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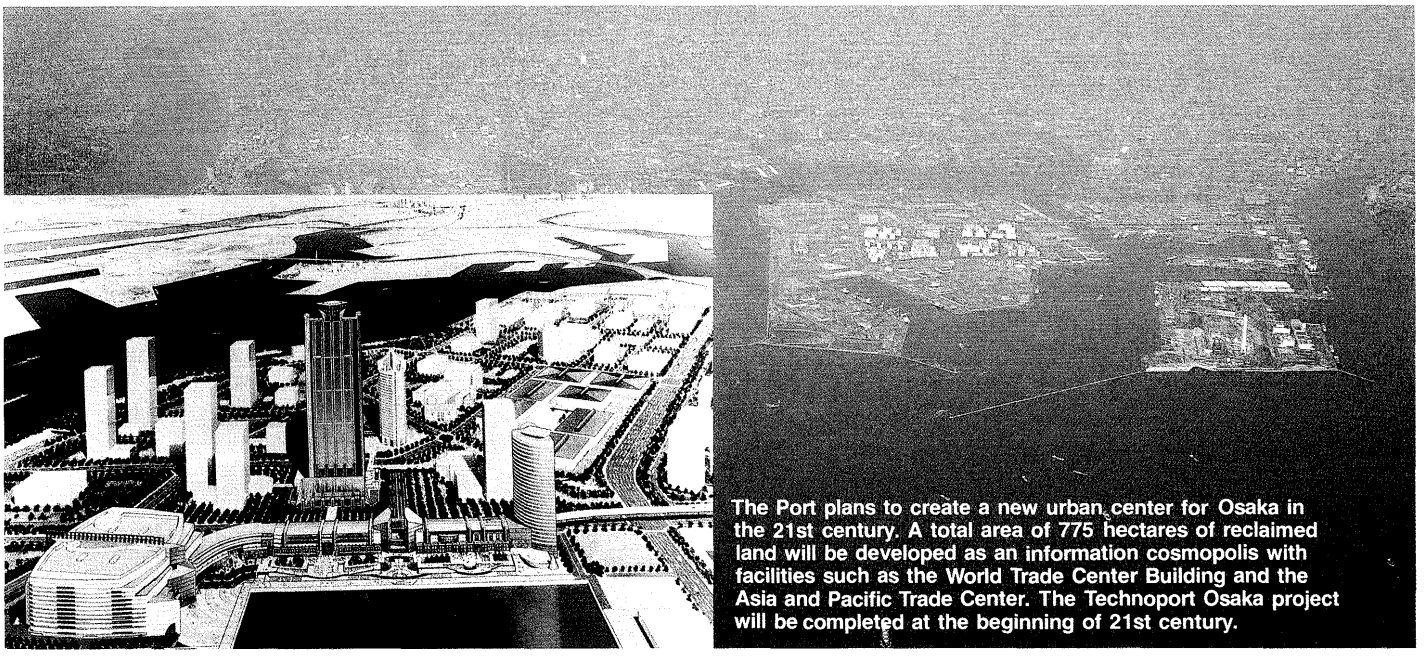

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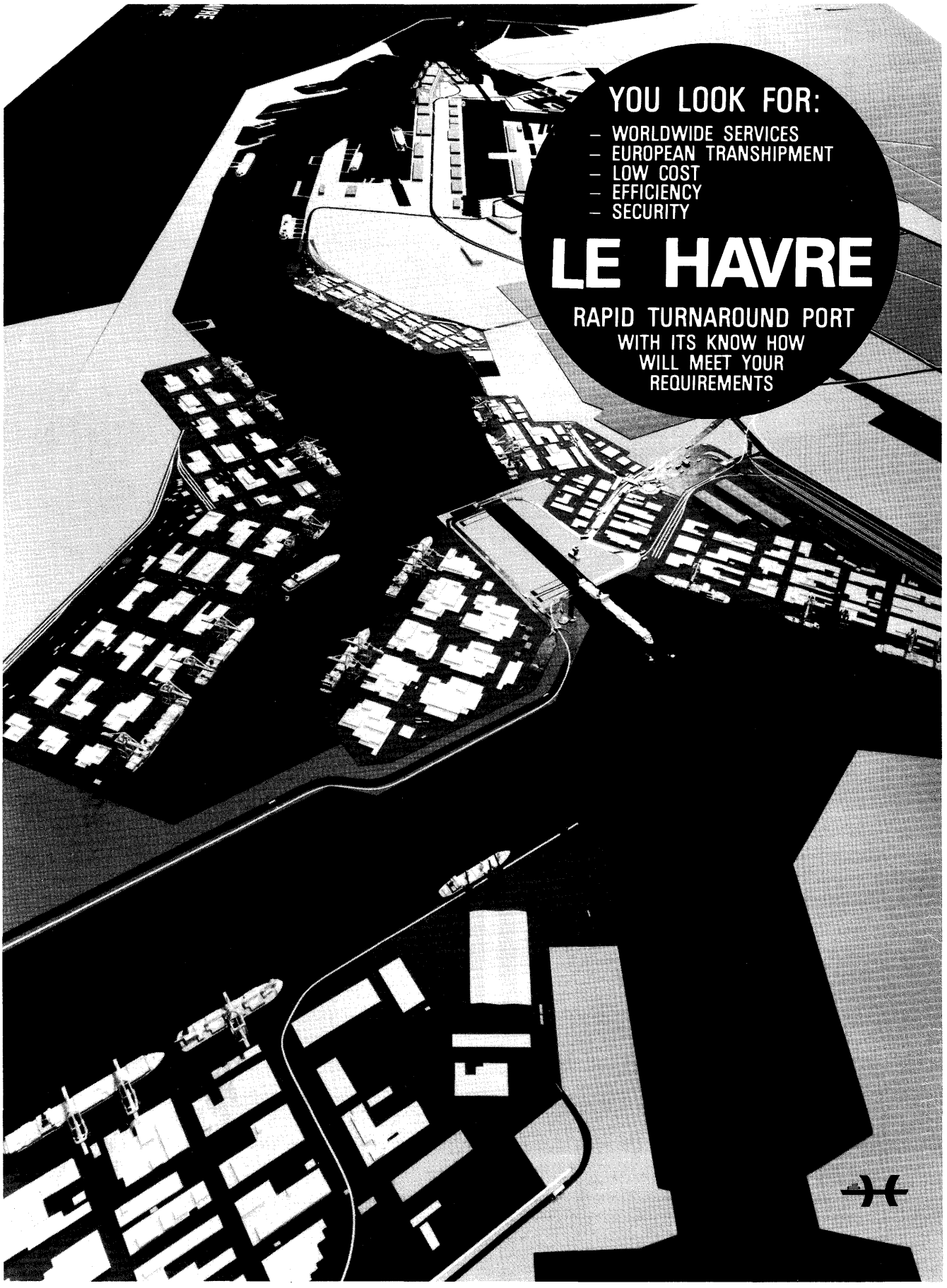

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Secretary General:
Hiroshi Kusaka
Head Office:
Kotohira-Kaikan Bldg., 2-8, Toranomon 1-chome, Minato-ku, Tokyo 105, Japan
Tel: TOKYO (3591) 4261
Cable: "IAPHCENTRAL TOKYO"
Telex: 2222516 IAPH J
Fax: 03-3580-0364

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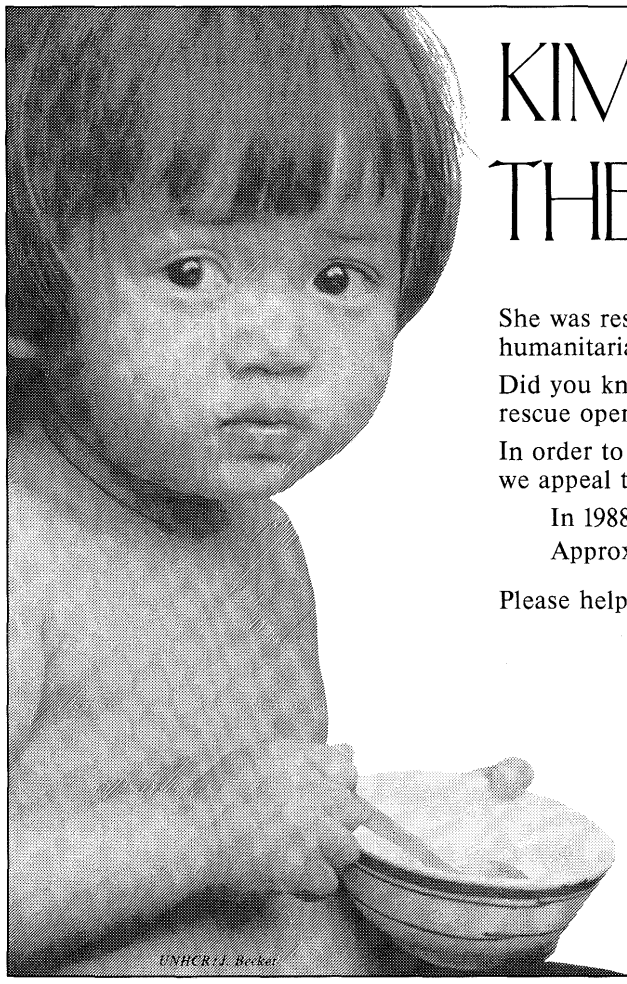

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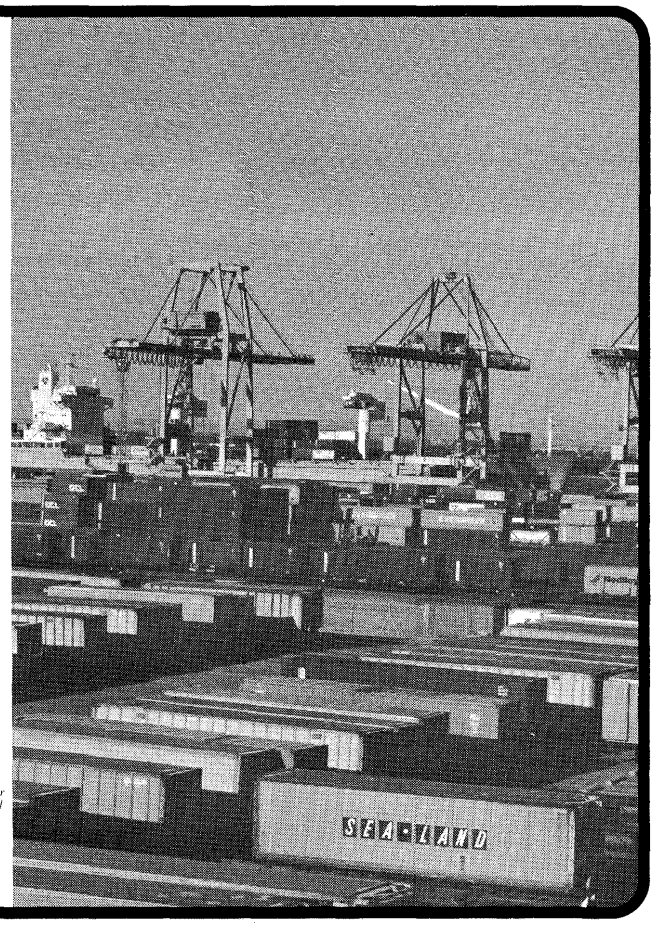

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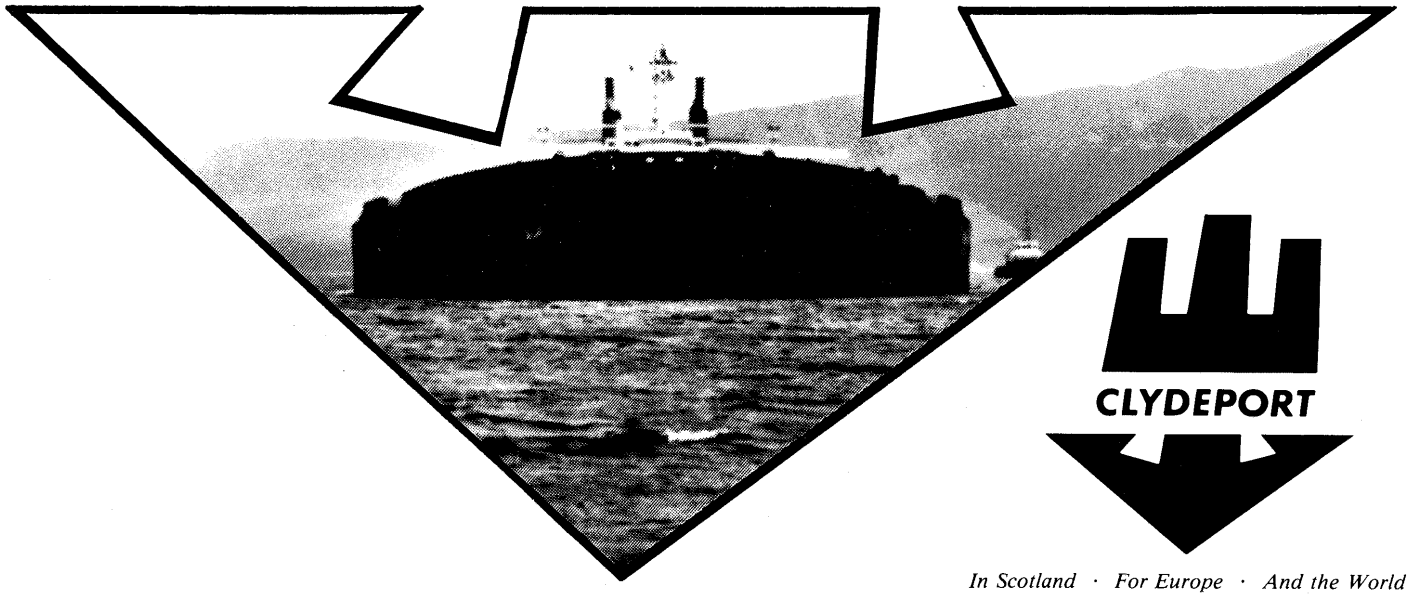

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IAPH ANNOUNCEMENTS AND NEWS

IAPH Observes 36th Anniversary

New Strategic Plans Being Worked Out

— *To Serve Members* —

November 7, 1991 marks the 36th anniversary of the foundation of IAPH. Thirty-six years have passed since our Association came into being at the inaugural conference held at the Hollywood-Roosevelt Hotel in California in November 1955. It was, of course, after some years of groundwork so painstakingly prepared by a group of Japanese pioneers that our Association officially came into existence.

At this inaugural Conference, the Constitution and By-Laws were adopted and the Board of Directors was established with representatives from the 14 countries comprising the membership.

In the past 36 years, altogether 17 conferences have been held at various venues throughout the world. The last one was held in Spain in May this year. The event opened at Barcelona and closed at Valencia and its major sessions took place on board a cruise ship calling at the Spanish Mediterranean ports. The next conference is scheduled for April 1993 in Sydney, Australia under the theme: "Ports: The Impacts of Global Economic Changes".

At the moment IAPH has almost 400 members (229 Regular, 110 Associate, 27 Honorary, 7 Founders and 8 Lifetime Members) from 83 countries. The Association's Board of Directors, which started with 14 members in 1955, currently numbers 88 members. The Board consists of members who are elected by Regular Members from each country and is responsible for directing overall policy as well as generally supervising all proceedings. An Executive Committee, made up of 24 members representing the three geographically divided regions (Africa/Europe, Americas and Asia), is the chief executive body, and its remit is to implement the Board's policy and to generally direct all the Association's activities.

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

There are six technical committees, composed of volunteer Association members and experts appointed by the President and assigned to work on individual specified projects. The major areas of work covered by these six committees are as follows:

International Port Development (CIPD): Proposes, develops and administers plans for the provision of training, education, and technical assistance to developing ports. Works to promote cooperation between developing and developed ports.

Port Safety, Environment and Construction (COPSSEC): Handles matters related to the construction, maintenance and safe marine operation of ports and harbors and the protection of the port environment, including vessel traffic services, the control of dangerous substances, pollution control and crisis management. It is divided into five working groups, which are:

Ship Sub-Committee
Marine Safety Sub-Committee
Port Planning Sub-Committee
Port Safety & Environment Sub-Committee
Dredging Task Force

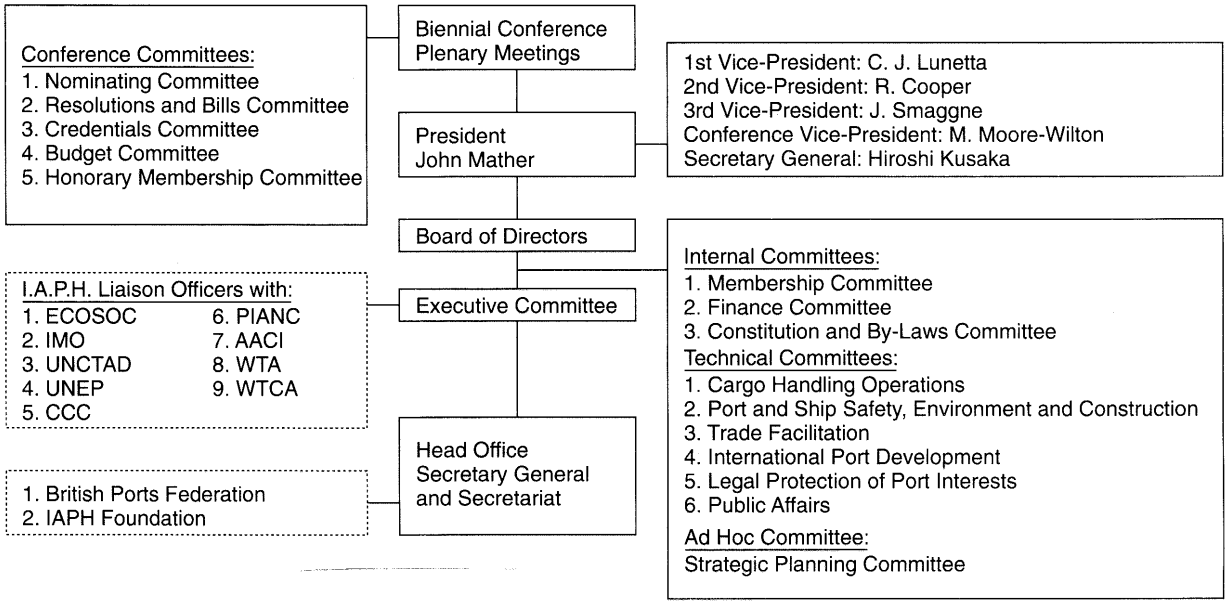
Cargo Handling Operations (CHO): Examines and reviews matters related to the planning, development and operation of cargo handling facilities and systems. These include general cargo, containerization, ro/ro, barging, equipment and manpower training.

Legal Protection of Port Interests (CLPPI): Examines and reviews provisions of international laws affecting port interests. IAPH works closely with many representatives of inter-governmental and other international maritime organizations.

Public Affairs (PACOM): Encourages the development of all ports and harbors, which in turn means the development of the whole port community. Seeks to identify community attitudes to port development and operations and the growth of industries in port areas, to highlight areas of public concern, to assess the economic impact of ports on the daily lives of their communities and to formulate a public relations strategy to deal with problems that may arise.

Trade Facilitation (TF): Handles procedures and doc-

IAPH Organizational Chart
(As of November 7, 1991)



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

Furthermore, since May 1990, an ad hoc committee chaired by Mr. John Mather, President of IAPH, has been working to produce a Strategic Plan for the Association. Following a preliminary report made to the Board and Executive Committee in Spain, Chairman Mather and the committee members in cooperation with the Secretary General are striving to give clear guidance to members on what IAPH wants to be and what to do so as to best serve the interests of its member ports and to achieve a stronger position of common interest to ports before international organizations and the maritime industry.

IAPH has NGO consultative or observer status with the following bodies:

ECOSOC: United Nations Economic and Social Council (since 1966)
IMO: International Maritime Organization (since 1967)
UNCTAD: United Nations Conference on Trade and Development (since 1973)
CCC: Customs Cooperation Council (since 1982)
UNEP: United Nations Environmental Programme (since 1991)

IAPH has also established special working relationships with the following organizations:

PIANC: Permanent International Navigation Congresses (since 1988)
WTA: World Teleport Association (since 1989)
WTCA: World Trade Centers Association (since 1989)
AOCI*: Airport Operators Council International (since 1989)

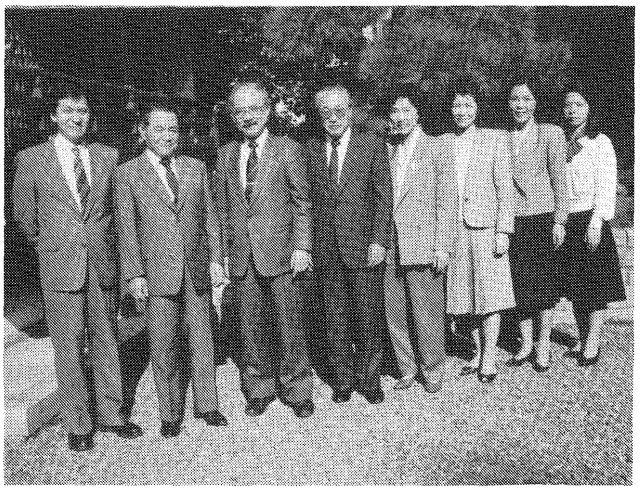
*Note: *AOCI and ICAA (International Civil Airports Association) have been integrated as AACI (Airports Association Council International) since January 1991.*

The day-to-day work of IAPH is carried out through the Head Office in Tokyo in close contact with the President, Vice-Presidents, the Executive Committee, the Chairmen of the various committees and the liaison officers. Since 1987, IAPH has operated a London Office with Mr. A.J. Smith serving as our European Representative, his main function being to strengthen IAPH's presence in the international maritime scene in Europe.

During the past 36 years — and, more particularly, during the past 12 months — there have been significant changes and developments in the international political and economic scene, affecting not only our port communities but also all other aspects of human activities. As we were preparing for the November 1990 number of this journal some months previously, we were uncertain what course the Gulf War would take and we were most anxious about whether we would be able to proceed with the Spanish Conference as scheduled. In particular, the changes which have occurred within the past year in the Soviet Union and in other eastern European countries have been far more momentous and drastic than anyone could have anticipated.

