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Port of Hamburg

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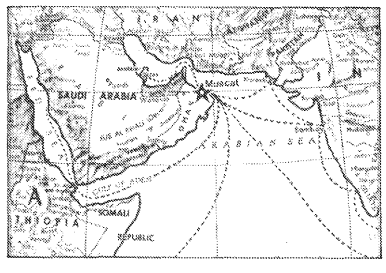

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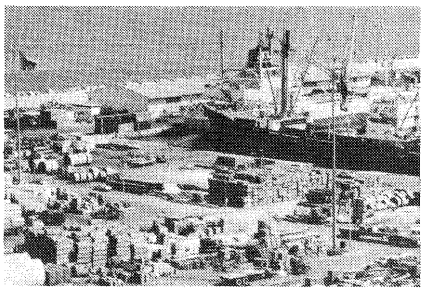

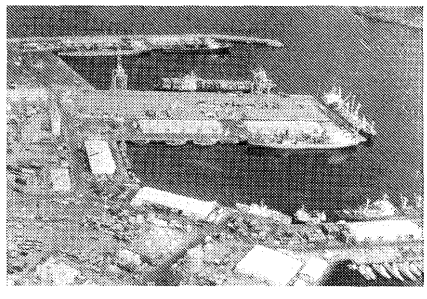

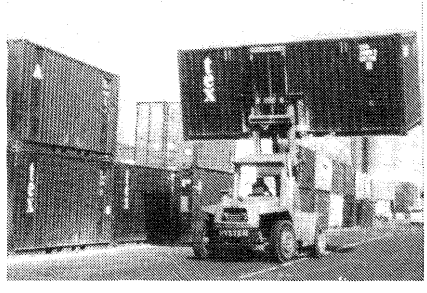

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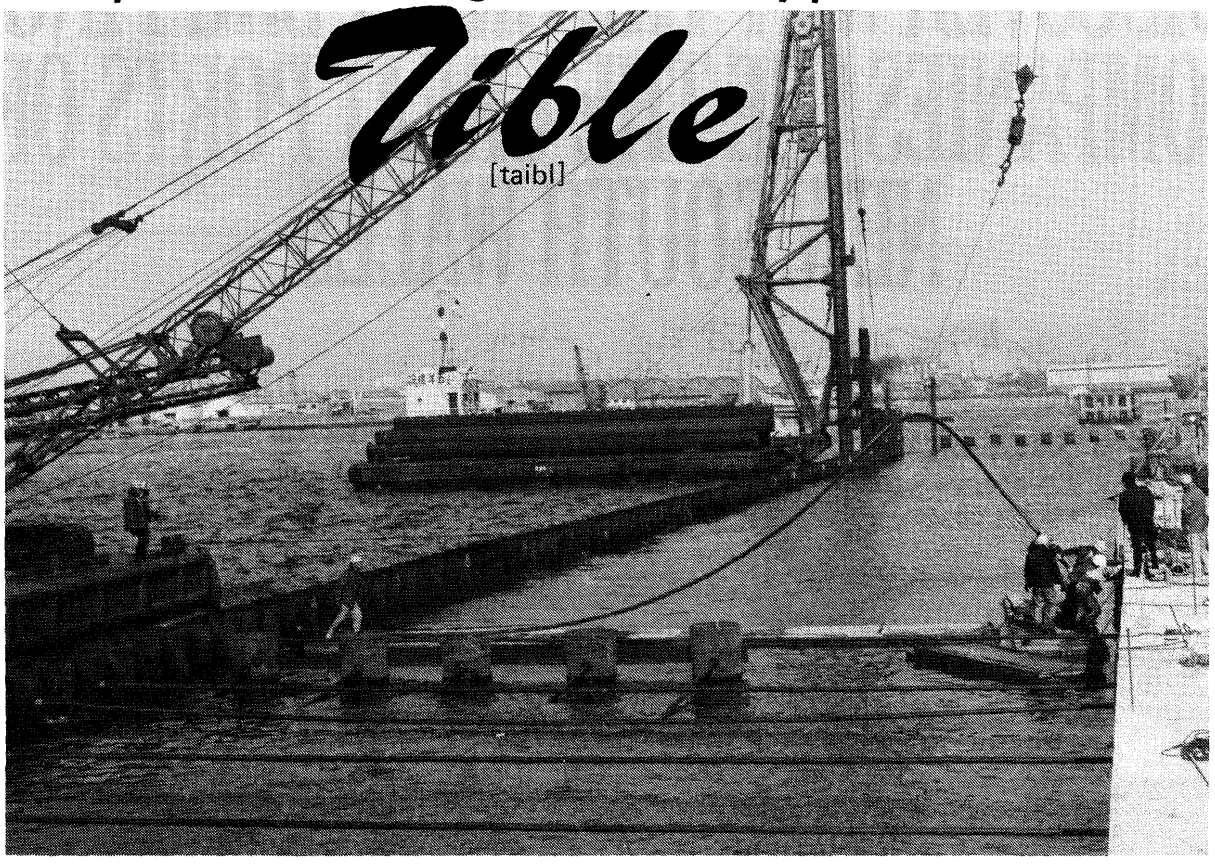
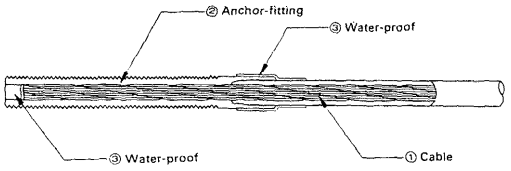
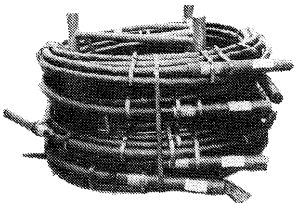


Structure of TIBLE



Transportation form



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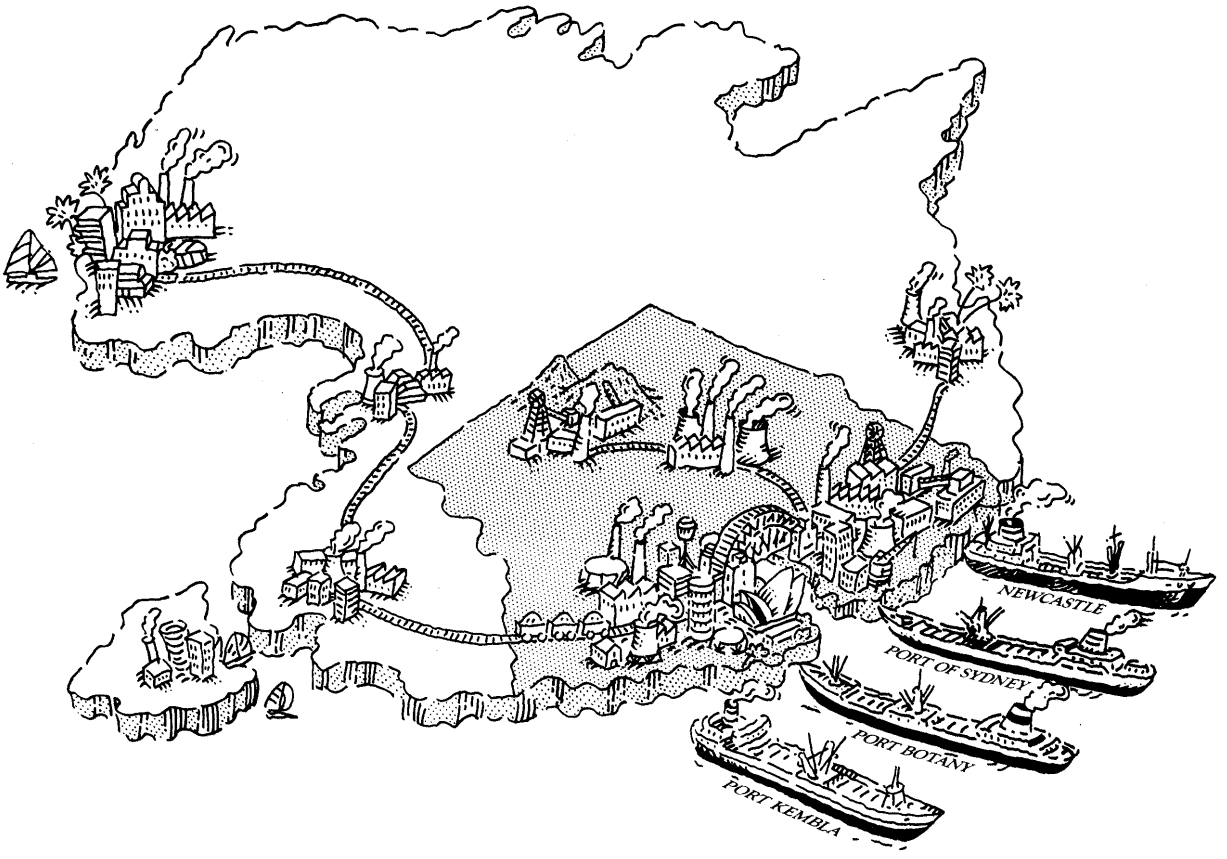

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The Port of Sydney and Port Kembla are maintaining record cargo throughputs. So too is Newcastle, where current harbour deepening operations will ensure that tonnage figures continue to grow. The development of Port Botany has doubled Sydney's container facilities making it the largest shipping facility in the Southern Hemisphere.

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For details, contact The Maritime Services Board of New South Wales, Circular Quay West, Sydney 2000, Australia.
Telex: AA24944

THE MARITIME SERVICES BOARD OF NSW.

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PORTS and HARBORS

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CONTENTS

The Cover: **Port of Hamburg (Tollerort Terminal)**

Price US $3.50 per copy
US $35.00 per year

The Port of New York and New Jersey's newest container terminal- Red Hook, Brooklyn, New York

Through the combined efforts of the State of New York, the City of New York and The Port Authority of New York and New Jersey, construction is now nearing completion on the new 1,000,000-ton capacity Red Hook Container Terminal in Brooklyn, New York, which has been leased to Universal Maritime Service Corp. This new container terminal, capable of handling Ro/Ro, as well as container and breakbulk vessels, is being completed at a cost of $20,000,000. It will have a 1,000-foot-long container berth supported by two cranes and 40 acres of upland area. Approximately 30,000 containers are expected to move via Red Hook each year and the facility will have the capability of handling trucks on a 100 percent appointment system. The site enjoys exceptional navigational advantages since it is located along Buttermilk Channel where the Corps of Engineers maintains a depth of 40 feet.

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IAPH announcements and news

CCC's 59th & 60th Sessions: Report by Mr. Vleugels

The 59th & 60th Sessions of the Customs Cooperation Council, held in Brussels from 14th to 16th June, 1982 were attended by Mr. Robert L.M. Vleugels, Director-General of the Port of Antwerp, who was appointed IAPH Liaison Officer with CCC.

His summarised report:

The meetings were held in Brussels from 14th to 16th June, 1982.

In a report the position was stated as regards signatures, ratifications and accessions in respect of the Council's Conventions. The Council now has 93 members, after the accession of Niger, and the number of Contracting Parties to the Nomenclature Convention, has risen to 51.

Also the evolution as regards acceptances of the Council's Recommendation was reviewed. Since the last session 29 acceptances of Recommendations from a total of 10 countries were received.

Special care was given to the problem of Valuation. The report containing the opinion of the Committee that demurrage and port congestion surcharges should not be included in the dutiable value, was approved by the Council, which took also notice of the appeal of the President of the Valuation Committee that administrations should send in details of actual cases encountered as a basis for examples.

Reports were received and approved of the Nomenclature Committee and Harmonized System Committee.

It appears that the question is still open whether the Harmonized System should be implemented by means of a new International Convention or as a Recommendation of the Council.

The situation regarding the Nomenclature Directorate's Documentation Centre was commented.

New possibilities offered by the system (in particular remote links) would undoubtedly make it possible for the CCC to provide comprehensive information and assistance to Customs administrations, but perhaps also to other bodies involved in international trade.

Further reports were received from the Permanent Technical Committee. To provide information on the Kyoto Convention, seminars are organised and a brochure will be published.

The Computer Working Party continues its work examining a.o. the Danish ADP system and the Caddia project of the E.E.C. and the effects of data protection legislation on Customs ADP activities.

The Council adopted Recommendations concerning the production of goods declarations by means of computer, concerning the use of ISO alpha-2 country code and concerning the use of a code for representation of modes of transport and concerning the establishment of links between Customs transit systems.

Further several reports on matters of internal organisation were approved. The importance was also stressed of close cooperation with other international organisations among which I.A.P.H., IMO and FIATA. With this respect a statement was delivered by the Director General of GATT on 15th June, 1982.

Trade Facilitation Committee: A news flash

On September 28, 1982, Sir Ronald Radford, Secretary-General of the Customs Cooperation Council and Mr. G.D. Gotschlich, Director of the Customs Technique Directorate met with Mr. Robert L.M. Vleugels, Chairman of the Committee and Liaison Officer for IAPH at CCC, together with Mr. J.A. Raven, Chief Executive and Vice-Chairman of SITPRO UK Board, in the City Hall of Antwerp, seat of the Port Directorate of Antwerp.

They exchanged views on the strengthening of the relations between CCC and IAPH. Regular dissemination to the IAPH membership on progress made in the simplification of customs procedures and interchange of practical information on matters of interest to both organizations were the main topics of the meeting.

