is serving as Director of the IAPH from Turkey.

Department of Transport and Communications [Class B] (Australia)
Acting First Associate Secretary, Maritime Policy Division: Mr. P.J. Merner
* They have changed their membership status from regular to associate recently.

Survey on Container—

(Continued from Page 6)

8. Degree of importance of changes to container dimensions/ratings
9. Financial requirements of major changes to dimensions and ratings on cranes and machines
10. Problems associated with increased container lengths
11. Problems associated with increased container heights
12. Problems associated with increased container width
13. Problems associated with increased container gross weight loadings
14. Problems associated with increased size of container vessels in relation to ship-to-shore gantry cranes
15. Regulations or statutory requirements existing or proposed in ports for changes to ISO standards for container dimensions and ratings
    15.1 Road limitations
    15.2 Rail limitations
    15.3 Inland Water Transport Limitations
16. Rating of difficulties in solving problems for inland transport (Road, Rail and Inland Water) caused by increased dimensions and weight ratings
17. Suggestions for any additional matters which the Committee should investigate

Narrows while tankers are in transit.

Movement of tankers through the Narrows is prohibited in reduced visibility caused by fog, rain, snow, etc. Visibility criteria for the 1st Narrows is based on the ability to see clearly between Vancouver Wharves and Navvy Jack Point. For the 2nd Narrows, the CN bridge operator must be able to clearly see 1 mile to the west and 1.5 miles to the east.

Deep-sea vessel movements in the 2nd Narrows are restricted to periods of slack water.

The upper size limit for tankers entering Burrard Inlet has been set at 90,000 tonnes deadweight (cargo carrying capacity). Tankers over 50,000 tonnes deadweight are limited to daylight transits of both 1st and 2nd Narrows. Tankers more than 170 metres in length are restricted to daylight movements through the 2nd Narrows.

Tankers and other deep-sea vessels must be escorted through the 2nd Narrows by a minimum of two tugs of ample horsepower — large vessels must be accompanied by four tugs. Additional escort may be provided by Harbour Master's patrol boats.

A 6-knot speed limit applies to all vessels transiting the 2nd Narrows except in an emergency.

Tanker berth operators place oil containment booms around vessels during loading and unloading.

Tankers are prohibited from anchoring in the Inner Harbour.

OIL SPILL RESPONSE

The Port of Vancouver has never experienced a major oil spill.

However, minor spills do occur — usually when a ship is bunkering or carrying out an internal oil transfer. In the event of a harbour spill:

- The ship must notify the Harbour Master who, in turn, notifies the Canadian Coast Guard and Environment Canada. The Harbour Master or his designate attends the spill site to assess the situation. Environment officers also assess ecological danger and suggest appropriate clean-up methods.
- Harbour Master's crews are often able to quickly contain the spill with booms and begin clean-up with absorbent materials.
- Large-scale clean-up equipment in the Port of Vancouver is maintained by "Burrard Clean" — a cooperative operated by the oil refineries located in the harbour. Additional clean-up equipment is obtainable from the Canadian Coast Guard. A private contractor is often hired to operate the equipment and provide labour.
- A spill investigation can lead to charges being laid by VPC, the Coast Guard, or Environment Canada, or all three. Before the ship at fault can leave the port, it must agree to pay clean-up costs.

Cargo Movements Thru US Ports on the Increase

U.S. Port Traffic 1989 — Import/export cargo movements through U.S. ports continued to grow through the third quarter of the year, although at a significantly slower pace than earlier. Volume overall totaled 720.6 million short tons, an increase of 6.3 percent from the 677.8 million tons shipped during the same period of 1988.

Third quarter volume, however, increased by just 3 percent, compared to 8 percent in each of the previous two quarters. The drop was mainly the result of a 26-percent drop in exports in September.

Comparisons with the January-September period of 1988 show exports increasing by 3.4 percent and imports up by 8.7 percent. Under exports, dry cargo increased by less than 1 percent, to 269.9 million tons, while tanker cargos jumped 31.3 percent to 37.8 million tons. The import categories show: tanker cargos — 281.7 million tons (+12.1 percent) and dry cargo — 130.7 million tons (+2 percent).

The liner trades generally outperformed trade overall. Here the data show exports totaling 38.4 million tons (+13.2 percent) and imports of 33.8 million tons (=7.9 percent).

Containerized liner cargo did even better, with exports up 25.2 percent to 29.6 million tons and imports increasing by 13.9 percent to 28.8 million tons.

TABLE I
U.S. WATERBORNE FOREIGN COMMERCE 1986-89
(Millions of Short Tons)

	Calendar Year			1st 9 Months	
EXPORTS	**1986**	**1987**	**1988**	**1988**	**1989**
United States	330.9	360.0	400.6	298.3	308.5
North Atlantic	69.0	62.7	73.6	54.2	61.6
South Atlantic	13.7	15.3	18.6	13.5	14.9
Gulf	134.8	155.0	162.2	124.1	122.8
South Pacific	30.7	33.4	37.4	27.5	30.6
North Pacific	50.8	61.6	73.2	55.7	53.2
Great Lakes	32.0	32.0	36.6	23.3	24.9

	Calendar Year			1st 9 Months	
IMPORTS	**1986**	**1987**	**1988**	**1988**	**1989**
United States	453.4	477.8	517.4	379.5	412.5
North Atlantic	168.2	170.2	182.9	135.9	134.2
South Atlantic	47.8	53.9	51.4	35.5	41.6
Gulf	171.3	184.1	211.6	155.6	177.4
South Pacific	36.2	37.6	38.4	28.1	31.2
North Pacific	16.5	18.2	17.7	13.4	14.3
Great Lakes	13.8	13.9	15.7	10.6	12.4

	Calendar Year			1st 9 Months	
TOTAL	**1986**	**1987**	**1988**	**1988**	**1989**
United States	784.7	837.8	918.0	677.8	720.6
North Atlantic	237.3	232.9	262.8	190.1	195.8
South Atlantic	61.5	69.2	70.0	49.3	56.4
Gulf	306.1	339.1	373.3	279.8	300.2
South Pacific	66.9	71.0	75.5	55.6	61.4
North Pacific	67.3	79.8	90.9	68.1	67.5
Great Lakes	45.8	45.9	52.3	33.9	37.3

SOURCE: U.S. Bureau of the Census

TABLE II
U.S. LINER TRADES 1986-89
(Millions of Short Tons)

	Calendar Year			1st 9 Months	
EXPORTS	**1986**	**1987**	**1988**	**1988**	**1989**
United States	35.6	40.8	45.1	34.0	38.4
North Atlantic	6.3	6.6	8.3	6.2	7.6
South Atlantic	6.3	7.1	8.2	6.0	7.2
Gulf	7.6	9.1	8.0	6.3	6.2
South Pacific	8.6	10.4	12.3	9.4	12.3
North Pacific	6.6	7.5	8.0	5.9	6.3
Great Lakes	3	n/a	n/a	n/a	n/a

	Calendar Year			1st 9 Months	
IMPORTS	**1986**	**1987**	**1988**	**1988**	**1989**
United States	42.3	45.6	41.5	31.3	33.8
North Atlantic	15.3	15.6	13.9	10.5	11.1
South Atlantic	6.1	6.6	5.9	4.5	4.7
Gulf	4.3	4.8	4.1	3.3	3.1
South Pacific	12.7	14.2	13.0	9.8	11.5
North Pacific	3.8	4.1	3.8	2.8	3.2
Great Lakes	1	n/a	n/a	n/a	n/a

	Calendar Year			1st 9 Months	
TOTAL	**1986**	**1987**	**1988**	**1988**	**1989**
United States	77.9	86.4	86.6	65.3	72.2
North Atlantic	21.6	22.2	22.2	16.7	18.7
South Atlantic	12.4	13.7	14.1	10.5	11.9
Gulf	11.9	13.9	12.1	9.6	9.3
South Pacific	21.3	24.6	25.3	19.2	23.8
North Pacific	10.4	11.6	11.8	8.7	9.5
Gureat Lakes	4	n/a	n/a	n/a	n/a

TABLE III
U.S. CONTAINERIZED LINER TRADES 1987-89

(Millions of Short Tons)

	Calendar Year		1st 9 Months	
EXPORTS	**1987**	**1988**	**1988**	**1989**
UNITED STATES	28.1	31.6	23.7	29.6
North Atlantic	4.9	5.8	4.4	6.2
South Atlantic	5.2	6.4	4.7	5.7
Gulf	4.0	3.3	2.6	3.0
South Pacific	8.7	10.4	7.9	9.6
North Pacific	5.3	5.8	4.3	5.1
Great Lakes	n/a	n/a	n/a	n/a

	Calendar Year		1st 9 Months	
IMPORTS	**1987**	**1988**	**1988**	**1989**
UNITED STATES	36.6	33.8	25.3	28.8
North Atlantic	12.8	11.6	8.7	9.7
South Atlantic	5.6	5.1	3.8	4.1
Gulf	2.6	2.5	1.9	1.9
South Pacific	11.9	11.1	8.2	10.0
North Pacific	3.7	3.5	2.5	2.9
Great Lakes	n/a	n/a	n/a	n/a

	Calendar Year		1st 9 Months	
TOTAL	**1987**	**1988**	**1988**	**1989**
United States	64.7	65.4	49.0	58.4
North Atlantic	17.7	17.4	13.1	15.9
South Atlantic	10.8	11.5	8.5	9.8
Gulf	6.6	5.8	4.5	4.9
South Pacific	20.6	21.5	16.1	19.6
North Pacific	9.0	9.3	6.8	8.0
Great Lakes	n/a	n/a	n/a	n/a

SOURCE: U.S. Bureau of the Census

Port of Corpus Christi: Record Tonnage Again

The Port of Corpus Christi Authority posted record tonnage for the second year in a row as officials released 1989 tonnage figures revealing that over 69.3 million tons of cargo moved through the port last year. This marks the seventh consecutive year of increased growth at the port and surpasses the previous all-time tonnage record of 67.6 million tons set in 1988.

Several factors are responsible for the record tonnage. "Petroleum imports have remained strong and are expected to hold steady for the next several years," according to Executive Director Harry G. Plomarity. "Also, the port commission will award a contract in early February for construction of a new multi-purpose cargo dock. The dock will allow the port to efficiently handle a wider variety of cargo including project cargo, roll-on/roll-off (RO/RO) cargo, military cargo, containers and other types of general or breakbulk cargo and to continue the diversification efforts we initiated several years ago," says Mr. Plomarity.

Petroleum remained the top commodity, accounting for 79 percent of the total tonnage. More than 54.7 million tons of petroleum moved through the Inner Harbor and Ingleside divisions, an increase of 2 percent over 1988. Dry bulk commodities, at 11 percent, accounted for the second largest tonnage percentage.

Over 7.8 million tons moved through public and private facilities, an increase of 8 percent over the previous year.

Chemicals were third, at over 5.4 million tons. They also recorded the largest increase, 22 percent over 1988.

A total of 1,185 ships and 5,339 barges called the four divisions of the port in 1989.

In the last three years, the Port of Corpus Christi has risen in ranking from ninth to seventh and currently ranks sixth in the United States in total tonnage according to the latest U.S. Army Corps of Engineers figures. The port ranks third in import tonnage.

Houston Expects Steady Tonnage Increases

By James D. Pugh
Executive Director
Port of Houston Authority

During the 1980s, it seemed that many U.S. ports — particularly those on the Gulf — had to run as fast as they could just to stay in one place. During the next decade, we will probably have to run just as fast, but this time our efforts should be rewarded with modest tonnage increases.

The 1990s should bring increases in the 3% to 6% range for most U.S. ports during the next five years, and the growth rate should accelerate after that.

Pacific Rim ports may be exceptions, reporting increases in the 7% to 8% range during the first half of the decade and settling into a more modest pattern after 1995.