To reflect such changes affecting our Association, IAPH Head Office has been receiving an increasing number of communications — mostly by fax — from a host of different parties which include, for example, Lithuania, North Korea and many more newcomers who are interested in our activities.

IAPH, which people frequently call "the United Nations of Ports", will be involved continuously in these dynamic revolutions and will be expected to play an increasingly key role as the leading player in the world ports scene. Unlike the UN Headquarters in New York, the size of our Headquarters in Tokyo both in terms of office space and the number of staff, is quite modest — as the many IAPH members who have visited us have probably noticed. Nonetheless, the activity in our Head office never lets up (we are sometimes as busy as a bank's dealing room!) as the staff do their best



IAPH Head Office staff members: From left: Hiroyuki Nagai, Kohnosuke Onso, Rinnosuke Kondoh, Hiroshi Kusaka, Kimiko Takeda, Chizuko Mita, Yoko Kuriya and Izumi Hayashi* (Note: Ms. Hayashi belongs to the IAPH Foundation and so does Mr. Onso, although they assist in the work of the IAPH secretariat under the cost-sharing agreement according to which IAPH and the Foundation share some office space and staff.)*

to answer the numerous requests they receive from the various organizations around the world. All the staff members, headed by Secretary General Kusaka, are committed to promoting the development of this unique organization and to being part of its history. They are proud of the strong ties that they have succeeded in nurturing with the members of IAPH's global family members—the valuable assets for the future of our organization.

By Kimiko Takeda

Tokyo to Circulate Survey Results on Training Facilities

In response to the questionnaire on training programs which the IAPH Head Office circulated among the IAPH members and affiliated institutions under the name of Mr. Goon Kok Loon (Port of Singapore), Chairman of the Committee on International Port Development (CIPD), with the closing date set at 31 August 1991, various organizations have sent details on the latest training programs for which they are in a position to accept trainees sponsored under the IAPH Bursary Scheme.

The details of the survey on the available training facilities are now being compiled by the Head Office secretariat for dissemination among potential applicants from the IAPH member ports in developing countries. The information resulting from the survey will be made available to the members concerned by the Head Office within October for immediate action by the respective applicants, whose applications must be submitted to the Secretary General by the end of this year.

Based on the responses received by the Tokyo Head Office, the organizations which have announced 1992 programs consists of those listed on next page.

The IPD Fund: Contribution Report

Contributions to the Special Fund For the Term of 1990 to 1991 (As of Oct 11, 1991)

Contributors	Amount (US$)
Paid:	
Associated British Ports, U.K.	3,000
Nagoya Port Authority, Japan	2,748
UPACCIM, France*	1,989
Port of Copenhagen Authority, Denmark	1,000
South Carolina State Ports Authority, U.S.A.	1,000
Vancouver Port Corporation, Canada	1,000
Puerto Autonomo de Valencia, Spain	1,000
Port Authority of New York & New Jersey, U.S.A.	1,000
Osaka Prefecture, Japan	585
Kobe Port Development Corp., Japan	584
Osaka Port Terminal Development Corp., Japan	584
Nagoya Container Berth Co. Ltd., Japan	554
Penta-Ocean Construction Co., Ltd., Japan	502
Marine Department, Hong Kong	500
Port Authority of Jebel Ali, U.A.E.	500
Port of Montreal, Canada	500
Port Rashid Authority, U.A.E.	500
Stockton Port District, U.S.A.	500
Port of Tauranga, New Zealand	500
Port Autonome de Dakar, Senegal	480
The Japanese Shipowners' Association, Japan	438
Japan Port & Harbor Association, Japan	400
Public Port Corporation II, Indonesia	300
Toyama Prefecture, Japan	291
Japan Cargo Handling Mechanization Assoc., Japan	280
Fraser River Harbour Commission, Canada	250
Port of Melbourne Authority, Australia	250
Port of Palm Beach, U.S.A.	250
Port of Quebec, Canada	250
Saeki Kensetsu Kogoy Co. Ltd., Japan	250
Pacific Consultants International, Japan	238
Bintul Port Authority, Malaysia	200
Gambia Ports Authority, the Gambia	200
Nanaimo Harbour Commission, Canada	200
Port of Redwood City, U.S.A.	200
Mauritius Marine Authority, Mauritius	200
Public Port Corporation I, Indonesia	150
Port Authority of the Cayman Islands, West Indies	100
Port Authority of Thailand, Thailand	100
Ghana Ports & Harbours Authority, Ghana	250
Total	**US$23,823**
Pledged:	
Empresa Nacional de Puertos S.A., Peru	100
Total	**US$100**
Grand Total	**US$23,923**

** Union of Autonomous Ports & Industrial & Maritime Chamber of Commerce (the Association of French ports) on behalf of the Ports of Le Havre, Bordeaux, Dunkerque, Marseille, Nantes-St. Nazaire, Paris and Rouen*

France
IPER (Institut Portuaire d'Enseignement et de Recherche) — Le Havre
IFFEP (Institut de Formation d'Echanges Portuaires — Marseille

The Netherlands
Port of Rotterdam — PACT (Practical Approach Concept Training)
IMTA (International Maritime Transport Academy) — Den Helder
Delft University of Technology — Delft

Portugal
Port of Lisbon (Arrangements will be possible in Portuguese only)

Singapore
Port of Singapore — SPI (Singapore Port Institute)

Spain
Port of Bilbao

Switzerland
UNCTAD — Geneva

U.A.E.
Abu Dhabi SeaPort Authourity — Mina Zayed

U.K.
IMS (Institute of Marine Studies) Polytechnic Southwest — Plymouth

U.S.A.
Port of New Orleans — IPPPM (International Program for Port Planning and Management)

Monograph No. 9 Sent to All Members

Monograph No. 9, entitled "Multi-purpose port terminals — Recommendations for planning and management", authored by Francisco Enriquez Agos, Dr. Ing. de Caminos, Canales y Puertos, Director-General of Ports and Coasts, Ministry of Public Works and Town Planning (Madrid, Spain), and who is Technical Adviser, Ibero-American Ports and Coasts Association, was sent to all members from the Tokyo Head Office in early October 1991. The paper has been translated into English and French from the original Spanish. Thus the Head Office has arranged for French- and Spanish-speaking members to receive the paper in their own language.

The monograph is one of the series being prepared by UNCTAD's Shipping Division in collaboration with IAPH.

The content of the monograph is introduced as follows:

1. The multipurpose port terminal is not an innovation in port terminology and dates back for several years. It is however only in recent years that the concept has been given practical expression in a number of European ports.
2. In the light of his experience at a number of Spanish ports following the introduction and expansion of intermodal traffic, the author embarked on a study of the factors making for the application of the multipurpose principle to conventional general cargo handling facilities and presented a paper on the subject to the PIANC congress at Edinburgh in 1981. He later decided to formulate a series of recommendations embodying the philosophy of the multipurpose terminal and the major parameters in the planning and management of such terminals in the context of the Programmes of the Directorate General of Ports and Coasts of the Spanish Ministry of Public Works and Town Planning.
3. In view of the potential interest of these recommendations to other countries, particularly developing countries, it was decided to include them in the UNCTAD series of monographs on port management as an expression of the ongoing co-operation between UNCTAD and the Ibero-American Ports and Coasts Association (AIPYC).
4. This monograph is divided into four parts. The first defines the concept of the multipurpose terminal and its function in modern freight transport. The second sets out a series of practical recommendations for the planning and design of the infrastructure of such terminals in the light of experience in Spanish ports. The third is concerned with recommendations of particular importance to terminal management. The fourth describes a practical example, the multipurpose terminal at the Port of Valencia.

World VTS Guide Report of the Drafting Group

Captain Weeks (Plymouth, U.K.) sent the IAPH Head Office a report of the drafting group on guidelines on the recruitment, qualifications and training of VTS operators and World VTS Guide. The report follows:

1. The Drafting Group met on 24 September 1991 under the chairmanship of Capt G. Kop (Netherlands) to prepare draft MSC Circular on world VTS Guide and amendments to the draft Assembly resolution on guidelines on recruitment, qualifications and training of vessel traffic service operators (NAV 37/2/2, annex 2, 25 September, 1991) prepared by the STW Sub-Committee.
2. The following countries participated in the Drafting Group:
Germany
Netherlands
3. The Group prepared:
   .1 the draft MSC Circular on World VTS Guide, given in annex 1, which the Sub-Committee is requested to invite the Committee to approve for circulation to Member Governments; and
   .2 amendments to the draft assembly resolution on guidelines on recruitment, qualifications and training o vessel traffic service operators, given in

annex 2, which the Sub-Committee is invited to note and convey to the twenty-third session of STW Sub-Committee for consideration.

4. The Group invited the Sub-Committee to recommend the Committee to, pending the revision of resolution A.578(14), promulgate the draft assembly resolution, incorporating the amendments given iin annex 2, means of an MSC Circular.

Annex 1

Draft MSC Circular on World VTS Guide

1. The Maritime Safety Committee at its 60th session noted IALA, IAPH and IMPA World VTS Guide and considered it an important contribution to maritime safety.

2. The VTS Guide was prepared in response to IMO Resolution A.578(14) paragraph 7 — "VTS Publication for users", which reads:

"7.1 A VTS Authority should ensure that the local traffic movement rules and regulations in force, the services offered and the area concerned are promulgated appropriately.

7.2 The publication should be convenient for use by previous and should, where possible, include chartlets showing the area sector boundaries, general navigation information about the area together with procedures, radio frequencies or channels, reporting lines and reporting points. Where the VTS operates beyond the territorial sea, the limit of territorial sea should clearly be indicated on the chartlets."

3. The Guide is intended to provide shipmasters and ships navigators with clear and concise diagrammatic and written information regarding the navigational and operational requirements of the VTS Centres throughout the world. It is a collation of the information already routinely provided by VTS Centres to hydrographic offices for inclusions in official publications, At present the Guide does not contain information about all the VTS centres, but a significant number are included.

4. Member Government are invited to:

.1 draw the attention of VTS authorities, which have established or intend to implement a VTS, to the World VTS Guide in order to consider participation in the scheme.

.2 ensure that, regardless of the existence of the Guide, information on VTS are also included in Sailing Directions, Notices to Mariners and other official nautical publications carried on board ships in accordance with regulation V/20 of the 1974 SOLAS Convention.

Annex 2

Draft Assembly Resolution

Guidelines on Recruitment, Qualifications and Training of Vessel Traffic Service Operators

The annex to NAV 36/20 should be amended as follows:

Replace preamble by:

1. Resolution A.578(14), Guidelines for Vessel Traffic Services, on which these guidelines are based will be revised in the near future. The opportunity will then be taken to incorporate the substance of these guidelines into the revision of resolution A.578(14).

2. These guidelines elaborate specifically on the requirements specified in resolution A.578(14), Section 6, Personnel which states:

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the VTS authority should ensure that VTS operators have been qualifications and have received specialized training appropriate to their tasks within the VTS and meet the language requirements mentioned in paragraph 3.4, in particular with regard to VTS operators authorized to issue traffic instructions or to give navigational assistance.

3. These guidelines describe the skill and knowledge qualifications required by Vessel Traffic Service (VTS) operators to carry out the functions of a VTS They are intended for application in both planned and existing VTS. They provide guidance in determining how VTS authorities can recruit, select and train personnel in order to carry out these functions to the required standards.

4. These guidelines do not confer any powers on Vessel Traffic Services operators, nor shall they be construed as prejudicing obligations or rights of vessel established in other international instruments".

More Dues Units for New Term Reported

As a result of the biennial survey on the latest tonnage handled by our members' port facilities, in which each Regular Member was requested to inform the Secretary General of its updated tonnage figure and the resulting number of dues units to be subscribed for the years 1992 and 1993 respectively, the IAPH Head Office sees an increase of 15 units totaling 699 units over the 684 units which was the registered total for the 1990/1991 term. As of September 30, the following members have informed the Secretary General of an increased number of dues units for the next term (from the number subscribed in the previous term.)

(Continued on Page 12)

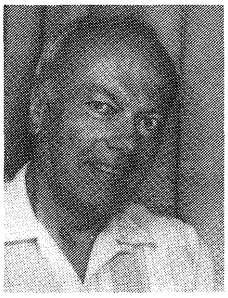
OPEN FORUM

The Ports, UNCTAD and the U.N. System

By Jacques CAMBON
Chief, UNCTAD'S Ports Section 1)*

1) The opinions expressed are those of the author and do not necessarily reflect those of UNCTAD or any other UN organization quoted in the article.*

Well established co-operation exists between IAPH and UNCTAD in the ports field, as illustrated by our joint programme (the "Monograph" scheme) and our regular participation in CIPD activities.



Mr. Cambon

However, while attending the 17th World Ports Conference of IAPH in Spain, I was rather surprised to find out that there were port managers who did not understand exactly what UNCTAD was all about, why UNCTAD was involved in port activities, why there were several other UN organizations involved, and what their respective roles were. People were convinced that there must be some duplication of efforts.

After consultation with the IAPH secretariat, I felt that a paper on this subject, to be published in the IAPH journal, would probably help give the port community a better understanding of what the UN system in general, and UNCTAD in particular, are doing in the ports field. I shall attempt to show that there is in fact in the UN System a very wide range of activities, facilities and complementary services available to member countries, although their number, diversity and dissemination throughout the world sometimes lead to unavoidable but minor overlapping or duplication. More important is the fact that they are not sufficiently well known to port managers who, therefore, do not benefit from them as they should. I hope my presentation will clearly convey my own position, which is that the variety and diversity of UN activities in the ports field are an asset rather than a handicap, and that these activities are indeed complementary to those of IAPH and other regional and international ports associations.

Why is the UN system involved in port matters?

Because the governments of the member countries have so decided! This is one of the basic rules of the UN system: the secretariats of the various UN bodies are merely implementing the mandates given to them by the member Governments of their organizations. If the governments have so decided, it is because the UN system has a unique role to play in several fields. Firstly, it provides a **forum** where **governments** can discuss outstanding issues of interest to them and take the appropriate decisions or adopt legal instruments such as international conventions. For instance, a UN diplomatic conference convened in Vienna in April 1991 adopted a new international convention on the liability of transport terminal operators (which include port terminal operators). When port managers take a decision or adopt a resolution in an IAPH meeting, they are committing themselves. When a similar decision is taken at a UN meeting, the Governments are committed (although not legally bound, except when they ratify — or adhere to — a Convention).

The UN system also produces technical documents of direct interest to ports, particularly those that do not have the means to carry out similar investigations and studies — including, therefore, those located in developing countries. The UN system further contributes to the development and improvement of ports in developing countries through various mechanisms and programmes for financing port projects and equipment, designing, funding and executing technical co-operation and training programmes. All ports, even those in developed countries, should concern themselves with being informed of or associated with those activities which are of direct or indirect interest to them.

The various U.N. organizations dealing with port matters

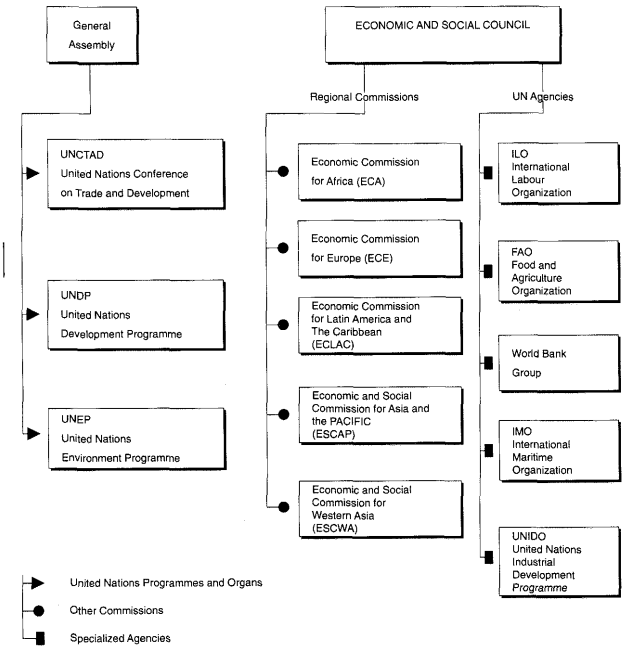
There is no one single organization having exclusive competence in the ports field: a number of organizations have a given mandate which either explicity or implicity includes the ports sector. There are organizations like UNCTAD, IMO, ILO, etc., which have a specific mandate with worldwide coverage, and others, like the regional economic commissions, which have a general mandate with a limited geographical coverage. A distinction has to be made between two types of UN organizations: there are on the one hand organizations which, like UNCTAD, are **organs** of the UN General Assembly, and on the other hand there are the UN **agencies** which, like IMO or the ILO, are autonomous organizations which work with the United Nations through the co-ordinating mechanism of the Economic and Social Council. In the following diagram, the main UN organizations having port or port-related activities are presented. The diagram is based on the information which has been made available to us over the last twenty years and does not mean there are no other organizations involved or willing to become involved in one of the various facets of the port activities spectrum.

The rationale behind the involvement of these organizations in the ports field comes from their specific mandates. Let us examine firstly those organizations that are on the "periphery" of commercial ports.

FAO (Rome, ITALY) helps the world's nations increase the output of farmland, forests and fisheries. It is directly involved in fishing ports and related fishery activities.

UNIDO (Vienna, AUSTRIA) promotes industrial de-

PRINCIPAL ORGANIZATIONS OF THE UNITED NATIONS DEALING WITH PORT-RELATED MATTERS



Extracted from "The United Nations public information" - DPI/1098/4/135 January 1991/107

velopment. It is concerned with industrial port development and related activities.

The two major "financial institutions" are the UNDP and the WORLD BANK GROUP. The **UNDP** is the major funding source for the technical co-operation and pre-investment programmes of the UN system in the ports field. The other sources are the regular budget of the UN organizations (which in fact is often a very limited source) and the funds allocated for this purpose by donor countries and financial institutions. UNDP has national, regional, interregional and global programmes for the financing of national, regional and interregional projects. The funds allocated by UNDP to each developing country are utilized according to the priorities established by the recipient country iteself. Sometimes (and this is happening more and more in the ports field) the recipient country co-finances the technical co-operation programme.

Since March 1978, the General Assembly has set up within the UN secretariat a Department of Technical Co-operation for Development (DTCD) which assists governments in the formulation, implementation and evaluation of projects (even in the transport field). However, in most cases, the UN organizations or agencies listed above are the executing agencies of UNDP-financed projects for technical co-operation in the ports field, either singly or in association with other agencies/organizations. Sometimes projects are executed by the country/region itself.

The **World Bank Group** is a multilateral lending agency consisting of four closely associated institutions:

- The International Bank for Reconstruction and Development — IBRD — lends to developing countries with relatively high per capita incomes.
- The International Development Association — IDA — provides assistance on concessional terms to the poorest developing countries — those that cannot afford to borrow from the IBRD.
- The International Finance Corporation — IFC — promotes growth in developing countries by providing support to the private sector. In collaboration with other investors, IFC invests in commercial enterprises through both loans and equity financing.
- The Multilateral Investment Guarantee Agency — MIGA — helps encourage foreign investment in developing countries by providing guarantees to foreign investors against loss caused by non-commercial risks.

Thus IBRD and IDA provide loans or credits to countries for port development and related activities as well as for training, technical assistance and consulting services that are associated with these activities.

The World Bank divides its member countries into four regions — Latin America and the Caribbean; Asia and the Pacific; Europe, the Middle East and North Africa; and Sub-Saharan Africa. All transport — and thus port-related — lending operations are managed by a number of "Infrastructure Divisions" situated in each region. A typical division is responsible for a number of countries and contains staff with expertise in the economic, financial and operating activities of ports. In addition, the Bank has a Policy and Research Staff — PRS — with a transport division. This division contains a Ports Advisor (currently John Lethbrdige) and a Principal Maritime and Trade Specialist (currently Hans Peters) to provide guidance, assistance and operational support to the regional staff.

PRS has produced informally a number of publications in recent years on port and maritime related activities and a list of these is included in the **UNCTAD PORT NEWSLETTER.** These publications tend to reflect the Bank's views on high-priority issues, problems or other needs of developing country ports and consist of guidelines on certain topics and technical or discussion papers. Many of these publications are extremely popular — particularly guidelines on the management of port equipment maintenance, the paper on the characteristics of container handling equipment (a video and manual) and that on port environmental considerations, with its annex on dredged material disposal. These first two publications have been developed in co-operation with UNCTAD's Port Section.

The regional commissions

The five regional commissions are carrying out activities which address needs specific to their regions. These activities aim to strengthen regional and interregional co-operation while furthering economic and social development. They are all active to differing degrees in the ports field. For instance, the Port Management Associations of West and Central, Eastern and Southern, and North Africa have been created thanks to the initiative and support of the ECA. The degree and nature of involvement of the regional commissions in the ports field vary considerably from one region to another depending on their mandates, the availability of staff and resources. There are practically no limitations to the technical aspects of their port activities. Some of them issue publications (e.g. ECLAC and ESCAP). All are generally very active in the field of technical assistance and training in the ports area, either single-handedly or in

conjunction with specialized agencies. For instance, in early 1991 ECLAC organized 14 seminars in Central and South America on structural changes in the ports field. These seminars were attended by several hundred participants.

ILO/IMO/UNCTAD

The three organizations having major activities in the ports field are the ILO, the IMO and UNCTAD. These three organizations jointly issued a pamphlet in 1981, showing their respective fields of competence in the shipping and ports field. Although some updating would of course be needed to take into account the changes which have taken place since then, the basic principles are still valid. They were presented in the brochure as follows:-

"IMO (called IMCO prior to 1981 — Inter-governmental Maritime Consultative Organization) is a specialized agency of the United Nations concerned with the various aspects of maritime activity and particularly with technical matters concerning maritime safety, marine pollution and efficiency of navigation. UNCTAD is an organ of the General Assembly of the United Nations concerned with international trade and related issues of international economic co-operation. In this respect UNCTAD deals with the economic, commercial, legal and related aspects of maritime transport. The ILO, also a specialized agency of the United Nations, has the primary function of improving the social and economic well-being of all working people, including those of the maritime industries, through the development and application of a code of international labour standards and practices."