Draft Convention on International Terminal Operators (ITO): UNIDROIT

Mr. Riccardo Monaco, Secretary-General of UNIDROIT (International Institute for the Unification of Private Law, Rome), in his October 1 letter, wrote to Dr. Hajime Sato, IAPH Secretary-General that the UNIDROIT Study Group under the chairmanship of Prof. Kurt Gronfors produced a preliminary draft ITO Convention and asked for IAPH comments and opinions on the draft.

The Association has been represented in the Study Group by Mr. Lennart Bergfelt, Legal Advisor of Port of Gothenburg, as reported in the Jan/Feb and April 1980, and Oct 1982 issues of the journal. Thanks to Mr. Bergfelt's coordinative work, comments and opinions expressed by the IAPH members through the IAPH Board have been reflected in the draft.

Dr. Sato, in response to Mr. Monaco's invitation, circulated the draft convention among the IAPH Directors and asked for their comments to be supplied to Mr. Bergfelt not later than January 15, 1983, so that he could further report to the UNIDROIT Study Group.

Community Attitude Survey by PACOM: Contribution Report

We are pleased to report that contributions have been received from the following members:

Northern Territory Port Authority, Australia	US$350
Port of Corpus Christi Authority, U.S.A.	350
The Harbours Association of New Zealand	750

IAPH Dredging Task Force Fund 1983: Contribution Report

We are pleased to report that the Harbours Association of New Zealand has contributed US$250 to the DTF 1983.

INMARSAT and its use within harbour limits

Mr. Olof Lundberg, Director-General of INMARSAT (An outline of INMARSAT was introduced in the December 1981 issue of the journal), in his September 8 letter to the IAPH Secretary-General, asked IAPH to lend support to the removing or relaxing of restrictions over the use of satellite ship earth stations within harbor limits and territorial waters which are currently enforced by some countries.

A summary of Mr. Lundberg's letter: There are presently almost 1400 vessels equipped with INMARSAT ship stations and the number of fitted ship is growing steadily. There are also 5 coast earth stations in operation, through which vessels may gain access to the international telephone and telex networks. The existing restrictions on the operation of any radio equipment within harbour limits and territorial waters owe their origins, inter alia, to the understandable concern regarding the use of early spark transmitters which could interfere with transmitters on shore and emit sparks which might prove hazardous in ports. Satellite communications equipment does not produce sparks and the above-deck equipment is completely encased in a protective radome. The existence of such restrictions also serve as a disincentive to ship owners who might be considering the installation of ship earth stations on their vessels intended towards the increasing safety at sea as well as improving sea communications, efficiency and management of ships. INMARSAT would be very interested to hear the views of the IAPH.

In response to the request, Dr. Hajime Sato, IAPH Secretary-General, wrote back to INMARSAT that the matter would be studied by IAPH experts and that the IAPH position would be answered in due course. The matter then was referred to the attention of IAPH Committees on Port Safety, Environment & Construction, Legal Protection of Port Interests, Trade Facilitation and Liaison Officers.

IMPA's 5th General Meeting: Report by Capt. J.C. Michaud

The 5th General Meeting of the IMPA (Int'l Maritime Pilots Association) was held at the Chateau Fontenac Hotel, Quebec, from September 7th to 11th, 1982, under the presidency of Capt. J.A. Edmondson and was attended by 60 delegates and more than 150 observers from over 20 countries. The international bodies were also represented, namely Mr. N.F. Matthews of IALA and Capt. J.C. Michaud, Harbour Master of Port of Quebec, representing IAPH.

Excerpt of his report:

- The following resolution was presented for adoption by Canada and was subsequently approved by the majority of IMPA members.
  "Whereas more and more nations are adopting a system of vessel traffic management and whereas any VTM system which directly interferes with the navigation of a vessel, is a grave threat to safety; therefore, be it resolved that IMPA exert strong pressures on Governments through IMO to abolish any form of VTM that interferes with safety of navigation."
- Capt. J.A. Edmondson (U.K.) IMPA representative to the Xth meeting of the International Association of Lighthouses held in Tokyo, Japan, in November, 1980, reported that the focal points raised at that meeting were on the A and B buoyage system and the ones of most concern to pilots were on maritime traffic services, namely, interpretation of definitions, qualification of shore personnel, responsibility for disaster and financial liability.
- Saturday 11th September was devoted to Vessel Traffic Services under the umbrella of a Symposium, which marked the conclusion of the Congress.

Mr. Raynold Langlois acted as moderator in his capacity as counsel of the Canadian Association of Marine Pilots and as an introduction he spoke of the Canadian endeavours in the field of Vessel Traffic Management. The other panelists were: Mr. John N. Ballinger, Director of Aids to Navigation, Transport Canada; Mr. Ballinger spoke of the experience of the Canadian Vessel Traffic Management.

Captain A. Wepster, a renowned specialist in VTM spoke of the European experience on VTM.

Captain Edgar Gold, a barrister and professor of Maritime Law at Dalhousie University, talked on the regulated environment of navigation and the practical legal effect of such environment for pilots, officers and owners.

Mr. John Keenan, barrister, who is counsel for the Canadian Association of airline pilots, spoke of the experience of air traffic control and drew a parallel with maritime navigation.

Finally, Mr. N.F. Matthews, IALA, Secretary, presented his paper on a code of practice for VTS procedures.

During the open discussion which followed, several problems and concerns emerged, which needed attention. These included a deterioration in the maintenance of shipboard navigation and propulsion systems, the competency of shoreside personnel.

Although most agreed that in a port or a river system where VTS operates the responsibility for a ship remains with the ship's Master, there was controversy over the relationship between pilot and the shore based VTM operator. Most Canadian pilots has a fear of being taken over or losing some of their authority. It was also agreed that control must remain on the bridge.

Could it be that pilots would no longer be required because a specific geographical area has a VTS? On the contrary, pilots should be on duty in VTS at all times. This was recommended with regards to the new VTS system to be established on the Mississipi River.

Furthermore, some pilots would like to see their colleagues behind the radar screens in VTS, at least in conditions of fog or poor visibility.

- The following members have been elected in accordance with article 11 of the IMPA articles.

  President: Captain M. Guicharrousse (France)
  Senior Vice-President: Captain Pat J. Neely (U.S.A.)
  Vice-Presidents: Captain G.A. Coates (U.K.)
  Captain A. De Vries (Netherlands)
  Captain I. Ferreira (Mexico)
  Captain R.D. Valentine (Panama Canal)
  Captain J.T. Varney (New Zealand)

Report on Port Training by Recipient of IAPH Bursary Scheme

Attachment Training Course at Port of Singapore Authority's Training Department, June/July 1982

by Mr. K.K. Kondo, Bandari College, Tanzania Harbours Authority

I departed from Tanzania on 16th June, 1982 to Singapore and arrived on 17th June, 1982 for an attachment training programme with the Port of Singapore Authority's Training Department.

The objective of the attachment training programme was first to give me some familiarisation of all the training activities of Port of Singapore Authority conducted by its Training Department. Secondly to learn through participant observation the training methodology, curriculum development, teaching materials and equipment and the evaluation system being followed by P.S.A. Thirdly, to utilise the experience gained from this attachment in developing and improving Bandari College (Port Training College) a training unit of the Tanzania Harbours Authority.

The attachment was planned in cooperation between the Port of Singapore Authority's Training Department and the Tanzania Harbours Authority's Manpower Division. It was agreed that the attachment would last for three weeks. From 22/6/1982 to 28/6/82 I attended the Port Technology 1982 Conference as part of the attachment. I gained a lot from the papers which were delivered at the conference. The theoretical knowledge from the conference papers had been well fixed in my mind by the exhibition of modern port technology. During the conference I managed to have discussions with Port Management and training consultants who attended the Portech '82.

From 28/6/82–9/7/82 I was attached to the various sections of the Port of Singapore Authority's Training Department. The Programme was as follows:

28/6/82 – General introduction and discussion of the attachment programme.
29/6/82 –
2/7/82 – Attachment to the Operation Training Section.
5/7/82 – 6/7/82 Attachment to the Management Training Section and PSA Library.
7/7/82 – 8/8/82 Attachment to the Technical Training Section.
9/7/82 – Administration of the training Department and debriefing.

The attachment to each section involved firstly, a general discussion of the structure of the section, staff establishment and activities of the section. Secondly, observing audio-visual equipment, and teaching equipment in general. Thirdly there were study tours to areas which were connected with the training activities. I toured all the wharves of PSA including Jurong Port.

The attachment to the Operations Training Section has enabled me to see the variety of courses run by PSA. As far as PSA is concerned, the training of equipment operators is dominant. Since PSA is more and more going mechanised, the need for the training of dockworkers as equipment operators becomes obvious. The experience I gained on the training of equipment operators will be useful in improving similar courses at home.

The attachment to the Management Training Section, and the PSA Library had enabled me to know the various management courses being conducted by the PSA Training Department. I was also taken around the audio-visual subsection of the Management Section. I was appraised of all the audio-visual equipment available in the PSA Training Department. I was shown some television recordings on curriculum development and the history of the Port of Singapore. The attachment to the audio-visual subsection has emphasised to me the importance of audio-visual aids in training.

The attachment to the Technical Training Section has enabled me to understand the various technical training schemes of PSA's Training Department. They have the Junior Technician, Port Marine, and Apprentice Ship Training Schemes. The section has a large workshop housing the various aspects of mechanical and electrical training. Since Bandari College has plans to start offering training in technical fields, the experience gained from this attachment will be utilised.

In addition to the above programme I had been able to visit and familiarise myself with the PSA Port Police and Fire Training Schools. The Heads of these two schools have briefed me on the kind of activities being run and the training equipment they possess.

The attachment training in general has helped me to widen my horizon on the port industry in general and specifically on the training of port personnel. I, being a head of a port personnel training institution which is still in its infancy, the knowledge and experience gained could act as a tool for the institution's development whose ultimate goal is to promote both workers better performance and high productivity.

In conclusion, I take this opportunity to express my sincere gratitude to the Tanzania Harbours Authority, the Port of Singapore Authority and the International Association of Ports and Harbors for making it possible for me to attend the attachment training in Singapore. I would like also to thank Mr. J. Menon the Training Manager of PSA on behalf of all his staff for the educational generosity they accorded me during the attachment period.

* * * * * *

Visitors

– On October 1, Mr. P.C. Bakilana, General Manager, Tanzania Harbours Board, visited the head office and met the head office Secretariat. Mr. P.C. Bakilana was visiting Japan to observe the present port situations in this country, and to discuss with Japanese institutions for the technical assistance. This is Mr. P.C. Bakilana's second visit to Japan, his first being in 1972.

– Capt. and Mrs. Ian Macfarlan, the recently retired Harbour Master of the Port of Melbourne Authority, in the afternoon of October 13, visited the Head Office and received by the head office Secretariat.

(Continued on page 11 bottom)

Vivacious Vancouver

Site of The 13th IAPH Conference June 4—11, 1983

It's a cliche to talk of how beautiful Vancouver is.

The City can't help it. After all, this largest of British Columbia cities has an ocean beside it, mountain peaks above it and year-round green parks and gardens inside it.

The natural beauty, of which Vancouver has more than its fair share, has consistently placed it at or near the top of most North American Great Places to Look At Lists. Yet high marks for sophisticated night life, downtown excitement, and big city liveliness have just as consistently been awarded elsewhere.

Once upon a time the lack-lustre image was deserved. Downtown was pokey, far from architecturally splendid. Vancouver nightlife neither went very far into the night, nor had much life. There were a few stately restaurants, mainly centred in the city's stuffier hotels, while the wealth of international cuisine being served in lesser known restaurants was largely ignored. Now, however, thousands of well-fed, happily entertained people can attest to the fact that times have changed.

For one thing, Vancouver has acquired for itself a downtown that looks like a downtown, rivalling the bustling self-confidence of Montreal, Toronto or San Francisco.

Giant complexes have risen. One, the Pacific Centre, sprawling over two city blocks, has already radically changed the skyline. Now completed it can be counted as one of Canada's largest downtown developments, comprising three office towers, the Four Seasons Hotel, a Conference hotel, a large department store and 125 shops and services in a two level mall. Downtown, too, is the Royal Centre, with upwards of 60 stores and the 700-room Hyatt Regency one of your Conference hotels.

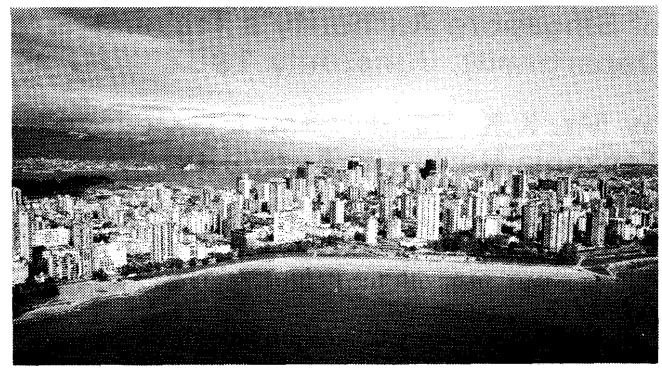
Just as important as new buildings are to the City's image is the restoration of old Vancouver.

The late 19th Century Gastown district has been gussied up and crammed with boutiques, galleries and restaurants. Brick-paved streets are cordoned off and at the district's centre is a statue of "Gassy" Jack Deighton, from whom the area borrowed its name. Jack was an early settler, a saloon keeper and, most memorably, a mighty big talker. Hence his nickname.

Another renowned nickname is Robsonstrasse, applied to a street called Robson, cluttered with German and other European shops where visitors can inspect intricate imported toys, sip one of dozens of blends of tea in picturesque settings, or settle in front of a bakery window to admire the aristry of pastry markers. Such is the quality of shopwindow display on this street that even butchers' windows are worth a few moments admiration.