In Houston we anticipate annual tonnage increases of 4% to 6% at the public facilities through 1995, with about half that growth rate at the private terminals. Container volume will probably grow at a higher rate than other types of cargo.

Capital improvement patterns at U.S. ports will most likely mimic the 1980s, with a cautious approach to expansion. Ports will expand facilities only when they feel comfortable about being able to do so. Small ports will continue to lag behind larger ports because of load centering.

The Port of Houston Authority will continue expansion programs announced in the late 1980s, with emphasis on improving the handling of containerized cargo. Nearly $60 million will be spent in the next three years at the Fentress Bracewell Barbours Cut Terminal for additional berths, equipment and storage and marshaling areas. Programs designed to streamline operations will continue at all PHA facilities.

Work will also continue on a long-range plan to improve the Houston Ship Channel. Harris Country voters recently approved a bond issue to provide local funds for widening and deepening the channel. The next step is for Congress to provide federal funding. After that appropriate environmental studies will be conducted and planning will proceed.

As for private terminals, liquid bulk facilities should continue to expand gradually, and Houston will probably be the site of a new automated terminal for "neobulk" cargoes. Houston will also offer more cold storage capacity in the next few years. Construction is already under way on one such warehouse, and several others are being planned.

The coming year will definitely not be one of phenomenal tonnage increases for most U.S. ports, but it should usher in a decade of measured, manageable growth.

'89 Tonnage at Houston Record for Second Year

An estimated 126 million tons of cargo moving through the Port of Houston has set a record for a second year. The estimated total is based on projected U.S. Army Corps of Engineers figures.

In 1988, the Port of Houston broke the 1979 record of 117 million tons by handling 125 million tons, according to the U.S. Army Corps of Engineers. The total for 1988 was previously es-

timated at 118 million tons.

"Port activity reflects locally transacted business and this total certainly indicates the Houston area economy has rebounded," Mr. Ned S. Holmes, chairman of the Port of Houston Authority Commission, said.

The Port of Houston Authority operates the public facilities of the Port of Houston which account for about 20 percent of the total tonnage handled. About 80 percent of the 126 million tons recorded in 1989 was handled by the privately-owned terminals along the ship channel.

In 1988, the Port of Houston led the nation in foreign tonnage and was ranked third in total tonnage. Port activity directly affects 28,000 local jobs and adds $3 billion to the economy each year.

"As business at the Port of Houston continues to increase, the need to improve the Houston Ship Channel becomes even more apparent," Mr. Holmes continued.

Last fall, Harris Country voters passed a measure by 63 percent that will fund a project to improve the waterway by deepening it from 40 to 45 feet and widening it from 400 to 530 feet. The project is now in the Federal Office of Budget Management for review and will then go to Congress for authorization and funding.

Mr. Mark Chambers, of MSC and Associates, the environmental consultants to the project, JAXPORT Managing Director Paul D. deMariano and Mr. James R. Lacy, Westway manager of terminal operations break ground on the $2.5 million expansion project.

To Expand Liquid Bulk Facilities at JAXPORT

Westway Trading Corp., a world leader in the marketing and distribution of various liquid bulk commodities, has announced that it will add approximately 2.5 million gallons of capacity to its existing tank facilities at the Jacksonville Port Authority's (JAXPORT's) Talleyrand Docks & Terminals.

The $2.5 million expansion, which involves the construction of six new storage tanks and the diking of 90,000 square feet of land, will bring Westway's total storage capacity at JAXPORT to 8.1 million gallons.

JAXPORT Managing Director Paul D. deMariano said he was pleased the port authority was able to accommodate Westway's aggressive expansion program.

"Enhancing this area of the port's business fits nicely into our cargo diversification goals," Mr. deMariano said. "The improvements should result in additional ship service and revenues to the authority and city."

Westway is financing the construction, and in return will receive a new long-term lease from JAXPORT, consisting of four five-year terms.

Site preparation, which consists of building a dike and lining the soil around the tanks for environmental safety purposes, is already underway. All construction should be complete by October.

Additional storage is needed because Mr. Jim Lacy, Westway manager of terminal operations, said existing tanks have been filled to capacity for nearly three years.

"We're adding storage for both long-term contracts and speculation," he said. "We see a number of liquid commodities being handled at other Mid-Atlantic and Gulf port facilities that could be handled on a more cost efficient basis through Jacksonville.

"For movements beyond Jacksonville, the Norfolk Southern, CSX and Florida East Coast railroads are capable of moving product directly to any number of final destinations in the Northeast, Midwest and West," Mr. Lacy said. "Combined with excellent local trucking, Jacksonville offers one of the finest and most diverse freight distribution networks of any Atlantic or Gulf port."

The improvements also call for the addition of three new dock lines, bringing to six the number of lines serving the liquid bulk facility. One of those new lines will be stainless steel, which will allow Westway to potentially handle either corrosive materials or pure, food-grade materials.

"We believe the stainless steel manifold will be the only one on the South Atlantic seaboard," Mr. Lacy said. "Most companies aren't willing to put one in on speculation. But we see tremendous opportunities for putting it to good use."

Westway currently handles a wide variety of liquids used primarily by paper and linerboard factories in the area, including caustic soda, green liquor, lignin sulfonate, solvents and lubricating oils.

"We'd love to increase the volumes of commodities we already store and add commodities such as vegetable oils, citrus concentrates, lubricants and other specialty chemicals," Mr. Lacy said.

Customer Service Expanded at Baltimore

Three joint ventures operated by the Maryland Port Administration in conjunction with private companies have successfully expanded the range and quality of service available to Port of Baltimore customers while lowering costs by as much as 20 percent, according to the first year results released recently by Maryland Governor William Donald Schaefer.

These joint programs offer freight consolidation, equipment leasing and fumigation services. In each area, the MPA has entered into a partnership program with a private business that is an acknowledged expert in the field.

"These programs are examples of our ongoing efforts to provide quality, cost-effective service to the port's customers," Governor Schaefer said. "They show that innovation and cooperation are the keys to our success.

"Each of the three programs has grown on a volume basis during the course of the year, and we expect this trend to continue," the Governor said.

According to Mr. Brendan W. O'Malley, executive director of the Maryland Port Administration, the programs were started to fill specialized market niches. "I am pleased that we have met our goal of improving service for the small and medium-sized customers, who are so important to our success."

The first of the joint ventures began in July 1988, when the MPA and Interpool, Ltd., started a container chassis pool with chassis available on a lease basis for $8 per day. This program reduces the need for steamship lines to buy and maintain their own equipment and also improves equipment utilization by reducing the need to reposition empty chassis.

During its first year of operation, the Port of Baltimore Chassis Pool had 2,780 lease transactions. In August 1989, there were 244 transactions, compared to only 11 in the same month of 1988.

The second joint venture began in August 1988, when the MPA and ITOFCA Consolidators, Inc., started Baltimore Port Link, USA (BPL). BPL serves as a consolidation service, providing volume discounts and lower shipping costs to small and medium sized shippers and steamship lines using the Port of Baltimore.

BPL is now handling an average of 500 containers a month and expects to double its first year volume of 3,324 container shipments.

The third joint venture was begun in November of 1988 to improve the quality and lower the costs of fumigating logs and other products. Logs were previously fumigated under tarps on the terminal itself. By moving the operation inside a building, log containers can be fumigated regardless of weather and wind conditions. This means shippers can meet their deadlines with ease.

In addition, the program has reduced the cost of fumigating a container by 20 percent to $320. The fumigation facility is operated by Home Exterminating Company at the Dundalk Marine Terminal.

2020 Program Office At WORLDPORT LA

Port of Los Angeles Executive Director Ezunial Burts has announced the formation of a 2020 Program Management Office headed by Mr. John Warwar, a Chief Harbor Engineer, effective January 15, 1990.

"The goal of this reorganization is to focus Port management and staff resources directly on the complexities of the 2020 Program," Mr. Burts explained. "Many of the Program's cornerstone projects are scheduled for completion in 1995."

As the 2020 Program Director, Mr. Warwar will manage the Port's blueprint for creating the world's largest integrated marine-rail-highway transportation hub to meet increasing cargo demands through the year 2020.

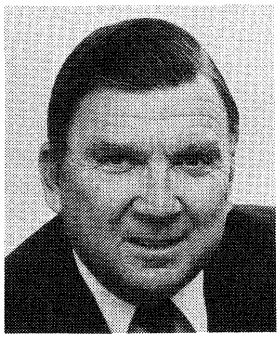
The Program comprises extensive deepening of harbor channels and land reclamation, construction of world-class container, dry bulk and petroleum terminals, and further development of an infrastructure that enhances efficient cargo movement over land.

The U.S. Army Corps of Engineers is completing a comprehensive feasibility study in cooperation with the San Pedro Bay ports of Los Angeles and Long Beach to determine the extent of federal participation in the dredging phase of the 2020 Program.

A major rail-truck transportation project within the 2020 Program is the Consolidated Transportation Corridor (CTC). Mr. Art Goodwin, the Port's General Manager of Rail Services, has been designated to manage the CTC project as part of the 2020 Program Office.

The CTC involves railroad, highway and street improvements designed to facilitate cargo distribution to and from the Port.

Expected to reduce traffic congestion and air emissions by making extensive use of rail cars, the CTC is being planned jointly by the ports of Los Angeles and Long Beach, cities impacted by the project, and various Los Angeles Country agencies.



James J. Scott, Jr.
Executive Director
N.C. State Ports Authority

NCSPA Looks to Improving Conditions

1990 will be a year of improving conditions for the North Carolina State Ports Authority, says Executive Director James J. Scott, Jr. Mr. Scott points to the coming on-line of new facilities at both the Wilmington and Morehead City terminals as prime examples of the promise the New Year holds for the NCSPA.

In Wilmington, 1990 will see the completion of a new container facility with 2 new cranes and a 12-acre lot. During the year, all container yard operations will be put on computer. All the forms used in the container operation will be revamped to suit their uses in yard. Most of the $3 million allocated for capital improvements by the N.C. General Assembly will be put toward repairs and for catch up work on deferred maintenance. "This will allow the existing facilities to operate more efficiently while we prepare for

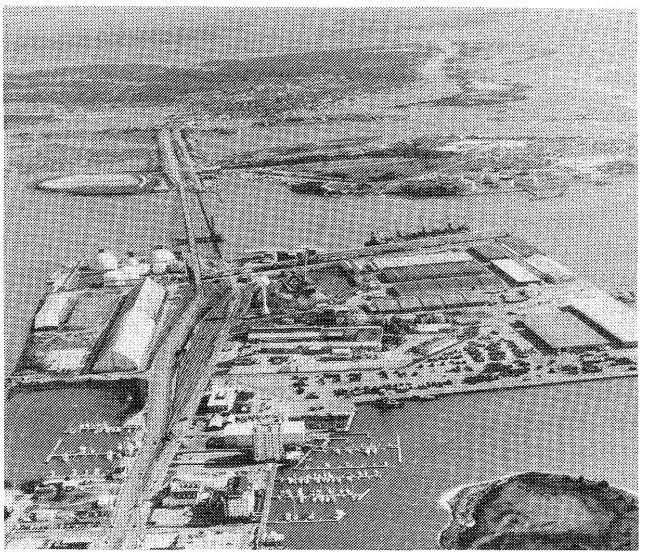
expansion," says Mr. Scott.

In Morehead City, in addition to the work at Radio Island, the gantry cranes and lighting for night operations will be upgraded.

This will also be done in Wilmington. And, intermodal service by truck or rail between Charlotte and Greensboro will be improved.

"Our beefed-up marketing department will offer better service to our customers and will have more sales tools to solicit new lines to call at Wilmington and Morehead City," Mr. Scott adds. "For the Ports Authority, 1990 looks promising with completed expansion projects and vigorous business development."