The activities of these three organizations in the ports field is the normal extension of their activities in the maritime sector. They provide a forum where topics falling within their field of competence can be discussed at the intergovernmental level and decisions, recommendations or conventions can be adopted. In the ILO conventions and recommendations covering ports are adopted by the International Labour Conference. This tripartite conference (governments, employers and workers) meets yearly. The work of the IMO is carried out by a series of committees, namely the Marine Environment Protection Committee, the Legal Committee, the Technical Co-operation Committee, the Facilitation Committee and the Maritime Safety Committee, which carries out its mandate through a number of sub-committees dealing with the safety of navigation, carriage of dangerous goods, radio communication, fire protection, containers and cargoes, etc. There is no specific inter-governmental body in the IMO dealing with ports matters. However, an initiative has been launched to create a sub-committee on ports, as a subsidiary body of the maritime safety committee, with a view to considering whether the existing policies and conventions adequately meet the needs of the port area and to adopt new measures in this regard. In UNCTAD, port matters have traditionally been examined by the Committee on Shipping, which meets every two years. However, since 1986 a specialized subsidiary body has been functioning called the *Ad hoc* Intergovernmental Group of Port Experts. The Group has met twice, once in 1986 and once in 1990, and recommendations were made to have other similar meetings in the future.

The ILO, the IMO and UNCTAD are particularly active in technical co-operation and training in the ports field. The IMO has established a Division of Technical Co-operation where experienced staff members are working full-time in the design and execution of projects. The ILO has a maritime industries branch created in 1920, where port and shipping experts work. This branch co-ordinates its activities in the field of ports with other ILO branches dealing with management development, safety, health, vocational training, technical co-operation, application of standards and the International Training Centre of the ILO. In UNCTAD the ports section was created in the late sixties.

More Dues Units for New Term—

(Continued from Page 9)

Hong Kong	8 (7)
Singapore	8 (7)
Le Havre	6 (5)
London	6 (5)
Kelang, Malaysia	6 (4)
Ibaraki (Kashima), Japan	5 (4)
Kawasaki, Japan	5 (4)
Turkish State Railway	5 (4)
Auckland	4 (3)
Brisbane	4 (3)
Dublin	4 (3)
Georgia Ports, USA	4 (3)
Nantes-St. Nazaire	4 (3)
State of Hawaii	4 (3)
Penang, Malaysia	4 (3)
Transport Canada	4 (3)
Venice, Italy	4 (2)
Johor, Malaysia	3 (2)
Myanmar Port Authority	3 (2)
Kuantan, Malaysia	2 (1)

Members with more than four units subscribed for the current term and the new term are listed as follows:

List of Members with more than four units subscribed:

Units	For the term 1992-1993	For the term 1990-1991
8	**Hong Kong,** Kobe, Rotterdam, **Singapore,** Yokohama	Kobe, Rotterdam, Yokohama
7	Antwerp, Nagoya, Osaka, Tokyo	Antwerp, Hong Kong, Nagoya, Osaka, Singapore, Tokyo
6	Associated British Ports, Bremen, Hamburg, Houston, **Kelang, Le Havre, London,** Long Beach, Los Angeles, New York/New Jersey, Marseille, MSBNSW (Sydney) Kaohsiung, Inchon, Sea Ports Authority (Saudi Arabia)	Associated British Ports, Bremen, Hamburg, Houston, Long Beach, Los Angles, New York/New Jersey, Marseille, MSBNSW (Sydney) Kaohsiung, Inchon, Sea Ports Authority (Saudi Arabia), Vancouver
5	Canada Ports Corporation, Corpus Christi, Dunkerque Gothenburg, Hakata, **Ibaraki, Kawasaki,** Keelung, Kitakyushu, Melbourne, MOT (Japan), New Orleans, Port Authority of Thailand, **Turkish State Railway,** Public Port Corp. II (Indonesia), Tomakomai, Transport Queensland (Australia), Vancouver	Canada Ports Corporation, Corpus Christi, Dunkerque, Gothenburg, Hakata, Keelung, Kitakyushu, Le Havre, London, Melbourne, MOT (Japan), Montreal, New Orleans, Port Authority of Thailand, Public Port Corp. II (Indonesia), Sabah, Tomakomai, Transport Queensland (Australia)

It carries out research activities, technical co-operation and training programmes, along similar lines, in order to secure maximum "cross-fertilization" between them.

The requests for assistance coming from the ports of developing countries obviously do not take into account the above-described share of responsibilities amongst the various UN organizations. So when a UN agency is contacted, it generally informs the other organizations so that a joint programme of assistance is elaborated with a sharing of responsibilities (and funds) between the agencies. Sometimes, however, overlap is marginal, and then it might be decided that there will only be one executing agency which will keep the other agencies informed. Some flexibility is needed in this field to respond better to countries' needs. The same applies to training. However, it is a fact that joint projects are generally more complex to handle, and if the appropriate measures are not taken there may be delays in execution.

The Specific Mandate and Role of UNCTAD

It seems useful to present in a more detailed manner the work done by UNCTAD in the ports field, since although each organization has its own rules and machinery, there are similarities and a general presentation of one case will help in the understanding of how the UN system works.

The first United Nations Conference on Trade and Development was held in Geneva in 1964 and led to the establishment of UNCTAD as a permanent organ of the General Assembly in December of that year. One result of the first UNCTAD Conference was the emergence of the Group of 77 (developing countries) as a united force. At present UNCTAD has 167 member states, of which 127 are developing countries (though they continue to be referrred to as the Group of 77). It should be noted that there are more member States in UNCTAD than in the United Nations (159). The basic UNCTAD philosophy in promoting economic development and trade through international co-operation within the UN framework has been one of compromise and co-operation — and not of confrontation and conflict. Accordingly, most UNCTAD decisions, resolutions or conventions have been negotiated for approval by consensus (and not by vote).

In addition to its role as an intergovernmental forum, UNCTAD is involved in research, conceptual innovation and policy analysis, the implementation of or follow-up to decisions of intergovernmental bodies, technical co-operation, *inter alia* as an executing agency for UNDP, and information exchange and consultations.

UNCTAD conferences take place every four years, and the next one is scheduled to be held in February 1992 in Colombia. The executive body of UNCTAD is the Trade and Development Board (131 members), which meets bi-annually and reports to the General Assembly through the Economic and Social Council. Several intergovernmental committees report to the Board, including the Committee on Shipping which was established in 1965 with terms of reference including, *inter alia,* the "study of measures to improve port operations and connected inland transport facilities, with particular reference to those ports whose trade is of economic significance to the country in which they are situated or to world trade". UNCTAD's involvement in the ports field has therefore always been based, since its inception, on the premise that ports are essential tools for the economic development of the country in which they are located and for world trade.

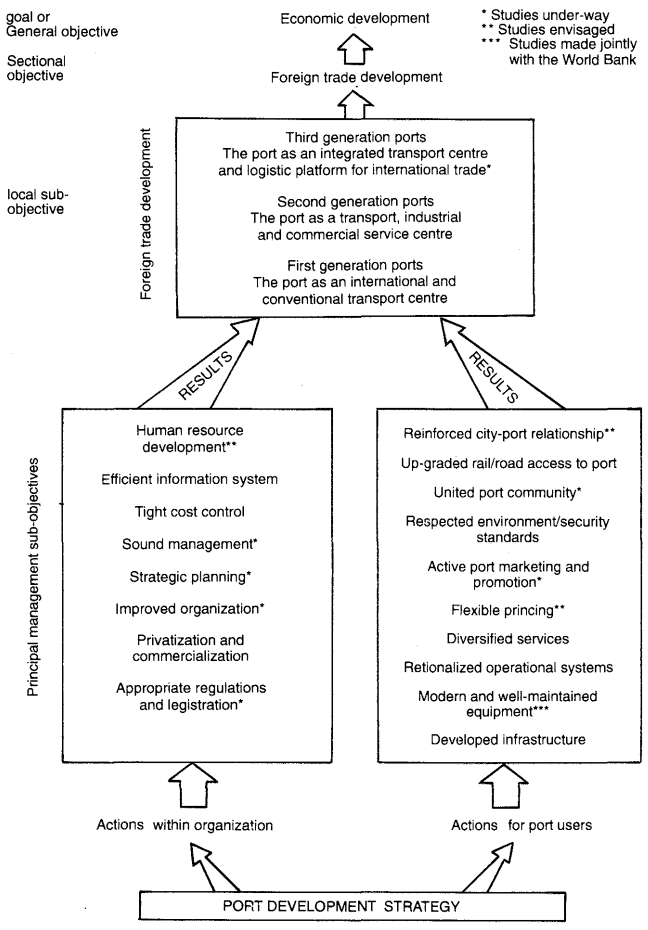
Based on the decisions taken by the Committee on Shipping (where negotiations are organized according to the regional group system) — UNCTAD's Ports Section prepares research work, and the corresponding reports are reviewed at the following sessions of the Committee on Shipping and distributed throughout the world. When a report is produced, it is translated into the six official UN languages and sent to the member countries through official channels. Since it became obvious that in several countries the reports were not reaching the port people, steps were taken to improve the system. An informal network of focal points was recently created in each country, and these focal points systematically receive copies of our publications. A list of all our port publications is available on request. Since the late 1960s, some fifty studies have been produced in various fields such as port statistics, port pricing, port planning, port operations and port finance. The governments have decided that the main thrust of our work should be the "development, improvement and operations of ports". Our last publications were presented in detail in our **Port Newsletter** which was issued recently. At the moment, we have five studies in the pipeline which will be discussed either at the next session of the Committee on Shipping (probably in late 1992 or early 1993) or at a new meeting of the *Ad hoc* Intergovernmental Group of Ports Experts, which we shall recommend be organized in late 1993 so as not to clash with the IAPH Conference in Sydney. Any port manager wishing to attend our meetings has to liaise with his Foreign Affairs Ministry in order to be included as a member of his country's delegation.

The following table, extracted from our last study on port organization and management, illustrates our present research work and thinking.

Our programme of technical co-operation in the ports field is financed essentially by UNDP, some donor countries (e.g. Sweden, the Netherlands and Belgium) and the recipient countries themselves. Any programme of assistance is described in a "project document" co-signed by the country, the financing organization and UNCTAD. Experts or consultants are selected from a roster which is open to all candidates, and they are supervised by the secretariat, which ensures that the results of our analytical work are taken into account. The overall programme is of modest size, on average some ten to fifteen national, regional or interregional projects per year. The IMO and ILO probably have a programme of the same size, or perhaps bigger.

UNCTAD has always given high priority to training activities, which are either included as part of a technical assistance programme or carried out separately. After some ten years of organizing either port management courses or shorter seminars based on the content of our research work (e.g. port operations or port pricing), a new approach was tested in the early 1980s to meet the increase in demands. Two new programmes were launched, namely TRAINMAR, which covers the whole shipping range and which focuses on the training of middle and junior managers, and IPP (Improving Port Performance), which is directed towards the training (or sensitization) of policy-makers and port managers. In both cases training materials are produced and instructors trained. Each time the material is utilized, improvements are made where necessary. Accordingly, the quality of these training activities is always improving and although they have been developed for developing countries, there may be other ports which could consider utilizing some of them. In addition, UNCTAD organizes seminars in co-operation with countries or ports, which finance part

THE AIM AND INTER-RELATIONSHIP OF UNCTAD PORT RESEARCH WORKS



or the totality of the corresponding costs.

The complementarity between the Port Associations and the UN system

The regional and the international port associations, and particularly IAPH, are the ideal fora for establishing contacts between port managers, for exchanging views, for expressing common concerns and for initiating joint activities. These activities are the stronghold of the entire port community and are vital to its very existence. The technical level of the discussions which took place in Spain was very impressive. The objectives of the UN meetings are not the same. Governmental delegations are smaller and include not only technicians but also diplomats. Logically any issue of interest or concern to several ports should first be raised at a meeting of the regional association, be further discussed by the interregional association and then, if it is so decided, be raised at UN meetings for intergovernmental decisions. When this is the case, reports are prepared and circulated in advance so that the delegates can receive a briefing on the materials tabled for the meetings. The type of decisions taken may vary from the adoption of a binding legal instrument (e.g. a Convention) to a mere recommendation. However, even a recommendation on topics such as port organization and legislation may help the port authority when its own Government has approved it in an intergovernmental forum! For instance, in our intergovernmental meeting of Ports Experts in September 1990, the representatives of the 42 countries attending the meeting adopted, *inter alia*, the following recommendations by consensus:

"The foreseeable evolution of international trade and of the transport activities connected with it, in particular shipping activities, puts the port, or to be more precise, the port area and the community that serves it, in a position to play a wider role than in the past, converting itself into a "service centre" and becoming one of the driving forces in the development of the trading activities of the country or region. Governments and ports that have not already done so are recommended to anticipate these changes, to prepare for them and to facilitate their implementation when to do so is in the interests of the country. All the conditions must be favourable for these changes to be beneficial and for the port to be able to play this new role. In essence, the port authorities themselves are called upon to define and apply the changes in structure, in practices and in outlook needed in order to improve performance and to be more efficient. The authorities under whose jurisdiction the port lies should encourage these improvements by acknowledging the specific nature of the port as a bridge between the country and the outside world, by promoting the decentralization of decision-making, autonomy, and commercial methods, and, when this is in the interests of the countries concerned, by privatizing some port functions and activities. The controls that are often necessitated by the public nature of some port services and installations should be carried out with circumspection, with limitations on their number and frequency and without interference to the smooth running of operations. Governments and port authorities might find inspiration in this sphere in the basic principles and approach adopted by Morocco, as described in document UNCTAD/SHIP/627".

In the field of technical assistance and training, the UN organs and agencies are invested with the power to act as **executing agency** (which implies establishing the necessary machinery for recruitment, supervision, provision of administrative and technical support, etc.). Very few regional or international port associations can establish a similar — and costly — permanent capacity and machinery. However, there are more and more port authorities with the capacity to act as consultants. In fact the needs are so great that there is room for everyone! The wide-ranging technical expertise and co-operation machinery of the associations, the practical experience of port authorities and the work needed from the UN system to ensure follow-up and implementation of the intergovernmental decisions are all necessary and the more their coordination is strengthened and their complementarity promoted, the better for the entire port community.

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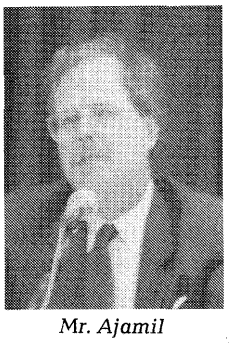
The Cruise Industry From The Port Perspective

By Luis Ajamil
Post, Buckley, Schuh & Jernigan, Inc.

IAPH Head Office Note: Mr. Ajamil's presentation was made at the Working Session on the topic "Trends in the Passenger Ship and Marine Industry", which was held under the chairmanship of Mr. Carmen Lunetta, Port of Miami, on the occasion of the 17th IAPH Conference in Spain. As the paper failed to be included in the collection of the conference papers published by the host, IAPH Head Office has pleasure in introducing it through this edition in response to the requests which reached us during and after the Conference in Spain from a number of the participants.

Today I would like to present a different view of the cruise industry — the perspective of the homeports. I will describe the challenges and the opportunities that lie ahead and what we see as the need for a greater working relationship between the cruise lines, its allied industries and the port authorities providing those facilities so critical to the success of the industry.


Mr. Ajamil

It is important to start with the premise that the cruise industry is growing dramatically. As cruise lines attract more passengers, two major things begin to happen that affect the homeports of their different ships. These include the elements related to getting people to and from the homeport and processing them in between. In addition, we have seen dramatic growth in the size of ships being utilized to obtain economies of scale and the exciting on-board amenities.

The first of these two growth elements is creating opportunities for potential homeport development of non-traditional homeporting cities. The second growth element has put tremendous demands on existing homeporting cities where facilities have slowly but surely been rendered obsolete. Passenger volumes are reaching the point where new types of buildings and programs are required to satisfy the needs of the cruise industry. In North America alone, an estimated 3.7 million people embarked on cruises in 1990, exclusive of the phenomenally successful one-day cruises.

The growth in passenger demand has been matched — some will say created by — the growth in the worldwide ship fleet: of the 212 ships in the 1990 ocean cruising fleet, 28 have been built since 1985, 21 of them in the last two years. Also, 88 of the ships have been refurbished so they can compete. Thus, the entire fleet is being upgraded and updated to meet the demand that exists.

The ships are also getting bigger. From the early 1960s when we saw 400- or 500-passenger ships with fairly deep drafts, we went through the fuel crunch of the 70s with ships getting longer, carrying more passengers, and requiring even deeper drafts. Then we discovered that we shouldn't be making ships with deep drafts because of the limitations at ports of call. So now we are in the '90s, with new mega-liners that carry 2,500 passengers but require less than 28-foot drafts. Some time in the future, we may be counting 5,000 passengers, with the World City Phoenix berthed at Port Canaveral.

Now, let me address the global needs of the industry. In viewing the seven or eight major markets served by the cruise industry, from Alaska to the Mediterranean, Hawaii, Mexican Riviera, South Pacific, North Atlantic and South Atlantic/Caribbean, we must look at industry needs from the perspective of the seasonal demand for homeports. During the summer there is better worldwide distribution of vessels than in the winter, when most, if not practically all, of the industry comes to roost in the Caribbean waters.

The redistribution of ships is facilitated by the trend not only towards megaships, but mega-cruise lines. Just as happened when the airlines were deregulated, the airlines started to consolidate. Now we don't have as many as we used to have in the past.

The same thing has happened with the cruise lines. In 1985, there were seven major cruise lines. In 1990, we are looking at four major lines. Individual lines under the umbrella of these mega-lines may still have their own identity, but they are controlled by the same owners. By 1995, over half of the cruise berths will be owned by four mega-lines.

As the demand for additional berths continues, due to the introduction of new vessels, several things are evidently happening. First, the existing homeports are utilizing their facilities to a greater degree. This is mostly in response to the industry's distribution of departure/arrival patterns over more days of the week. Many ports are now operating terminals four or five days of the week, when initially they operated on a Saturday-only schedule. That part of providing facilities is easy, and has already occurred. This is great for the ports in that it produces more revenue for the same pier and terminal.

But, since this increased occupancy has occurred already, how are new ports meeting new cruise industry demand? Well, the existing homeports have aggressively sought cruise terminal expansions. Over the past number of years, you have seen development and re-development of terminals throughout the major port centers in the South Atlantic, some in the Gulf, and in the Pacific. Usually, this development has taken advantage of existing waterfront, harbor, bulkheads, in many cases rehabilitating all terminals and all warehouses to serve the need. In our view, this redevelopment is also reaching a critical limit. For many of these ports to expand their terminal capabilities, major investments will be required in the harbor development area, such as dredging, bulkheading and piers, which are the most expensive single components of harbor development. Most U.S. ports, for many years, have relied on the federal government to develop the harbors; and, I am sorry to say, the U.S. Army Corps of Engineers does not consider the

cruise industry to be a factor in the determination of need. As such, they will not participate in harbor development purely on the basis of economic benefits derived from the cruise industry. So we see this as becoming a much more limiting factor in the future.

The third option of the industry to expand homeport capacity has been for ships to move to non-traditional homeports. This trend has become quite obvious, as you see the traditional South Florida ports being complemented now by a sizable number of other ports that are handling a good volume of passengers. This homeport proliferation has in turn created new ports of call and new demand. As ships cruising the Caribbean, for example, have begun homeporting in San Juan or Montego Bay, they have expanded their itineraries to include destinations previously inaccessible on a short cruise from South Florida. These new itineraries serve to create new interest among seasoned cruisers, and create further needs for new ships, new berths, new homeports.

As you look at the criteria the cruise lines and the port authorities need to become a true homeport, certain things are essential. Essential is the harbor and terminal; essential is the air/sea capacity link-up; and essential is access to ports-of-call. There are also certain things that are desirable; but many are almost as essential. Your tourist infrastructure of hotels to accommodate passengers overnight before and after their cruises, your ground infrastructure to be able to move people back and forth between the port and the airport, and your support services are key.

When we look at the necessity of harbor development, terminal development, and bulkhead development costs, we see a problem, and it lies mostly in the financing. Most of the large port authorities with a good budget base are already operating many of these facilities. However, as you go to the non-traditional homeports, you are dealing with smaller port authorities that do no have the present financial base to implement a program of this magnitude.

Two generic examples of the rising cost of the development of a terminal and bulkhead only show that from the 1960s-70s to the present, the total cost of one terminal and bulkheading has increased to well above $12 — $18 million. The port authority has to ask: How do you finance that? The good news is that the large ships are handling a lot more passengers and, therefore, their throughput is greater in terms of revenue. However, what is also happening, is that in many of these new homeports, they are beginning to get the first generation types of vessels with only 500- to 700-passenger capacity. When you compare the cost per passenger to develop a terminal facility today as opposed to the 1960s, you are looking at a phenomenal cost per passenger, assuming that you have this one vessel operating at that terminal.

Even if a port were able to operate initially with a 2,500-passenger megaliner, the cost per passenger basically has stayed even over the years, and in fact has gone down because of inflation. But it is still insufficient. The bottom line is how to produce revenues to finance facilities with an operational cost of $1 million a year, and an annual debt service of $1.5 million? In addition, in order to finance these projects, most of the revenue sources have to be substantiated by some sort of comfort level based on past track records. Most new ports cannot do that.

There has never been a good time to talk about increased rates by ports to passenger operations. But it behooves the industry to take a look, because as you look at the rates of operations, you are going to see that even a 2,500-passenger vessel will substantiate the development cost of such a facility in today's environment.

So where does that bring us? First, existing ports must find alternative sources of revenue to support homeport development. Many of these homeport developments can generate some great sources of revenue through concessionary incomes, such as advertising, food and beverage, and many other terminal concessions. Second, the joint development of adjacent real estate property offers long-term opportunities as soon as the real estate market comes out of its slump. Most of the properties being utilized for cruise terminals are ideal waterfront development properties, which by their very use are attracting large numbers of passengers. Generally a combination of that kind of property with specialty retail, offices and hotels, can generate sufficient funds not only to pay for the terminal, but to sustain a significant profit for the investors involved.