Other areas Vancouver has managed to keep intact with much of their original character are Chinatown (second largest on the continent), Little Italy, and Granville Street, an historic street that has been turned into a mall.

As Canada's third largest city, and the major port on the Pacific coast of the Americas, Vancouver has access to a splendid array of goods imported from the Orient and down the western coast of the Americas. This makes it an excellent place to shop, both at the large department stores, and the hundreds of small boutiques, many of which feature goods from individual countries.



It's a useful place to buy Canadian goods, too. Particular favorites are jewels and sculptures in British Columbia jade. Increasingly coveted by discerning shoppers are exquisite pieces of silver jewelry designed by Northwest Coast Indians.

For many tourists, visiting a new city is the best excuse they can think of for dining out three times a day. Vancouver's 800 or more restaurants could keep them in a state of bliss for a long, long time.

As an ocean port, Vancouver boasts a large number of seafood restaurants. There are 100 or so Chinese restaurants serving the several cuisines of China. The Japanese, who also played a sizeable role in Vancouver's history, operate several restaurants acclaimed even by tourists from Japan. Greeks and Italians, as well as Spanish, Yugoslavians, Vietnamese, East Indians and Canadian Indians are also represented. Fifty thousand French speaking people reside in Greater Vancouver, which helps explain why the city finds itself with some fine French restaurants.

Thanks to 5,000 miles of sheltered cruising waters on Vancouver's doorstep, and to the warm Japanese current that provides all-year temperature weather, boating is central to the sporting life of Vancouverites. Boats of all kinds may be rented.

Visitors can golf at any one of about 20 public golf courses. Tennis courts and pitch and putt facilities are other outlets for the athletically inclined.

Thousand-acre Stanley Park, a preserve of ancient forest, fine gardens, a zoo and aquarium, provides ample space for walkers. Queen Elizabeth Park, an oasis of grassy spaces and ornamental gardens, takes pride in its Bloedel Conservatory, open the year round. The greater Vancouver area has about 100 parks.

This city, which is not yet a century old, has acquired a number of renowned attractions during its short life. The Capilano suspension bridge in North Vancouver has been described as one of the wonders of the world.

Vancouver has two large universities. One, the University of British Columbia sprawls over scenic land facing the Strait of Georgia, and features, among other things, a new Museum of Anthropology which contains an extensive collection of Northwest Coast Indian artifacts, and a quiet wooded area called Totem Park in which are fine examples of Indian totem poles. The other, Simon Fraser University in nearby Burnaby, has attracted thousands of visitors because of its futuristic architecture.

The H.R. MacMillan Planetarium presents an ambitious program that appeals to people of all ages. Adjacent are the Centennial and Maritime Museums. Heritage Village which recreates a street from the late 19th Century, is in Burnaby; another place of historic interest, the 1827 Hudson's Bay Company trading post called Fort Langley, is a short drive away from the city.

Many people like to take time off from the tourist spots and visit the residential areas of Vancouver. Greater Vancouver possesses several districts where the houses make pleasurable viewing, but wherever one goes there are two things to be noted: that Vancouverites are creative, energetic gardeners, and that almost all have managed to situate their homes to accommodate a breathtaking view.

The people of Vancouver are proud of their city and port and would like you to share in its spectacular surroundings.

(Continued from page 9)

– On October 15, Capt. Ahmad bin Idris, Technical Adviser (Nautical) to the Johore Port Authority, visited the Head Office and was received by the head office Secretariat. After attending a symposium on dangerous goods held in Vancouver, he visited Tokyo to observe the Ohi container terminal complex now administered by Tokyo Port Terminal Corporation which succeeded the Tokyo Bay Port Development Authority which had gone into liquidation last April.

– Mr. Rene Pelicant, Director of External Affairs, Port Authority of Le Havre, in the afternoon of October 18, visited the Head Office and received by Mr. Hiroshi Kusaka, Dy. Secretary-General and his staff. The Port of Le Havre Trade Development Mission, headed by Mr. Vernon, was visiting Tokyo and Osaka, enroute to its mission to the Southeast Asian countries including Korea and Hong Kong.

– Admiral Harold E. Shear USN (Ret.), Administrator, Maritime Administration, U.S. Department of Transportation, in the afternoon of October 14, visited the Port of Yokohama, together with Mr. M. Someck of the American Embassy in Tokyo and Mr. R. Kondoh of IAPH, and was received by Mr. Hirochika Kobayashi, Director-General, and Capt. Takashi Nakarai, Director of Port Affairs Department. He was visiting Japan for a couple of day after visiting China.

– On October 21, Mr. A.J. Hope, ex-Dy. Chairman of Townsville Harbour Board and Chairman of Northern Shipping & Stevedoring Pty. Ltd., visited the Head Office and was received by Mr. H. Kusaka, Dy. Secretary-General and his staff. He applied for IAPH membership for his Northern Shipping & Stevedoring Pty. Ltd., effective January 1, 1983.

Membership Notes

Temporary Members

Forth Ports Authority
Tower Place, Leith, Edinburgh EH6 7DB, Scotland, U.K.
Office Phone: Edinburgh (031) 554 4343
Telex: 72681
(Mr. Colin T. Macnab, Managing Director)

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(Mr. M.H. Kidd, Secretary)

The Mackay Harbour Board
P.O. Box 96, Mackay, Qld. 4740, Australia
Office Phone: 55 1155
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(Mr. E.N. Lever, Secretary)

Port of Vancouver
P.O. Box 1180, Vancouver, WA 98666, U.S.A.
Office Phone: (206) 693-3611, (503) 289-8824
Telex: 152-566
(Mr. Benson B. Murphy, Executive Director)

International Association of Airport and Seaport Police Emblem

The Association of Airport and Seaport Police emblem was designed by a former P.L.A. Police Constable and depicts an anchor and an aircraft superimposed on a map of the world.

The two small insignia are of a ship and an aircraft.

Correction

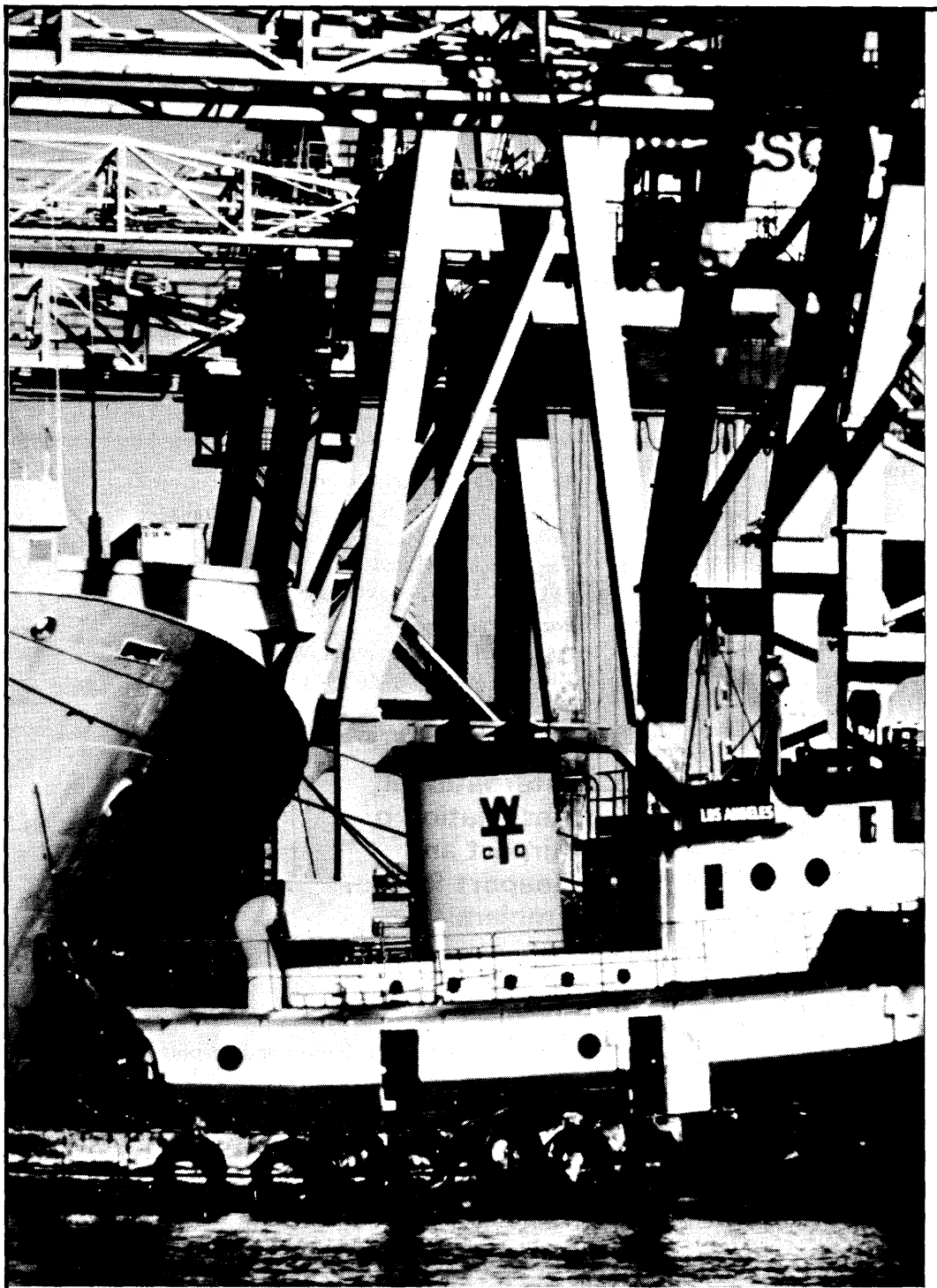
Technical explanatory notes appeared on page 15 of the November 1982 issue (top of the left-hand side column) should be corrected to read as follows:

Then: –

Annual port operating cost

$$= CT + \sum_{i=1}^{3} (FC_i + n_i \times OC_i \times \mu_i \times 365 \times 24) + RT$$

where n_i = number of equipment i
μ_i = utilization rate of equipment i
and i = 1 denotes quay cranes
i = 2 denotes yard gantry cranes
i = 3 denotes prime mover chassis



WORLDPORT

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PORT OF LOS ANGELES

Katsuya Yokoyama Far East Representative
Room 612, TBR Bldg., 10-2, Nagata-cho, 2-chome, Chiyoda-ku, Tokyo 100, Japan.

Open forum:

The Status of the Public Ports of the United States

by Office of Port and Intermodal Development, Maritime Administration, U.S. Department of Transportation

(Extracts from "A Report to the Congress on the Status of the Public Ports of the United States)

Introduction

This report is the first in an annual series on the status of public ports of the United States. It is submitted as required by Section 2 of Public Law 96-371, which provides that: "The Secretary of Transportation shall report annually to the Congress on the conditions of the public ports of the United States, including but not limited to, their economic and technological development, the extent to which they contribute to the national security and welfare, and those factors which may impede the continued development of the public ports of the United States." The report covers issues affecting U.S. seaports and inland waterway ports during the calendar year 1981. It describes problems which ports are experiencing as a result of technological changes, resource allocation, competition, environmental concerns, inflation, and legislation and regulation at all levels of government.

It also includes material defining the nature and composition of the public ports of the United States. Otherwise, the scope is essentially limited to the requirements stated in Seciton 2 of Public Law 96-371.

NATURE AND COMPOSITION OF THE U.S. PORT INDUSTRY

For more than three centuries, America's inland and ocean ports have been centers of population, trade, industry and economic growth. Through these gateways move the vast and infinitely varied commerce that is the lifeblood of modern civilization.

The present U.S. port system essentially is a longstanding partnership between local ports and the Federal Government. This partnership is based upon a traditional philosophy held by this country's founding fathers which affirmed that the Federal Government provide and maintain navigational shipping aids and channels, while local, state, and private interests build and operate the shoreside cargo-handling facilities. Time has expanded the partnership to include safety and security of port operations and facilities in the interests of strategic mobility and to prevent accidents which would detract from port competitiveness in international trade.

With few exceptions, inland and ocean ports in the United States are a combination of public and private marine terminal facilities located within a harbor. Generally, the majority of general cargo facilities are owned by public port authorities, established as entities of state and local governments. On the other hand, bulk terminals handling commodities such as coal, grain, ores and petroleum, are predominantly owned by private interests.

Deep-Draft Seaports

The U.S. deep waterport industry at the end of 1981 consisted of 189 commercial seaports along the Atlantic, Gulf, Pacific, and Great Lakes coasts, including ports in Alaska, Hawaii, Puerto Rico and the Virgin Islands. These ports comprise only two percent or 1,650 miles of our national shoreline. In terms of marine terminal facilities, public and private interests have provided some 2,939 deep-draft berths for oceangoing vessels, which include 1,448 general cargo, 778 dry-bulk, and 713 liquid-bulk.

Table 1 provides a profile of these seaport facilities by coastal region and terminal type.