Wilmington Port



Morehead City Port

North Carolina Ports Continue to Post Profit

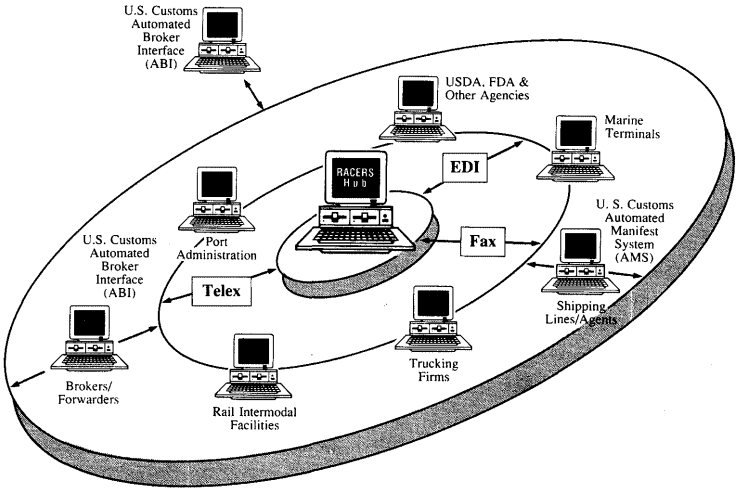
With the first half of the 1989-90 fiscal year completed, the consolidated operations for the North Carolina State Ports Authority posted a quarter million dollar profit. From revenues over the six-month period of $12,700,348, a profit of $250,714 was recorded. Revenues increased 10 percent over the same period last year for a $1,110,736 hike. Since at the same time last year the Authority had lost $187,194, these latest figures represent an improvement of nearly a half million dollars, or $437,908, year-to-date.

For the month of December 1989, consolidated operations experienced a $44,336 profit. The Port of Wilmington showed a $83,492 profit while the Port of Morehead City dipped in the red for a $37,370 loss. Consolidated revenue for December was 16 percent below the previous month.

Container tonnage at the Port of Wilmington continued its upward trend with a 23 percent increase in TEUs over the same time last year. Tonnage, however, moving through both Morehead City and Wilmington was down 38 percent for December compared to a year ago.

RACERS℠

The Hub and Spoke Concept



Pilot Project to Speed Up Cargo Clearance

The Port of Oakland, along with five other ports composing the Golden Gate Ports Association (GGPA), plans to launch a pilot program on or about July 1 designed to promote the timely clearance of international cargo through the ports.

The Oakland Board of Port Commissioners has approved Oakland's funding of 70 percent of the pilot program, subject to approval of 10 percent funding from the San Francisco Port Commission and 20 percent funding from the Bay Area trade

community. The cost of the pilot program is estimated at $1,130,000. Full implementation of the RACERS program will depend on the results of the pilot program which is anticipated to last about one year.

The project is known as the Regional Automated Cargo Expediting and Release System (RACERS).

RACERS will interface with the developing United States Customs Automated Commercial System (ACS) for the clearance of cargoes moving to inbound destinations.

The introduction of the new program is expected to enhance the competitive posture of the Bay Area maritime industry.

The GGPA consists of the Ports of Oakland, San Francisco, Richmond, Sacramento, Stockton, and Redwood City.

RACERS serves as the "hub" of a communications network servicing through EDI-based message handling capabilities the Northern California/ Northern Nevada international trade community functioning as the "spokes."

Normal business transactions between members of the trade community as well as status messages from Customs and other regulatory agencies are evaluated by the RACERS hub to determine conditions which may adversely affect the delivery of cargo. As such exceptions occur, RACERS takes a proactive approach by contacting the trade community members involved with the processing of the cargo. In this way, adverse conditions can be corrected prior to experiencing delays in cargo delivery.

Oakland's participation in the RACERS project was first approved by the Oakland Commission on May 6, 1986, and work on Phase I of the study was completed in March of 1988. The thrust of this first effort was to develop a conceptual design of the project.

Based on the results of the first effort, as well as a number of major changes implemented over time by the U.S. Customs to its system, the GGPA determined that the recommended conceptual design should be re-studied before the system was implemented and a detailed market survey should be undertaken to determine the level of trade community support. Oakland's participation in this second phase effort was approved by the Oakland Commission on October 18, 1988. The U.S. Maritime Administration contributed a portion of the costs of the two-phase reports.

The phase II report was accepted by the GGPA member ports in December 1989.

The final design was based on a communications network rather than the more costly centralized system approach.

The RACERS "hub and spoke" system offers many favorable factors to the GGPA in the form of:

- Recognition of the trade community's need to know cargo status and need to communicate in order to avoid or resolve problems.
- Sensitivity to the trade community's need for information privacy and need for standards.
- Ability to provide a comparable service to large and small companies alike within the trade community.
- Reduction of GGPA's up-front capital investment by reducing the computer size required as well as staff support needs, using existing EDI third party network capabilities, and having the trade community invest in their own internal ("spoke") capabilities.

The Technical Advisory Committee of the GGPA for the RACERS project is chaired by Mr. James J. O'Brien, Executive Director, Transportation Services at the Port of Oakland.

"RACERS has been developed with the full cooperation of the Customs Services, recognizes the need for a cost-effective system which can interface with the established 'in-house' communications systems already developed by the trade community and demonstrates the ability of the Northern California ports to cooperate voluntarily on projects which are in the regional interest," says Mr. O'Brien.

Environmental Unit Formed at Oakland

The Oakland Board of Port Commissioners announced that it will appoint an Environmental Task Force to work with Port management to expedite a solution to the Port's dredging problem and other environmental challenges.

The new Task Force will report to Mr. James J. O'Brien, Executive Director for Transportation Services and Acting Chief Executive Officer of the Port of Oakland. It will work closely with the Port staff's own Dredging Task Force.

The Task Force will be chaired by Mr. Alan C. Furth, former chairman of the board of Southern Pacific Transportation Co., and will also include consultants in planning, the environment, legal issues and public relations.

The Task Force will address the full range of environmental issues facing the Port of Oakland. These include deepening Port channels, use and preservation of wetlands, aircraft noise patterns, public access to the Bay and highway transportation routes. The first issue to be addressed will be dredging to create deeper, safer shipping channels.

The Port has been trying for the past several years to find an acceptable location for disposing of dredged material when it deepens the Inner and Outer Harbor Channels from 35 to 42 feet in order to accommodate huge new container ships that already are calling at Oakland. In all, some 6.5 million cubic yards of material must be removed. The first phase of the project, which originally was scheduled to be completed in June 1988, involves disposing of approximately 400,000 cubic yards.

"This Task Force," said Commissioner R. Zachary Wasserman, chairman of the Board's Transportation Services Committee, "will be a significant new resource for our staff in pursuing a solution to this extraordinarily complicated problem. The future of the Port hinges in large measure on our ability to accommodate the new vessels that are being used by American President Lines, Maersk and other major carriers. We are doing our utmost to find a solution that is both economically sound and environmentally feasible."

"The Board believes it might be helpful to have a fresh look at the problem," Mr. Wasserman said. "We are particularly aware that our staff is stretched thin by the new challenges created by the earthquake, the resultant damage to Port of Oakland facilities and the recovery process."

The maritime industry accounts for some 52,000 jobs in the Bay Area. In 1985, the last year for which official figures are available, some $15.2 billion worth of foreign and domestic goods moved by ship in San Francisco Bay. It is estimated that from 1989 to 1995 disposal sites for 74.6 million cubic yards of material from San Francisco Bay must be identified in order to preserve a viable maritime industry in the Bay Area. *(Port Progress)*

Recovering Rapidly From Quake Damage

The Port of Oakland is rapidly recovering from the devastation of the October 17 earthquake.

The Port was hit hard, but managed to stay in operation without diverting any ships or planes to other destinations.

Now the port is repairing the damage.

At Oakland International Airport, where 3,000 feet of main runway was closed following the quake, some 1,500 feet has been restored, which means the operational runway is now 8,500 feet long and the Oakland Airport can accommodate DC8s and 747s again.

The 7th Street Public Container Terminal was the most seriously damaged facility at the Port. It will be non-functional at least until Spring. But work is underway restoring some 300 feet of the dock, adjacent to the Matson terminal.

The Port has on order two $8 million post panamax cranes, each capable of loading and unloading the largest container ships in the world. They are due to arrive in January and to be located at the 7th Street Terminal, in the area now being restored, for testing and adjustment.

All told, the Port's damage total exceeded $105 million. Most of that amount (75 percent) is expected to be covered by grants from the Federal Emergency Management Administration. At least 75 percent of the remainder—about $20 million—is expected to be paid from State relief funds. Legislation will be considered in Sacramento next month that would enable the State to repay the entire balance of the Port's losses.

Damage at other Port facilities was relatively minor. There were instances of subsidence in some container yards. The shed at the Howard Terminal suffered structural damage as did the Howard container yard, but ships once again are being handled at Howard and at nine of the Port's 10 terminals.

It takes more than a 7.1 earthquake to knock out the Port of Oakland.

Port of Seattle Studying Teleport Development

The Port of Seattle is embarking on a step into the future by looking into the possibility of developing a teleport—a sophisticated telecommunications system that links regional businesses with other trade centers around the world through the use of satellites and a computer network.

"The concept of a Seattle area teleport fits in well with the Port's mission," said Mr. Zeger van Asch van Wijck, executive director of the Port of Seattle. "A teleport would help stimulate local economic development and international trade; and the Port is a natural catalyst for such a development, since we have always been in the forefront of computerized information technology," he added.

The foundation of the proposed teleport is the Puget Sound Community Cargo Release System (PSCCRS), now being developed by the ports of Seattle and Tacoma. While the PSCCRS will facilitate the flow of information about cargo on a regional basis (between such users as shipping, rail and truck lines, freight forwarders, U.S. Customs and the ports), a teleport would facilitate the flow of information on an international basis.

The teleport would be utilized by businesses throughout Puget Sound by way of a network of microwave relays or ground-based fiber-optic cables. The information would flow from the user businesses to a single Seattle-area satellite station, where the signals would be relayed by satellite to similar ground stations at major Asian and European business centers. The information would then be disseminated to local networks in Asian and European centers.

Information transmitted via the teleport could assume a number of forms, from international video teleconferences to voice transmission, data transmission, FAX and other modes of communication. The specific usages would be determined by regional market demand.

According to Mr. Cecil Patterson, director of Information Systems at the Port, a teleport would serve the same function for the international movement of data as airports serve for airlines—it would provide common facilities that would be too expensive for individual operators to maintain on their own. "The teleport's customers will enjoy single-source, shared access to sophisticated telecommunications facilities without incurring directly the enormous expense of their construction," he said.

The Port would like to act as a catalyst for the development of the teleport, with private enterprise taking over the management and operation of the system, as has been done at the Port Authority of New York/New Jersey. New York/New Jersey is the only public port authority on the continent with a full-fledged teleport.

The Port is currently working in coordination with the World Teleport Association to determine how a regional teleport would be developed. The Port will soon hire an outside consultant to conduct an extensive marketing study of the private sector needs for a teleport, its expense and financing, and how it would be operated. The Port Commission will make a final decision on whether to proceed with a teleport in November 1990, as the final budget for 1991 is being determined. If approved, the Port plans to have the teleport on-line and operating for the benefit of the region's international businesses by 1992.

Port of Tacoma Sets Cargo Movement Record

Increased export activity by a variety of Pacific Northwest industries helped the Port of Tacoma reach a new record for cargo movement during 1989. Statistics released by the Port show that 17,157,000 short tons of cargo were handled at Port facilities during 1989, a 12% increase over 1988.