The industry needs to look at new policies to solve this problem. First port authorities need to aggressively look at other revenue sources as well as look for the opportunities to expand homeports. Non-traditional homeports need to package services including destinations and present their program to the industry. These ports are going to have to invest to create certain facilities and make it known to the cruise lines that they have the capability to handle their vessels.

The ship-building industry can generate substantial savings by beginning to standardize particular parameters that are critical to port design. Of particular concern is the height and location of the passenger entrances. I can tell you that gangway systems are problematic and expensive, costing somewhere between $50,000 for a one-time, two-level gangway system to up to a half a million dollars for a system that can offer better service to your passengers. I am aware that ship maritime architects are making new designs which exercise their creativity and create great entrances and hallways, and I believe that standardization will not preclude or eliminate that. This is no more or no less than what the airline industry has. You can imagine if every airport had to tend to 60 or 70 different types of aircraft for their gangway systems. Also, the location of the gangways and cargo holds is critical, particularly in ports that are operating with marginal wharfs. Standardization would allow them to accommodate more vessels in less dockage space, and again, reduce cost and meet the operational needs of the cruise lines.

The U.S. federal agencies need to address the issue of the cruise industry becoming an eligible industry whose benefits can be calculated in the development of harbors. Otherwise, once existing harbors are used — as is occurring not only because they are running out of cruising space, but also due to the continual need to support cargo development facilities at these ports — it would be financially impossible for any port authority to undertake major dredging purely on a cruise revenue basis. The industry should continue with limiting the draft of vessels.

Finally, the cruise industry should play a role in participating, encouraging and stimulating cruise terminal development at those homeports, ports of call, and non-traditional homeports. In the future, gates at major ports will become an asset of the industry, similar to gates at major airports. Participation in joint terminal/real estate development will be an investment.

Crane Simulation Training

By Mary-Ann Muffoletto
Promotion Manager, Digitran, Inc.

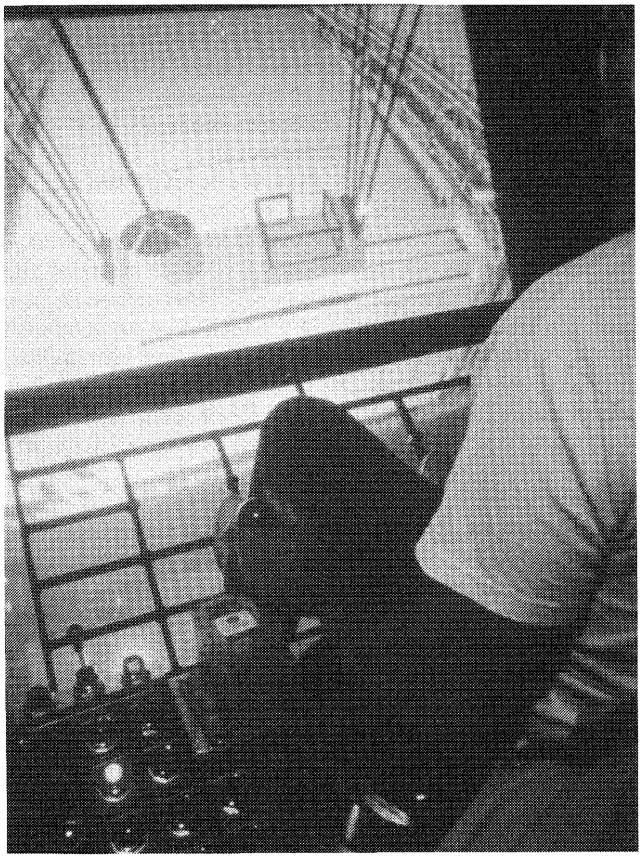
Preparing new crane drivers to handle the challenge of operating container, offshore, and construction cranes, without endangering personnel, cargo, or costly equipment, is no easy task. Add to that the expense of using operational crane hours for training rather than revenue earning. The answer for an increasing number of industry trainers is the use of crane simulators — a safe and cost-effective alternative to conventional means of training.

A leading manufacturer of crane's simulators, Digitran, Inc., located in Logan, Utah, USA, currently offers simulation of the following types of cranes: dock gantry container cranes (single lift, twin lift, and Russian stow); offshore lattice cranes; carrier mounted lattice and telescopic cranes; ship pedestal cranes; rubber tire gantry (RTG) cranes; and ship gantry cranes. Work is underway on additional types of cranes, including a tower crane simulator for the construction industry.

How the Simulator Works

Using technology similar to that used for years by the aircraft industry in flight simulators, crane simulators place the trainee in a realistic operating environment. The trainee is seated in a cab equipped with control panels modeled after a real crane and views an operating site projected on a large screen situated in front of the cab. Hydraulic actuators under the cab provide crane motion, as the trainee operates the controls and practices crane procedures with the "visual crane" on the projection screen. An audio system produces realistic sounds of the crane and operating site.

A trainee takes control of the Digitran crane simulator cab. Hydraulic actuators underneath the cab provide realistic crane motion.



A view from inside the Digitran dock gantry crane simulator: A container is lifted out of a ship's hold.

The simulation system is controlled by a central computer, which ensures that the crane "reacts" just as an actual crane.

Universal Console

Digitran quickly discovered that users of crane simulators often need to train drivers for operation of more than one type of crane. To meet this requirement, Digitran has equipped its simulation systems with a "*universal console*", allowing users to simulate different types of cranes with the same basic system. Digitran's simulators feature one of two types of controls: a) left and right control panels, or b) a lever control assembly. Cabs with left and right control panels (gantry and ship pedestal cranes) feature interchangeable metal overlays which enable the instructor to convert the simulator for training on a different kind of crane with minor adjustments. The simulated cranes using lever controls (i.e. offshore and land-based lattice and telescopic cranes) all use the same lever control assembly. Switching from a lever control type of crane to one with overlay controls (or vice versa) involves changing the control assembly in the cab and repositioning the projection screen. Thus, once a user purchases the basic hardware system, he may add additional capabilities as training needs change.

The Instructor's Role

The system includes an instructor's console, consisting of two monitors, from which the instructor can view the

entire simulation session and communicate with the trainee via radio headsets. In addition, the instructor may create custom training scenarios, tailored to specific training levels and objectives, and may introduce a variety of obstacles, such as wind conditions, container problems, and crane malfuctions, during the training session.

At the conclusion of a student's training session, the instructor can print a summary report, detailing such information as the number and type of loads moves, the average number of moves per hour, and the number of major and minor collisions. Also, certain types of cranes offer a diagram plotting a student's "load path", which may be compared to the optimal path of a load to its desired destination. Thus, an instructor has the ability to assess a trainee's performance in an unbiased manner and tailor subsequent training sessions to the trainee's specific areas of weakness.

Installations

The first crane simulator to be installed was at the Pacific Maritime Association (PMA) and International Longshoremen and Warehousemen's Union (ILWU) training facility at Long Beach, California, USA in 1989. This system simulates a dock gantry container crane and, thus far, has been used to train over 150 crane operators in safe, effective procedures.

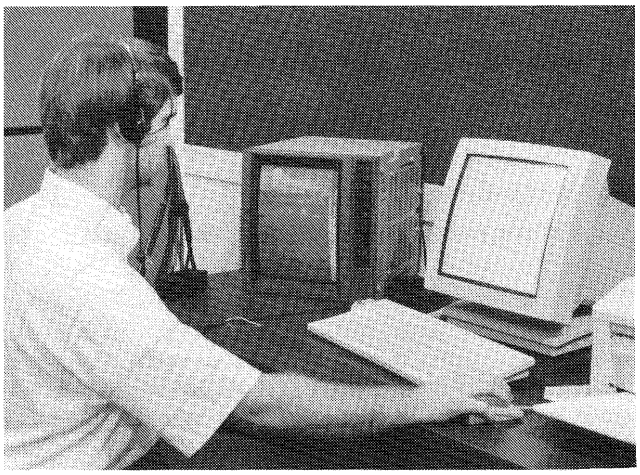
PMA instructor Dennis Patterson reports that simulator training, combined with actual crane experience, is the best form of training he has ever carried out and feels the simulator has had a very positive impact on the PMA's training program. "We can't tie up a ship, so the simulator works out real well for that," said Patterson. "It also works out real well for the operators because they won't be as nervous in a simulator."

Subsequent installations have taken place in Canada and Australia. The Western Community College in Newfoundland purchased a three-in-one system as part of a program to train crane operators for the development of Canada's Hibernia offshore oil field. The system simulates an offshore lattice crane, and carrier mounted lattice and telescopic cranes. Don Reid, project manager for the program, reports that trainees feel more confident and secure (with simulator training) and he is confident that they are much better drivers as a result.

Conaust Ltd., the largest private stevedoring company in Australia, took delivery of a dock gantry crane simulation system in January 1991. The simulator is housed in a 40 foot (12 meter) long high-cube container, for easy transport to multiple training sites. The system, which offers simulation of both single lift and twin lift container cranes, will be used at several ports to train new drivers and offer refresher training to veteran drivers.

Other organizations using Digitran simulators include the British Columbia Maritime Employers' Association (BCMEA). The BCMEA recently took delivery of two four-in-one simulators; each capable of simulating a rubber tire gantry crane, a shipboard gantry crane, a ship-to-shore gantry crane, and a ship pedestal crane. The Port of Le Havre in France has recently signed a purchase contract for a dock gantry container crane simulator.

While crane simulators are relatively new to the training arena, their unique advantages are already becoming apparent to industry trainers. Continued advances in computer technology will reduce simulation costs and improve the already impressive realism of simulation scenarios. Though not intended to entirely replace actual crane training, simulators offer a safe and cost-effective supplement to conventional training methods. "Operation of a wharf crane is extremely costly," says Tom Hampton, maintenance manager for Conaust, Ltd. "Crane drivers must therefore be able to load and unload container quickly and safely, or the port loses money. We've very impressed with the realism of the Digitran system and pleased that it will ensure that fewer training hours will be spent on our actual cranes — rather than revenue earning employment."



The crane simulator includes an instructor's console from which the instructor can view the entire simulation and monitor a trainee's performance.

For more information, contact:
Digitran, Inc.
Address: 90 North 100 East/Logan, Utah 84321-4649 USA
Telephone (810) 752-9067/Toll Free in USA (800) 423-7939
Fax: (801) 752-5888 / Telex: 150216471 DIGITR.

Does the EEC Have A Ports Policy?

*(Reproduced from 'BRITISH PORTS FEDERATION YEARBOOK 1991')**

**This article gives a personal view of the author of the development of European policy in recent years.*

By David Whitehead
Director of Policy
British Ports Federation

The Origins of Policy

In the EEC, the policy for the ports industry has to take its place and develop within transport policy and, ultimately, the overall policies and objectives of the Community. The concept of the Single Market aptly summarises the main thrust of current Community policy, which is to improve

living and working conditions by economic integration and the removal of national barriers to trade. This process depends on monetary union combined with the establishment of basic standards for the production of industrial and agricultural goods. In the case of the majority of manufactured products, standards can be set which, after protracted and sometimes acrimonious discussion, are acceptable and workable, particularly if the end result is a genuine opening up of new markets.

When transport issues and the ports in particular are considered, however, it soon becomes clear that the integration usually available to other businesses and services is much more problematical. The seeds of the problem lie in geography and the restrictions and opportunities which are created by basic and unchangeable factors. Taking the Community as a whole, the two main centres of population exist in the North West, in an area bounded by Liverpool, Hamburg, Munich, Geneva, Paris and Le Harve, and the South, in an area bounded by the industrial cities of Northern Italy. These concentrations of population are also the areas of the greatest economic activity, and so the main flow of traffic within the Community is North to South and vice versa. The major interruptions to this flow are presented by the Channel and the Alps. These factors lay the foundations of the development of transport structures within the Community, and therefore have a major influence on port development.

On a national level, transport systems have grown in varying ways, reflecting their position within the overall framework as described above. One manifestation of the influence of geography is the road/rail conflict, and how this has been resolved in individual Member States. The advantages enjoyed by rail transport over long distances have encouraged the development of the railways in particular in France, Germany and Italy. An interesting factor in the case of Germany is the remoteness of its Northern ports from the centres of production, making the use of rail a more practical and attractive possibility. In the case of countries such as Belgium, Holland and the UK, shorter distances between production centers and ports have led to an emphasis on road transport.

Although these developments make good sense on a national level, it can be seen already that the task of coordinating the various national factors into a single cohesive system is going to be fraught with difficulty. To take an example within the road/rail debate, those countries which favour rail will tend to support limitations on the numbers of foreign vehicles using roads. This naturally goes against the grain for those countries which have invested in road transport and want unrestricted access to roads throughout the Community.

As has already been seen in the case of Germany, the ports have a strong influence on transport structures inland, and national attitudes towards them.

"Member States will try to use their own ports where possible, sometimes irrespective of whether alternatives would make better economic sense."

By doing so, they support their own transport infrastructure and lead to their development in ways which, when looked at from a Community standpoint, are not always truly compatible with harmonization and the removal of barriers. Such a conflict of aims is not unique to the ports industry but it is important to remember these fundamental differences between the Member States and the tensions that they produce in formulating a common policy.

How then, has the Community developed its policy on the ports, particularly in recent years, and what has the role of the BPF been in that process? The simple answer would be that the Community has never truly developed a comprehensive ports policy, though the Commission and the European Parliament have from time to time felt that they should. This is not to say that the ports have been singled out in any way. It is as much reflection of the difficulties of co-ordination. In the early years of the Community, up till 1973, the market approach dominated policy development. This entailed removing distortions to competition and allowing cost-effective transport systems to emerge. It became apparent that this rather passive approach was achieving little of substance in removing distortions, and in fact the fine detail of how such a policy might be applied was never properly considered and followed through.

The result was a period of few advances, although it should be remembered that the smaller size of the Community before 1973 meant that the underlying problems were less obvious. The enlargement of the Community in 1973, when Denmark,Ireland and the UK joined, meant that policy had to be reassessed. The change in attitude which took place at that time was based on various factors. Perhaps the most significant of these was the recognition of the way in which efficient transport underpinned almost all economic activity, and that state intervention therefore had a role to play if it was genuinely creating an infrastructure which encouraged such activity. This new attitude laid the foundations of many of the challenge which the British Ports Federation is tackling today. Whereas the view of the Community and other individual Member States has been that transport is there to serve a particular purpose and may need some assistance on the way, the stance adopted within the UK particularly in recent years has been that transport systems themselves should be self-supporting and are businesses in their own right.

The BPF's view is that considerable time could be wasted on establishing and refining a specific EEC policy for the ports, when no overall policy is necessarily needed or even achievable. At its extreme, the development of strong Community policies related to particular industries or markets — the Common Agricultural Policy being an outstanding example — has had enormous drawbacks. The process of dismantling such regimes when they are found to be incompatible with basic Community and world trade objectives is a long and painful one. Nevertheless, there are important issues of policy which the Federation constantly monitors and responds to as they develop — as is shown below. Having looked at policy in general terms, let us now look at some of the major issues facing the Community and the UK and the way in which the British Ports Federation has dealt with them.

National State Aids

The BPF wants to see free and fair competition in Europe, within the framework of Articles 85 and 86 of the Treaty of Rome. Article 85 is particularly important in its declaration that 'all agreements between undertakings, decisions by associations of undertakings and concerted practices which may affect trade between member states and which have as their object or effect the prevention, restriction or distortion of competition' are incompatible

with the aims of the Common Market. The Federation has campaigned for many years to remove distortions in the ports sector, and it is this approach which underpins much of the Federation's work in Europe. Although the legal framework is clear, the development of this issue has been one of measured, steady progress rather than spectacular successes. The Federation has had to take the lead to ensure that the issue remains at the forefront and is not lost amongst some of the complexities of extracting hard information.

A brief summary of the development of this issue bears this out. In 1977 the European Port Working Group examined distortions to competition between the Community seaports. A group of experts representing each member state studied in detail the factors which they believed influenced the choice of port between competing countries. They also examined the concept of 'distortion of competition' contained in Article 85. The conclusion of the Group — achieved on a majority rather than a unanimous basis — was that serious distortions to competition did not arise in practice, because port charges formed a small part of overall transport costs. This curious conclusion was thoroughly considered and examined by the UK who eventually could not accept that subsidies, over which bitter battles were fought between competing Continental ports, had no distorting effects. The conclusion perhaps reflected more accurately the difficulty of identifying where distortions occurred, rather than accepting that they had no effect. It also ignored the fact that the decision on routing goods is generally taken by firms in the transport business, on whom even small variations in costs can have an enormous effect and thus influence decisions.

Nevertheless, the report was disappointing, and a further examination of the problem carried out in 1980 produced similar results. To some extent, momentum was lost in the following few years but was regained with an amendment in July 1985 to Directive on the transparency of financial relations between Member States and public undertakings, enabling the transport sector to be brought within scope. This directive allowed the Commission to request details from Member States of the nature and level of public funding in ports, although in reality the Commission has never made use of these powers. The variety of functions of port authorities and the mix of responsibilities also raised problems about the way in which the directive could be legitimately applied.

The directive is, therefore, extremely limited and has not created — at least so far — genuinely new opportunities. However, in 1987 a questionnaire was sent by the Commission to one or two ports in each member state with a range of institutional backgrounds. The sample was not limited to ports covered by the directive but included private as well as public undertakings and medium sized as well as major ports. Its purpose was to obtain an indication of actual financial flows, and to see how easily available such information might be. In brief, the first part of the questionnaire was concerned with income from port charges and dues, and then outgoings such as employee costs, depreciation, financial charges and so forth. The second part was concerned with funding for 'infrastructure' and the possible sources of that funding such as the State, port authority, local bodies or others.

The primary conclusion to be drawn from the results was that the mix of organizational structures within the industry continued to bedevil any attempts to rationalize its financing and administration. This mix covers ports like Hamburg and Bremen, which are part of the local authority, Rotterdam, which is the commercial subsidiary of a local authority, or Dunkirk and Marseilles which have direct Government involvement. To try and disentangle the elements of state aid within such complex structures is therefore all the more difficult, and the Commission came to the conclusion that the results provided 'valuable background information', but little else. However, there were two parts of the final report that had implications for the future. The first was that the question of state aid would have to be looked at, in the case of ports, on an extremely wide basis.

For example, the development of a subsidized transport structure connected to a port — such as a new motorway — could not necessarily be counted as a specific port subsidy, but nevertheless would have a fundamental effect on that port's ability to attract business. The second was a clarification by the Commission of the ground rules for establishing what types of funding could be regarded as state aids. These were divided into various categories, and established that assistance was a state aid if it was either a cost that would normally be met by the operator and recouped form port charges, or if it took the form of special tax relief, soft loans, exemptions from social security contributions and so forth.

What is the situation then, as we go into the 1990's, on this complex issue? This can be partly answered by the rise in importance of the concept of the single market. Distortions clearly exist in funding and concessions made available to Community ports, but it is highly likely that economic union, the removal of customs barriers and greater awareness of incomparability of subsides within a single unified market will continue to exert pressure for their limitation and removal. The British Ports Federation is determined that although there may be

"a substantial foundation of subsidy already in place within the Community"

that is not consistent with competition policy, any new aid should be transparent and should come under the closest scrutiny of the Commission.

Single European Market

The Federation's activities are not restricted to pursuing the question of national state aids to the exclusion of all others. The single market has already been referred to, and a considerable amount of time and effort is expended on ensuring that the UK industry can play a full part in a process which, in spite of many doubts and reservations, has already made enormous progress in reshaping economic life within the Community. In general terms, the removal of barriers to trade should benefit the port industry in that any increase in economic activity will have an effect on trading activity. Such an increase will stimulate greater competition and compel the ports to be more and more efficient and cost effective. The removal of physical barriers such as customs controls will act as a visible reminder of the unification of what were once jealously guarded national customs boundaries. The effect on the ports will be to reduce handling time for Community trade and indeed, this time has already been substantially reduced with the introduction of the Fast Lane and Simplified Period Entry Schemes, both of which have gone a long way to reducing the administrative burden considerably in advance of the target date of 1992.

Although the ports have welcomed such developments, they are conscious that their position is very often one step removed from where the changes take place, and that they are beneficiaries of initiatives that are taken in linked but

separate areas. The Federation believes that the ports' views should be taken into account when policy is being framed, particularly so that some of the geographical and financial advantages enjoyed by other Community members do not unduly prejudice the interests of the UK. The attitude within the UK towards developments in the Community has sometimes been equivocal, expressing doubts about progress towards unity, whereas other member states have embraced the single market with enthusiasm. It is the Federation's role to ensure that no opportunities are missed. An example of specific European co-operation is the 'Schengen Agreement', whereby West Germany, France, Belgium, Luxembourg and Netherlands agreed to scrap all border controls by the end of 1991, one year in advance of the remainder of the Community. Such a grouping represents a powerful block of major trading countries possessing a high proportion of Community port capacity. Above all it shows the willingness of other Member States to recognise the considerable advantages of dismantling border controls.

When the costs of such controls are considered, the argument for their removal is overwhelming. In 1988, it was estimated that within the Community

"Firms pay approximately 8 billion Ecu in administrative costs and delays brought about by intra-EEC customs procedures."

Governments — using taxpayers' money — spend some 750m Ecu on the human resources required to police these restrictions on trade. The average cost of form-filling checks, made up of VAT and excise payments, health and veterinary controls, adjustments to farm product prices and so forth was around 67-86 Ecu per consignment for both imports and exports, or around 1.5% of the average consignment's value. When costs of delays are added, a figure nearer to 2% is reached. Taking into account the enormous volumes of goods moved, and the small profit margins expected, this is a sizeable chunk taken out of a company's returns.

The UK ports industry, therefore, fully supports the removal of trade barriers and will play a major part in providing to businessmen, consumers and travellers a fast and efficient transport system in response.

The Channel Tunnel

Mention should be made of an event that will have an effect on the ports, even though the precise extent of the effect is difficult to assess — the Channel Tunnel. The impact of the tunnel has been considered in the context of the growth of transshipment whereby traffic between two countries is transferred to another means of transport at an intermediate port. Examples would be where cargo from the USA bound for the UK is transferred from one ship to another at Rotterdam for subsequent movement to the UK, or where cargo destined for the Far East from the UK crosses the Channel in a lorry on a ro-ro ship for transfer to a deep-sea vessels at Antwerp. The view has been taken by some ports that with the opening of the tunnel, deep-sea ships might be attracted into UK port as the speed with which goods could then be distributed to the rest of Europe would be greatly increased. In other words the effect of one of the two major barriers to the north-south flow of traffic mentioned at the beginning of this article, the English Channel, would be greatly weakened in its capacity to inhibit that flow. Nevertheless, the distances remain great, and it seems on present estimates that the stimulation provided to ports in the West and North of the UK will not be significant.