Table 1 U.S. Seaport Terminal Facilities by Region

Region	Number of Ports	Total Number of Terminals	Number and Type of Berths[1/]											Total
			General Cargo Facilities				Bulk Cargo Facilities							
			Conventional	Specialized General Cargo			Dry Bulk				Liquid Bulk			
			Break-bulk	Container	Ro/Ro	Barge Ship	Grain	Coal	Ore	Other	Petrol	LNG/LPG	Other	
North Atlantic	27	285	325	45	14	5	14	21	16	36	144	1	30	651
South Atlantic	24	103	113	11	26	2	1	0	4	24	59	1	15	256
Gulf	30	322	258	13	3	10	32	14	14	34	112	1	67	558
South Pacific	37	240	190	48	12	7	9	6	4	23	115	1	18	433
North Pacific	43	223	200	19	7	1	16	0	13	58	71	1	12	398
Great Lakes	28	283	138	1	0	0	65	86	73	215	39	0	26	643
Total	189	1,456	1,224	137	62	25	137	127	124	390	540	5	168	2,939

[1/] Includes vessels berths varying from good to poor condition, and having depths of 20 feet or more in ports on the Atlantic, Gulf, and Pacific coasts, and depths of 18 feet or more in ports of the Great Lakes.

Source: Maritime Administration, Port Facility Inventory.

Inland Riverports

In addition to deep-draft berthing facilities, there are innumerable shallow-draft riverports along some 25,000 miles of commercially navigable inland rivers, lakes, and intracoastal waterways. Approximately 16,000 miles of waterways are accounted for by the vast Mississippi River basin, the Gulf Intracoastal Waterway, the Alabama River system, and the Columbia/Snake River system in the Pacific Northwest.

Table 2 provides a summary of the navigable lengths and depths of the U.S. inland waterway system.

Table 2 Commercially Navigable Waterways of the United States by Lengths and Depths[1/]

Waterway Groups	Lengths in Miles of Waterways					Total
	Under 6 ft.	6 to 9 ft.	9 to 12 ft.	12 to 14 ft.	14 ft. & Over	
Atlantic Coast Waterways	1,426	1,241	584	938	1,581	5,770
Atlantic Intracoastal Waterway-Norfolk, Va. to Key West, Fla.	–	65	65	1,104	–	1,234
Gulf Coast Waterways	2,055	647	1,133	79	378	4,292
Gulf-Intracoastal Waterway-St. Marks, Fla. to the Mexican Border	–	–	–	1,137	–	1,137
Mississippi River System	2,020	969	4,957	740	268	8,954
Pacific Coast Waterways	730	498	237	26	2,084	3,575
Great Lakes	45	89	–	8	348	490
All Other Waterways	76	7	–	1	7	91
Grand Total	6,352	3,516	6,976	4,033	4,666	25,543

[1/] The mileages in this table represent the lengths of all navigable channels of the United States, including those improved by the Federal Government, or other agencies, and those which have not been improved but are usable for commercial navigation.

Source: U.S. Army Corps of Engineers

The Mississippi River basin, Gulf Intracoastal Waterway, and Alabama River systems have 95 major riverports. They include 1,894 barge berthing facilities stretching along 26 navigable rivers and waterways in 17 states. These facilities include 386 general cargo, 868 dry-bulk, and 640 liquid-bulk. The region's facilities are summarized in Table 3.

There are about 465 miles of navigable waterways along the Columbia/Snake River system; about 100 miles are deep-draft channel. This waterway is supported by over 50 ports with more than 190 berths. Shallow-draft facilities include 28 riverports with 85 berthing facilities. The region's facilities are summarized in Table 4.

ECONOMIC AND TECHNOLOGICAL DEVELOPMENT

Ports and the National Economy

The economic contribution of the U.S. port system to the Nation is significant. The U.S. port industry's services to the national economy, in terms of sales, purchases, jobs, income and taxes, are on a par with those of other major industries. The dollars that continuously flow into and out of the port industry affect, in some way, every other U.S. industry.

Table 4 Facilities for Waterborne Commerce on the Columbia/Snake River System[1/]

River Sections	Number of Berths			
	General	Special	Petroleum	Total
Lower Columbia River:				
○ Deep-Draft	51	35	20	106
○ Shallow-Draft	12	19	7	38
Mid-Columbia River:				
○ Shallow-Draft	11	16	2	29
Snake River:				
○ Shallow-Draft	5	12	1	18
Grand Total	79	82	30	191

[1/] Includes shallow-draft and deep-draft public, private, and industrial berthing facilities.

Source: State of Oregon, Oregon Ports Study, 1980; and Washington Public Ports Association, Port Systems Study (update), 1980.

Table 3 Inland Riverport Terminal Facilities of the U.S. Mid-Continent by State[1/]

State	Number of Terminals	Number of Facilities	General Cargo	Number and Type of Facilities Inventoried								Total Inventory
				Dry Bulk Cargo				Liquid Bulk Cargo				
				Grain	Coal	Ore	Other	Petrol	LNG	LPG	Other	
Alabama	46	171	82	14	16	3	34	1	–	–	21	171
Arkansas	27	64	20	14	2	4	13	4	–	–	7	64
Illinois	173	281	17	45	30	9	67	52	2	1	38	281
Iowa	69	116	14	22	9	1	35	13	–	–	22	116
Kansas	16	16	3	4	–	–	5	–	–	–	4	16
Kentucky	98	147	27	10	29	6	34	29	–	1	11	147
Louisiana	157	232	69	12	9	13	26	51	2	3	47	232
Minnesota	70	116	13	21	15	3	27	23	4	1	9	116
Mississippi	36	69	23	6	–	8	9	17	–	2	4	69
Missouri	83	106	8	18	4	1	32	28	1	1	13	106
Nebraska	18	18	4	5	–	–	5	1	–	–	3	18
Ohio	86	108	9	3	25	2	16	33	–	–	20	108
Oklahoma	18	21	4	2	3	1	2	3	–	–	6	21
Pennsylvania	72	140	24	–	28	14	38	23	–	–	13	140
Tennessee	141	178	38	6	15	5	43	42	–	1	28	178
West Virginia	66	89	9	–	21	4	9	26	–	2	18	89
Wisconsin	22	22	2	1	5	–	5	3	–	–	6	22
Total	1,198	1,894	386	183	211	74	400	349	9	12	270	1,894

[1/] Based on inventory of the 17-state inland riverports system associated with the Mississippi River system, the Gulf Intracoastal Waterway and related rivers, and the Alabama rivers.

Maritime Administration (MARAD) studies show that in 1980 the U.S. port industry handled over 2 billion short tons of waterborne commerce in foreign and domestic trade; added $5.5 billion to the U.S. Treasury from U.S. Customs Service collections; contributed over $35 billion to the gross national product (GNP) and over $1.5 billion to the balance of payments accounts.

It also generated a total of $66 billion in direct and indirect dollar income from gross sales and services to its users. In addition, the port industry was directly and indirectly responsible for providing jobs for more than one million persons and for generating personal income of $23 billion, Federal taxes of some $10 billion, and state and local taxes totaling $5 billion.

Port Capital Expenditures

To meet the needs of expanding waterborne commerce, inland and ocean ports have invested billions of dollars in new and expanded facilities.

During the period from 1946 to 1980, public seaports invested over $5 billion and anticipate spending another $5 billion by 1990, according to recent MARAD studies. With an estimated capital outlay of $4.8 billion expected to be spent by inland ports during this decade, the total investment by local port entities during the 1980-1990 period will be some $9.8 billion.

The latter investment will be required to finance the development of an estimated 247 seaport berthing facilities, 492 mid-America river terminals and 48 berths along the Columbia/Snake River system during this decade.

These projected facility and investment requirements underscore the importance states and localities place on port development.

With an average annual level of expenditure of nearly $1 billion required during the remainder of this decade by combined inland and ocean ports, these agencies will have to continue to use a variety of funding sources. While all public port authorities depend on their own resources, many must rely on some form of direct or indirect subsidy at the state or local level. For financing major capital improvements, revenue bonds are now the principal method of long-term borrowing, replacing general obligation bonds.

Technological Development

Technological changes – both ashore and afloat – have occurred rapidly in the past two decades. In recent years the trend has been toward specialization. Ships are now designed for specific commodity movements, often over specific trade routes.

Containerships have replaced conventional or breakbulk vessels on many routes. Even conventional general cargo ships increasingly are carrying containers as part of their mixed cargo. Roll-on/roll-off van ships allow for more rapid loading and discharging of containerized and other cargo. Barge-carrying vessels permit time and cost reductions at interchange points.

The use of very large and ultra large crude oil carriers has significantly reduced the cost of moving petroleum. At the same time, it has led to the development of tankers too large to be accommodated in most mainland ports in the United States. With the completion of the Louisiana Offshore Oil Port (LOOP) facility off the coast of Louisiana, however, the United States has one deep-draft port facility for accommodating the world's largest crude oil carriers.

Similarly, the coal export boom has focused attention on utilizing large dry-bulk carriers, deeper channels, and new terminal transfer facilities. Lack of deep-water U.S. harbors, however, has spurred considerable interest in employing alternatives to dredging. Included are the use of large shallow-draft, wide beam vessels, coal slurry pipeline systems, and mid-stream terminal transfer systems.

Some merchant vessels of the future may be larger and are almost certain to be technologically more complex. Although a remote possibility, some envision the construction of a 5,000 TEU (twenty-foot equivalent unit) containership by the end of the century. Bulk vessels also are expected to increase in average size and length. The requirement for dry-bulk carriers of more than 100,000 DWT could double by 1985 and quadruple by 1990 according to recent studies produced by various shipping consultant firms. Such large ships now account for 31 percent of the coal and 8 percent of the grain moving in world commerce. By 1990, these shares could increase to 55 percent and 20 percent, respectively.

It is expected that new and advanced shipping technology will continue to set the pace to which the U.S. ports will respond. Larger ships will require deeper and wider channels, more capacious berths, higher capacity loading equipment and additional storage areas. Table 5 illustrates projected vessel size by the year 1990 for various ocean-going vessel types.

IMPEDIMENTS TO PORT DEVELOPMENT

The concerns of U.S. inland waterway and ocean ports are discussed below. They reflect principal national and regional problems which may impede the continued development of the public port industry of the United States.

Port Facilities Cost and Funding

U.S. public ports are caught in a financial crosscurrent of increasing facility costs and a growing scarcity of funds.

Table 5 Predicted Vessel Size by the Year 1990

Vessel Type	Largest Vessel in the World Fleet				Average Expected Vessel Size			
	Capacity (000)[1]	Length (ft)	Beam (ft)	Draft (ft)	Capacity (000)[1]	Length (ft)	Beam (ft)	Draft (ft)
Breakbulk	27 dwt	598	82	37	13 dwt	500	69	30
Partial Containership	30+ dwt	668	89	40	13 dwt	509	75	31
Containership	40+ dwt	943	106	42	18 dwt	657	89	32
Barge Carrier	45 dwt	879	103	38	40 dwt	876	103	38
Dry Bulk Carrier	150 dwt	1,000	144	56	35 dwt	660	83	37
Combination Carrier	200 dwt	1,076	164	63	100 dwt	852	111	46
LNG	65 dwt	936	144	36	60 dwt	932	141	36
Tanker	550 dwt	1,315	207	93	40 dwt	671	78	37

[1] Capacity in terms of deadweight tons (dwt).

Source: Maritime Administration, Merchant Fleet Forecast of Vessels in the U.S. Foreign Trade, 1978.

Costs of all elements of port planning, development, operation and maintenance have increased drastically in recent years. The cost of marine terminals and modern cargo-handling equipment has risen at a very high rate in the last 10 years. Port operating costs have soared as a result of the staggering increases in the cost of energy. Investment capital is expensive and difficult to obtain. Inflation undermines the port industry's ability to maintain efficient operations and increases the capital needed for facility modernization and expansion. Concern for the environment and coastal management has grown along with increased recognition of social concerns.

This financial climate is further aggravated in some communities which attach lower priorities to port development than to other public services. This is particularly true of those communities in which ports are supported by legislative appropriations, making ports compete with education, hospitals, housing, recreation, and highway projects for available funds. Such public port authorities face intense competition for local funding of expanded terminal facilities.

Also adding to port financing problems are the costs of complying with Federal safety, health and environmental protection requirements. U.S. ports have been spending about $200 million annually, or some 6 percent of their available operating funds, to satisfy Federal environmental security, and employee health and safety standards.

Coal Exports and Port Development

The sharp rise in overseas demand for steam coal has caught the United States with port facilities ill-equipped to handle steam coal and lacking sufficient storage capacity. This resulted in long vessel waiting times, demurrage, and a strained domestic transportation system during 1981.

Also during 1981, the Federal Government unveiled its national coal export policy, designed to expedite exports by reducing delays caused by burdensome regulations and permit procedures, encouraging foreign investment in developing and exporting U.S. coal, and firmly committing the United States to its reputation as a reliable supplier of coal.

Private industry responded with a port capacity expansion program requiring an investment of $1-2 billion during the next five years. Within the next two years, U.S. coal export port capacity will be adequate to meet demand. In the interim, however, port operators have fine tuned existing facilities to increase capacity. The Norfolk and Western Railroad and the Chessie System instituted vessel reservation systems which have reduced waiting times significantly in the Chesapeake Bay area.

The current coal export capacity of U.S. ports is approximately 144 million short tons per annum (mtpa). The expansion program now underway will provide an additional 90 mtpa, giving the United States a minimum of 234 mtpa by 1985.

Largely ignored in evaluations of U.S. coal-exporting potential during 1981, the Great Lakes have, in-place and functioning, extensive coal-handling facilities. They have a positive record for the movement of domestic and Canadian cargoes. Substantial coal facilities exist at the port of Chicago, Conneaut, Ashtabula, Sandusky, Superior, Toledo and Erie. The majority of export coal has been moved by Canadian laker vessels for transshipment to large colliers loading at St. Lawrence River ports.