On the export side, shipments through the Port were up 12%, driven largely by increased export activity by a variety of Pacific Northwest-based industries. According to Port of Tacoma Commission President Pat O'Malley, "The reasons behind our

1989 tonnage record are as impressive as the figures themselves. This demonstrates how the success of the Port of Tacoma and the continued expansion of markets for Pacific Northwest industries go hand in hand. It also reflects the importance of international trade in the Northwest economy, and shows how the Port of Tacoma is serving the Northwest region in helping companies reach their international markets."

The Northwest forest products industry experienced a 27% increase in the value of their exports through Tacoma. Most of this was due to increased exports of higher-valued products. The volume of paper products increased 47%, plywood/veneer almost tripled, pulp was up 14%, and the volume of softwood lumber increased 13%. The volume of logs exported through Port facilities decreased 2%.

Other Pacific Northwest industries increased their export volume through Tacoma in 1989. Frozen fish exports increased 81%, while the exports of vegetable products, led primarily by an increase in frozen potato products, more than doubled. Tacoma handled 33% of the apples exported through Washington state ports in 1989.

Higher-valued manufactured items from other parts of the United States also showed increased volume activity in 1989. The export of heavy equipment used in agriculture, mining, and road construction was up more than 600%, while the export of industrial machinery more than doubled. The export of chemicals and related products through Tacoma increased 52%.

More than $25 billion worth of foreign trade moved through the Port, a 30% increase over 1988. Container activity also reached an all-time high of 924,974 TEUs, an 18% increase over 1988.

The Port also increased its total tonnage trade with Alaska by 16%. Now known as "The Gateway to Alaska," the Port handles over 80% of all waterborne commerce headed to Alaska from the Lower 48.

Other Tacoma cargo highlights for 1989 include: A 9% increase in import tonnage, a 19% increase in breakbulk tonnage, largely due to increases in breakbulk lumber exports, and a 24% increase in export grain shipments.

Tacoma is currently the sixth largest container port in North America, and the 20th largest container port in the world. A variety of major construction projects were completed by the Port in 1989 to strengthen its role as a leading container port. In October, the Port opened a new $35 million container terminal, that is leased to Maersk Line, one of the world's top five container shipping lines. Maersk has been calling at the Port since 1985, and this terminal meets their expansion needs.

Tacoma is also a leader in intermodalism, the only Port in the United States with two ondock intermodal rail yards. During 1989, the Port completed a $400,000 control tower to enhance the efficiencies of the Port's North Intermodal Rail Yard. Intermodal activity through the Port grew 25% during 1989.

In terms of industrial development, the Port's ample land base provided new opportunities for warehouse/ distribution and major construction activities in 1989. Work began on a $16 million cold storage and fish processing facility for Mountain Cold Storage, scheduled to open at the Port this summer. Kubota Tractor Corporation started a 50,000 square-foot warehouse distribution center operation at the Port.

Both of these operations are at the Port Commerce Center, a 120-acre industrial development site that the Port has set aside for marine-related businesses. Much of this land is part of the Port's Foreign Trade Zone #86, that received a 248-acre expansion approval in 1989.

Work also began on the construction of four oil field modules, being built at the Port for British Petroleum. The finished modules will be used for oil recovery on Alaska's North Slope.

This construction project will employ up to 500 people at peak construction times.

Africa/Europe

2 More Cranes for Limassol Terminal

The Cyprus Ports Authority has recently placed an order for two 40-tonne quayside gantry cranes to supplement the existing two at Limassol port container terminal.

This container terminal was constructed in 1984 and has an annual throughput capacity of 250,000 TEUs. With 4 gantries in operation on its 480-meter quay during next year, when the new equipment will be delivered, the terminal's ship productivity will increase substantially.

To improve further container handling performance at Cyprus Ports, CPA also intends to proceed shortly with new orders of additional quayside and yard stacking equipment units.

Other port development plans for Cyprus, which are currently in the process of being finalised, include the construction of a number of deep container berths, creation of new container yards and the purchase of more container handling and marine equipment.

All these are aiming at consolidating and enhancing Cyprus's leading position as load center in the Eastern Mediterranean region.

Bordeaux: 1989 Results, Prospects for 1990

With a global trade of 9,151,000 t (excluding transit and bunkering), the Port of Bordeaux crossed the 9 Mt barrier in 1989, with an increase of 3.4% compared with 1988 (8,852,000 t).

It is, finally, quite an interesting result, it one considers that at the end of June, the Port of Bordeaux's trade was showing a shortfall of nearly 10% compared with 1988. The second half of 1989 was, therefore, excellent, with a record month for grain exports in August of 254,000 t and for petroleum product in December with 536,000 t.

It is too early to talk of a real recovery but all the port indicators (traffic, employment and finance) confirm this favourable trend.

The general analysis of the results highlights:

— Liquid Bulks (4.8 Mt), dominated by petroleum products showed good results (+ 5%),

— Dry Bulks (3.37 Mt), dominated by the grain traffic also increased (+ 5%).

— General Cargo (1 Mt) on the other hand slightly down from last year, contrasted, from one commodity to another.

1990 is expected to be still better with a global throughput in the region of 9.4 Mt.

This, to some extent, will depend on the developments in the port's two leading trades, petroleum imports and grain exports.

But it also involves being more competitive thanks to:

— the results of the working group on general cargo, set up by the Port Authority's Administrative Board,

— the moderation of tariff increases for 1990, even frozen in certain area, such as for crane and gantry hire (Bordeaux, over the last 4 years, has increased its tariffs less than any of the other Autonomous Port in France,

— the assistance provided by the commercial intervention fund for setting up new trades and new maritime links,

— the introduction of new cranes with a better performance, such as those for handling animal feeds or the improved reception facilities for road vehicles at Bassens.

Like any company, the cost/quality of service rendered factor has become a priority objective for all partners in the Port, and its customers have realized this with satisfaction.

The vast think-tank set up by the Port Authority with its political and socio-economic partners should be the determining factor in a trade recovery, which has already begun.

Le Havre: Control Of Bridges, Locks

The Port of Le Havre has embarked on an ambitious programme to modernise the control equipment used for its bridges and locks.

It is to be spread over several years and will result in the concentration of all the equipment for opening and closing bridges and locks in just two places, the François I Lock and the Vétillart Lock.

As one of the major ports of Europe, Le Havre needs to keep abreast of the most advanced technology, particularly in the field of video cameras, sensor devices for detecting both people and vessels, optical fibre transmission systems, data processing systems and industrial automats.

The future remote control system will be a showpiece of technology worthy of a great modern port and equal importance is being given in the design stages to three essential points.

— Technically, it must be of the very highest standard and 100% reliable.

— The present levels of safety and quality must not only be maintained but as far as possible improved, both for vessels and for road and rail traffic.

— The personnel concerned must be prepared for the major changes pending in their trade and trained in the new operating techniques. This needs to be done in a spirit of concertation and required careful ergonomic studies. *(Port of Le Havre Flashes)*

Rouen Users' Assoc. Explains Activities

For the first time since 1983, in addition to more than 400 meetings annually, last October the Port of Rouen Users' Association organised a public information meeting on its activities and services.

A wide spectrum of representatives of the economic, administrative and political world were present to hear Users' Chairman Mr. Philippe Pourcher

recall the Association's origins from 1919 when stevedoring employers formed their own organisation.

The stevedores soon became aware that a broader body that would bring together other activities in the Port community was necessary and the Port of Rouen Users' Association was formed in 1927.

Over the years various professional and employers' associations had been formed and welcomed into the Users' Association, thus diversifying and widening its activities and enhancing its competence and spheres of activities.

Today the Association has 90 members ranging from those engaging purely in port activities, such as shipowners, handling companies, forwarding agents, customs agents, carriers, stevedores and brokers to the agricultural sector including public and private silo operators and industry (chemicals, petrochemicals, oil and so on). Also members of the Association are the various services linked to all facets of cargo handling in the port, such as insurers, warehousing agents, and container maintenance companies.

The Association's activities are manifold, with direct or indirect input in the whole range of the Port's functions. Among other things, it manages a social and medical centre and a private occupational training unit. Mr. Pourcher, who was reelected Association Chairman, underlined the Users' solid structure which represents its membership and the private sector generally in dealings with politicians and various state bodies.

He said the Association is "an instrument, an intermediary, and a force of ideas."

The Users' Association is an instrument, he said, because it is a centre of information and competence at the service of its membership. It is an intermediary in links with the numerous bodies in which it never fails to be present to advance its membership's interests and therefore promote the Port of Rouen.

Finally, it is a force of ideas for all the positions and policies concerning the Port of Rouen's future.

He gave as a prime example the Association's vital role in the establishment of the Port of Rouen's computer system, which it operates and which has made the Port one of the country's first to be equipped with the SOFI customs system and the complementary private ADEMAR system. A further keynote breakthrough is to be made in 1991 with the new ORCA system.

The Users' Association played a major role in defining the priorities of the Port's important 900 million franc development plan for the 1988-1992 period.

One of the Users' Association's keynote roles is management of contracts between employers and dockers. With the deep-seated changes taking place in French ports on the eve of the 1992 Single European Market, in conjunction with the Stevedoring Employers the Association had recently drawn up a "Charter of Initiative" to reorganise working practises, promote vocational training, adapt the workforce to present needs and create jobs in new sectors.

Mr. Pourcher concluded that Rouen's Port community was constantly aware that changes were needed according to the global situation and had always been able to adapt to the new circumstances. As in the past, Rouen had the capacity to face up to future challenges. *(Rouen Port)*

Bremerhaven Car Turntable in Full Swing

These days the car turntable in Bremerhaven is in full swing.

In the last two weeks alone 21 car-transporter vessels arrived in the seaport, to be discharged and loaded at the auto terminals of the Bremer Lagerhaus-Gesellschaft. This involved the handling of 38,000 vehicles in all.

The car-carrier "Jupiter Diamond," for example, brought a full cargo of 5,231 Toyota vehicles directly from Nagoya to Bremerhaven. Shortly afterwards the "Auto Atlas," with 4,752 Mitsubishis, arrived in the port. So there were nearly 10,000 vehicles to discharge from these two ships alone. The largest part of these left Bremerhaven by rail immediately. At times of high activity it is not only organisation and speed that are in demand, but also efficient logistical concepts to accompany the chain of transport.

During the last year more than 700,000 vehicles were handled in Bremerhaven. Of these, about 60% were imported cars, principally from the Far East and the USA. From the cars of eastern origin, one-fith were destined for third-party countries like Austria, Switzerland, Italy, and also east European lands. Hungary, for example, imported more than 1,000 vehicles via Bremerhaven in 1989. From the recent political developments in the countries of central and eastern Europe the Bremer Lagerhaus-Gesellschaft expects further impulses—not least for the auto terminals in Bremerhaven.

New Ro/Ro Terminal In Port of Lisbon

With a capacity of 100 tons, the new Ro/Ro terminal will make the Port of Lisbon more operational in the handling of specific cargo in this area.

In point of fact the only terminal which existed before, with a capacity of 60 tons, could no longer meet the needs due to the increase in Ro/Ro traffic which represented 174% in the last four years.

Between 1987 and 1988, there was also a spectacular rise in the movement of automobiles amounting to some 155%.

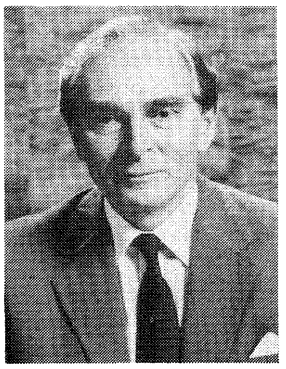
In view of these facts and bearing in mind the results of the technical, economic and financial surveys—which had meanwhile been commissioned by the APL to back up the Strategic Plan for the Port of Lisbon—according to which a considerable part of the European TIR traffic can be attracted through the maritime transport, at the reach of the main Portuguese port, the Authority of the Port of Lisbon has invested over Esc: $200,000,000 in the new plant which was opened by the Secretary of State for Communications and Networks on the 31st of October.