The effect on the channel ports, however, will be very marked, with the loss of a substantial proportion of passenger and goods traffic. In dealing with the Tunnel, the industry has stressed to the Government the concept of fair competition. This effectively means that no subsidies should be allowed to it or to the networks that connect it with the UK's transport infrastructure. It must, like the ports themselves, pay its own way.

The tunnel represents an important psychological factor with the physical joining of the UK to the Continent, and the industry will use every opportunity to try and bring benefits to its deep-sea trade.

New Political Developments

The EEC and UK port industries are affected not only by decisions on transport policy, but also by a vast range of other factors not specifically related to ports. Very often, these factors are concerned with implementing the harmonization necessary to create the Single European Market. Briefly, the areas of policy currently the subject of Commission proposals and subsequent legislation are:-

- liberalization of road haulage and harmonization of conditions of competition (possibly intensifying the trend from rail to road)
- creation of a transport infrastructure fund analogous to the ERDF and the Social Fund. The Commission would like these projects to cover infrastructure in ports, although the Council of Ministers has been inclined to restrict the projects primarily to road and rail
- Harmonization of taxation: this will bring about the abolition of duty-free allowances for intra-Community travel and the application of VAT to passengers fares
- Social Charter: this will bring in measures which will place curbs on the flexibility required by the ports in their working time arrangements. It imposes strong restrictions in particular on night and shift work patterns.

These issues are just a few of those which the industry will be tackling in the period leading up to the launch of the Single Market on 1 January 1993.

The Future

We began with the EEC Commission and the changes that have occurred in its attitude towards transport and the ports, particularly the change from the competition based approach of the sixties and early seventies to the more pragmatic approach now in evidence, with its emphasis on integration and efficiency. One pointer to the direction of the Commission's thinking is its development of a 'network policy'. 'Network policy' covers areas such as transport, telecommunications, energy and training, and reflects the Commission's conclusion that in order to bring about the Single Market, it should ensure that an adequate infrastructure is created and maintained.

Although much attention to the needs of ports and transport generally is welcome, it continues to raise the question of how policies can be put into action in a way which does not create market distortion.

This new development will be carefully watched, as will all the other policy developments within the Community. Nevertheless, it is important to remember one central fact, which is that the bulk of the UK's trade is carried out with our EEC partners, and that we ignore new and opportunities

at our peril. Changes that have been brought about in the structure of the UK industry, such as the ending of the Dock Labour Scheme, mean that the UK industry is in an excellent position to advance, improve and play a full part in the exciting developments within the EEC planned for the 1990's.

The Environmental Challenge — Marine Pollution and MARPOL Convention

(Reproduced from 'BRITISH PORTS FEDERATION YEARBOOK 1991')

By Dr. Sian Pullen
Technical Manager
British Ports Federation

Introduction

Emphasis is increasingly being placed on the environment with regard to a wide range of issues. The British Ports Federation has assumed a continuing role in assessing the burdens and benefits of legislation as well as generating greater awareness of longer-term issues. Of particular importance to ports and harbours is an International Convention controlling the disposal of the large volumes of waste resulting from the movement of goods and people in ships. The reception onshore of the wastes requires special facilities to be provided by ports and terminals. The MARPOL Convention was established by the International Maritime Organisation (IMO) because of a need to preserve the marine environment. Its full title is the International Convention for the Prevention of Pollution from Ships, 1973, as modified by the Protocol of 1978, but is more familiarly known as MARPOL or the MARPOL 73/78 Convention The Convention simply addresses pollution from ships, while other conventions tackle inputs from other sources. For example, the Paris Convention addresses land based inputs and the London Dumping Convention controls dumping at sea. This report outlines the need for a marine pollution convention and details each of the aspects tackled therein.

Background

For many years the sea was regarded as a resource with little thought given to the consequences of exploitation. Wastes were disposed of at sea with little or no consideration of the results. In the early 1970's IMO recognised that "deliberate, negligent or accidental releases" of oil and other harmful substances from ships constituted a serious source of pollution. Pollutants may poison living organisms, killing them or interfering chemically with their growth and reproduction. They may also cause physical damage to fisheries, birds, mammals and the tourist industry. Oil floating on the surface of the sea may be toxic to the small organisms living in the water column, while birds and mammals can die if affected by relatively small amounts of oil ingested in attempts to clean themselves. Sometimes the dispersants used to treat oil spills are more toxic than the oil. Toxic chemicals and metals accumulate in food chains and animals (including people) at the top of the food chain may become seriously contaminated with toxic compounds, resulting in diminished breeding capability and decreased resistance to disease. Rubbish disposed of at sea frequently ends up on beaches, while plastic bags may be swallowed by turtles and whales who mistake them for jellyfish. Birds may be throttled by plastic holders of drink cans or swallow plastic pellets or drown in abandoned fishing nets.

The MARPOL Convention

The aim of the MARPOL Convention is to achieve the complete elimination of intentional pollution of the marine environment by oil and other harmful substances and the minimisation of accidental discharge of such substances including chemicals, sewage, garbage. This ambitious Convention is the principal agreement whose purpose is to control pollution of the marine environment from ships and was adopted in 1973. In practice, technical problems meant that progress towards ratifying the Convention was slow. In 1978, the IMO, as a result of a series of tanker accidents, convened a Conference on Tanker Safety and Pollution Prevention. The requirements adopted at the Conference were incorporated into the 1978 MARPOL Protocol and took into account new technical developments. The protocol in effect absorbed the parent Convention and entered into force in October 1983.

The MARPOL Convention at present consists of five annexes (see Table 1). Annexes I and II were included in the Convention ratification process and were brought into force in the UK on 2 October 1983 and 6 April 1987 respectively. The Republic of Seychelles is the most recent accession to the Convention, bringing to sixty-two the number of Contracting States. Annexes III, IV and V are "Optional Annexes" and any State ratifying the Convention may declare that it does not accept any one or all of the "Optional Annexes". In the UK, Annex V entered into force on 31 December 1988. Annexes III and IV have not yet been fully ratified, however Annex III has effectively been brought into force through amendments to the International Maritime Dangerous Goods (IMDG) Code which took effect from 1 January 1991. The International Maritime Organisation is currently addressing two further topics for possible additional annexes to the MARPOL Convention. These would cover noxious solid substances in bulk and air pollution from ships. If, in the future, both of these are adopted as additional annexes to MARPOL the Convention will become a comprehensive treaty addressing marine water quality and marine air quality.

Table 1: MARPOL Convention Annexes

	Subject	In Force (UK)
Annex I	Oil	2 Oct 1983
Annex II	Noxious Liquid Substances in Bulk	6 Apr 1987
Annex III	Harmful Substances in Packaged Forms, Freight Containers, Portable Tanks or Road and Rail Tank Wagons	1 Jan 1991
Annex Iv	Sewage	not ratified
Annex V	Garbage	31 Dec 1988

Application

The MARPOL Convention must be applied to all ships entitled to fly the flag of a signatory to the Convention. Ships which operate under the authority of a signatory but do not fly the flag of the signatory should also comply. The Convention, however, does not apply to any warship, naval auxiliary or other ship owned or operated by a state and used on Government non-commercial service. These vessels are requested to "act in a manner consistent, so far as is reasonable and practicable, with the present Convention".

Parties to the MARPOL Convention are also required to aid, in consultation with IMO and other International bodies, those Parties which request technical assistance with training of scientific and technical personnel, supply of necessary equipment, facilities for reception and monitoring or the facilitation of other measures and arrangements to prevent or mitigate pollution of the marine environment by ships. They should also promote and support research.

Provision

The annexes to MARPOL do not completely ban the disposal of the wastes at sea, they place controls on what can be dumped 'over the side' in terms of concentration, content and location. Vulnerable areas such as those of outstanding biological importance or particularly enclosed waters may be designated "Special Areas" and controls in these areas are far more stringent.

MARPOL Annex I — Oil

The first International Convention controlling marine pollution, the Prevention of Pollution of the Sea by Oil 1954 (OILPOL as amended in 1962 and 1969), entered into force in 1958. This Convention only applies to persistent oils such as fuel, heavy, diesel and lubricating oil. It has been largely superseded by Annex I to MARPOL. Annex I entered into force in October 1983 and differs from OILPOL 1954 in a number of aspects. Restrictions on discharges into the sea are now applied to all petroleum oils (see Table 2) with the exception of petro-chemicals (see Annex II). No discharges are permitted from either tankers or non-tanker vessels in 'Special Areas' which under the Convention include the Baltic, the Mediterranean, the Black and Red Seas and the Gulf area. All tankers over 150 gross tonnage (gt) are required to operate monitors that provide details of the rate and amount of discharge when outside of 'Special Areas', and in new tankers must include an automatic shut-off device. New tankers of 70,000 tons DWT or above must be provided with segregated ballast tanks of a sufficient capacity to allow the ship to operate safely on ballast voyages without using oil tanks for water ballast. In addition the Convention limits accidental pollution by restricting the size of cargo tanks and as a result the amount of oil that can escape if a tank is damaged. The 1978 Protocol to MARPOL extended the structural requirements for new tankers to new vessels of 20,000 tons DWT or over and introduced requirements pertaining to protective locations of segregated ballast tanks and to crude oil washing. Under the regulations which control the discharge of operational pollution, limits are set on where and how discharges are allowed for different categories of vessels, for example any discharge into the sea of oil or oily mixtures from an oil tanker is prohibited except when all the following conditions are satisfied.

- the tanker is not within a special area
- the tanker is more than 50 nautical miles from the nearest land
- the tanker is proceeding en route
- the instantaneous rate of discharge of oil content does not exceed 60 liters per nautical mile
- the total quantity of oil discharged into the sea does not exceed (for new tankers) 1/30,000 of the total quantity of the particular cargo of which the residue formed a part
- the tanker has in operation an oil discharge monitoring and control system and a slop tank arrangement.

Table 2: "Oil" — A definition

(Source: MARPOL Convention)

For the purpose of Annex 1:
Oil means petroleum in any form including crude oil, fuel oil, sludge, oil refuse and refined products (other than petrochemicals which are subject to the provisions of MARPOL Annex II), including substances listed below

Asphalt Solutions	**Gasoline Blending Stocks**
Blending Stocks	Alkylates - fuel
Roofers Flux	Refromates
Straight Run Residue	Polymer - fuel
Oil	**Gasolines**
Clarified	Casinghead (natural)
Crude Oil	Automotive
Mixtures containing crude oil	Aviation
Diesel Oil	Straight Run
Fuel Oil No 4	Fuel Oil No 1 (Kerosene)
Fuel Oil No 5	Fuel Oil No 1 - D
Fuel Oil No 6	Fuel Oil No 2
Residue Fuel Oil	Fuel Oil No 2 - D
Road Oil	
Transformer Oil	**Jet Fuels**
Aromatic Oil (excl vegetable oil)	
Lubricating Oils and Blending Stocks	JP - 1 (Kerosene)
Mineral Oil	JP - 3
Motor Oil	JP - 4
Penetrating Oil	JP - 5 (Kerosene Heavy)
Spindle Oil	Turbo Oil
Turbine Oil	Kerosene
	Mineral Spirit
Distillates	**Naphtha**
Straight Run	Solvent
Flashed Feed Stocks	Petroleum
	Heart cut Distillate Oil
Gas Oil	
Cracked	

Separate conditions are set for ships of 400 tons gross tonnage (gT) and above, ships of less than 400 tons (gT) and for ships operating in Special Areas (see Table 3).

The only exceptions to these conditions are when the discharge is necessary for the purpose of securing the safety of a ship or saving life at sea, or if the discharge resulted

from damage to a ship or its equipment, provided that all reasonable precautions were taken after the occurrence of the damage or discovery of the discharge. Also, discharge may be approved when required for the purpose of combating specific pollution incidents in order to minimise the damage from pollution.

Reception Facilities

As a result of the MARPOL requirements tankers and ships must inevitably retain some waste oil on board. Parties to the Convention must therefore ensure the provision of facilities for the reception of the residues and oil mixtures when the vessel enters port. The Convention stipulates that the facilities should be adequate to meet the needs of the ships using them without causing undue delay.

Under Annex 1, reception facilities must be provided in

- all ports and terminals where crude oil is loaded into oil tankers and where the tankers have, immediately prior to arrival, completed a ballast voyage of not more than 72 hours or not more than 1,200 nautical miles
- all ports and terminals in which oil (other than crude oil) in bulk is loaded at an average quantity of more than 1000 metric tons per day
- all ports having ship repair yards or tank cleaning facilities
- all ports and terminals handling ships provided with sludge tanks
- all ports in respect of oily bilge waters and other residues, which cannot be discharged at sea in accordance with the regulations
- all loading ports for bulk cargoes in respect of oil residues from combination carriers which cannot discharge at sea in accordance with the regulations.

The capacity of reception facilities provided is also determined within the Regulations.

The British Ports Federation is confident that following extensive consultation with the industry, reception facilities provided by UK ports are adequate for the needs of visiting ships. Since the regulations came into force ports have ensured the facilities are readily available, however the emphases must lie with the ship master or agent to alert the reception facility operator to their requirements. Allegations of inadequate facilities are generally ill-founded and often arise through poor communication of ship requirements. On occasions unrealistic expectations about the level of charges for use of the facilities have arisen. This is aggravated by the state subsidies paid to some European counterparts for the provision and use of facilities. It is, however, important that the "polluter pays principle" is applied when international Regulations are developed. That is, that the producer of the waste is responsible for paying for the disposal of their own waste. Without this principle there would be no incentive for waste minimisation.

The Future for Annex I

In March 1990 the North Sea States held a Ministerial meeting at which a number of provisions were agreed. If these are accepted by IMO they will improve the control and enforcement of MARPOL and strengthen the regulations aimed at the minimisation of international pollution. The intention is to "take concerted action within the International Maritime Organisation to make discharge requirements for oil wastes and residues under Annex I (oil) of MARPOL 73/78 more stringent on a global basis". In 1993 it is intended to hold a working group meeting at ministerial level to evaluate the actions taken within IMO on Annex I of MARPOL 73/78 and decide which additional measures are required, including the declaring of the North Sea a 'Special Area' under this Annex.

Following the Exxon Valdez oil spill in March 1989 a new Convention on oil pollution preparedness and response has been developed by IMO. The Convention will not enter into force until ratified by 16 countries and will not be effective in respect of the UK until ratified by the Government. However, the Convention is widely supported.

Table 3: Conditions on non-tanker ships

Discharges of oil or oily mixtures prohibited except when all the following conditions are met

		Special Areas	
Ships > 400 tons gT	**Ships < 400 tons gT**	**Ships > 400 tons gT**	**Ships < 400 tons gT**
● ship not within a special area	● not within a special area	● all discharges prohibited	● oil content of effluent does not exceed 15 ppm OR
● more than 12 nautical miles from land	● be equipped as far as practicable and reasonable with installations to ensure the storage of oil residues on board and their discharge to reception facilities or into the sea with the conditions for ships > 400 tons gT		● ship is proceeding en route
● ship proceeding en route			● oil content of effluent is less than 100 ppm
● oil content of effluent less thank 100 ppm			● as far as practicable from land and in no case less than 12 nautical miles from land
● ship has in operation an oil discharge monitoring and control system, oily-water separating equipment, oil filtering system			

Annex II — Noxious Chemicals

Annex II to the MARPOL Convention deals with the 'control of pollution by noxious liquid substances in bulk', and entered into force in April 1987. Although not amended by the 1978 MARPOL protocol, the date of entry into force was put back to enable technical problems associated with it to be solved. The regulations control the conditions under which chemicals can be discharged into the sea from tank cleaning of deballasting operations.

Noxious liquid substances are designated in an Appendix to Annex II and are assessed into four categories (A,B,C and D) according to their toxicity (see Table 4). Different conditions apply for the discharge of washings from tanks of categories A, B and C outside of Special Areas and for the category D substances in all areas. Other substances which have been evaluated and fall outside the four categories are considered to present no harm to human health, marine

resources, amenities or other legitimate uses of the sea when discharged from tank cleaning or deballasting operations. As a result the discharge of these substances is not subject to the requirements of MARPOL Annex II.

The only exceptions to the Regulations are, as with Annex I, if the discharge is necessary for securing the safety of a ship or saving life at sea or if the discharge is being used for the purpose of combating specific pollution incidents (subject to Governmental approval).

Control

Reception facilities in ports must again be provided according to the requirements of ships. Cargo loading and unloading ports and terminals should have facilities adequate for the reception of residues and mixtures containing noxious liquid substances resulting from the application of Annex II and sufficient for use without undue delay to ships. Ship repair ports undertaking repairs to chemical tankers shall have facilities adequate for the reception of residues and mixtures containing noxious liquid substances. Port States may appoint inspectors to supervise the tank washing operation.

In addition, the requirements of Annex II are such that chemical tankers must carry a Cargo Record Book, while flag states should survey ships and issue International Pollution Prevention Certificates for the Carriage of Noxious Liquid Substances in Bulk, for periods which do not exceed 5 years.

The Cargo Record Book should be completed on a tank-to-tank basis whenever any of the operations listed below takes place.

- loading of cargo
- unloading of cargo
- transfer of cargo
- transfer of cargo, cargo residues or mixtures containing cargo to a slop tank
- cleaning of cargo tanks
- transfer from slop tanks
- ballasting of cargo tanks
- transfer or dirty ballast water
- discharge into the sea in accordance with the regulation Annex II

Port states may inspect ships to verify whether the ship has discharged any harmful substances in violation of the Regulations and detain sub-standard vessels until faults are corrected, however the flag state's competence extends to all offences except those committed within waters under the coastal state's jurisdiction.

The British Ports Federation, through consultation, has ensured that all its member ports are fully aware of the provisions of MARPOL Annex II and the requirements for reception facilities. At present the UK legistation reguires ports to provide facilities for the reception of ships' wastes but does not provide for onward disposal of the waste. Ports are not authorised waste disposal bodies and would not wish to be designated such. It is therefore important to ensure the wastes do not accumulate in the port with no further means of disposal available.

Future Measures

The third North Sea Ministerial Conference (1990) agreed two priority proposals relating specifically to Annex II of MARPOL.

These are:-

i) to improve the requirements for piping, pumping and cargo unloading arrangements for chemicals regulated by Annex II by using the Best Available Technology (BAT), so as to ensure that chemical tankers unload all their cargoes to specific minimal residual quantities and

ii) with respect to the discharge standards for chemical wastes and residues, to make the present discharge requirements more stringent for all sea areas by ensuring that no discharges exceed specific minimal quantities.

As with Annex I, in 1993 the working group at ministerial level will address additional measures including declaring the North Sea a 'Special Area' with respect to Annex II.

Table 4: Categorisation of Noxious Liquid Substances

(source: MARPOL Convention)

Category A — Noxious liquid substances which if discharged into the sea from tank cleaning or deballasting operations would present a major hazard to either marine resources or human health or cause serious harm to amenities or other legitimate uses of the sea and therefore justify the application of stringent anti-pollution measures.

Category B — Noxious liquid substances which if discharged into the sea from tank cleaning or deballasting operations would present a hazard to either marine resources or human health or cause harm to amenities or other legitimate uses of the sea and therefore justify the application of special anti-pollution measures.

Category C — Noxious liquid substances which if discharged into the sea from tank cleaning or deballasting operations would present a minor hazard to either marine resources or human health or cause minor harm to amenities or other legitimate uses of the sea and therefore require special operational conditions.

Category D — Noxious liquid substances which if discharged into the sea from tank cleaning or deballasting operations would present a recognisable hazard to either marine resources or human health or cause minimal harm to amenities or other legitimate uses of the sea and therefore require some attention in operational conditions.

Annex III — Packaged Dangerous Goods

Annex III to the MARPOL Convention is aimed at preventing pollution by harmful substances in packaged forms, freight containers, portable tanks and road and rail tank wagons. Unlike Annexes I, II, IV and V deliberate discharge of packaged dangerous goods is unlikely except in the extreme case of jettisoning the cargo when necessary to ensure the safety of the ship or to save lives. As a result the requirements of Annex III are less complicated.

Annex III provides requirements for adequate packaging, marking and labelling, documentation and stowage provisions. Although not fully ratified, the International

Maritime Dangerous Goods Code has been amended so that it can be used as a vehicle through which Annex III can be implemented. In the UK the provisions of Annex III to MARPOL have been given effect through the Merchant Shipping have been (Damgerous) Goods and Marine Pollutants) Regulations which came into force on 1 January 1991. These Regulations provide powers to detain ships not complying with the requirements of the Regulations.

Annex IV — Sewage

Annex IV to the MARPOL Convention has not been fully ratified as yet. It will enter into force after being accepted by 15 states whose combined fleets of merchant ships represent at least 90% of the world merchant tonnage. When in force discharge of sewage will be prohibited unless a series of conditions are met. In any event comminuted and disinfected sewage will not be discharged within four nautical miles of the nearest land, and sewage which is not comminuted or disinfected will only be discharged over 12 nautical miles from the nearest land.

Each Party to the Convention will, again, be required to ensure the provision of reception facilities at ports and terminals for the reception of sewage, without causing undue delay to ships.

Although it may be some time before Annex IV to MARPOL is fully ratified, the North Sea Ministerial Conference in March 1990 agreed "to implement measures whereby the discharge of sewage into the coastal zones of the North Sea states from ships engaged in international voyages between North Sea ports and which are certified to carry more than 50 persons is only permitted in accordance with the sewage discharge requirements of Annex IV (sewage) of MARPOL 73/78".

Annex V — Garbage

Annex V to MARPOL entered into force on 31 December 1988, 15 years after the Convention was adopted. Garbage is defined as "all kinds of victual, domestic and operational waste excluding fresh fish and parts thereof".