As the United States realized the limitations of its shoreside port facilities to handle export coal, it also became aware of how woefully inadequate its harbor depths were to accommodate deep-draft colliers. Existing channel depths at major coal loading ports are 45 feet on the Atlantic coast, 40 feet on the Gulf coast, and 55 feet on the Pacific coast (Los Angeles/Long Beach). As numerous bills were introduced in the Congress during 1981 to address this problem, debate ensued as to who should pay for the dredging of U.S. ports – the Federal Government or the users.

Funding Federal Commercial Navigation Dredging Projects

Assuming more of the financial burden of providing and maintaining shipping channels is the most serious problem facing U.S. public ports.

Without adequate navigation channels, U.S. ports cannot operate efficiently. Dredging has been traditionally performed by the U.S. Army Corps of Engineers since 1824 with the approval of the Congress and financed from the U.S. Treasury.

During 1981, the Administration proposed legislation to recover 100 percent of the actual Federal costs for operation and maintenance and construction of navigation channels in both deep-draft harbors and inland waterways. Deep-draft costs would shift to local public entities, which would be authorized, in turn, to pass them on to the ultimate beneficiaries through user fees. Full recovery of shallow-draft dredging cost would be achieved directly through user charges. No increase was proposed in the current tax on fuel consumed by commercial vessels operating within the inland waterways of the United States.

The reason the Administration seeks to shift both the decision and cost responsibility for port dredging to the ports themselves is twofold:

(1) the Administration is committed to placing all of the major Federal transportation programs dealing with the freight modes on a full cost recovery basis, and

(2) the traditional Federal system of navigation maintenance and development has not been adequately funded for several years and cannot be depended upon to meet future port development needs.

The Administration's policy of full cost recovery is based on the fundamental belief that the quality and quantity of transportation services that the economy provides should be determined, insofar as possible, by the marketplace. Placing Federal dredging on a business-like basis, instituting a market test of the value of port channel maintenance and construction, would eliminate dredging for which users are unwilling to pay, thereby establishing where dredging is economically viable.

Such an approach should lead to faster and better investment decisions for port dredging projects, becuase they will be contingent upon commercial demand, with a clearer understanding of the actual costs and benefits, and not upon the Federal budget process.

In addition to the Administration proposals, numerous other bills were introduced into the Congress during 1981. Most of these alternative proposals specified some form of Federal/local cost-sharing and user fee system for deep-draft navigation development and maintenance.

S. 1962, "The National Harbors Improvement and Maintenance Act of 1981," co-sponsored by Senators Daniel Moynihan (D-NY) and James Abdnor (R-SD), emerged as the principal piece of port development legislation. Reported out of the Senate Committee on Environment and

Public Works, the bill adheres to the Administration's proposal for full Federal cost recovery of all new deep-draft harbor construction dredging, regardless of depth. But the measure would establish a 50-50 cost-shared program for the operation and maintenance of newly deepened ports. In addition, non-Federal public interests would be responsible for 25 percent of the maintenance cost for each existing harbor. To mitigate any severe impact that this cost-sharing requirement could impose, the legislation also "caps" the individual port user fee for maintenance dredging at 125 percent of the national average of per ton dredging costs.

Within the U.S. port industry, opinions vary on whether user charges, in any cost-sharing plan, should be assessed by the individual port benefitted or by the Federal Government on a uniform nationwide basis to pay for all dredging projects. A number of large ports express a willingness to accept the burden of collecting user charges to compensate the Federal Government for half the cost of deepening channels for depths of more than 45 feet. On the other hand, a greater number of ports, not certain of the traffic volume needed to cover expensive channel deepening and maintenance costs, favor a national uniform user fee; i.e., the same charge for a ship, no matter what the port of entry, collected by the U.S. Customs Service and deposited in a "Navigation Trust Fund."

All U.S. ports agree, however, on the following points:

(1) A basic port system with depths up to 45 feet should be provided and maintained by the Federal Government as at present.
(2) Channel deepening to depths greater than 45 feet should have Federal/local cost-sharing.
(3) User fees should be permitted to raise the local portion of costs on projects deeper than 45 feet.
(4) Expediting of the project/permitting approval process and construction of channel improvements is essential.

A related shift of costs that did occur during 1981 involved the cost of constructing levees for dredged material. For many years the provision of these levees or dykes was considered a part of the U.S. Army Corps of Engineers' construction of a project. Now the Corps specifies that local port interests must provide dredged material retention levees for new projects. Congress, however, may delete this requirement on a case-by-case basis.

Dredged Material Disposal

The dilemma over funding the dredging of navigation channels has been complicated by increasingly complex and inflexible environmental regulations applying to dredged material disposal. Dredging projects in the United States must satisfy the existing criteria laid down by the U.S. Environmental Protection Agency with respect to disposal sites, both on land and at sea. Legal controversies have delayed construction of important port and waterway channel deepening projects for years.

Congressional Authorization and Environmental Permitting Procedures for Federal Commercial Navigation Projects

The navigation funding problem is further compounded by the congressional authorization procedures necessary for channel deepening projects. In the United States, it can take 20 to 25 years to develop a navigation project from concept to completion. As many as 18 major steps, comprising more than 40 separate procedures, must be accomplished. Every port in the country has been affected by the Federal system for authorizing navigation projects. Many of the cost recovery user fee bills introduced in the Congress during 1981 contain a system to streamline these approval procedures. This so-called "fast-tracking" feature has universal support.

In addition to the time consuming and burdensome congressional authorization procedures, there is also the growing intricacy of the environmental permitting process for port dredging projects, which must conform to a large number of environmental regulations. An increasing number of Federal, state, and local agencies must comment or provide some form of approval before the U.S. Army Corps of Engineers can issue a permit for construction to proceed. Legal challenges based on the procedure often have further delayed project implementation.

The number of permits ports must obtain prior to proceeding with development projects has greatly increased during the past decade. Port authorities often are required to obtain at least a dozen environmental permits for major development proposals. Included are permits from such entities as the U.S. Army Corps of Engineers and the U.S. Environmental Protection Agnecy; state air and water quality agencies; state lands, fisheries, and coastal management agencies; and local building and zoning departments. Each agency usually conducts a review independent of the actions of the others.

A matrix is presented in Appendix E showing Federal agencies that may be involved in port environmental matters, depicting areas of overlap in duties and responsibilities, which tend to cause confusion in the port industry.

Environmental permit delays can cause project costs to escalate considerably beyond original estimates. Capital tied-up in anticipation of approval incurs interest. Detailed in environmental protection, public access, and safety and energy development. On the other hand, port officials are concerned whether coastal management policies sufficiently provide for port development needs.

Port Tariffs

Port terminal tariffs remain a complex issue which has increasingly come to the attention of the U.S. port industry, in face of diminishing financial support from state and local governments. This shift policy by state and local governments is due mainly to general economic conditions and the belief ports should assume more responsibility in maintaining their economic well-being. That is, U.S. public ports are expected to rely more on reinvestment of port earnings for financing port development and to seek the most efficient use of available financial resources.

Thus the trend in public port development is away from public support and toward a revenue base. To assure a continuing presence of port facilities in number and kind necessary for the ongoing needs of national and world commerce, the strengthening of the industry's revenue base becomes an important overall objective. As a result, port management is becoming strongly attuned to the objective of revenue financing as versus an earlier philosophy of public support and developmental rates.

One of the most effective ways for ports to meet this new challenge is by improving their revenue base through recovery of full economic costs as reflected in improved port terminal tariff rates. Consequently, ports have become keenly aware of the quantitative gap between current tariff rates and those which would be reasonably compensatory,

i.e., based on full economic cost recovery. At the same time, ports realize they must accomplish this change while still effectively competing for cargoes.

Ports and Deregulation

Public ports find themselves in a regulatory middle ground between inland carriers and ocean carriers at a time when old rules may not apply. Just as the sixties and seventies were a time of rapid technological change, the eighties thus far are characterized by rapid changes in regulation.

The domestic waterway transportation industry, because of user fees, locks and systems congestion, and rising carrier costs due to regulatory compliance, is logically expected to pass on increased costs by rate increases. This mode's past history has shown productivity advances, including fuel saving, which cannot be expected to continue indefinitely. The major new potential for cost saving would seem to be in port and terminal productivity advance. Whereas new waterway development appears unlikely in the immediate future, after the Tennessee-Tombigbee Waterway is completed, the growth potential for existing waterways is excellent. The carriage of bulk cargoes by common carrier was deregulated several years ago. Container and breakbulk cargoes on barges, popular in some parts of the country, remain regulated. Shipborne-barge (LASH/SEABEE) traffic, viewed as an extension of the ocean barge carrier or mothership, remains unaffected by regulation.

Rail deregulation under the Staggers Rail Act of 1980, coupled with rail mergers, may alter traditional rail services and cargo-flow patterns via the Nation's ports. The concern of the U.S. port industry is that deregulation of railroads and the creation of vary large rail systems, as a result of mergers, may affect competition between ports by creating a greater interdependence among ports and the rail lines that serve them. Nevertheless, the continuing complaint of some exporters is that the rails continue to be overly preoccupied by domestic movements. The old relationship between Eastern railroads and Atlantic coast ports, between Southern railroads and Gulf coast ports, and between Western railroads and Pacific coast ports is no longer in effect as rail carriers merge across the old boundaries.

Containerization and piggyback remain the major growth areas, with the expectation of more door-to-door service and increased use of intermodal unit trains. Large volume, breakbulk contractual business is another growth area. Bulk movements by unit trains continue to increase, particularly where the origin and destination are on a single line, with resulting efficiency in car control.

The motor carrier industry's biggest problem following its deregulation is economic slowdown. Still, there is more truck-load competition and some route carriers have lost truck-load business. Innovative rate structures and less dependency on operating authority are noted in all regions.

Ocean carrier rates already reflect deregulation since intermodal rates no longer contain breakout cost or specific deregulated inland rates. Pending legislation proposes elimination of the necessity of ocean carriers filing tariffs with the Federal Maritime Commission (FMC).

Public ports and terminal operators are concerned about the potential loss of the port industry's anti-trust immunity under Section 15 of the Shipping Act of 1916. Although not all ports take advantage of it, the possible loss creates an apprehension of varying degrees when viewed in a future of higher capital cost, lessening Government assistance, user fees, the possibility of reduced bonding power and deregulation. The legal right for ports and terminal operators to discuss rates during such a period could be essential.

Appendix E Federal Authorization for Activities in U.S. Navigable Waters or Ocean Waters relative to Environmental Protection

	FEDERAL AGENCIES																																																	
		ARMY		COMMERCE							DOE					HHS		HUD	INTERIOR							JUSTICE	LABOR				STATE			TRANSPORTATION										TREASURY	USDA					
ACTIVITY	ACHP	COE	CEQ	EAD	EDA	ITA	NMFS	NOS	NWS	OCZM	FERC	EPA	ESC	FCC	FMC	FDA	PHS	CPAD	BIA	BLM	BOR	DOG	NPS	USFWS	USGS	LNRD	OSHA	NRC	OMB	PCC	IBC	IJC	OMA	FAA	FHWA	FRA	OMES	OPID	OPLSR	PD	SLSDC	UMTA	USCG	USCS	TVA	APHIS	FGIS	OOT	SCS	WRC
Permits		X										X			X		X						X		X															X				X		X	X			
Licensing											X			X		X												X						X	X	X			X			X	X	X			X			
Certification										X		X					X																	X									X							
Letter of Approval	X	X					X					X	X					X	X	X	X	X	X	X	X	X			X		X	X					X												X	
Coordination	X	X	X	X	X		X			X		X						X						X		X		X	X					X	X								X					X		X
Review	X	X	X	X			X	X	X	X		X	X					X	X	X	X	X	X	X	X			X	X				X	X	X	X	X	X				X	X						X	X
Enforcement		X					X				X	X		X	X	X	X						X	X		X	X	X						X	X	X			X			X	X	X	X	X	X		X	
Fines							X					X			X	X	X							X			X							X	X	X			X				X	X						
Environmental Impact State.	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Dredging and Filling	X	X					X			X		X	X							X				X		X			X	X							X								X				X	
Dredged Material Disposal	X	X					X			X		X	X							X				X		X																	X							
Anchorages		X						X																																			X							
Navigation		X						X	X																					X								X			X		X		X					
Aids to Navigation								X	X																																X		X		X					
Harbor Protective Works		X						X	X																													X												
Harbor Lines		X						X																																			X							
Ports and Terminal Facilities		X			X	X		X		X					X			X				X		X			X							X		X		X	X	X			X	X				X		
Port Safety and Security		X																									X	X															X	X						
Vessels							X	X	X						X		X					X					X	X		X	X	X	X				X	X		X	X		X	X	X	X	X	X		
Vessel Traffic Control								X	X																					X	X	X									X		X		X					
Intermodal Transportation															X												X							X	X	X		X												
Locks, Dams, and Canals		X	X				X					X	X							X	X			X		X				X	X	X						X			X				X					
Bridges and Causeways	X	X																													X	X			X	X						X	X							
Harbor Tunnels		X																																	X							X								
Pipelines		X									X									X		X			X	X					X	X							X	X										
Submarine Cables		X						X						X											X																									
Aerial Power Lines		X						X			X																							X																
Recreation		X					X			X							X	X		X	X		X	X																			X							
Recreational Boating		X						X	X									X					X																				X							
Boating Safety								X	X														X																				X							
Marinas & Small Boat Harbors		X			X		X			X								X					X	X																			X							
Inland Waterways		X											X								X			X														X			X		X		X				X	X