Chairman of Clyde Port Authority Knighted

Mr. Robert Easton is Glasgow born, educated at Govan High School and the Royal Technical College, Glasgow. He served an apprenticeship in marine engineering, covering both merchant and naval ships.

During his career in industry he has held various management posts, becoming a Director of Yarrow Shipbuilders in 1965, Deputy Managing Director in 1970, Managing Director in 1977 and Chairman & Managing Director in 1979, a post which he still holds. He was also a Main Board Director of Yarrow & Company from 1971 to 1977, the date of nationalisation of shipbuilding.

A large part of his professional life has been spent overseas, and he is well known to the various Naval Staffs as well as to the Royal Navy and the MoD(N) in London.



Sir Robert Easton

In 1985 he joined the Board of Supermarine Consortium Limited, the company set up to monitor UK interests in the proposed NATO Frigate.

He is a Chartered Engineer and holds Fellowships in The Royal Institution of Naval Architects, the Institution of Mechanical Engineers and The Institute of Marine Engineers. He is also a Member of The Institution of Engineers and Shipbuilders in Scotland. He serves on the Council of both The Royal Institution of Naval Architects and Shipbuilders in Scotland.

Despite a busy career in warship-

(Continued on Page 39, Col. 1)

Asia/Oceania

Transport Minister Urges Australian Port Reforms

Moves to reform the pricing policies of Australian port authorities received strong support from the Minister for Transport and Communications, Mr. Ralph Willis.

Releasing a Bureau of Transport and Communications Economics study, "The Pricing of Port Services," Mr. Willis said that improvements to the efficiency of port authorities were as vital to the Australian economy as improvements to waterfront labour arrangements.

"The study, which was prepared as part of the Government's microeconomic reform agenda for the waterfront industry, highlights the inadequacy of the traditional charging policies of port authorities," Mr. Willis said.

"It shows that port authorities have tended to rely heavily on wharfage charges, which effectively are a tax on cargo throughput.

"If port authorities lowered cargo charges and increased berth and area hire charges they would provide an increased incentive to turn ships and cargo around more quickly and to use port facilities more efficiently."

The study indicates that in 1986-87, Australian port authorities employed about 8,500 people—approximately one third of the total waterfront labour force. In the same year, port authority revenue was $758 million—about one third of the total cost incurred by waterfront users.

"Many ports operate in a monopoly situation, and it therefore is important that their charges be cost-based and relate to actual services provided," Mr. Willis said.

"It is vital also that State governments continue to encourage the port authorities to become more efficient and to put their operations on a commercial basis.

"In this respect it is pleasing to see the initiatives that have been taken already by New South Wales and Victoria to restructure port charges along the lines advocated in the Bureau's study.

"I urge all the other States to work towards similar objectives."

Chairman of Clyde Port—

(Continued from Page 38, Col. 3)

building, he is a Liveryman of the Worshipful Company of Shipwrights, a Freeman of the City of London and a Life Member and Trustee of the Seagull Trust for the disabled, a Member of the Merchants House of the City of Glasgow, and a Member of the Incorporation of Hammermen.

From 1972-77 he was Vice President of the Clyde Shipbuilders Association, and since 1983 has been Chairman of the Clyde Port Authority.

In 1980 he was created a Commander of the Most Excellent Order of the British Empire by Her Majesty the Queen, and in 1986 was awarded the special James Watt Trophy by the Institution of Engineers and Shipbuilders in Scotland for his distinguished service to engineering and shipbuilding in Scotland.

He received a knighthood in 1990 New Year's Honours List.

He has always been a very staunch supporter of his native River Clyde, and is keen sailor. He is married and has a son and daughter.

Fremantle Launches EDI Information Service

The days of photocopying shipping schedules and supplying them to shipping agents and other Port of Fremantle users may soon be gone.

On 10 January, the Fremantle Port Authority launched a three-month free trial of an electronic shipping information service to a group of Port users.

Information Systems Manager Tim McGrath said the service was part of a world-wide move in the shipping industry to use EDI — Electronic Data Interchange.

The shipping information service is being tried for three months by four shipping agents — Wilhelmsen Lynn Elder, Maritime Agencies of WA, ISA Maritime Pty Ltd and Astrident Shipping Agency — as well as HMAS Stirling, Customs, Fremantle Terminals Limited, Fremantle Tugs and P & O Towage.

The Fremantle Port Authority has been using it for two years.

"The shipping information service can do two things—supply agents with current shipping schedules, and give them a more immediate update on information they require," Mr. McGrath said.

"This includes the capacity to apply for a berth directly via the electronic system, which is the system's biggest advantage."

Users will be able to see all future shipping movements up to three days ahead, as well as any recorded future movements on a long-term schedule.

The Port's shipping movements are current as they are recorded direct from the signal station into the system, and for the cost of a telephone call, users receive the information down a modem line into their system.

"We want to use the trial to find out what kind of services are needed by Port users," Mr. McGrath said.

The Authority has supplied computers and modems to those involved in the trial who did not have the equipment. *(Port of Fremantle)*

Fremantle: Wharfage Cut To Boost Cargo

The Fremantle Port Authority has commenced the new decade with a commercial move aimed at attracting substantially more eastern Australian cargo through the Port.

The move — a cut of 50 percent in its wharfage rates for landbridge cargo — is part of the Port Authority's ongoing international marketing strategy to increase its attractiveness to container cargo moving to and from eastern Australia.

The Authority's General Manager, Mr. Trevor Poustie, said that the move would produce overall trade benefits with the increased cargo throughput bringing more shipping services to Fremantle.

Mr. Poustie said that the additional services which the landbridge wharfage rate attracted would give Australian importers and exporters more and better opportunities to access world trade.

This would occur through the greater number and variety of shipping services which would be attracted to Fremantle.

Container and break-bulk cargo especially would benefit from these increased services, some of which would

operate round-the-world while others would connect to the major shipping hubs of Singapore, Kaohsiung and Japanese ports.

"The Authority has been working in Asia, North America and Europe to promote the concept of landbridge movement of international cargo to and from eastern Australia," Mr. Poustie said.

"The 50 percent cut in wharfage for landbridge cargo is an indication of the Authority's commitment to achieve a major increase in cargo for the Port, and through it, more and better shipping links to the world.

"It also illustrates the Authority's determination to exert greater influence on the movement of national cargo through Fremantle."

Mr. Poustie said that the incentive had been made possible by the completion in July of the $30 million project which deepened Fremantle's Inner Harbour to 13 metres.

This now enabled the Port to accommodate the largest container ships likely to come to Australia.

He said this now allowed it to service more effectively ships which operated on round-the-world services as well as those which connected to Singapore, Kaohsiung or Japanese ports.

Mr. Poustie said that the cut in wharfage rates for international landbridge cargo built on the Port's reputation for efficiency, reliability and capacity.

"At Fremantle, we can have a container landed, through all formalities and available within 48 hours, and in Sydney by rail four days after that," Mr. Poustie said.

"This is in marked contrast to the congestion and delays on the eastern seaboard which many companies have experienced over the past year."

Mr. Poustie said that conditions applying to the 50 percent incentive would ensure that only landbridge cargoes whose origin and destination were beyond Western Australia would benefit. *(Port of Fremantle)*

PMA Corporate Plan 1989/90 in Brief

Corporate Planning is not a new concept to the Port of Melbourne Authority. However, an organisation restructure following the Strategic Review completed in 1987 presented a challenge to management to plan for business units (as opposed to the previous functional units).

A planning framework was adopted in August 1988 incorporating a new Mission Statement. Draft Corporate Objectives and Goals were published to guide the Directors and business and service unit managers in developing their plans.

Workshops involving a cross section of employees were held in February and March to develop organisational performance indicators for Training, Occupational Health and Safety, Employee Productivity, Equal Employment Opportunity and Industrial Relations.

This Corporate Plan highlights the overall performance of the Port of Melbourne Authority. As part of the Corporate Planning process, an expanded plan for senior management use and detailed Business Plans for each Department have also been produced. These plans were completed on 31 July 1989 and complement the 1989-90 Budget. In our role as Port Manager, we are also developing a plan relating to overall port performance.

This Corporate Plan was approved by the Board on 30th August, 1989 and is being forwarded to all stakeholder groups.

Corporate Plan Structure

The PMA's overall performance is determined by its ability to achieve its objectives in the following areas:

- service
- trade
- finance
- human resources

The Corporate Plan is structured around these four objectives with strategies and performance measures developed for each.

Where appropriate, strategies have been articulated for stakeholder communication, planning for the future, organisational performance, port performance, and facilities and services.

The PMA Mission and Vision statements provide the framework in which the Corporate Plan has been developed.

Mission Statement

To ensure the provision of port and marine related services for the economic and social benefit of the Victorian Community.

Vision

Our vision for the Port of Melbourne Authority is to be a forward looking organisation delivering improved services to meet the needs of our customers in our three areas of operation.

We aim to be a highly motivated, efficient and happy organisation.

We will manage our public assets efficiently and effectively and achieve the appropriate return on commercial assets.

We will actively co-operate with industry, government agencies and other infrastructure providers to co-ordinate the future development of Victorian ports to facilitate trade.

Our vision for the Port of Melbourne is that we remain the biggest container and general cargo port in Australia and provide the best facilities and services.

We will provide flexible, modern facilities and safe channels and promote competitive, service-oriented steve-

The Port of Melbourne Authority

The Port of Melbourne Authority (PMA) is a statutory body first constituted under the Melbourne Harbour Trust Commissioners Act, 1876. It now operates under the Port of Melbourne Authority Act, 1958 and the Marine Act, 1988. The Authority is empowered to regulate, manage and improve the operations of the Ports of Melbourne and Western Port along with certain portions of the Yarra and Maribyrnong Rivers.

In addition, under the Marine Act, the PMA is responsible for the administration of the Associated Ports, the maintenance and upgrading of navigational aids in all Victorian coastal waters, oil pollution control in all Victorian coastal waters, hydrographic surveying of Victorian ports and coastline, beach renourishment, and the construction and maintenance of recreational boating facilities provided by the State Government along the Victorian coast.

The PMA is responsible to the Minister for Transport.

doring operations and efficient tug and pilot services.

We will actively co-operate with road and rail infrastructure providers and operators and take a lead role to improve the efficiency of inter-modal cargo exchanges.

We will invest in new technology where this will be of value to our stakeholders.

Our vision for the Port of Western Port is that we remain a specialist bulk liquid port, but with an expanded role in servicing large scale port dependent industry.

We will facilitate the provision of a modern port and safe channels that capitalise on the deep water access and land available for industrial development.

We will promote efficient tug, pilot and mooring services.

Our vision for the coastal non-commercial operations is to protect and develop Victorian beaches and open waters for recreation, tourism and industry.

We will actively communicate and co-operate with government agencies, local government, foreshore committees and users.

We will provide high quality, environmentally sensitive facilities and services.

Objectives

The following are the objectives for the four key elements of the PMA's operations:

Service

Be responsive to stakeholders and ensure the delivery of safe, efficient and effective port, coastal and marine related services.

Trade

Actively seek to develop trade which benefits the Victorian economy/com- munity.

Finance

Operate a profitable and financially independent organisation.

Human Resources

Provide a safe and non-discriminatory work environment enabling the development of a productive, flexible and skilled workforce to meet organisational needs.

EDI Shipping's Future?

EDI is the flavour of the month in the shipping, trading and transport areas. It offers the opportunity for the most significant changes to the way ports do business since containerisation took place in the 1960s.

First there was the paperless office—now as we enter the 1990s will we see paperless trading through Australian ports?