The controls established in Annex V are strict and vary according to the type of garbage and the area in which the ship is located, with particularly stringent conditions existing in 'Special Areas' (see Table 5). If garbage is mixed with other wastes (Annex I, II, IV) the more stringent rules will apply. Contracting Parties are required to provide facilities at ports and terminals for the rece ption of garbage according to the needs of the ships using the facility, as before, and without causing undue delay to the ships. When facilities are alleged to be inadequate IMO should be notified immediately so that the information can be transmitted to the State concerned.

The British Ports Federation has been involved in a successful and extensive campaign to ensure that the provisions of Annex V are understood and implemented by ports and port users. Education is a vital component of any campaign and it is essential that all sea users from the largest oil tankers to the smallest leisure dinghies appreciate the responsibilities placed upon them.

'Special Areas' are designated because they are particularly vulnerable to pollution, frequently because they are almost enclosed by land. The North Sea will receive 'Special Area' status under Annex V from 18 February 1991 at the request of North Sea States. As a result only ground-up wastes will be permitted to be disposed of over 12 nautical miles from the nearest land.

Table 5: Annex V — Garbage condition for disposal

(Source: IMO News, No. 3 1989)

Type of Garbage	Outside Special Area	Within Special Area
● Plastics, including but not limited to synthetic ropes, synthetic fishing nets and plastic garbage bags	Banned	Banned
● Dunnage, lining and packing materials that will float	Banned within 25 miles of land	Banned
● Non-ground-up food wastes and all other garbage including paper products rags, glass, metal, bottles, crockery and similar refuse	Banned within 12 nautical miles of land	Banned
● Ground up food wastes and all other garbage including paper products, rags, glass metal, bottles, crockery and similar refuse ("capable of passing through a screen with openings no greater than 25mm")	Banned within 3 nautical miles of land	Banned within 25 nautical miles of land

What's for the Future

As has already been mentioned, IMO is addressing two possible additional annexes to the MARPOL Convention. Air pollution is now being dealt with as a high priority. In densely trafficked sea lanes it is thought that ships probably have a significant influence on air quality and similarly on a local scale in harbours and their surroundings. Should it be decided that a new annex is appropriate it is unlikely that port installations would be ignored.

In March 1990. IMO's Marine Environment Protection Committee agreed to consider the development of measures to combat pollution by noxious solid substances. The first step will be to identify the noxious solid substances which may be a pollution hazard.

At the same meeting it was agreed to consider the problem of harmful marine organisms being transported in ballast water. A subject of increasing concern to a number of countries, it is hoped that work on this subject will be completed in 1991.

The British Ports Federation continues to monitor developments on this and other international marine conventions and to campaign for necessary amendments to existing legislation. It is also involved in ensuring that ports and harbours are fully consulted on all pertinent issues and current initiatives, and in providing advice and guidance regarding environmental aspects for key decision-makers.

U.S. Marine Terminal Operators Council

The Independent Marine Terminal Operators Council (IMTOC) was formed recently by a group of privately owned (non-government/non-carrier controlled) independent U.S. marine terminal operators. The member companies are all the major independent marine terminal operators doing business on the U.S. Atlantic, Gulf and Pacific coasts and the Great Lakes. The purpose of IMTOC is to publicize, promote and preserve the role of the private sector marine terminal operator in the maritime commerce of the United States and to defend the private sector marine terminal operator against all forms of unfair, discriminatory and subsidized competition.

Members of IMTOC are also parties to the Independent Marine Terminal Discussion Agreement (FMC No. 224-200491) recently processed by the Federal Maritime Commission pursuant to the provisions of the Shipping Act of 1984. That Agreement authorizes the parties to meet and discuss marine terminal practices and conditions at United States ports and to agree upon positions, initiatives, actions, remedies, or recommendations which may be made to or taken before ports, other marine terminal operators or government agencies and to exchange information related to the authorized activities.

One of the objectives of IMTOC according to Thomas D. Wilcox, spokesman for the group and Chairman of the FMC Agreement, is to secure equal access for private independent marine terminal operators to marine terminal leases that is afforded to other entities, such as carriers, with the same or equal terms, conditions and commitments. In many United States ports such access is denied to the private sector independent marine terminal operator.

IMTOC will study this and other matters and take such actions as are appropriate and authorized by the Agreement processed by the Federal Maritime Commission or permissible under other applicable U.S. laws.

For additional information, please contact IMTOC spokesman, Thomas D. Wilcox, 2011 Eye Street, NW, Suite 601, Washington, DC20006, Tel: (202) 296-3005, Fax: (202) 331-7479

Membership

* Ceres Terminals, Inc.
Continental Stevedoring & Terminals, Inc.
Cooper/T. Smith Stevedorig
Eller & Company, Inc.
Harrington & Company, Inc.
International Terminal Operating Company, Inc.
Maher Terminals, Inc.
Marine Terminals Corp.
Metropolitan Stevedore Company
Ryan-Walsh, Inc.
Stevedoring Services of America
*Strachan Shipping Company

***Membership in IMTOC being processed by the Federal Maritime Commission**

(From the IMTOC News Release 8/26/91)

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Jointly organaised by PSA's Singapore Port Institute and University of Delaware, USA.

The Programme comprises 5 one-week modules of intensive lectures, spread over 5 months (from March to July) on the following subjects: Trade & Marketing Functions; Structure & Technological Changes; Governance, Planning & Design; Accounting & Financial Considerations; and Maritime Law & Policy. Lectures on these modules are conducted by an eminent teaching faculty selected by the University of Delaware.

The closing date for application is 6 December 1991.

For further information, please contact:

Training Manager
Singapore Port Institute
Port of Singapore Authority
2, Maritime Square, Singapore 0409.

New Publications

Port Performance Index

Public Works Consultants Announces the decision to once again publish the *Port Performance Index*. The last previous issue was year 1984, and it is considered likely that significant changes in ports operational effectiveness may have occurred during the seven years interim. Also, world sectors not previously represented in the *Index* may now be included, such as ports of China and the USSR.

Additional ports of any size wherever situated are invited to submit information for inclusion in the upcoming issue of *Port Performance Index — 1992*. Needed is the amount of cargo handled in relation to the time ships were in port for various categories of cargo. Ports desiring to be included may request a convenient data form by mail, telephone, or FAX from:

Port Performance Index
P. O. Box 211
Carmel Valley, CA 93924 U.S.A.
Tel (408) 659-2570
Fax. (408) 659-4908

Japan Directory of Airport and Airway Industries 1991

The Directory edited and published by Japan Airport Consultants, Inc. is dedicated to the civil aviation infrastructural development on a global basis, in order to introduce to the world in a concisely consolidated form the capabilities of the firms of this country who provide the state-of-the-art services and equipment to meet the infrastructural and service requirements of modern civil aviation for airports, airways and related facilities.

In this age of global interdependency the Directory may also be found useful as a reference material for those considering collaboration with a Japanese firm or seeking access into the Japanese market.

English version: by airmail at US$85.00 each; by seamail at US$70.00 each; in Japan at ¥ 8,000 each

Japan Airport Consultants, Inc.
No. 18 Mori Bldg. 3-13, Toranomon 2-chome, Minato-ku, Tokyo 105, Japan
Tel: (81-3)3504-3411
Telefax: (81-3)3504-3418
Telex: 222-4974 JACO J

World Bank Publications on Port-related Activities

Report Number	Title	Type	Author(s)	Date
INU 3	Port Tariff Evaluation	TN	J. Arnold	10/87
INU 4	Refrigerated Containers	TN	J. Sinclaire, et al	10/89
INU 5*	Environmental Considerations for Port	TN	J. Davis	1/89
INU 7	Operating & Maintenance Features of Container Handling Systems	TP	Brian Thomas Keith Roach	12/87
INU 8	Transport Lending & Structural Adjustment — Operational Features	DP	Victor Wouters	2/88
INU 9	Experience with Labor Redundancy Schemes in the Transport Sector in Europe, USA and Japan	DP	Diater Havlicek	4/88
INU 11	Seatrade Logistics Management and Related Transport Infrastructure and Services	COR	H. Peters	5/88
INU 27	Ports Tariffs: Current Practices & Trends (Lethbridge)	DP	J. Arnold	2/88
INU 54*	The Environmentally Sound Disposal of Dredged Materials	TP	Scott McKnight, et al	10/89
INU 57	The Management of Port Equip. Mtnce	TP	Univ. of Wales Coll. of Cardiff	10/89
INU 72	Restructure Practices in Seaports	PRE WPS 514	Alan S. Harding	8/90
INU 76	Port Administration: A Review of the Structure and Legal Aspects	DP	R.A.P. Douglas	8/90

CS — Case Study
DP — Discussion Paper
GOR — General Operational Review
TN — Technical Note
TP — Technical Paper
WPS — Working Paper Series

Note: The above list is selected at the discretion of the H.O. secretariat out of the lists which have been provided through the courtesy of Mr. John R. Lethbridge, the World Bank. Free copies may be obtained from The World Bank Bookshop, No. 701 18th Street, N.W., Wahsington, D.C., U.S.A., except for the following two titles for which there is a charge.

"Operating and Maintenance Features of Container Handling Systems" (INU 7 - video tape) for US$70

"Environmental Considerations for Port and Harbor Developments" (Technical Paper No. 126) for US$9.95

** INU 5 and INU 54 have been incorporated into one new document entitled "Environmental Considerations for Port and Harbor Developments" World Bank Technical Paper No. 126; August 1990.*

The Americas

Sophisticated EDI System at Halifax

On October 1, 1991 a comprehensive EDI (electronic data interchange) Project will be launched at the Port of Halifax under the direction of EDIPORT Atlantic Inc. EDI is the computer to computer exchange of business documents resulting in lower costs and improvements in efficiency and service for all participants in the transport chain. EDIPORT Atlantic is an organization of port users and service providers committed to developing and promoting EDI at the Port of Halifax. Among the demonstrated benefits resulting from EDI are:

- it significantly reduces administrative costs by eliminating the need for paper documentation;
- it reduces errors and duplication of work;
- it provides a more accurate and efficient means to book, track, pay for and clear cargo;
- it provides for easier, instantaneous access to more accurate cargo information; and
- it reduces delays and speeds up the through movement of cargo.

The Port of Halifax EDI Project, which will further strengthen the Port's competitive position in handling container traffic, is expected to be fully operational by the spring of 1992. The System will be the most advanced of its kind in Canada and one of the most comprehensive port EDI system in North America.

The EDI Project, which was designed with active input from users of the Port of Halifax, will encompass the following import and export transactions:

- Reservation Booking
- Shipping Information Advice
- Canadian Customs Information
- Status Details Replay
- Equipment Interchange Release
- Terminal Operations Activity Gate Arrival (Ocean)
- Confirmation of Booking
- US Customs Advice
- Arrival Notice
- Railway Manifest
- Customs Release

The Project will involve the services of a Value Added Network (VAN)

service to facilitate exchange of messages but will also allow for participants to communicate directly with one another. Among the services to be provided by the VAN are:

- Mailbox Service — the electronic storing and forwarding of documents;
- Protocol Conversion — allowing organizations using different protocols to communicate with each other;
- Message Translation — translating electronic messages into a format that can be read and used by the different participants' computers;
- Security; and
- Billing and Control

In its initial stages the Project will cover more than 58% of containerized cargo moving through the Port of Halifax. Eleven firms/organizations have already made plans to participate including four container shipping lines, the Halifax Port Corporation, both marine container terminals file— Ceres and Halterm, Canadian National Railways, a customs broker, Canada Customs and Agriculture Canada.

A second phase of the Project, to define the EDI target environment, will develop a longer term vision for the Port's EDI System. This initiative will allow EDIPORT Atlantic to ensure that future EDI development is undertaken in an efficient, coordinated manner so as to optimize the benefits of the technology and to ensure that the system is compatible with developments in the international maritime community.

The Port of Halifax EDI Project is one of several important initiatives aimed at reducing costs and improving service to the container shipping lines and other users/stakeholders of the Port of Halifax.

Landside Access to General Cargo Ports

Interim Report
Transportation Research Board
National Research Council

SUMMARY

In response to a request by the U.S. Department of Transportation (DOT), the Transportation Research Board formed a 17-member study committee to assess the adequacy of landside access to U.S. general cargo ports. The interim findings of the committee are included in this report along with options for consideration when Congress considers reauthorization legislation for the federal surface transportation programs.

Imports and exports are a growing and vital part of the U.S. economy. Over the last 20 years they have increased to where they equal 21 percent of the gross national product. Roughly $195 billion worth of containerized cargo moves through the U.S. ports each year. The growth of containerization and the increased efficiency of intermodal transportation have contributed to the competitiveness of U.S. export over the last 10 to 15 years. Shipping lines are using ever-larger ships that have dramatically reduced costs. Port productivity has increased almost tenfold because of massive investments in new, large-scale technology.

New train cars capable of handling containers stacked two high (double stacks) reduce the cost of shipping containers by 25 to 40 percent compared with the cost of shipping single containers on flatcars. U.S. ports have become the transfer points for a nationwide intermodal network that transports the nation's cargo **(Figures 1 and 2).**

The efficiency of this intermodal system is threatened, however, by growing bottlenecks in the landside transportation system serving the ports (see examples in Table 1 and in Figure 3). For some seaports the weakest link in the logistics chain is at their back door, where congested roads or inadequate rail linkages to marine terminals, and sometimes both, result in inefficient delays and higher transportation costs. Almost all of the country's container ports are experiencing growing congestion on the access routes serving their terminals. Improvements in highway access may not be able to accommodate the truck traffic generated by a projected tripling in total port commerce during the next three decades. When the growing demand on the use of these access routes for freight is combined with the congestion caused by other commercial and passenger traffic, it is unlikely that these routes will be able to accommodate the demand for international freight movements without substantial increases in delay and cost. This growth in bottlenecks also raises concerns about the future ability of the posts to handle the massive movements of cargo required to support U.S. military forces deployed abroad.

As important as seaports are to international competitiveness and national security, they often exert little influence over the local and state governments that plan and fund highway access improvements. As increasing percentages of freight move through the ports to and from distant inland markets, and because increased mechanization of ports has reduced the size of their labor force, the positive impact of the ports on their local economies has become less visible even as the trucks and trains that serve the ports

Figure 1 Intermodal Cargo Network of the United States

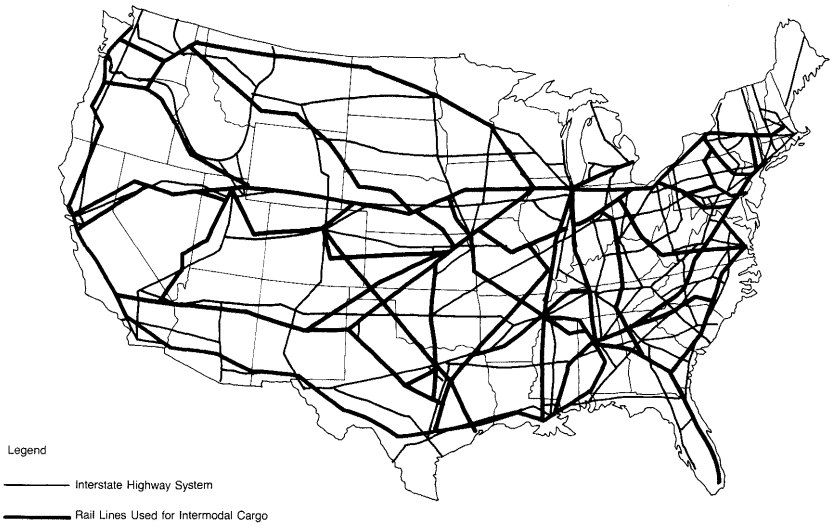
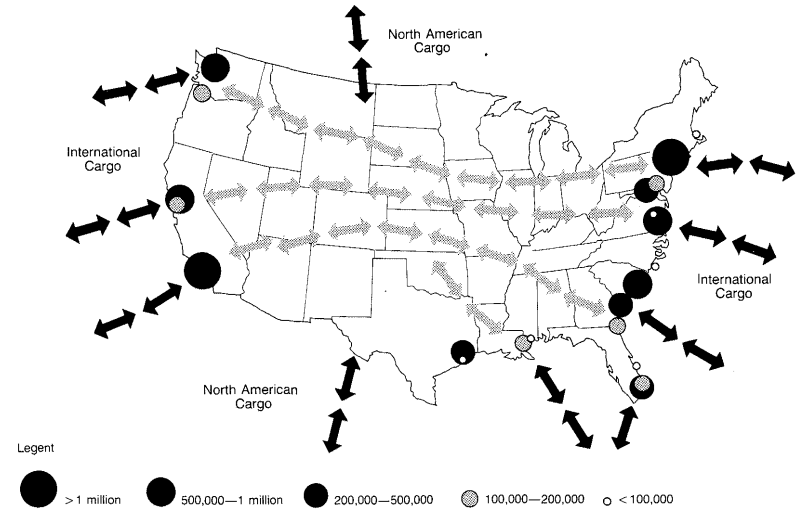


Figure 2: Container Tnroughput in TEUs by Port Region



Source: Journal of Commerce, PIERS, Ports Import/Export Reporting Service and Study Committee

have engendered increased local opposition because of noise and traffic congestion. For these reasons, the study committee is concerned that highway access projects needed to serve regional and national markets may not fare well when local and state governments develop their highway funding priorities.

Of utmost importance is the need to recognize and support projects of national significance while at the same time giving local and state officials more latitude in planning and decision making. The study committee has identified several options for consideration by the Administration and Congress that would help balance the national interest in certain highway projects with the priorities of states and metropolitan areas.

To better ensure that routes linking ports with major highways are considered for eligibility for federal aid, the legislation could

- Establish an administrative process for determining eligibility that includes the assessments of local officials (through their metropolitan planning organizations, or MPOs), state officials, and the Secretary of the DOT;
- Require an assessment of the adequacy of port access links by MPOs and states in the designation of highways that are classified as of national significance;
- Have the Secretary of DOT develop criteria for state and local officials to use in establishing eligibility that would include access links that serve interstate commerce and national defense; and
- Allow the Secretary of DOT, in collaboration with the Secretaries of Defense (DOD) and Commerce and the U.S. Trade Representative, to add access links to any network of highways designated of national significance.

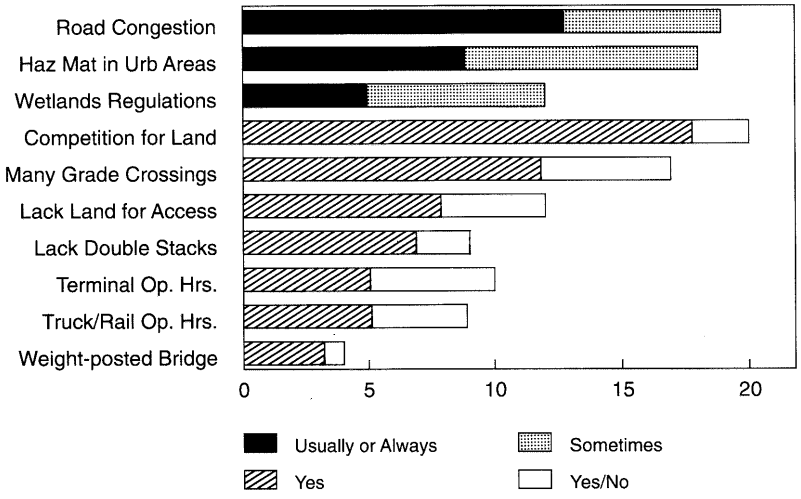
To better ensure that eligible projects are given priority in MPO and state capital improvement plans, the legislation could

- Require MPOs and states to address port access needs in the development of their capital improvement plans;
- Require the Secretary of DOT in consultation with the Secretaries of DOD and Commerce and the U.S. Trade Representative, to

TABLE: 1 Examples of Problems with Access Impediments Reported by Container Ports in a Survey by the American Association of Port Authorities (AAPA)

Survey Question	Response	No. Ports Responding (N-22)
Are truck routes serving port terminals congested?	Usually or always Sometimes	13 6
Do hazardous materials and military cargo traverse access routes in congested urban areas?	Usually or always sometimes	9 9
Do wetlands regulations impede access improvements?	Usually or always Sometimes	5 7
Is competition increasing for available land for terminals and access routes?	Yes Yes/no	18 2
Are there numerous at-grade crossings of rail lines with local streets?	Yes Yes/no	12 5
Has lack of land restricted access improvements?	Yes Yes/no	8 4
Are clearances lacking for high-cube double stacks?	Yes Yes/no	7 2
Is the extension of hours of port operations to avoid traffic peaks restricted primarily because of local union work rules?	Yes Yen/no	5 5
Are regulations current or proposed on truck or rail operating hours?	Yes Yes/no	5 4
Are weight-posted bridges serving port terminals?	Yes Yes/no	3 1

Figure 3 Access Proboems Reported by Container Ports in AAPA Survey(n = 22)



See Table 1 for Definitions of Problems

develop criteria, such as national competitiveness and security, for MPOs and states to use in developing capital improvement plans; and

- Require the Secretary of DOT, in consultation with the Secretaries of DOD and Commerce and the U.S. Trade Representative, to identify periodically port access projects that serve national competitiveness and security.

To facilitate the efficiency of the freight transportation system, which is vital to national competitiveness and security, the legislation could

- Indicate that provisions for intermodal connections apply to both freight and passenger transportation;
- Define as eligible expenses the separation of at-grade crossings of streets by rail lines serving ports; and
- Allow the use of federal funds for wetlands acquisition, restoration, and enhancement; dedicated freight corridors; and toll facilities (with provisions that would allow revenues to be used to support intermodal projects that would reduce the demands on port access routes).

Long Beach Signs Lease For Pier J Extension

The Long Beach Board of Harbor Commissioners has entered into a long-term lease with Maersk Inc. for the lease of 107 acres of land on the newly created Pier J extension, Board President Joel B. Friedland announced.

Maersk is expected to move from its current 54-acre terminal on Pier J to the new 107-acre terminal in early 1993. The lease guarantees the Port an annual revenue of approximately $12 million.

"We are delighted to extend our relationship with such a distinguished shipping company, "Mr. Friedland said. "Maersk has established itself as one of the finest shipping lines in the world, with dynamic leadership and exceptional service. Its new Long Beach terminal will be a state-of-the-art facility designed to meet the needs of Maersk and its customers well into the next century."