ACTIVITY	FEDERAL AGENCIES																																																	
		ARMY		COMMERCE							DOE					HHS		HUD	INTERIOR							JUSTICE	LABOR				STATE			TRANSPORTATION										TREASURY	USDA					
	ACHP	COE	CEQ	EAD	EDA	ITA	NMFS	NOS	NWS	OCZM	FERC	EPA	ESC	FCC	FMC	FDA	PHS	CPAD	BIA	BLM	BOR	DOG	NPS	USFWS	USGS	LNRD	OSHA	NRC	OMB	PCC	IBC	IJC	OMA	FAA	FHWA	FRA	OMES	OPID	OPLSR	PD	SLSDC	UMTA	USCG	USCS	TVA	APHIS	FGIS	OOT	SCS	WRC
Great Lakes		X					X	X	X	X		X	X		X				X	X	X		X	X	X	X					X	X						X			X		X	X		X	X	X		X
St. Lawrence Seaway		X							X			X	X		X																										X					X				
Panama Canal and Terminals		X													X															X									X												
Waterborne Commerce		X				X					X				X															X			X						X					X		X			X		
Foreign Trade zones						X										X	X																X												X						
Offshore Ports and Terminals		X					X			X	X				X					X		X			X														X	X	X			X							
Offshore Oil Leasing										X	X									X		X			X	X																								
Offshore Oil Drilling										X	X									X		X			X	X											X						X							
Offshore Mineral Extraction										X										X					X	X																								
Offshore Nuclear Power Siting										X	X									X						X		X									X													
Deepwater Oil Ports		X								X	X									X		X			X	X												X	X	X			X							
Outer Continental Shelf								X		X										X		X			X	X																	X							
Energy Conservation						X					X											X			X			X																	X					
Urban Development		X			X					X							X	X																							X									
Urban Mass Transit											X							X																X	X	X						X								
Land Use Classification	X									X								X	X	X	X	X	X	X	X	X																							X	X
Flood Control		X							X									X		X	X																								X				X	X
Water Pollution		X	X				X			X	X	X	X				X	X	X	X	X		X	X		X		X										X					X						X	X
Water Supply		X			X		X			X	X	X	X				X	X	X	X	X		X	X		X																			X				X	X
Water Quality			X				X			X		X	X				X	X	X	X	X		X	X		X												X					X		X				X	X
Water Assessments		X		X			X			X		X	X				X		X	X	X		X	X																									X	X
Water Rights							X			X	X								X	X	X		X	X		X					X	X													X				X	
Oil Spills			X				X			X		X	X							X				X	X	X				X							X	X	X	X			X		X					
Oily Waste			X				X			X		X	X									X		X													X	X	X	X			X							
Liquid Chemical Wastes			X				X			X		X	X				X							X													X	X	X				X							
Other Hazardous Substances			X				X			X		X	X				X							X			X	X									X	X					X							
Sanitary Waste			X				X			X		X	X				X	X		X			X	X			X										X	X					X						X	
Solid Wastes			X				X			X		X	X				X	X		X			X	X													X						X						X	
Harbor Debris Cleanup		X	X				X			X		X	X				X	X						X													X	X					X							
Air Pollution			X						X		X	X	X				X	X					X	X			X							X	X															
Stack Emissions			X						X		X	X	X				X	X									X											X												
Thermal Pollution			X				X			X	X	X	X											X				X																						
Coastal Zone Management	X	X					X			X	X													X				X			X	X						X												
Beach & Shoreline Erosion		X						X	X	X										X			X																										X	
Estuarine Sanctuaries				X			X			X		X	X											X																		X							
MarineSanctuaries							X	X		X														X							X	X	X										X							
Marine Environmental Protect.		X	X	X			X			X		X	X							X	X		X	X		X												X					X							X
Marine Ecology		X	X	X			X			X		X	X							X	X		X	X		X																								X
Wetlands							X			X		X	X							X	X		X	X		X																								X
Wild and Scenic Rivers							X			X		X	X								X		X	X		X																								X
Fish and Wildlife		X					X			X		X	X						X		X		X	X																										X
Aesthetics	X		X							X								X		X	X		X																											
Historic Values	X									X								X	X				X																											
Climatory								X	X														X		X																		X						X	
Waterfront Renewal	X	X			X					X							X	X				X																X												

Source: Maritime Administraton, Office of Port and Intermodal Development, 1981.

FEDERAL AGENCY IDENTIFICATION

ACHP	Advisory Council on Historic Preservation
APHIS	Animal and Plant Health Inspection Service (USDA)
ARMY	Department of the Army
BIA	Bureau of Indian Affairs (INTERIOR)
BLM	Bureau of Land Management (INTERIOR)
BOR	Bureau of Reclamation (INTERIOR)
CEQ	Council on Environmental Quality (EXEC. OFC. OF THE PRESIDENT)
COE	Corps of Engineers (ARMY)
COMMERCE	Department of Commerce
CPAD	Community Planning and Development (HUD)
DOE	Department of Energy
DOG	Division of Oil and Gas (BLM-INTERIOR)
EAD	Environmental Assessment Division (NOAA-COMMERCE)
EDA	Economic Development Administration (COMMERCE)
EPA	Environmental Protection Agency
ESC	Endangered Species Committee
FAA	Federal Aviation Administration (TRANSPORTATION)
FCC	Federal Communications Commission
FDA	Food and Drug Administration (HHS)
FERC	Federal Energy Regulatory Commission (DOE)
FGIS	Federal Grain Inspection Service (USDA)
FHWA	Federal Highway Administration (TRANSPORTATION)
FMC	Federal Maritime Commission
FRA	Federal Railroad Administration (TRANSPORTATION)
HHS	Department of Health and Human Services
HUD	Department of Housing and Urban Development
IBC	International Boundary Commission (STATE)
IJC	International Joint Commission (STATE)
INTERIOR	Department of the Interior
ITA	International Trade Administration (COMMERCE)
JUSTICE	Department of Justice
LABOR	Department of Labor
LNRD	Land and Natural Resources Division (JUSTICE)

(Continued on next page bottom)

After Iron Ore, What?
— Master Planning and Port Zoning —

By Lamartine da Rocha
Deputy Chairman
Mormugao Port Trust, India

The Port of Mormugao with its connected railway line, though conceived as a port of transit to cater to the vast hinterland comprising the districts of present Maharashtra, Karnataka and Andhra Pradesh, has, in the last quarter of a century, emerged as a mono-product exporting port. The port has been equipped with a solid infrastructure to handle iron ore and its derivatives. Hence the problem that engages the attention of one and all is:

"AFTER IRON ORE, WHAT?"

2. In fact, the export of iron ores, which was keeping the port, more or less, evenly busy during the year round, has, in the last few years, been limited to the export of powdery iron ore during the 8 non-monsoon months of the year, thereby leaving the port and all its infrastructure practically idle during the 4 monsoon months.

3. Although ports in our country operate within a regulatory framework as provided by the Major Port Trusts Act and other legislations, they are essentially commercial units concerned with much the same objectives as other business enterprises. In addition to the commercial objectives of growth, profits and perpetuity, ports are concerned with rendering of service to the public. Very often, this latter objective takes precedence over the profit making. Thus perpetuity may be due more as a result of compliance with the law than the profitability of operations.

4. Under these circumstances, one can well imagine the profitability of a port which handles a mono-commodity that too during only 8 months in a year and is practically idle with no revenue earnings during the one third period of the same year. Added to this is the lurking fear that the 8 months working also may come to a stop in foreseeable future due to depletion of iron ore reserves within the Territory or for some other extraneous reasons such as recession in the world market, etc. Hence "AFTER IRON ORE, WHAT?"

5. It is an admitted fact that port administrator of today operates in a climate of rapidly changing technology and new public priorities. Thus, he is faced with challenges not previously encountered by his predecessor. Whilst one would ordinarily expect a port facility to remain alive at least for a quarter century, the rapidity of technological changes makes it impossible to realistically plan facilities on such long term use basis.—Who can tell what kind of cargo will have to be handled through the Port of Mormugao 25 years hence? Who can tell what kind of ships will be engaged in the international trade 25 to 30 years hence? The social and political pressures, which affect public priorities, also constitute a great challenge for a port administrator who, in addition, is required to endorse governmental policies which would be then in force and confine to the fiscal constraints which will be in operation at that time. All these facets make planning of port development a complex task, not amenable to a simple solution. This complexity arises primarily from the fact that, operationally a port is not a simple unified whole, but a collection of separate activities which interact in their very functioning to such an extent that difficulty or bottleneck in one part of the system quickly gives rise to a chain reaction affecting the whole system.

6. The UNCTAD Secretariat, in the 1st stage of its ports'

(Continued from page 19)

MARAD	Maritime Administration (TRANSPORTATION)
NMFS	National Marine Fisheries Service (NOAA-COMMERCE)
NOAA	National Oceanic and Atmospheric Administration (COMMERCE)
NOS	National Ocean Survey (NOAA-COMMERCE)
NPS	National Park Service (INTERIOR)
NRC	Nuclear Regulatory Commission
NWS	National Weather Service (NOAA-COMMERCE)
OCZM	Office of Coastal Zone Management (NOAA-COMMERCE)
OMA	Office of Maritime Affairs (STATE)
OMB	Office of Management and Budget (EXEC. OFC. OF THE PRESIDENT)
OMES	Office of Marine Environment and Systems (USCG-TRANSPORTATION)
OOT	Office of Transportation (USDA)
OPIA	Office of the Assistant Secretary for Policy and International Affairs (TRANSPORTATION)
OPID	Office of Port and Intermodal Development (MARAD-TRANSPORTATION)
OPLSR	Office of Pipeline Safety Regulation (TRANSPORTATION)
OSHA	Occupational Safety and Health Administration (LABOR)
PCC	Panama Canal Commission
PS/DW	Ports Staff/Deepwater (OFFICE OF ECONOMICS-TRANSPORTATION)
PHS	Public Health Service (HHS)
SCS	Soil Conservation Service (USDA)
SLSDC	St. Lawrence Seaway Development Corporation (TRANSPORTATION)
STATE	Department of State
TRANSPORTATION	Department of Transportation
TREASURY	Department of the Treasury
TVA	Tennessee Valley Authority
UMTA	Urban Mass Transportation Administration (TRANSPORTATION)
USCG	U.S. Coast Guard (TRANSPORTATION)
USCS	U.S. Customs Service (TREASURY)
USDA	U.S. Department of Agriculture
USFWS	U.S. Fish and Wildlife Service (INTERIOR)
USGS	U.S. Geological Survey (INTERIOR)
WRC	Water Resources Council

Research Programme has been concerned with two inter-related aspects; (a) the clarification of the nature of the problems involved in port economics and port operations and (b) the development of analytical techniques in decision making.

7. The analytical method, which has been designed, purports to assist in making decisions about the difficult problems of–when to invest, in what form, for what and how much. It should be possible to apply the analytical method in general for any of the following problems:

a) improving individual port procedures in an existing situation i.e. without further investments or with only minor investments–not the case of Mormugao after 25 years,
b) optimising the port's system under static or existing conditions in order to secure the optimum position i.e. attainment of the minimum cost at maximum output–also not the case of Mormugao after 25 years,
c) optimising the port operations under dynamic conditions. This would consist essentially of an amalgam of (b) mentioned above but also would take into account the requirements arising from expected changes in the traffic and cargo flow through the port–possible case of Mormugao after depletion of iron ore reserves and not possessing a sound industrial base in and around the port.

8. The application of the analytical method to the problems of dynamic planning and to securing the long term optimum is most important. On account of the scope and complexity of the problems involved, a solution cannot easily be found.

9. With the depletion of iron ore reserves, the Port of Mormugao will necessarily have to cater to only general cargo traffic originating from the areas other than the territory of Goa. The transport bottlenecks for the movement of this traffic to and from the port are enormous under the existing conditions and do not require further elaboration. Suffice it to say that unless the powers-to-be improve the rail link communication either by having a different alignment or by easing the existing one and carry out substantial improvements/modifications in the road/highway net-work, the territory of Goa and, therefore, the Mormugao Port is destined to languish as a major port of the country.

10. Operations at a general cargo berth can be divided into three independent functions viz.:

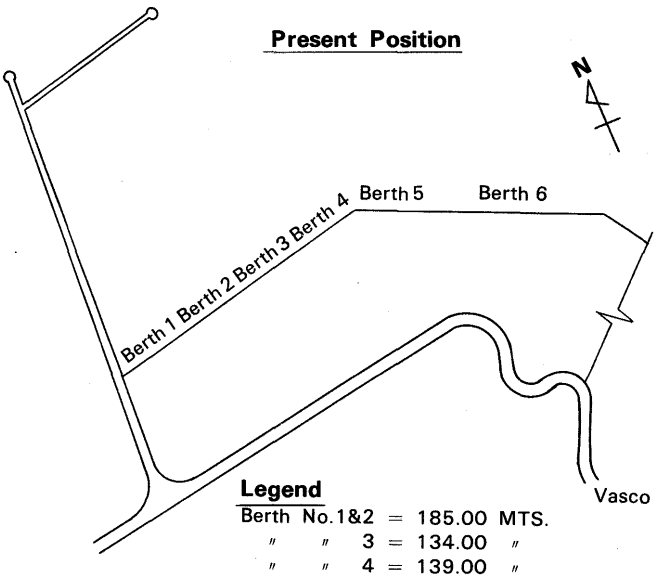
i) the movement of cargo into and out of rail wagons, trucks or barges,
ii) the transit storage of cargo at the port,
iii) the movement of cargo from the storage into or out of the vessels.