The catalyst for this idea comes from recommendations made by the Industry Task Force on Shore Based Shipping Costs, specifically that updated modern electronic communications standards and technology should be introduced to make the waterfront more efficient.

This industry initiative is an important attempt to improve the efficiency of documentation and communications practices, which have retarded progress and contributed to rising costs over many years.

The National Communications Working Party (NCWP) recommended that all functions should be coordinated into one system, bringing together carriers, ports, terminals, sea, road, air and rail transport methods plus the trading transactions of importers and exporters.

The ports of Australia, particularly those handling containerised general cargo, will be drawn into the use of EDI techniques because of the acceptance and use of the technology by these trading partners.

The opportunity exists for port authorities to lead the introduction of EDI and to provide the services and facilities needed by their customers to gain increased productivity.

EDI has been implemented in many ports throughout the world and is growing rapidly. Recently the following systems have been introduced: in Singapore — TRADENET/PORTNET; Antwerp — SEAGHA; Rotterdam — INTIS; Gothenberg—TDL; Felixstowe — FCP 80; New York/New Jersey — ACES; New Orleans — CRESCENT; Charleston — ORION; Seattle — SCAMP.

Within the next 12 months some of the following systems could be introduced into: Canada — CANSIF; Los Angeles — ACCESS; and Hong Kong — TRADELINK.

Standard messages that are important for co-ordinated growth of the shipping industry are being designed and tested, such as purchase orders, invoices, delivery notes, manifests, bills of lading, forwarding instructions and arrival notices.

Obviously many ports have seen the need to change the way in which they conduct business, in both the commercial and operations areas. EDI offers the opportunity to change that way, but its introduction must be with well planned and considered actions to reap the maximum benefits.

So far many EDI systems have been technically successful, but often commercial failures.

The port of Felixstowe was the first to recognise the customs and commercial processes needed to be linked to avoid duplication of document processing. It also recognised that it was impracticable to take a communications systems from one environment and try to adapt it to another, as user needs varied considerably.

The Felixstowe system was designed by Mr. John Hammond, and is the model on which an Australian system could be based. Mr. Hammond now has the responsibility of establishing the PAXUS COMNET network in this country.

If the Port Community System goes ahead in Australia, it would be available on the national trade services network known as TRADEGATE, which would be provided by PAXUS COMNET under contract with Tradegate Australia Ltd., and available to all organizations involved in the movement of export and import cargo within our port community.

PAXUS COMNET has acquired the EDICT EDI software from ISTEL, which is one of the largest UK EDI software and service companies. This software is being used in a similar system to TRADEGATE for the port of Hong Kong.

The objective of the TRADEGATE network is to enable all the port users to communicate with one another, by sending electronic messages in standard format or in an unstructured form, or simply by searching information data-

bases provided by a third party.

These third party services—called value added services (VAS), would be driven by user requirements and market forces, which would assist the general improvement in efficiency required by industry.

Services such as vehicle booking systems for container and parcel pick up delivery, container tracking, cargo status and availability at terminals and depots, including customs and quarantine status, would provide much needed functionality to the network, which would otherwise only be passing electronic messages from party to party, and would consequently have less appeal particularly to the small users.

Already the Australian Customs Service has the largest EDI system in Australia—EXIT, which is used by hundreds of companies and is being introduced in several phases. When completed the system will record and clear all shipments for exports by electronic means.

It will overcome several problems experienced by the Customs Service including: the failure to report significant quantities/values of exports; the reporting of some exports by more than one party; a high level of errors in export documentation; significant delays in reporting exports; and misuse of the export return scheme.

EXIT provides a virtually paperless export procedure, streamlining and integrating the whole process—from the exporter right through to Customs, freight forwarders and international carriers. As EXIT develops it will be incorporated into TRADEGATE.

The revolutionary new Port Community System, which would be developed in collaboration with other major container ports, could greatly improve cargo and information flow and make all organisations in the process accountable for delays and inefficiencies in their particular link of the chain.

It would be used by importers, exporters, freight forwarders, customs agents and transport organisations, giving them precise information about cargo moving into or out of Australia by sea, including where cargo is located and whether it has cleared customs and quarantine embargo.

The system could offer several benefits, including lower costs, a reduction of documentation, the speeding up of cargo movements and an increase in exports from the port.

It is estimated that between 3.5 to 7 percent of the value of goods shipped in international trade, is attributable to the paperwork. A further 5 to 10 percent of the cost of an exported finished product is tied up in paperwork, errors and excessive stockholding, so enormous savings could be achieved. It is envisaged that a cost reduction of only 1 to 2 percent on Australian export items could turn around Australia's balance of trade figures.

The port of Los Angeles stated, in their introduction of the port community system, that on average it takes seven phone calls to establish status of cargo and by the time the status has been communicated to the customer, it will have changed. Felixstowe quoted an average of 11 calls and New York 14.

Just How Much Can EDI Save?

Based on Californian labour costs, Southern Californian ports (Los Angeles and Long Beach) identified that the introduction of a port community system would save:

- US$3 for every telephone call port users would not have to make.
- US$3 for every document port users would not need to mail or courier.
- US$5 for every document they would not need to re-key into systems because of electronic receipt through Electronic Data Interchange.

The Benefits to be gained from EDI use in ports come from two directions.

Internally savings could be made by:

- Removing the need to re-key manifest details provided by the computer systems of shipping agents;
- More efficient ordering and payment processes;
- Increased accuracy achieved by removing the incidence of error.

Externally savings could be made by:

- Removing or reducing the mountainous paper burden presently crippling the import/export/transport chain;
- Assisting in the implementation of new management techniques in industry eg: the just-in-time inventory;
- Increased speed and accuracy of information eg: 70 percent of letters of credit at their first writing are incorrect;
- Reduced cost to end consumers by removing unnecessary actions inherent in the paper-based processes.

The Port of Melbourne has already taken the first steps which could lead EDI to becoming a reality in the port. It is examining the feasibility of using EDI to improve cargo and information flow through the port.

It has established a Port Community System project team which will discuss the communications needs of port users, such as importers, exporters, freight forwarders, customs agents and transport organisations and will examine the relevance of using EDI to meet those needs.

Much of the work of the Project Team will be progressed and prioritorised, on a national basis, under the guidance of the AAPMA EDI Steering Committee, which is chaired by the PMA's General Manager, Mr. Jack Firman. projects undertaken will be directly controlled by the PMA Port Community System Review Committee, chaired by the port's Director of Management Services, Mr. Mike McCarthy.

Mr. Andrew Ferguson, Business Manager, Port Community Systems, is the Project Manager. He comes to the port with a wealth of knowledge having worked on projects in many countries including Korea, Malaysia, Thailand, Spain and in the UK where he was involved with Maritime Cargo Processing and FCP80, the Port of Felixstowe's Port Community System.

He also has extensive knowledge of the port as he came to Australia in 1987, to lead a study into information technology within the PMA, whilst employed by Electronic Data Systems (UK), as International Business Development Manager, for the transportation sector. Prior to this Andrew has worked with P&OCL and Unilever's trucking and distribution arm—SPD Group.

Mr. Andrew has recently visited several American and European ports to

study Port Community Systems already in place in other countries.

Mr. Barry Keogh, Business Analyst EDI will also be working on the project. He has an in-depth knowledge of the local transport industry and an understanding of Electronic Data Interchange in Australia.

He has served as a member of the National Communications Working Party (NCWP) and represented the Melbourne Working Party of the Task Force on Shore-Based Shipping. He is currently the Chairman of the EDI Council of Australia Transport Industry Working Party.

EDI is not a technology to be feared or discarded, rather it is to be embraced because of the benefits which may be gained. If Australia fails to take up the challenge it could further lose competitiveness because of an inefficient waterfront industry and could be left languishing behind the rest of the world with inefficient paper-based procedures.

The Port Community System is only one of a number of major initiatives which the PMA is taking to make the waterfront more efficient.

(Port of Melbourne Panorama)

HK Transport Strategy For the Decade Unveiled

The Government's broad transport strategy for the coming decade was unveiled in the Legislative Council by the Secretary for Transport, Mr. Michael Leung.

Entitled "Moving into the 21st Century," the White Paper on transport policy in Hong Kong is the culmination of an extensive public consultation exercise in 1989.

Mr. Leung told the Council that the earlier green paper's transport forecast had been revised and the infrastructure programme substantially expanded as a result of the decision on the new airport.

"The planned projects now include the airport railway, the North Lantau expressway, the Lantau fixed crossing and new roads and new port facilities on Tsing Yi and Stonecutters Islands and at Tuen Mun," he said.

"Completion of these projects is planned for mid-1990s to tie in with the Port and Airport Development programme and in time for the opening of the new airport at Chek Lap Kok by 1997." *(The Week in Hong Kong)*

HK Continues to Be Largest Container Port

The port of Hong Kong continues to maintain its position as the number one container port in the world.

A total of 4.46 million TEUs were handled last year, an increase of 10.67 percent over the 1988 figure of 4.03 million TEUs.

"This keeps Hong Kong in the leading position in terms of throughput among the world's major ports for the third consecutive year," said the Director of Marine, Mr. Michael Sze.

Meanwhile, a total of 4,605 ships with a total capacity of 28.3 million net registered tons (NRT) arrived in Hong Kong in the third quarter of 1989, representing an increase of eight percent in number and 12 percent in capacity over the third quarter of 1988, according to the Census and Statistics Department.

Over the same period, the total tonnage of cargo discharged in Hong Kong from incoming ships increased by four percent.

In the third quarter of last year, there were a total of 4,598 outgoing ships with a capacity of 28.1 million NRT. This represented an eight percent rise in number and 11 percent in capacity over the third quarter of 1988.

The total tonnage of cargo loaded onto outgoing ships also rose by 12 percent, about 69 percent of the departing ships stayed in the territory for less than two days.

(The Week in Hong Kong)

Iran Rebuilding Khorramshahr Facilities

Iran is said to be rebuilding port facilities at Khorramshahr on its southern border with Iraq, the country's main port until it was damaged in the Gulf War.

The $80 million reconstruction of the port on the Shatt-Al-Arab waterway will mean that it will be able to handle a million tonnes of goods per year.

Khorramshahr, formerly Iran's biggest commercial port, has been closed since war broke out in 1980, when it was seized by Iraq and held for 19 months.

Another Iranian Gulf port, Bander Khomeini, 60 miles east of Khorramshahr, is reported to have had its channels dredged of silt built up during the war. *(Gray MacKenzie News)*

Yokohama Symposium On Port Development

The Symposium on Port Development in Developing Countries was held on Jan. 30 at the Yokohama International Conference Center.

It was organized by the Japan Transport Consultants Association (JTCA) and the Overseas Coastal Area Development Institute of Japan (OCDI). It was sponsored by the Sasagawa Peace Foundation and supported by the Ministry of Transport. The purpose of the symposium was to deepen mutual understanding and promote international cooperation through discussion among port administrators of developing countries. Five representatives from Asian countries were invited to participate in the panel discussion. They were:

Mr. S. Gopalan, India, Director (Port Development), Ministry of Surface Transport;

Mr. Junus Effendi Habibie, Indonesia, Director General, Directorate General of Sea Communication, Department of Communications;

Mr. Omar Salleh, Malaysia, Commercial Manager, Johor Port Authority;

Mr. Anastacio B. Baleva, Philippines, Assistant General Manager, Philippine Ports Authority;

Mrs. Krishnee Varanusupakul, Thailand, Director, Transport & Communications Economic Div., Office of the Permanent Secretary, Ministry of Transport & Communications.

The symposium began with greetings from Mr. Takashi Nakaso, President of the JTCA, and a welcoming speech by Mr. Kiyoyasu Mikanagi, Director General of the Ports and Harbours Bureau, MOT. In the morning, Mr. Tamotsu Okabe, President of the OCDI, gave a keynote address on the theme "Recent Major Issues in Port-related International Cooperation."