The new terminal will be the third designated terminal occupied by Maersk in Long Beach. Since first calling at the Port in 1975, Maersk has made two other moves to increase its acreage.

Port Executive Director S. R. Dillenbeck said the new terminal will contain 2,711 lineal feet of wharf, on-dock-rail service, and five or six gantry cranes. Maersk will move three gantry cranes to the new facility from its current terminal and is expected to purchase two or three new cranes. One of the three existing cranes and all of the new cranes will be post-panamax in size.

In addition, the terminal will have a gated entry for 14 lanes of truck traffic and will contain chassis wheel stops for approximately 4,376 TEUs and grounded space for 5,760 TEUs.

The Port of Long Beach began the design of the Pier J expansion in 1985 under the direction of former Executive Director James M. McJunkin. The construction of the landfill commenced in September of 1988, with Pier J Builders working as the prime contractor. The landfill was completed in August of 1990.

Manson/M.K Joint Venture began construction of terminal facilities in July of 1991 flowing a 10-month surcharge period in which the landfill was allowed to compact and settle. The total cost of the new terminal, including landfill, is projected at $136 million.

Maersk containerships have been calling at the Port of Long Beach sine 1965. The Danish shipping line initially called at Pacific Container Terminal and moved into its own 29-acre terminal at Berth 229 in August of 1978. In 1986, Maersk moved to the larger 54-acre facility which it still occupies at Berth 243.

Maersk currently calls twice weekly in Long Beach as part of its service between Asia, North America and Europe. The 965-foot, 4,000-plus TEU vessels originate in Singapore and sail to Bremerhaven, Germany.

Maryland Port Reveals Revitalization Plans

In efforts designed to bring the Maryland Port Administration's deficit under control, to break even fiscally by 1993 and to cost-effectively manage the organization, MPA Executive Director Adrian G. Teel announced plans for the revitalization of the Maryland Port Administration.

His approach is two-fold: first, to enhance revenues through an aggressive, targeted marketing program emphasizing the Port of Baltimore's many strong advantages in the market, and secondly, to reinvigorate the MPA by downsizing the agency, implementing a comprehensive reorganization and eliminating expenditures not directly supporting the MPA's mission.

"If the MPA is to regain the confidence of governmental, international maritime and port community leaders and the support of the public and the legislature, these decisions — though tough and unpleasant — must be made," Mr. Teel said. "This course of action

must be taken in order to restore vitality to the MPA and to help achieve the mission of stimulating waterborne commerce through the state's ports in a cost-effective manner."

"The comprehensive reorganization of the MPA is essential to employ our valuable resources more efficiently," Mr. Teel said. "I am confident that we have a workable, sensible approach."

The downsizing of the MPA is in response to decreased workloads engendered by revenue shortfalls, past cargo reductions and current budgetary constraints. This will involve a staff reduction at all levels of approximately 15% of the current budgeted work force. A 15% reduction will result in 395 occupied positions. Under the current budget, the MPA has 467 authorized positions.

Mr. Teel said the reductions may occur through inter-departmental transfer to another state agency, resignation, retirement, or as a final alternative, lay-offs.

"There will, beginning today, be an orderly process to involve managers in making these crucial decisions," Mr. Teel said. "We want to make well thought-out, efficient choices and they will be administered professionally. We will complete the process by October 31."

In announcing the revitalization, Mr. Teel emphasized the importance of customers service. "Since our customers, and their customer, are the most important ingredients in the port community, we need to make sure the quality of our service is as high as we can realistically achieve. This is how we will move the port ahead."

Afram Line Container Service Inaugurated

The *M/V Rosellen* recently offloaded a shipment of 240 containers at the Port of Corpus Christi's Cargo Dock 14. The containers were subsequently stuffed with 4,027 metric tons of bagged wheat flour and bagged beans and then moved to their final destination, Port Au Prince, Haiti. The shipment marked the inauguration of Afram Line's container service between the Port of Corpus Christi, Haiti, the Caribbean and South America.

N. Carolina Ports Expand Automation Services

The Department of Management Information Systems (MIS) has been hard at work to enhance service at the North Carolina Ports.

The Container Terminal and the MIS department have coordinated their efforts to design and develop an equipment inventory and automated gate system. Phase I of this new system is currently in operation at the Wilmington Terminal. The Charlotte Intermodal Terminal (CIT) will also be on line with the Port of Wilmington by early December. When gate activity occurs at the CIT, it will be recorded in the central system at the Port of Wilmington. Local agents currently have on-line access to gate activity and equipment inventory. Phase II will enhance customer capabilities to include booking, manifest, and work order input.

This system allows accurate inventory control of container and chassis equipment for all steamship lines using the N.C. Ports. The location of a container can be traced at any stage.

According to Mr. Fred Getsinger, Container Terminal Manager, "The implementation of our new equipment inventory system, combined with our modern interchange facility and sophisticated interchange procedures, establishes Wilmington as the front runner among operator ports on the U.S. East Coast. The implementation of this system will position the port for years of expansion."

Also within the next few months, the North Carolina State Ports Authority will be linked to the U.S. Customs Automated Manifest System (AMS).

According to Mr. Cris Mowrey, N.C.

State Ports Authority Director of Management Information Systems, the availability of AMS will benefit North Carolina ports customers as well as optimize the ports' operations.

"Customers linked to the U.S. Customs AMS can obtain quick cargo release information," Mr. Mowrey said. "And, manifest transmit service is available for steamship lines,"he said.

N.C. State Ports Authority Director of Business Development, Mr. Robert G. Jacobi said, "The addition of AMS to our growing list of automation services definitely enhances the North Carolina Ports electronic data interchange to its customers."

Mr. Mowrey added that manifest data download to the N.C. State Ports Authority also will minimize key entry and improve accuracy.

Data Terminals Boost Efficiency at Tacoma

The Port of Tacoma's straddle carriers, which in the last decade have helped lift the Port to the top of the intermodal world, now have mobile data terminals that make them unique in North America.

Twenty-four straddle carriers were equipped as part of a $700,000 plan to computerize container handling and ship loading at Evergreen Line's Terminal 4.

The data terminals tell drivers where to place or pick up containers in the Evergreen yard, greatly simplifying the traditional system in which instructions are given by voice over a radio.

The instructions are issued automatically, according to a predetermined yard plan, at time of receipt or delivery of a container, by a longshore supervisor.

"The key element is that the strad operators get their instructions as quickly as possible," said Mr. Udo Mehlberg, Port director of operations and marine services. "The decision on where a container goes when you have a lot of containers in the yard is very critical, and doing it manually takes a lot of time."

Mr. Mehlberg said the terminals in the straddle carriers are linked to a system used by the Port for yard planning, and by the stevedoring company for ship loading.

Mr. Charles Doan, deputy executive director for trade and operations at the Port, said the efficiencies created by the computer system will allow the Port to handle a high volume of container traffic in a 33-acre terminal.

"Given the acreage, we thought it was incumbent on us to find a better way to serve them," Mr. Doan said.

(Pacific Gateway)

Africa/Europe

Port of Antwerp — The Logistical Key to the Future

(Extracted from "HINTERLAND, Port of Antwerp')

STRUCTURE

Management of port and industry

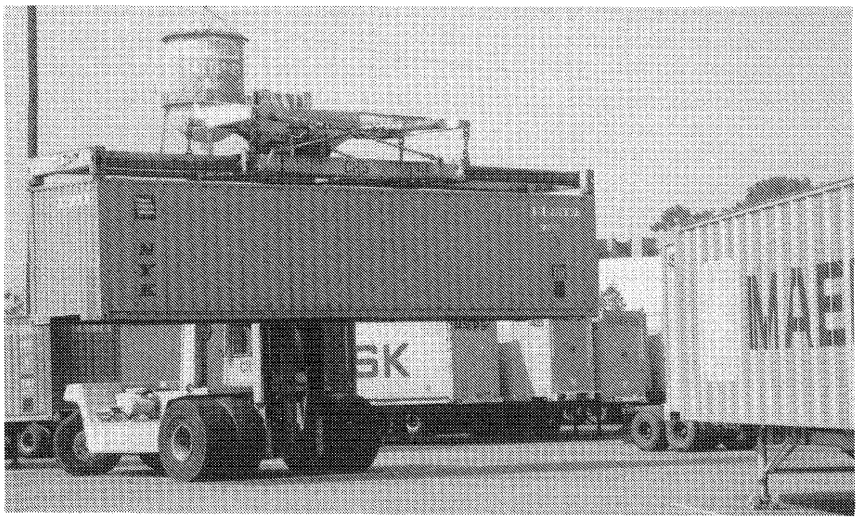
The Municipal Authorities of the City of Antwerp are responsible for the management of the port. The City is owner of the docks and the port and industrial sites on its territory. It moreover owns and operates some of the installations. Management and daily administration are in the hands of an autonomous body, viz. the Municipal Port Management.

The City of Antwerp is also responsible for the management of the Left Bank facilities, thus ensuring that policies are uniform on both sides of the river.

Land development and industrialization policy on the Left Bank is, however, in the hands of an inter-municipal corporation. This corporation, which goes by the name "Maatschappij voor ground- en industrialisatiebeleid van het Linker-Scheldeoevergebied" (Company for Management of Land and Industrialization of the Left Bank of the river Scheldt) acquires the land, prepares it for development, and makes it available to industrial investors, or as the need arises to the City of Antwerp when it needs land for the management and operation of the port.

In order to ensure coherent and efficient administration, the board of this development corporation includes representatives from the Waasland region (the area in which the Left Bank zone lies), as well as from the municipalities of Beveren and Zwijndrecht, (the two councils with direct administrative responsibility for the territory being developed), the Flemish Region, and the City of Antwerp.

Together with the other services and



GROUNDING AND MOUNTING CAPABILITIES for empty and loaded containers are now offered at the North Carolina State Ports Authority's Charlotte Intermodal Terminal (CIT). The operation of this 70,000-pound capacity top lifter at the CIT makes the terminal the only trailer depot operation in Charlotte, N.C. providing this service. Located at 5400 Hovis Road in Charlotte, the CIT recorded nearly 17,500 gate moves in Fiscal Year 1991. The N.C. State Ports Authority pioneered the establishment of inland intermodal terminals when it opened the Charlotte Intermodal Terminal in 1984.

bodies involved in the development of the Left Bank, the corporation plays an important role in planning infrastructure and industrial zoning, developing the area, and providing broadly based and effective promotion.

Contribution of the private sector

Until the Second World War all the equipment and installations of the port were supplied and operated by the municipal port authorities. The equipment was made available to private enterprise active in the cargo handling and transport industry. These firms — namely shipping agents, shipowners and cargo handling companies — rented the (equipped) berths on a short-term basis and were thus able to carry on their business without having to make major investments in port equipment.

After the Second World War port activities were greatly influenced by a trend towards ever-greater specialization and revolutionary changes in the technology of shipping, cargo handling and warehousing.

It was this specialization — and the ensuing significant investments to be made — which spurred the port authorities to continue modernizing and developing infrastructure but also to rent the unequipped "bare" quays and sites on long-term concessions to private enterprise. For its part private enterprise was prepared to provide the facilities needed for specific trades such as containers, Ro-Ro, cars, fruit, fertilizers and other neo-bulk cargo such as iron and steel, forest products, and so on. The duration of the concession is made dependent on the size of the investment made by the holder of the concession.

In order not to disadvantage smaller companies unable to invest major sums in port equipment, the port authorities decided that port equipment renting facilities were to be retained at the existing, largely conventional berths.

To that effect new equipment — mainly shore cranes, mobile cranes and warehouses — was purchased by the port authorities.

This cooperation between the port authorities — which by and large have limited their activities to supplying the infrastructure — and private enterprise — which has assumed financial and operational responsibility for the superstructure — has proved to be a great success.

The course of this cooperation has been smoothed by quasi-continuous contacts between port authorities and private sector in such bodies as the Consultative Council.

LABOUR ORGANIZATION

Antwerp's reputation as a rapid turnround port is to a large extent due to the efficient organization of labour. The structure of the shift system is such that operations can be continued uninterrupted day and night. Moreover, Antwerp is one of the few European seaports where, admittedly subject to a surcharge for the extra costs incurred, work is willingly continued on Saturdays, Sundays and public holidays. This flexibility is a boon to international shipowners, who frequently take the opportunity of a call in Antwerp to make up for time lost in other ports.

CUSTOMS ARRANGEMENTS

An essential factor to the efficient operation of any port is a smoothly functioning customs service. Customs arrangements are sufficiently flexible to enable procedures to be to a large extent adapted to the needs of ship and cargo.

Antwerp is equipped with suitable installations for receiving goods in transit, where administrative arrangements apply which have been designed to match commercial and fiscal needs. For example in Antwerp there is a public bonded warehouse, roughly ninety private bonded warehouses, and about seventy "fictive" bonded warehouses (stores and tanks). There are moreover a further forty or so fictive warehouses which are bonded for reexport as well as a large number of "customs sheds". The latter stand both on the dockside and in the immediate vicinity.

Illustrative of the flexible arrangements is the much quoted slogan, "Freer than a free port". There does not have to be a special free zone in the port, simply because the entire port falls under customs supervision.

Within this customs zone goods can be warehoused under cover of summarily completed customs document and undergo a large number of processes. No customs duties are payable until the goods are released for consumption.

For some years the Customs and Excise Administration in Antwerp has had access to the SADBEL-computer system. SADBEL stands for System for Automatic Customs Clearance in Belgium and Luxemburg. It is a network which enables the user/applicant for clearance to get in touch with the central customs computer in Brussels via a terminal, a modem and a telephone connection.

Once the link is established the applicant enters the information required by the customs service, which is then checked by the host computer for acceptability. Entering a correct declaration, causes the accounts in the customs office concerned to be updated and a printed declaration to be prepared. If the right conditions have been met the user/applicant can print out the completed form on his own printer.

This hard copy is then used for all further customs formalities.

JOINT BODIES

Business interests in teh port have set up a number of joint bodies which serve as instruments of or as a framework for consultation and cooperation.

There is the Antwerp Port Federation (AGHA) (the policy-making body of the private sector), the Port of Antwerp Employers' Association (CEPA) and the Employers' Association of Trade and Shipping Offices (both active in the social sector), the Institute for Vocational Training of Port Employees (training), the Dangerous Products Information Centre, the Study Centre for the Expansion of Antwerp (economic research), APEC - Antwerp Port Engineering and Consulting (export of Antwerp's maritime and technical know-how to the developing world and the organization of training courses on port management and organization) and the Port of Antwerp Promotion Association (public relations and promotion).

The latest in the series is SEAGHA (System for Electronic Data Exchange in the Port of Antwerp)

CONSULTATIVE COUNCIL

The Consultative Council promotes cooperation between all parties in-

volved in port operations. On the Council sit representatives of the port authorities, trade and industry, and the trade unions. It meets monthly to discuss matters of interest relating to the policy, management and the running of the port, and to formulate recommendations.

REGULATIONS AND TARIFFS

Anybody looking for a complete summary of the various regulation affecting the port is well advised to consult "The Vade-Mecum of the Port of Antwerp".

The Vade-Mecum also gives information about tariffs. A distinction should be made between the rates drawn up and applied by the port authorities and those of the private sector.

The port authority's tariffs, which are officially published, apply mainly to port dues, the use of quays and sheds, the provision of towage services and the hire of cranes.

Those applied by the regional government are for the pilotage services in Belgium's territorial waters and on the Scheldt.

As for cargo-handling, storage, forwarding, the completion of formalities and other services by private firms, standard rates do not always exist. In many cases prices will differ from firm to firm. Port companies, who do their work totally independently, tend to negotiate their terms on a customer by customer basis, and will take account of factors such as local and foreign competition, the type of cargo involved, the volume, unit weights, quantities and so on.

Generally speaking, we can safely say that most firms are extremely realistic and flexible in the rates they apply.

The same flexibility can also be seen in Antwerp's regulations, usage and provisions which are changed to accommodate new technical and organizational conditions when necessary.

Examples of rules which help to encourage smooth cargo handling at Antwerp include:

- The resolution which governs the actual *delivery of goods to seagoing vessels* and the transfer of the costs and risks of the goods between the maritime carrier and the cargo interests;
- The *Antwerp 1951 Rules* governing the delivery of cargo by lighter to liner vessels, which are intended to protect shippers in the hinterland from unanticipated costs. These regulations have been supplemented by special conditions for the delivery of goods by barge onto quay when no date for delivery alongside has been agreed.
- The *regulations dealing with reception charges,* based on the Antwerp landing clause, which guarantee the rational delivery of the goods for a fixed charge.
- The *regulations governing the leaving of inbound cargo on the quay,* which in most cases allow cargoes which have just been received to remain on the quay for 48 hours without incurring additional costs;
- The use of *letters of indemnity* for missing documents and for covering the quantitative and non-quantitative clauses which do not affect the value of the goods, thus ensuring that commercial transactions proceed more smoothly for the parties concerned, especially when documentary credits are used;
- The use of *uniform port documents* such as the shipping permit.

Disputes which may arise about port matters or between ship and cargo interests involving a charter party can be settled at Antwerp by *arbitration.*

The main purpose of the Arbitration Centre for the Port of Antwerp is to provide port companies and their customers a fast, expert and cheap way of settling disputes. The judgment is given at the very latest three months after the submission of the complete dossiers in the case. The arbitrators are all prominent persons in the port of Antwerp, selected for their special competence of at least one of the areas covered by the various Chambers of which the Arbitration Centre is composed.

These are:

- The Chamber for the application of cargo handling rates and terms;
- The Chamber for the application of the Antwerp 1951 Rules;
- The Chamber for the application of the Regulations governing the leaving of inbound cargo on the quay;
- The Chamber for disputes arising from the signing of letters of indemnity, with the exception of non-quantitative clauses;
- The Chamber for disputes arising from the signing of charter parties or booking notes;
- The Chamber for maritime and commercial cooperation.

EDI IN THE PORT

The technological development of shipping, particularly the use of containers for general cargo, has led to speed becoming an increasingly important factor in shipping and port activities. This creates special demands on the administrative work which has to be dealt with for each arriving ship.

To meet these demands increasing use is being made of computers, a trend which is evident the world over.

Antwerp has no intention of being left behind. In fact most businesses in the port make wide use of computers, not only for keeping the books, invoicing, and pay administration, but also for operational functions, and frequently for the fully integrated management of all the paperwork.

A computer can also be invaluable in helping to facilitate the ships' arrival in the port and speeding up the paperwork her call entails.

As far as the computerization of shipping traffic control is concerned, the initiative was taken by the municipal authorities, as port administrator. In the mid-seventies a start was made by computerizing the administrative side of shipping traffic. In 1986 it was decided to totally overhaul this system which was aimed chiefly at processing the administrative details of arrivals, i.e. generating statistics, calculating dues, and so on, so that it would also be suitable for providing operational support. The new system is called APICS (Antwerp Port information and Control System) and came into use in April 1989.

A direct link to the data processing system (IVS) of the Scheldt radar system will be completed during 1991.

It is the private sector which took the initiative with respect to the com-

puterization of the paperwork associated with physical movements of merchandise.

Private enterprise was quick to realize that because of the specific nature of port activities, with the merging not just of many different trades and goods, but also of the details of ships and cargoes, direct data interchanges between the systems of each different company would represent a golden opportunity to simplify and speed up the administrative side of the transport business.

Initiatives have already been taken in several ports in different parts of the world to achieve direct data exchange. In Antwerp this objective has taken the form of SEAGHA.

SEAGHA was incorporated as an independent cooperative company in 1986. By early 1991 more than 140 firms active in the port had become members.

The first aim of the project was to make data exchanges faster and more accurate and in doing so to make full use of the potential of the available computer systems. Apart form exchanges between the member firms, information is directly exchanged with the customs services (SADBEL) and with the port authorities (APICS).

The development work on the implementation of SEAGHA took place during 1987 and 1988. Three pilot projects were brought to a successful conclusion in 1989. This enabled the horizontal development of the system to go ahead in 1990, and the system is now fully operational.

To ensure compatibility SEAGHA makes use of the UN/EDIFACT standard for data exchanges (= United Nations Electronic Data Interchange for Administration, Commerce and Transport).

SOCIAL SERVICES AND FACILITIES

Port workers

Port workers have the use of a number of facilities and services, which have been established by the Port of Antwerp Employer's Association (CEPA). Chief among these are an industrial safety service, a medical service and the use of canteen facilities.

The *Common bodies for safety and hygiene* monitor activities on board ship, at the quays, in warehouses, storage places and workshops. Port firms receive practical advice and assistance on how to improve working conditions.

The common bodies also draw up instructions and safety regulations, organize training courses on safe working in the port, etc.

The *Inter-Company Medical Service* monitors the health of dock workers and the operation of the first aid services.

These services are provided by the *Social Institute of the Employers of the Port of Antwerp - SIWHA* in association with the *Port of Antwerp Red Cross.* In the port zone there are various permanent and mobile first aid centres as well as two ultramodern reanimation units fully equipped for emergency operations, radiography, blood transfusions, etc.

Seafarers

The large number of vessels calling at the port means that on any given day there are some 3,500 seamen in Antwerp. Grateful use is made of the facilities offered by the *International Seamen's House,* particularly by foreign seafarers who come to Antwerp to join their ships. The centrally located Seamen's House offers a 100 rooms, as well as a restaurant, recreation rooms with a cinema, TV, etc.

Various bodies tend to the social and spiritual welfare of seafarers in Antwerp and offer them recreational and sporting facilities.

The city authorities have set up a 22,000 m^2 sports center in the port area.

Various religious and social organizations also provide a welcome and recreation for seafarers,

Moreover several countries also provide facilities on behalf of their own nationals in the merchant fleet.

First Rouen Maritime Port Union Conference

The first committee, chaired by Mr. Edouard de Clebsattel (Dunkirk Maritime and Commercial Union), reflected on the nature, objectives and activity of port unions, Delegates also debated their unions' relationship with their economic and administrative environment. They commented that port professionals, notwithstanding their importance in the life of their respective ports, are not adequately represented. They, therefore, voted a motion, addressed to the French government, asking for representation in assemblies or organisations responsible for ports or directly concerning them.