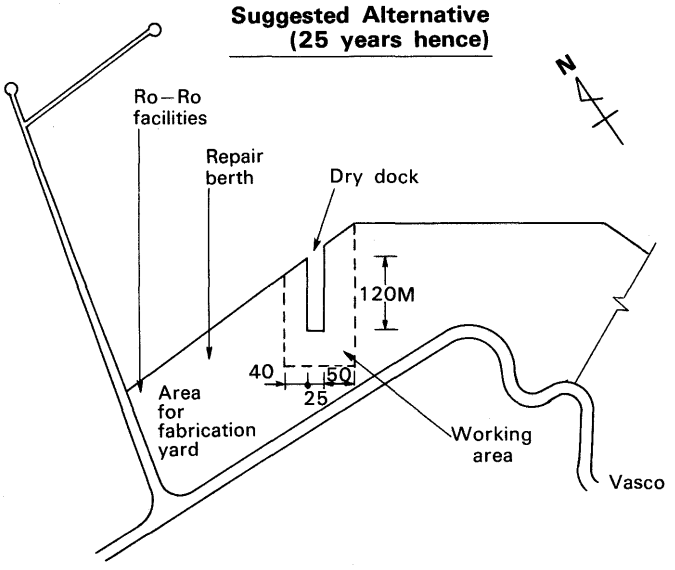
11. The limitations in the Mormugao Port's ability to handle general cargo traffic will now be considered:

i) Apart from the meagre land transportation system referred to above, viz. a metre-gauge railway line having a gradient of 1:40, steepest in Indian railway at one of its sections, coupled with very primitive network of roads leading to the port area and with almost 100 years old berths with a narrow apron and depths ranging from 6 metres to 8 metres, are serious constraints for the efficient handling of break bulk cargo:
ii) Let it also not be forgotten that the Port of Mormugao conceived, as already mentioned above, as a port of transit, was planned to meet the requirements of the cargo passing through it mainly through metre-gauge railway and hence the so called transit and overflow sheds have been so located as to be fed by metre-gauge railway line only with very little manoeuvring area for truck and tractor-trailor combination;
iii) The existance of the metre-gauge lines and the indiscriminate location of these sheds vis-a-vis the present trend of cargo handling makes the entire layout totally unsuited for planned handling of general cargo under the present day conditions.
iv) Nor are the berths capable of being improved in respect of alongside depths or provision of wider aprons except at enormous costs rendering the entire scheme uneconomical.

12. The port, because of the limitations of the present day existing berths, has gone ahead and started construction of a new modern multi-purpose general cargo berth which

(Continued on page 23 bottom)





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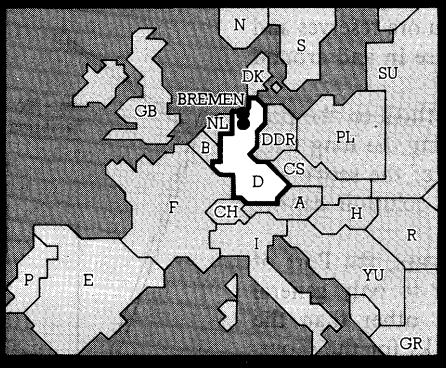

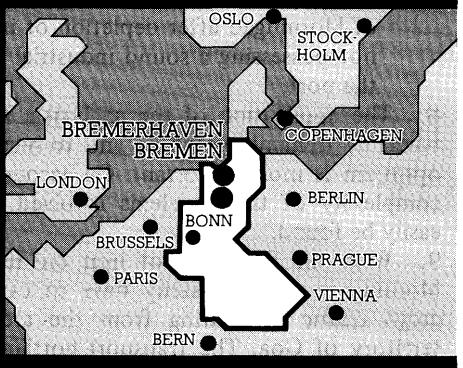

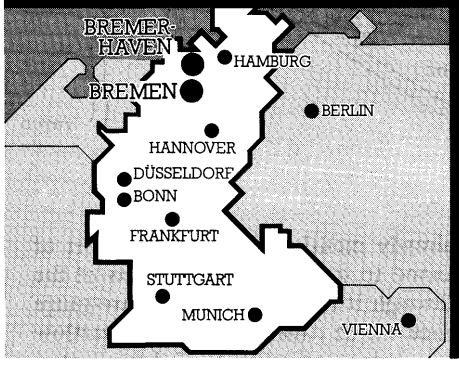

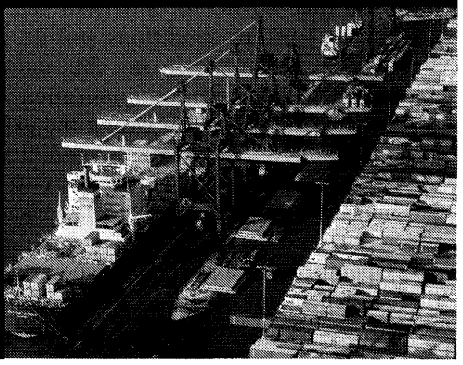

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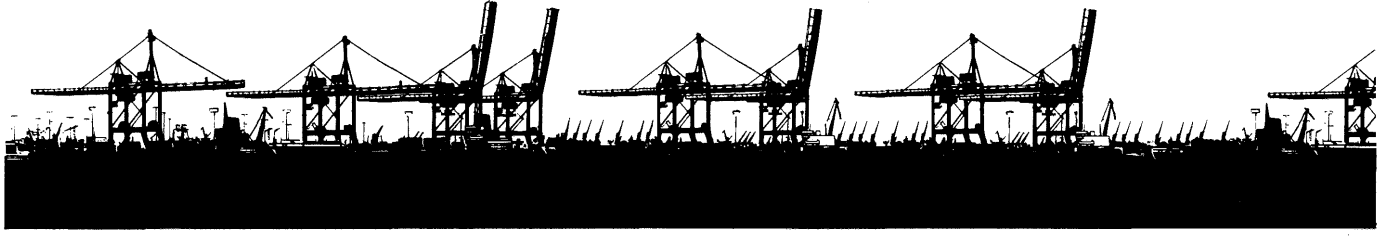


Fraser Port

(Extracts from Statistics and Financial Statement 1981, Fraser River Harbour Commission)

Chairman's report

In a world facing serious economic problems, unemployment, inflation, high interest rates, it is gratifying indeed, to be involved with an organization, the Fraser River Harbour Commission, which in addition to earning substantial profits, makes a very real contribution to the economy of the Region, the Province and the Nation. Over the years profits have been steadily increasing to where for the year ending December 31, 1981, the net was $5,158,000. I am convinced that the balance sheet as of December 31, 1982, will show the Commission to be completely free of long term debt, and again show an excellent profit.

In the years that lie ahead, we will see great expansion in trade with the Pacific Rim countries through Canada's West Coast ports. It is the Commission's responsibility to plan for this trade expansion through seeing that serviced land is available for new deep sea port facilities as they are required. With its strong financial position, the Commission should be able to achieve the required results without a commitment to a heavy long term debt.

Chris Brown,
Chairman

(Continued from page 21)

perhaps will be able per se and with one of the existing berths, to take care of all the general cargo to be handled at the port in the next 10 to 15 years. Therefore the old berths, 1 to 4, will remain idle with only sporadic use.

13. Since the question that has been agitating the minds of one and all is "AFTER IRON ORE, WHAT?", one suggestion that could be considered, under these circumstances and now that the new oil berth takes care of the POL products and has, in fact, spare capacity, would be to use the water frontage provided by the old berths (1 to 4) and the area behind it for:

a) providing a dry dock to take care of all port's craft including the dredgers or have a dry dock sufficiently large enough to take care of even foreign and Indian vessels visiting the terminal port (there is no other suitable site where economically a dry dock and repair berth so very essential can be sited),
b) being used as a fabrication yard for carrying out large fabrication jobs for offshore drilling operations,
c) providing appurtenant facilities to develop and encourage roll on roll off traffic.

In other words, depletion of iron ore reserves or substantial decrease in the exports of iron ores from Goa for reasons not within anybody's control will give rise to a different kind of master planning and zoning with a view to use the existing facilities in an orderly manner.

Balance sheet

as at December 31, 1981

	1981	1980
Assets		
Current Assets		
Cash	$ 324,550	$ 1,462,217
Accounts receivable	895,218	918,219
Prepaid expenses	27,241	19,505
	1,247,009	2,399,941
Port and Harbour Development Fund		
Cash	1,700,000	–
Fixed Assets	21,402,212	20,373,962
	$24,349,221	$22,773,903
Liabilities		
Current Liabilities		
Accounts payable and accrued liabilities	$ 317,276	$ 463,196
Revenue received in advance	440,064	549,757
Principal due within one year on long term debt	137,590	127,823
	894,930	1,140,776
Long Term Debt	1,673,102	5,010,693
Equity		
Reserve for Future Port and Harbour Development	$ 1,700,000	–
Commission's Equity	19,417,552	15,958,797
Government of Canada – contributions to harbour development	663,637	663,637
	21,781,189	16,622,434
	$24,349,221	$22,773,903

Statement of income

for the year ended December 31, 1981

	1981	1980
Revenue	$ 7,782,555	$ 5,678,580
Expenses:		
Operating, Maintenance and Administration Costs	943,573	853,947
Depreciation	1,021,233	1,005,185
Interest	658,994	865,675
	$ 2,623,800	$ 2,724,807
Net Income	$ 5,158,755	$ 2,953,773
Appropriation for future Port and Harbour Development	$ 1,700,000	–
	$ 3,458,755	$ 2,953,773
Commission's equity at beginning of year as restated	$15,958,797	$13,005,024
	$19,417,552	$15,958,797

Port of Hamilton

(Extracts from Annual Report 1981, The Hamilton Harbour Commissioners, Canada)

Port Director's report

With the nation entering a period of economic reassessment, 1981 presented new challenges to which the port ably responded. It was a year that has helped to serve as a measure of stresses and strengths, and, in so doing, has reinforced our determination to maintain a position of productivity.

Although overseas cargoes did not meet the record volumes recorded a year earlier, the port's ability to perform acquitted itself well. Overseas product movements tallied 594,379 metric tons, a moderate increase over seasonal averages achieved during preceding years.

The flexible nature of port operations has helped to create a healthy overseas trading position at the year's end. During 1980, exports through the Port of Hamilton carried a high profile, a trend that was handled confidently by the port. 1981, however, showed traces of diminishing export demands, reinforced by the uncertain availability of domestic steel products. This latter condition encouraged industry customers to seek alternative supply sources to meet their own production requirements, thereby stimulating the consumption of imported products. In response to the influx of cargoes being offered to the lakes, marketing programs were implemented to attract these import product movements. Consequently, the Port of Hamilton was able to capture a sound proportion of available commodities destined for the Great Lakes region.

In order to be of continued good service to our customers, we place much importance on the individual needs of port users. One way of improving service is to upgrade cargo-handling equipment to keep pace with changes and advances within the transportation industry. With this in mind, eight new 14-tonne forklift trucks, built to Commissioners' requirements, were added to the Hamilton Harbour Commissioners' expansive equipment fleet in 1981. The new trucks are diesel powered, ride on hard tires and have adjustable forks to adapt to a variety of cargoes.

The port is forging ahead in other areas as well so that the Hamilton Harbour Commissioners' commitment to personalized service remains an all-encompassing feature of the port. A $7.4 million program, initiated in 1977, neared completion in 1981 with the introduction of site services to the pier 12/13 redevelopment project. This substantial modification is a component in the Port Master Plan that comprises two smaller, less than seaway draft docks. The entire restructuring of this harbour installation will be finalized in 1982 and will serve to increase cargo handling capabilities.

Inherent in the design of the new pier is the capacity to provide 1.7 metres additional draft below present Seaway requirements. This feature instills the ability to expand in order to meet future demands and characteristic changes within the Saint Lawrence Seaway System. Other features include improved road access, including 940 metres of newly installed dock service roads, and a stand-by area to accommodate service vehicles.

The East Port Industrial Park is an ambitious undertaking that expresses the Hamilton Harbour Commissioners' dedication to the future of the Hamilton-Wentworth Region and south-western Ontario. This 20-year program is designed to create the development and growth of marine-oriented industry. In 1981, increased attention was given to the staging and implementation of this broad-based project. Applications were made to the Regional Municipality of Hamilton-Wentworth for the installation of sewers, water and other utilities. Negotiations continued with the Ministry of Transportation and Communications for construction of an arterial roadway linking the facility to the Queen Elizabeth Way, one of Ontario's major overland transportation routes.

Earl M. Perkins,
Port Director

Balance sheet

as at December 31, 1981

	1981 $,000
Assets	
Current	
Cash	220
Accounts receivable	1,922
Accrued interest receivable	42
Inventory	64
Prepaid expenses	37
	2,287
Investments appropriated for future harbour improvements	4,100
Fixed	
Land, docks and harbour improvements	18,047
Buildings	5,886
Equipment and vessels	3,861
	27,796
Less accumulated depreciation	13,019
	14,776
Capital Development in Progress	6,596
	21,373
	27,760
Liabilities	
Current	
Accounts payable and accrued liabilities	918
Current portion of long-term debt	176
	1,095
Long Term	
Debentures payable	
Government of Canada, 4-1/8%, to be redeemed before the year 2005	925
Loan payable	
Government of Canada, due December 31, 1987, semi-annual instalments of blended principal and interest at 5-9/16%	390
at 6-1/16%	401
Loan payable	
Government of Canada	1,464
	3,182
Less current portion shown above	176
	3,006
	4,101

(Continued on next page bottom)

Port of Corpus Christi

(Extracts from "horizon" 1981, Port of Corpus Christi Authority)

Port Director's report (extract)

What does the future hold for the Port of Corpus Christi?