The recent major issues of port development in developing countries that Mr. Okabe described were:

Mr. Mikanagi (left, standing), Director General, Ports and Harbours Bureau, Ministry of Transport, addressing the gathering.

1. containerization and enlargement of vessels;
2. privatization of port-related services aiming at highly efficient port services and introduction of private-sector funds;
3. computerization of port operations and port management for the purpose of rationalization and modernization of ports;
4. local port development;
5. environmental problems, traffic-access difficulties between port areas and city centers, and appropriate ways of integrating industrial, urban and regional development.

Mr. Okabe said that since problems in developing countries had become more complicated and diverse, the need for carefully thought-out international cooperation had increased; in order to properly deal with such a situation, first of all, promotion of mutual understanding and frequent exchanges of information between developed countries and developing countries were most important; and from this point of view, the most urgently required matter at present was more communication. He finished his address by presenting the two ideas as follows as subjects for the panel discussion in the afternoon:

1. One was to hold periodic meetings like this symposium for exchanging views of leading concerned representatives from various countries.
2. Another was the foundation of a specific research institute for port development. This would be modeled after the PHRI in Japan, which had contributed remarkably to the development of Japanese ports. The institute would function as a think tank for port development in the countries participating in the symposium.

Taking part in the panel discussion were the five invitees and Mr. Yukio Nishida (Director, Department of Social Development Studies, JICA), and Mr. Hidehiko Kuroda (Director, Office of International Affairs, MOT), coordinated by Dr. Kazuo Kudo (Senior Advisor, OCDI).

At first, the five invited panelists gave some information about and described some problems in their respective countries concerning the port development situation in terms of policies, finances, operations, etc. Then Mr. Nishida expressed his views regarding problems in the future work of the JICA, and Mr. Kuroda followed by expressing his opinions regarding the need for personnel training for those involved in international cooperation.

In the panel discussion, the panelists engaged in active and varied exchanges of opinions regarding port development and financing policies, privatization policies and the proposal of Mr. Okabe presented in the keynote address. As a result, the panel members reached the consensus that more frequent and wider exchanges of information were essential in working out a proper course for each country's port development, and though some of the countries had their own institutes dealing with some of the relevant subjects, all the panel members recognized the importance of the idea of the institute proposed by Mr. Okabe.

To realize this proposal, the panel members suggested that the ASEAN Port Association could play a positive role, and therefore contact with the association in terms of developing more concrete programs would be fruitful.

After the symposium, The Port and Harbour Bureau of Yokohama City organized an evening party, which was held in a friendly atmosphere, with all the participants in the symposium taking part. **(Report by Mochizuki, OCDI, Japan)**

Expansion Project for Johor Port in Progress

The demand for port capacity at Johor Port since late last year has been tremendous. Never in the history of the port has the demand condition been so high and positive. The sustained growth in throughput over the recent months has quickly narrowed the gap between the available capacity and the demand for it.

The unexpected increase in demand has virtually forced the port to institute immediate expansion plans to cope with the expected increase in shipping and cargo traffic. Existing port facilities will not be able to cope with the expected increase in traffic beyond 1990.

Additional capacity must therefore be planned immediately. The third expansion project has been approved by the Federal government which has been very supportive of Johor Port development plans.

Tenders are now being prequalified for the construction of two container berths. The berths, drawing a length of 700 metres, with depth alongside drawing 15 metres will be built. Construction of the wharves will begin in early 1990 and completed by 1992.

The completion of the new wharves should raise the port's cargo handling capacity considerably. It should also give the port greater flexibility to handle

a greater variety of cargoes.

In addition to the third phase, the government has also agreed in principle for more port capacity for Johor Port. The state government, recognising the imperative of maintaining adequate port capacity, has agreed on the need for a second port. *(NADI)*

On-line Info Service Launched at Johor Port

In an effort to keep pace with changing communication technology as well as to infuse greater efficiency, Johor Port Authority has taken the vital step to computerise as many areas of operational and administrative activities. A major development in this direction is the launching of the RAPAT computerised communication link between the port and its users.

RAPAT, which features international and local shipping network, was launched last August, putting the port a step closer towards the adoption of a community electronic data interchange. The RAPAT system of communication is operated through the common-user TELITA on-line communication provided by Syarikat Telecoms Malaysia, the country's telecommunications authority.

The object of RAPAT is mainly to provide on-line information relating to ship arrivals, departures, berthing allocation and general status of the ship in port. This basic information is the first step in requirement of data for operational purposes, both at the users end as well as for the port.

The conventional method of getting the same information by telephone or over the counter at operations headquarters has been found to be inconvenient. RAPAT system overcomes the problem by allowing the user to retrieve desired information from computer at any time of the day.

To ensure the system's effectiveness and efficiency, the port authority will provide the necessary guidance to users. At least 30 shipping lines, forwarding and shipping agents, hauliers and other users of the port's service are expected to link up with the RAPAT system.

The adoption of RAPAT is an ongoing programme by the port to exploit computer technology to enhance the level of efficiency and performance.

Another recent development in the port computerisation programme include the on-line cargo monitoring the handling of hazardous cargo at the airport. The Safety Measures System was launched last August in response to concerns to over the increasing volume of hazardous cargo at the port.

The SMS, designed and developed by the Port, has been acknowledged by the Bangkok-based United Nations ESCAP as the first such effective system to be used in Southeast Asia. The system enables the identification of cargo type, class, amount and its location in the port.

Johor Port handles more than 50 types of hazardous cargo and the step to provide the on-line system to monitor hazardous cargo reflects the port authority's concern for safety and care in the handling of the hazardous cargo. *(NADI)*

Port Klang West Port Development Approved

The government has given its approval for the development of the West Port on Pulau Lumut. However, construction work is not expected to begin until after the 1.2 km bridge linking the island to the mainland is ready.

The West Port development calls for the construction of three general cargo berths each with a length of 200 m and two petrochemical berths with a total length of 700 m. The general cargo berths will be built to accommodate vessels of up to 60,000 displacement tonnes while the petrochemical berths will be capable of taking vessels of up to 45,000 displacement tonnes.

About 106 ha of land has been reclaimed for the port area. Of this, 60 ha are for general cargo, 40 ha for petrochemicals, and 6 ha for dangerous goods.

The development of West Port was originally planned for under the Fourth Malaysia Plan (1985-89) but was shelved after reclamation of the site had been completed because of the economic recession.

However, with the port's consistent growth in throughput, the need for additional facilities has become more urgent. Container traffic is growing at an annual average rate of about 20 percent and the existing breakbulk facilities will have to make way for box traffic. North Port has seven general cargo berths (No. 15 to 21) which can be converted, with only minimum modifications, to container operations.

Based on existing capacity and short-term improvements, North Port will be fully stretched by 1996 and new facilities will have to be provided for breakbulk traffic to replace those given to container traffic. The West Port development is meant to cater to this need.

Port Klang now has a total annual capacity of about 25 million freight tonnes. The port can handle up to around 10 million tonnes of containerised cargo (or 550,000 TEUs), 6.7 million tonnes of general cargo, 4.2 million tonnes of liquid bulk and 3 million tonnes of dry bulk. Private facilities in the port provide an additional capacity of one million tonnes.

The construction of the West Port will also be a boon to the state of Selangor as the state government is keen to open up land on the island to meet the shortage of industrial land caused by the influx of foreign investors. With the construction of a port and the consequent infrastructural development, between 6,000 and 8,000 ha of land can be opened up to fulfill the state government's ambitious plans for the 49 sq. km island. *(Port Klang)*

KPA Training Facility For Port Executives

The KPA signed a M$1.5 million deal on September 29 with British consultants Crown Agents to establish an in-house managerial training facility. General Manager Hashir Abullah and AGM (Administration) Mohamed Abdul Hamid signed the contract on behalf of the KPA.

Crown Agents were represented by Mr. Encik John Theaker and Mr. Encik David Roissetter.

The 18-month project, which is funded by a World Bank loan, will see the creation of a Management Development Unit (MDU) to develop an overall plan to meet the future manpower and training needs of the port's middle and senior management executives.

The MDU project which began on 16 October will develop in-house managerial training expertise with the ultimate objectives of becoming a centre of excellence not only for Port Klang

but also for other Malaysian ports. This is in line with the recommendation for a systematic manpower development plan under the National Ports Plan.

Mr. Encik Hashir said, "There is a pressing need for specialised courses for middle and senior level port executives as courses conducted by local training institutions are general in nature and therefore do not meet the needs of the port industry." Such specialised port training is now only available overseas.

However, Mr. Encik Hashir added, as the port is to be privatised, the MDU will device a flexible training programme which can be moulded to suit the needs of the private operator as well as the regulatory body in the post-privatisation period.

Mr. Encik Theaker, who is Crown Agents' director for training services, told *PORT KLANG* that in assessing the training needs of the port, the consultants were guided by the fact that "the KPA sees itself not merely as a port operator but also as a trade facilitator."

"Training," he added, "is not merely something to be paid for but an investment. Malaysian ports are quite aware of this and they are very much in favour of a port managerial training facility to which they can send their management staff."

The Assistant General Manager (Staff) Haji Farid Jamil told *PORT KLANG* that during the project period two consultants from Crown Agents, Mr. John Hill (head of the project) and Mr. Robin Wain, will develop and conduct courses such as port promotion and marketing, management information systems, project management and other specialised subjects. He also said that courses on port-related subjects such as freight forwarding, ship agency operation and banking and insurance will be introduced later.

He added that Crown Agents will co-opt part-time and local experts to assist in the project. The local experts will be from training institutions such as the National Institute of Public Administration (INTAN), Malaysian Institute of Management as well as from universities. A senior KPA officer will also be co-opted to the project to understudy the consultants.

(Port Klang)

New Radio Transmission System Adopted at KCT

In keeping with the Kelang Container Terminal's ongoing commitment to improving terminal efficiency and container handling performance, a new advanced Radio Communications System was introduced during December 1989.

The equipment was manufactured by Shinwa Communication Inc. (Tokyo) which has over 35 years' experience in the design and manufacture of communications systems. Local agent, Sulaiman, Lee & Wong Corp. Sdn Bhd was awarded the contract for the supply and installation of the system at a cost of $800,000. A total of ten local and international organisations were invited to participate in the tender for the supply of the new equipment.

The new system will operate in the UHF range of 458 MHz - 469 MHz, which provides the short range/high quality transmission and reception particularly suited to the container terminal environment.

The high-quality and sophisticated transceivers are a new introduction to Malaysia and were selected for their ability to interface with R.D.T. (Radio Data Transmission) visual display units.

The introduction of radio data transmission techniques represents the proposed second phase of KCT's communication system development which is scheduled for further evaluation during 1990.

The initial "voice" system will operate on 14 channels with provision for expansion to a 20-channel system including dedicated channels for R.D.T. application.

Transceiver hardware consists of 7 units base stations, 61 units of mobile radios, 67 units of portable radios and 9 units of fixed station transceivers.

To facilitate installation and ongoing maintenance of the system, KCT personnel recently attended a technical training course at the Shinwa facilities in Tokyo.

Prior to implementing the new system, KCT's in-house training division conducted a series of training sessions involving approximately 300 operations personnel. The training sessions focussed on the system network, operating instructions and radio-telephony communication procedures.

The new system will further improve terminal productivity, particularly in respect of vessel working operations and supervisory control.

(KCT Portrait)

Kelang Terminal Orders Container Crane

In order to maintain service standards and to meet the increase in container throughput at the terminal, KCT has placed an order for a 40-tonne ship shore container gantry crane with IT-MGM Conthandling of Italy.

The post-Panamax-sized crane will supplement the existing five quay cranes to provide sufficient and reliable services to the latest generation of container vessels.