Professional unions also play an important role in promoting French ports. Mr. Jacques Durand-Viel, Port Alliance president explained to delegates how a three-pronged association of users, the port authority and the chamber of commerce was organised at Le Havre and the role the association plays in promoting this port. Other delegates made key contributions to this discussion.

Port computer systems

Mr. Giovannetti, a Marseille-Fos Maritime and Fluvial Union delegate, chaired the committee which considered port computer systems. The committee presented an in-depth study of all existing systems and pointed out that from one port to the next discrepancies exist because each port's needs differ according to size, cargo handled and geography.

The delegates remarked that a cooperative atmosphere amongst ports in this domain would benefit all involved and would be particularly advantageous in research, which is extremely onerous.

They expressed their desire to continue to control cargo computerisation given the eventuality of a third party — inland forwarding agents, for example — participating in these transactions.

Private sector investments

The committee chaired by Mr. Bitaly, representing the Bordeaux Maritime Federation, reflected on private sector investments in French ports and on the conditions necessary to incite private firms to invest heavily in ports in France.

Unified European market

A unified European market augurs new economic, social and customs parametres. Mr. Le Yondre, representing Le Havre Maritime Port Union, chaired the committee which reflected on these imminent changes and how French ports will adapt to them. Various situations of port professionals were reviewed. These professionals, delegates noted, must be informed of modifications of procedure. They hope that any modifications will entail more

freedom of action without being detrimental to the quality of services they now offer.

Delegates also reviewed the level of competitivity of French ports. They insisted that port authorities take their proposals into consideration when they make projects. The delegates also indicated that port administrations must take care to stimulate dockers, the majority of whom are aware of the lacunae in the present economic and social structure.

Lastly, concerning the status of French ports, delegates emphasized that it is necessary for them to be more directly involved in local think-tanks and decision-making groups because local councils are bound to increase the level of their investments under increasing decentralisation of the French economy.

This first Maritime Port Union conference allowed delegates to analyse the future of French ports and of the professionals who work in them in a cooperative and productive atmosphere. This debate should continue and it shall because the Port Professionals Maritime Union has decided henceforth to meet each year. The Union's second conference is to be held in Marseille in 1992.

The French secretary of state for the sea sent a message to delegates. The conference was an instrument to reinforce links amongst French port communities, the message said, and in doing so, was an instrument for development.

(Rouen Port)

Rotterdam, VCI Ink Environmental Pact

By 1995, the industrial effluents from the German chemical industries in the Rhine and its tributaries will contain considerably less pollutants. This is laid down in an agreement between the City of Rotterdam and the German Chemicals Manufacturers Association (VCI), which was signed in Frankfurt, Germany.

It is the first international environmental agreement of its kind. Some 100 chemical companies are affected by the agreement, which Mrs. Ankie Verbeek, the Rotterdam alderman for environmental issues, described as a milestone in the international prevention of water pollution.

The Dutch port at the Rhine mouth suffers extensive silting up problems. Only the dredging of the harbour basin guarantees a safe keel draft for navigation.

Because of excess pollution mainly by heavy metals, it is at present necessary to store part of the port sludge in a purpose built disposal site called The Slufter.

Each year up to 10 million cubic metres, which would normally be dumped either in the North Sea or on land— for instance, for building dikes are disposed of this way.

Seven heavy metals in particular are concerned over which the chemical industry seeks to initiate reduction proceedings by 1995: the quantities of zinc, for example, should be reduced from 450 tonnes to 270 tonnes per year; for chrome a reduction from 150 to 50 tonnes had been planned; in the case of copper from 80 to 40 tonnes and for nickel this reduction is from 70 to 45 tonnes. For the group of organic halogene compounds a reduction from 1,500 to 900 tonnes was agreed.

In addition to this, the waste disposal reductions from cadmium will be from 1.2 to 0.8 tonnes and for mercury from 0.6 to 0.4 tonnes, although since 1970 the German chemical industry had already reduced the disposal of both heavy metals by more than 90 percent.

Compared to other producers, the German chemical industry plays only a minor role in the pollution process of the Rotterdam port.

1986 serves as the reference year for this agreement. At that time, Rotterdam established through its own measuring surveys introduction data on industrial and communal issuers in the Rhine catchment basin.

The Rhine agreement will benefit both parties concerned: Rotterdam will take a further step forward on its way to becoming a "clean port". To this end, the city renounces any claims for damages against the VCI member companies. For the Association this agreement is yet another example of how the German chemical industries act independently in matters that concern environmental safety, something which the VCI general manager, Dr. Wolfgang Munde, stressed to the press.

Already in 1993 the VCI will list the reductions that were achieved by 1992, and three years later it sill produce the 1995 final report. Rotterdam in its turn will report every two years on development that have occurred in the concentration of pollutants in the port sludge. In 1994, negotiations will take place regarding an extension of the agreement.

The aim is to reduce, by the year 2002, pollution levels in the sludge to such extent that it no longer requires special disposal.

Asia/Oceania

Brisbane Cargo Tonnage Again at Record High

As signalled, and contrary to a widespread trend in other states, the Port of Brisbane has posted record cargo-handled figures for 1990/91.

For the first time, Brisbane has passed the 16 million tonne mark for cargo handled in a financial year. Cargo throughput reached 16.1 million mass tonnes — up about 550,000 m.t. (3.5%) on the previous year.

Commenting on the overall position, the Minister for Transport (Hon. D. Hamill M.L.A.) said the port had now put together eight consecutive years of record tonnages.

"There is not another major general cargo port in Australia that can approach that performance," he added.

Mr. Hamill said one of the most important indicators of the port's performance was the container trade which had made "a very significant contribution" to the increased port throughput.

The total number of containers to pass through the port reached 183,380 TEUs — more than 11,100 above the previous year's record.

"In fact, when compared to the 1988/89 result of 144,964 TEUs, this represents an astonishing 26.5% increase in just two years," he added.

Mr. Hamill said Brisbane had remarkable resilience a a trading centre, again illustrated perfectly by what had happened in the movement of containers.

Like other ports, Brisbane's import of full containers had fallen (about six percent), reflecting the Federal Government's strategies to slow the rate of overseas spending.

However, there had been a 25% lift in the arrival of the numbers of empty containers to service the demand for

an increased export capacity.

As a result, the export of full containers had risen almost 17%.

Therefore, the total tonnages to move in and out of the port in containers had risen by about 153,300 t.

(Brisbane Portrait)

Tradegate Committee Formed at Brisbane

The Port of Brisbane Authority recently called together a wide range of port, shipping, finance and transport representatives to form a Brisbane region Tradegate Consultative Committee.

The Tradegate concept was established and funded by the transport industry to facilitate the introduction of electronic data interchange to the transport industry. At the first (Brisbane) meeting (on June 5), the authority's General Manager, Commercial Operations (Mr. K.J. Hoggett) explained that the committee had a two-fold purpose:

1. to ensure that current information passed regularly from Tradegate (and its attendant network provider, Paxus) to people in the Brisbane trading community:

2. to promote e.d.i. initiatives to and for the community.

MISSION

- to provide a focal point for Tradegate related activities within the regional trade community.

OBJECTIVES

- to provide a regional Tradegate information dissemination service.
- to promote the Tradegate initiative and raise awareness.
- to act as a liaison point for regional Tradegate activities.
- to identify regional e.d.i. pilot opportunities.
- to compile a mailing list of potential participants.

It is planned to hold meetings at two-three monthly intervals. However, significant developments may mean that meetings will be held outside of that pattern.

The committee has decided that industry publications, e.g., "Brisbane Portrait", will be used as a means of promulgating Tradegate information.

(Brisbane Portrait)

Study for Developing HK Port Facilities

A major step has been taken towards developing and expanding Hong Kong's port facilities for the next century.

In August this year a US$7.7M study was commissioned to take forward the Hong Kong Government's Port and Airport Development Strategy (PADS) proposals for developing Hong Kong's port facilities. These are to be on a reclaimed land peninsula extending from the north-eastern portion of Lantau Island and in the adjacent Western Harbour area.

The consultancy study awarded to a consortium made up of Acer Consultants, Au Posford Consultants Ltd. and Frederic R Harris Inc., will examine, review and formulate a development plan as well as make recommendations on how phased implementation between 1997 and 2011 should be carried out so as to cope with Hong Kong's burgeoning freight industry.

Envisaged for detailed implementation proposals are container terminals, river trade and passenger terminals, cargo working waterfrontage, container terminal back up areas, ancillary port services facilities, typhoon shelters, general purpose immigration, quarantine and dangerous goods anchorages, fairways, channels and breakwaters.

Key transport infrastructure proposals immediately adjacent and connected to the study area to be taken into account include the North Lantau Expressway and railway to the new airport at Chek Lap Kok with its associated bridge link to Tsing Yi plus a submerged road/rail tunnel link to Hong Kong island via Green Island.

The consultants are required to formulate traffic and transport proposals, assess marine and environmental impacts and identify private participation packages.

The study will be completed in 16

months with formulation of a development scheme, an engineering feasibility analysis and a development cost assessment for the port facilities.

Disaster Control Ship For Safe LNG Haulage

Tomei Maru was delivered by IHI to Nanmei Kosan K.K. of Tokyo in 1990 to ensure safe LNG haulage by large-sized LNG carriers.

This multifunctional disaster control ship can accommodate on its stern section the marine water curtain devices consisting of

(1) the water curtain piping system capable of forming a water curtain with an area of 160m long by 20m tall,

(2) a pontoon mounted with electric motors and pumps to supply the water curtain piping with seawater and

(3) the floating marine cable (electro-mechanical cable) for power supply; it has also warning devices able to prevent marine disaster.

By forming a large-scale stable water curtain over the sea in an event of fire caused by gas leakage, the water curtain can reduce radiant heat generating from flames and simultaneously it enhances gas dispersion, thus averting a second catastrophe.

Geelong Wins Bid for National Oil Spill Centre

Geelong will become Australia's oil spill 'nerve centre' from early 1992.

A decision by the Australian Institute of Petroleum during May to locate the multi-million dollar Australian Marine Oil Spill Centre (AMOSC) at Corio Quay South was the result of a submission by the Authority's research and development department.

Following months of examination and deliberation, Geelong beat front runners Melbourne and Williamstown for the prestigious facility that will focus domestic and international attention on Corio Bay.

A $10 million stockpile of sate-of-the-art oil combatant equipment will be stored in an Authority warehouse at Corio Quay South.

The collection of containment booms, skimmers, vacuum units, temporary storage tanks, helicopter spray systems, absorbents and dispersants can be mobilised anywhere on the Australian coast within 12 to 24 hours, using nearby Avalon airfield.

A purpose-built training and administration complex will be built later this year at Corio Quay West and operated on 24-hour standby by a permanent staff of five people, headed by oil industry expert, Mr. Ted Wayment.

The school is expected to train about 300 oil industry and public sector personnel every year on short term courses from February 1992. Participants from throughout Australia will stay in local accommodation houses, providing a significant ongoing boost to the local economy.

Funded by the nine major Australian oil companies, the centre is the first of its kind in Australian and will be capable of dealing with spills of up to 10,000 tonnes. It will have an annual operating budget of $750,000.

Although not yet fully operational, the centre faced its first test during July when called upon to assist in the massive clean-up operation off the Western Australian coast.

Equipment and personnel from the centre were flown at short notice to play a major role in combating the 25 km slick from the stricken Greek tanker, Kirki.

The Institute chose Geelong because of its location in the hub of Australia's oil industry, and being within close proximity to not only two of the country's major refineries, but also to the Bass Strait oil fields.

Costs, space for development, Corio Quay's roll on/roll off facilities and the Authority's submission were also cited as major contributing factors.

AMOSC will complement oil spill response facilities provided by oil companies and the Federal-State co-operative arrangements in other Australian ports.

Previously, Australia's nearest oil spill response centre was in Singapore, with overseas equipment used in past emergencies. *(Portside)*

Brani Terminal: Modern Fleet of Equipment

By Oh Bee Lock
Brani Terminal
Port of Singapore Authority

A modern fleet of equipment will be used for container operations at Brani Terminal (BT), PSA's second container terminal which will begin operations in January 1992. Quay cranes, rubber-tyred yard cranes and prime movers with double-stack trailers will incorporate the latest technology in container handling systems. This fleet of cargo-handling equipment will be operated under the Computer Integrated Operations System (CITOS) which features sophisticated computer applications and automation modules.

First Port To Use Double-Stack Trailers

A $7.9 million contract for the purchase of 100 units of double-stack trailers was signed between Mr. Shum Siew Hung of PSA and Mr. Tay Kim Hock of Intraco Ltd. on 6 May 91. Forty units will be used in BT. Singapore is believed to be the first port in the world to use the double-stack trailers for operation. The purchase of the trailers is in line with PSA's commitment to use the most efficient equipment for its operations.

The double-stack trailers can carry a payload of 100 tonnes or the equivalent of two loaded forty-foot containers or four twenty-foot containers. This is double the existing trailer capacity of 50 tonnes. Each trailer is fitted with four axles consisting of two self-steering and two fixed axles. The self-steering feature allows for easy manoeuvring when the prime mover is turning.

Double-Trolleyed Quay Craned

For of BT's fleet of quay cranes will

TECHNICAL SPECIFICATIONS

	QUAY CRANES	RUBBER-TYRED YARD CRANES
Hoisting Speed	70 metres per min	30 metres per min
Trolley Speed	210 metres per min	70 metres per min
Gantry Speed	46 metres per min	134 metres per min
Load capacity	40 tonnes	40 tonnes
Automation Systems	Chassis Positioning System Container Number Recognition system (CNRS)	Automatic Positioning Indication System (APIS) Automatic Travel Control System (ATCS)

feature a double-trolley capability. PSA will be the first port in Southeast Asia to acquire these cranes with faster handling rates and shorter crane cycles. Containers can be discharged from the first hoist on a platform from which a second hoist can automatically lower it onto a waiting trailer. In addition, a Chassis Positioning System will enable the chassis to be aligned precisely with the crane's spreaders for the loading of containers.

Wider And Higher Yard Cranes

BT's rubber-tyred yard cranes will be wider and higher and can stack containers eight-across and six-high. This will substantially increase the container stacking capacity per slot and all yard cranes will be fitted with Automation Systems to enable automatic tracking and control of container movements. *(PSA Port View)*

Strategic Partnership: PORTNET-TradeNet Link

By Lee Gek Tiang
Public Relations Dept.
Port of Singapore Authority

To better serve the maritime and trading community, the Port of Singapore Authority (PSA) and the Singapore Network Service Pte. Ltd. (SNS) have established a link so that PORTNET subscribers can directly access TradeNet databases, and TradeNet users can make direct use of PORTNET facilities. The link has been established since April this year.

PORTNET is PSA's on-line computer service which provides its subscribers with a comprehensive database of real-time operational information. The expansion of the existing services by PSA and SNS through the linkage marks another milestone in their partnership to provide comprehensive services to meet the needs of the maritime and trading community. Both PORTNET and TradeNet users can enjoy added benefits without having to invest in additional hardware or software.

For PORTNET Users

PORTNET users can exploit SNS's electronic services to support their daily operations. For example, in addition to submitting their trade declarations through TradeNet, they can gain direct access to TradeNet's databases for business and trade information such as company business information and trade opportunities. This direct access to critical information facilitates users in making key decisions quickly so as to gain that competitive edge. The link also obviates the need to subscribe to multiple information providers.

For TradeNet Users

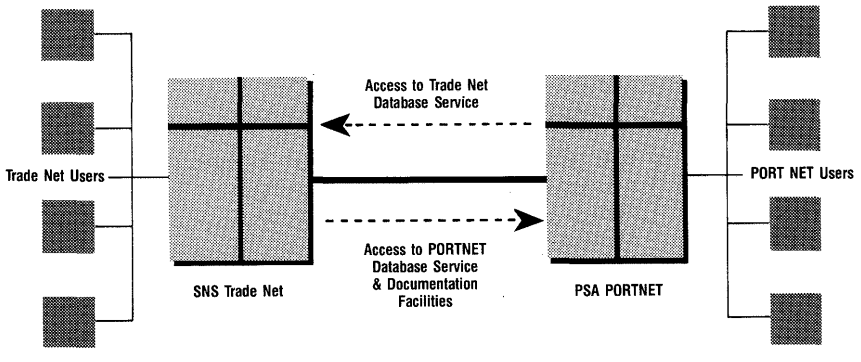
Currently, a TradeNet can, through the connection with PORTNET, gain access to real-time shipping and port operational information.

With the expansion of the existing facility, TradeNet users will be able to make use of PORTNET's electronic documentation facility to submit to PSA, declarations or submissions previously submitted manually through hardcopies at the port's service counters. The quick turnround of shipping documents will translate into time and cost savings for the end users.

With the implementation of the improved services, the current pool of users will not have to incur additional hardware or software cost as they can gain access to both systems using their existing hardware. The link will also spare users of both systems the inconvenience of having to use two separate channels to enjoy the benefits of PORTNET and TradeNet.

(PSA Port View)

PORTNET-TradeNet LINK UP



Sea-Land Expansion: New Call at Songkhla

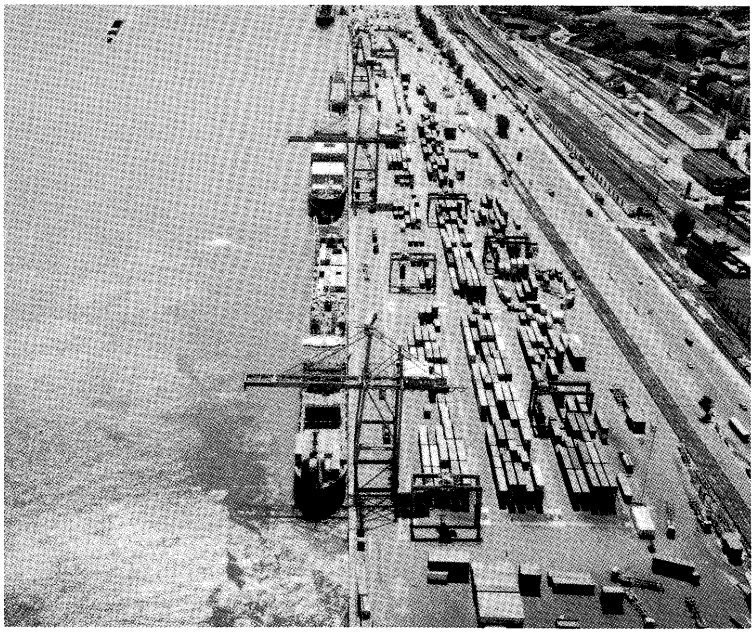
Sea-Land Service, Inc. on 28th August announced the expansion of its Southeast Asia transportation network with a new call at the port of Songkhla, Thailand. Located approximately 650 kilometers (390 miles) south of Bangkok on the Gulf of Thailand, the port at Songkhla offers shippers an additional choice when shipping from Thailand.

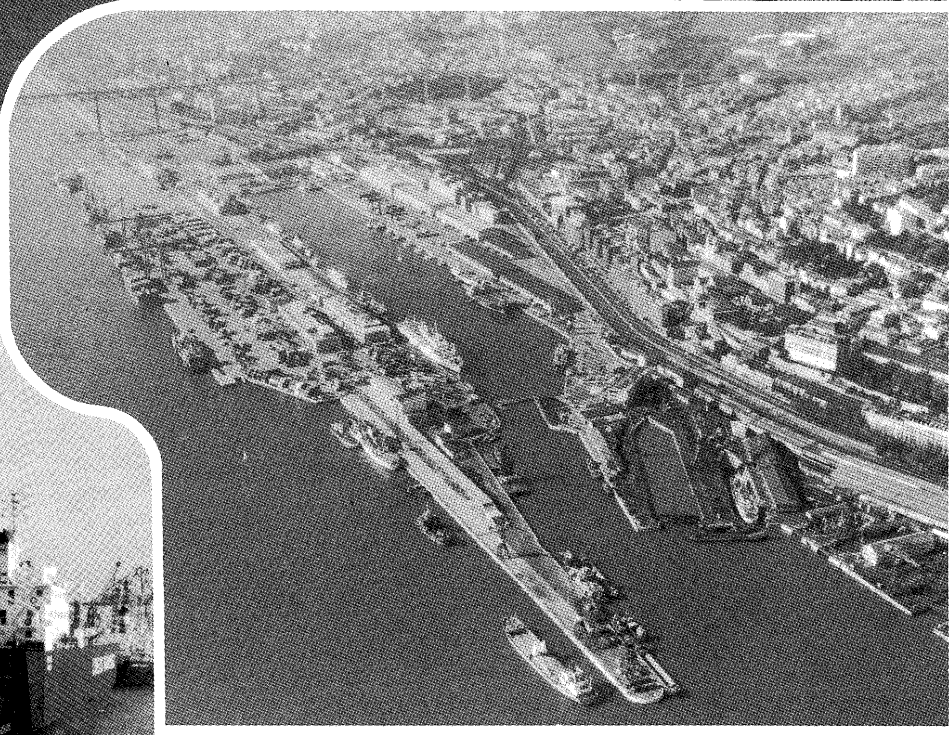
Since July, one charter vessel with capacity of 293 TEUs has been serving the port on a biweekly rotation. The SEA-LADY sails between the ports of Singapore, Songkhla, and Pasir Gudang, linking up with Sea-Land's Pacific Northwest (PNW) linehaul service at Singapore.

"This new call provided further advantages for our customers," said Mr. Peter R. Moe, vice president-Southeast Asia for Sea-Land's Pacific Division. "As the economy of Thailand continues to grow, we have noted a marked increase in the demand for containerized service," he said. "Meeting the needs of both the intra-Asia Shipper and those moving cargoes across the Pacific, our new call facilitates transport for manufacturers in Thailand," Mr. Moe said.

Thailand's ports are linked up with the country's 46,000 kilometers of rail network. A direct rail line runs between the port of Songkhla to Butterworth in Malaysia.

"The continued integration of Pacific Rim economies cannot be underestimated," said Mr. Bal Dreyfus, country manager-Thailand for Sea-land's Pacific Division. "To keep up with the continued growth in exports, expansion of transportation services and infrastructure continues to be a very high priority for Thailand and for Sea-Land," he said. Commodities moving out of Songkhla include apparel, footwear and value added agricultural products.





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TELEF. 363 71 51 - 363 79 54
TELEX 18529 PORLI
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