The MGM has a faster speed and its crane allows for handling of container vessels with 16 rows across.

The crane will have a waterside outreach of 44.3 m, back-reach of 11 m and a clearance between the legs of 12.2 m.

Engineering Manager, Mr. Gustav Holmquist, said, "One of the special features of this crane is that it incorporates the latest digital control and has a fault diagnostic system which considerably reduces crane operator fatigue, thus enhancing productivity."

He further added, "With the purchase of the new generation quay crane, container handling equipment will be more sophisticated. This will enable the container terminal to meet demands for higher equipment reliability."

The crane, scheduled for delivery in November 1990 will be shipped fully erect from Italy to Port Klang.

(KCT Portrait)

Penang Development In Full Swing

Major improvements recently planned for the Port are now underway. Upgrading of container facilities aimed at making the Port more efficient and competitive began with the lease of two transfer cranes or transtainers as they are commonly called for a term of two years. The two transtainers which was operational in September 1989 complement PPC's fleet of six transtainers.

The leasing of the transtainers for

container yard operations is one of the measures taken in view of the long lead time for the delivery of a new unit which has been ordered by PPC. The new transtainer is scheduled for delivery in mid-1990. Three additional units of transtainers which will be considered for purchase under the 1990 budget are expected to be delivered in mid-1991. By then, PPC will be operating with a fleet of 10 transfer cranes (i.e. excluding two cranes on lease).

Meanwhile, PPC is currently in the process of negotiating to lease one unit of gantry crane to further improve the productivity of container handling at the Port. The crane on lease is expected to commence operations at the quayside by mid-1990. Besides leasing one unit of gantry crane, PPC will purchase a new unit. Tender for the supply of the new gantry crane will be awarded in December 1989. The new crane is expected to be delivered by mid-1991.

For the handling of containers from railway wagons, PPC has ordered a new front-end loader and will acquire two additional units of reach stackers under the 1990 budget. The new front-end loader is expected to be delivered by mid-1990.

Container-handling capacity at the Port will also be increased by mid-1990 when one of the conventional berths (Berth No. 4) is converted into a container berth. Work on the conversion is expected to begin in May 1990.

With the completion of this project by mid-1990, the Port of Penang will have three container berths with a total quay length of 465 metres and a handling capacity of 234,000 TEUs.

(BERITA Pelabuhan)

South Pacific Ports Conference at Tauranga

The Port of Tauranga recently hosted the 15th Conference of the South Pacific Ports Association.

The Hon. Bill Jeffries, Minister of Transport, opened the Conference on Tuesday, 5th December, and it concluded on Thursday, 7th December, 1989.

The 65 delegates attending the Conference included the Minister of Transport in Papua New Guinea and representatives of the Port Authorities of Fiji, Papua New Guinea, Cook Islands, Port Noumea, Kirabati, Solomon Islands, American Samoa, Townsville, Cairns, Brisbane, Darwin, and Gladstone. Also represented were Pacific Forum Lines, and Sofrana Unilines.

The Conference had a bearing on future port developments, with delegates learning of trends and developments in shipping and how to improve their performance and profits. The Ports Reform process in New Zealand was also a feature, along with topics on strategic planning and financing of ports.

Some of the delegates at the site of the Sulphur Point wharf.

HYCO Reach Stacker

Pictured in Auckland is the HYCO Reach Stacker model IH 146, one of the four units ordered by Ports of Auckland. These machines are fitted with Volvo engine and Clark transmission.

The net capacity under spreader is 40 tons on first row and 25 tons on the second. Superior visibility because no obstruction in front of operator.

In fact one of the main feature of HYCO Reach Stacker is the safety. Another big advantage is the rotation of the spreader that allows a container to be driven even lengthwise. Most of Port Operators all over the world are now using more and more reach stackers because of high performances, better efficiency and for the flexibility to work on first and second row.

Ports of Auckland having chosen HYCO Reach Stackers for their operations at Bledisloe Wharf are on the track of the "future."

Tighter Security, Drug Control at Wellington

Steps are to be taken to increase security at the Port of Wellington and to eliminate the possibility of drug smuggling.

The Port of Wellington Ltd. and New Zealand Customs have signed a Memorandum of Understanding stating that measures will be taken by both parties to beef up security and the Company will assist Customs wherever possible to prevent drugs passing through the wharves.

One of the first effects of the

agreement is that customer parking at the Port will be restricted to designated areas. But there is ample space for both staff and visitors. Access to the wharves will be restricted to staff and authorised visitors. *(CENTREPORT)*

Services Improved At Manila Terminal

A little over a year after its privatization The Manila International Container Terminal (MICT) shows marked improvement in the delivery of services.

The International Container Terminal Services, Inc. (ICTSI), the private consortium operating the port, reports that the improvement is due to the acquisition of new and the upgrading of old equipment and a management system in place for quicker client response.

The ICTSI imported eight additional Valment straddle carriers to complement the six old ones, brought in and deployed 52 new forklifts, 26 new Ottawa truck tractors, two transtainers and repaired the two old Liebher container shore cranes. As a result vessel operations have greatly improved.

In terms of management, the yard management computer system is improving the container tracking, segregation and documentation procedures.

As a result of improved equipment and systems client response is manifested in increased ship-calls and container throughput.

The MICT now handles an average of 59 vessels a month with vessel turnaround time at about 16.27 hours.

(Port Trend)

To Minimize Disparity of Cargo-handling Rates

The Tariff Rationalization Study Project of the Commercial Services Department (CSD), Philippine Ports Authority (PPA), started last July and will end by March this year.

The project covers PPA port charges and cargo-handling fees. It aims to come up with a uniform, rational, simplified and flexible tariff structure. It intends to provide PPA with a mechanism for the efficient discharge of its regulatory functions in imposing port and cargo-handling charges.

The PPA counterpart personnel and the consultants, J. Cunanan Co. — Price Waterhouse Co. partners, have formed teams to travel to the model ports as specified in the project's terms of reference (TOR). Identified by the Authority, the model ports are Cebu, Cagayan de Oro, Davao and Zamboanga.

The project teams are presently gathering port operations management data including manpower complement, statistical data on vessel calls, cargoes handled and passenger traffic and revenues from tariff. They are also observing actual port operations at the abovementioned ports.

The nine-month long project hopes to minimize the disparity of cargo-handling rates among the ports nationwide. At present, ports all over the country have different rates for the same services rendered.

Because the tariff rates will be cost-related, operators will have a reasonable margin of profit. Costs and investments on the facilities of the operators/contractor will be recovered after a reasonable length of time.

Laborers on the other hand, will be protected. Cargo handling services to be rendered will be clearly defined and delineated.

PPA rates, when rationalized will be consistent with other Asian ports. As a result, the country will be capable of competing against other Asian countries with respect to tariff rates.

(Port Trend)

Marketing Seminar for PPA Officers, Staff

Marketing officers and staff in the Philippine Ports Authority (PPA) Head Office and field offices held a three-day seminar to discuss marketing plans and programs and determine appropriate strategies for the effective promotion of ports.

The seminar is in line with the PPA's thrust encouraging greater private sector participation in the construction, maintenance, operation and management of port facilities and services.

Selected resource persons from the private sector as well as from the PPA discussed topics like an overview of the Philippine ports situation in the ASEAN context, profile of the port industry, the vital role of port marketing in the industry, as well as in-depth discussions on recent policies and strategies adopted by the PPA involving marketing such as cargo handling policy, real estate management policy, private ports policy, and credit and collection policy.

Among the speakers from the port industry were Bal Dreyfus, Country Manager of Sealand Services, Enrique Razon, Jr., Executive Vice President of the International Container Terminal Services, Inc., operator of the MICT which was privatized last year; and Quintin Sumulong, Marketing Manager of Delgado Bros., Inc.

The seminar afforded the PPA units directly concerned with the marketing of the ports the opportunity to redefine marketing objectives, refocus priorities and arrive at more workable plans for the next few years. *(Port Trend)*

Jebel Ali: Sustained Growth in Tonnage

Statistics covering the first nine months of 1989 show a sustained growth in tonnage handled by Jebel Ali Port with overall tonnage totalling 6.9 million tonnes, an increase of 130 percent over the same period of 1988.

"These results have been achieved through a tremendous amount of hard work in marketing Jebel Ali to more customers, said Sultan bin Sulayem, Chairman of Jebel Ali Port Corporation.

Container transhipments continue to lead the growth by more than tripling the figures of 1988 for the same period. Some 131,317 TEUs were handled by the port from January through September as opposed to 43,512 TEUs in 1988.

Oil and gas tonnage also increased dramatically, from a little over two million tonnes for the period in 1988 to almost five million tonnes in 1989.

Bulk and break-bulk cargo tonnage increased by 60 percent, from 668,850 to 1,072,123 tonnes.

The increase in tonnage is also reflected in an increase in the number of container vessels, roll-on/roll-off vessels, general cargo vessels and cargo tankers calling at Jebel Ali. In the first nine months of this year there was an increase of 55 percent, from 403 to 626 vessels, compared to the same period of 1988. *(Gray Mackenzie News)*

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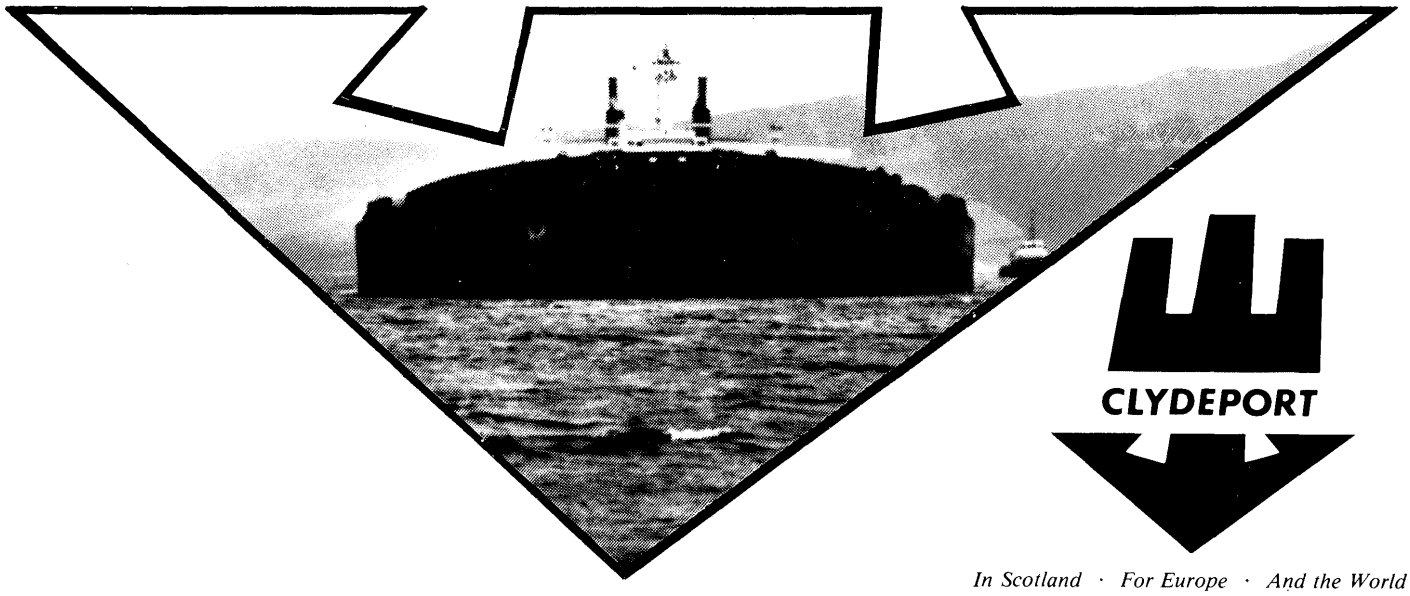

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