How will the events and decisions of the past year shape that future?

The world marketplace, the Sunbelt economy, the energy industry and federal policies are all moving through an era of abrupt change. Forecasters must deal with uncertainties of international scope. There are, however, signposts that give us a glimpse of what's ahead.

During the '80s the Corpus Christi Bay Area port/industrial complex will achieve long-sought projects and see some fundamental shifting of economic activity. Among the things on our horizon:

- Completion of the final leg of the 45-foot deepening project, enhancing our ability to serve larger bulk carriers of petroleum, chemicals, grain, ores, coal and other minerals.
- Reconstruction and reopening of our Corpus Christi Public Elevator and later dock improvements to maximize the marketing position of area grain producers.
- Steady growth in dry bulk cargo shipments and improvements to bulk handling facilities to increase efficiency.

(Continued from page 24)

Capital	
General Capital	19,559
Allocation for future harbour improvements	4,100
	23,659
	27,760

Operating statement

for the year ended December 31, 1981

	1981 $,000
Revenue	
Terminal income	2,543
Harbour operations	880
Marine dockyard income	700
Rental income	1,564
Other income	791
	6,480
Expenses	
Operating salaries, wages and direct cost	3,124
Insurance – fire and general	123
Administration, office and general expenses	898
Debenture and load interest	91
Contribution to employees' pension, group and medical insurance	355
Depreciation	904
	5,497
Excess of Revenue over Expenses for the Year	982

- Greater frequency and cargo tonnage involving Mexico.
- Continuing efforts to upgrade cargo handling facilities in response to user initiative and market demand.
- Increasing industrial development related to Gulf of Mexico oil and gas exploration and production.
- A shift by Port-area petroleum processors toward production of higher-value petrochemicals and chemical feedstocks using lower grade crudes.
- More industry will be attracted to the growing San Antonio market that can take advantage of the uncongested port, rail and truck transportation at Corpus Christi.
- Continued interest from prospective port-related industries needing good sites, efficient water transportation, skilled labor, an inviting year-round working climate and the pro-industry attitude that prevails in the Bay Area.
- The port will continue to be an integral part of the engine of private-sector activity which propels the regional economy.

Dry bulk potential sets strong pace

During the past five years dry bulk materials tonnage moving through Inner Harbor terminals has increased dramatically. In 1979, a total of 672,000 tons moved through the Public Bulk Materials Terminal near the Upper Harbor Lift Bridge. By 1980 that climbed to 1.1 million tons and activity hit a record 1.5 million tons in 1981. This growth is part of an evolutionary process resulting in increased diversification in the Port's cargo mix.

The most promising elements in the outlook for bulk cargo expansion are export coal and petroleum coke.

Handling efficiency key to future grain exports

On the horizon for grain handling at the Port of Corpus Christi are major efficiency improvements at both ship-side export elevators. Each will increase grain handling speed and add the capability to quickly unload large unit trains delivering grain from the Mid-West.

Together with the scheduled completion of the 45-foot channel project to serve these terminals, greater throughout speed and unit-train flexibility will enhance Corpus Christi's ability to compete for grain exports and boost the marketing position of South Texas grain producers.

General cargo horizon: Serving Mexico

During the past few years the Port community has been successful in demonstrating dependable, competitive service to customers in Mexico. Cooperative efforts by private entrepreneurs and the Port Authority have encouraged shippers to select the Port for cargoes coming in by sea and heading for the Mexican interior by rail. In 1981, for example, steel shipments bound for Mexico totaled 179,000 tons, up from 54,000 tons in 1980.

We have served a portion of Mexico's transportation needs for generations. The quality of service demonstrated for steel customers should serve as a model for other general cargo shippers. We believe that on the horizon there are many new opportunities to serve as one of Mexico's window's to the world.

General cargo increased 50% in '81

There was a dramatic upturn in labor-intensive cargo handled at the General Cargo Docks and the Bulk Materials Terminal during 1981. Movement of general cargo was up 50 per cent from the year before and 80 per cent from 1979. Bagged grain, fertilizer and grain products, along with Mexico-bound steel, made up most of this category. The only area of labor-intensive cargo handling to show a decline in 1981 was bulk grain, down 36 per cent from 2.9 million tons in 1980 to 1.9 million tons in 1981.

Overall tonnage for the Port in 1981 was 50,310,474 tons, down 6 per cent from 1980.

Compromise struck for deepening Inner Harbor

Deeper channels have for decades allowed Corpus Christi to be a competitive port for bulk commodities requiring large, deep-draft vessels. The port horizon is particularly bright now that a compromise dredge material disposal plan has been struck which should allow completion of the final leg of the 45-foot deepening project.

With completion of the dredging over the next few years, the project will extend the deepest channel on the Gulf Coast to all reaches of the Port. It will be the payoff for the 25 miles of channel deepening that has already been done from the Gulf to near the Harbor Bridge. It promises to make Corpus Christi an even more competitive bulk commodity handling and processing center in the decades ahead.

Our Mission for the Future

The mission of the Port Authority in South Texas is to attract new industial and commercial activity, sustain and upgrade the standard of living and enhance the already invigorating quality of life.

We are aggressively seeking more effective tools to meet our objectives in a way that will pay off for shippers, companies making industrial expansions and residents of South Texas – the real owners of the sprawling public port complex surrounding Corpus Christi Bay.

Our horizon for the rest of the century is bright with promise. When realized, it will mean our Port is increasingly a magnet for private economic activity – producing personal income and enriching the lives of South Texas workers and their families while serving the needs of world commerce.

Harry G. Plomarity
Port Director

Balance sheet

as at December 31, 1981

Assets	1981 ($,000)	1980 ($,000)
Current Assets		
Cash-unrestricted funds	128	15
Temporary investments-unrestricted	10,723	8,843
Total Unrestricted Cash and Temporary Investments	10,852	8,859
Total Accounts and Note Receivable and Accrued Revenue	7,170	3,767
Inventory	431	412
Prepaid insurance	193	176
Total Current Assets	18,647	13,217
Fixed Assets		
Construction in progress	4,911	5,041
Plant, property and equipment at cost or estimated historical cost	36,787	39,964
Less: Accumulated depreciation	(15,143)	(17,355)
Net Fixed Assets	26,555	27,650
Other Assets		
Total Other Assets	67	67
Restricted Assets		
Cash on deposit	845	155
Temporary investments	6,320	491
Insurance claim proceeds receivable	13,955	
Total Restricted Assets	21,121	647
Installment Sales Receivable		
Sun Oil Company	4,560	4,560
Central Power and Light Company	9,825	9,825
Champlin Petroleum Company	18,900	18,900
Corpus Christi Petrochemical Company	32,000	32,000
Total Installment Sales Receivable	65,285	65,285
Total Assets	131,677	106,866
Liabilities and Retained Earnings		
Current Liabilities		
Accounts payable and accrued expenses	932	927
Notes payable United States of America		2,405
Total Accrued Interest Payable	1,198	1,199
Current maturities of Long-term debt		
General Revenue Bonds, Series 1965	110	110
Total Current Liabilities	2,241	4,641
Restricted Funds Payable		
Sun Oil Company	148	148
Champlin Petroleum Company	674	–
Corpus Christi Petrochemical Company		–
Total Restricted Funds Payable	822	148
Long-Term Liabilities		
Environmental Improvement and Pollution Control Revenue Bonds		
Sun Oil Company	4,560	4,560
Central Power and Light Company	9,825	9,825
Champlin Petroleum Company	18,900	18,900
Corpus Christi Petrochemical Company	32,000	32,000
General Revenue Bonds, Series 1965	1,145	1,255
Less: Bonds currently due	(110)	(110)
Total Long-Term Liabilities	66,320	66,430
Other Liabilities		
Insurance proceeds resulting from business interruption	3,833	
Insurance proceeds resulting from other losses	260	
Total Other Liabilities	4,093	
Total Liabilities	73,476	71,219
Retained Earnings		
Allowance for grain shrinkage	6	225
Operating surplus	58,193	35,422
Total Retained Earnings	58,200	35,647
Total Liabilities and Retained Earnings	131,677	106,866

(Continued on next page bottom)

Massport

(Extracts from Annual Report 1981, Massachusetts Port Authority)

Executive Director's review(extract)

The value of strong, capable managers was never more apparent at Massport than during fiscal 1981. Financially, Massport enjoyed its best year ever, despite a host of economic, legal, and environmental problems.

The airline industry, our largest source of revenue, underwent serious retrenchment and losses, fueled by rising energy costs, lower seat demand, and a post-deregulation realignment.

Investors, to whom we turn to finance many of our activities, were influenced by Proposition 2½, as it created large question marks for the public sector in Massachusetts.

In the face of a growing urgency for new air cargo facilities, a major airport development project met with environmental problems.

Interest rates climbed to new highs as we sought private capital to redevelop our obsolete waterfront properties.

Amid strong external and internal pressures on the Port of Boston, we kept expanding our seaport container capacity.

As Logan airport continued to gain air service, we insisted on a noise abatement program that was second to none.

And, while many other organizations shrank from such responsibilities, Massport expanded its commitment to equal opportunity.

Taken together, these factors could have been suitable apologies for Massport's having a weak year. Yet, in fiscal 1981, Massport grew stronger and better, accomplishing virtually all of its major goals.

The reason is inescapable: Massport is blessed with managers of exceptional skill, judgment, and dedication.

The 700-some people who work for the Authority made fiscal 1981 a success.

David W. Davis
Executive Director

Turnaround at the Port of Boston

Massport has embarked upon a bold development course for the Port of Boston, aimed at re-establishing what was once the busiest seaport in the United States.

While numerous factors have driven trade to other North Atlantic ports, the major drawback to progress at the Port of Boston has been the chronic lack of container facilities. Thus, after an exhaustive marketing study, Massport has begun a major buildup of its marine cargo capacity to create a seaport for the 1980s and beyond.

Exhibit Number One in the expansion opened in the fall of 1981: An $18 million, two-crane, 10-acre container facility built at Massport's Paul W. Conley Marine Terminal (formerly Castle island). Leased to a private operator, the new berth will boost container handling capacity in the Port by 50 percent and relieve congestion at Massport's Moran Terminal.

The second stage in the Port's revival is now under construction in South Boston: Massport Marine Terminal, an $80 million complex large enough to accommodate up to four berths and five cranes. The 47-acre site will soon be used to hold automobiles, lumber, and other commodities, followed by container development in the 1990s when the terminal will be able to work 80,000 containers annually.

Meanwhile, Massport continued to improve efficiency at Moran Container Terminal in Charlestown, now operating beyond its original capacity. In the last five years, Massport has invested $10 million in new equipment and capital improvements. The Authority is also taking steps to realign its current operating responsibility at Moran.

The Port's bottom-line performance remained on a turnaround course, as Massport reduced the Port deficit for the third consecutive year. Despite its problems, the fifth busiest port in the North Atlantic continued to attract shipping. While overall container volume was down in Boston and other East Coast ports in FY81, container traffic at the Conley Terminal jumped 68 percent and automobile imports grew 39 percent.

(Continued on next page bottom)

(Continued from page 26)

Statement of income

for the year ended December 31, 1981

	1981 ($,000)	1980 ($,000)
Operating Income		
Wharfage		
Petroleum	3,718	2,560
Dry cargo	1,200	938
Dockage		
Petroleum	1,205	1,064
Dry cargo	830	943
Standby	382	302
Freight handling	3,070	2,712
Grain storage	1,046	909
Sacking	61	372
Fumigation	30	104
Screening	19	43
Other services	81	99
Property and building rental	577	454
Other income	278	200
Total Operating Income	12,503	10,706
Operating Expenses		
Direct expenses	4,503	4,725
Indirect expenses	2,715	2,253
Total Operating Expenses	7,219	6,978
Operating Income	5,283	3,727
Non-Operating Income		
Investment income-unrestricted	1,728	880
Investment income-restricted	217	41
Total Non-Operating Income	1,946	922
Non-Operating Expenses		
Interest on bonded debt	43	47
Other debt-service related expenses	–	–
Total Non-Operating Expenses	43	47
Income Before Depreciation Expense	7,185	4,602
Depreciation expense	721	854
Income Before Extraordinary Items	6,463	3,748
Extraordinary items	15,504	
Net Income	21,967	3,748

Belfast Harbour

(Extracts from Report and Accounts 1981, Belfast Harbour Commissioners)

Chairman's statement (extract)

Notwithstanding the adverse industrial and trade scene in 1981, I am pleased to record an operating surplus of £402,000. After depreciation, interest, and all exceptional and extraordinary items (including severance costs of £444,000) the net surplus was £110,000. The impact of various cost saving exercises should ensure better operating results in future years, which are essential to keep the port on a sound financial footing.

Whilst the fall in cargo tonnages was slightly over 0.9m. tonnes this largely occurred in the first 8 months of the year, after which there was a distinct levelling off leading to a modest upturn by the year end. We do not anticipate any significant recovery in 1982, but the signs are pointing in the right direction.

With full realisation of the necessity to offer a first class service to port users, new standards of efficiency and flexibility have been introduced for dock workers with their full co-operation, and the port is emerging in a very strong competitive position.

The recommencement, due in May 1982, of the Liverpool passenger ferry service by a new company, Belfast Car Ferries Ltd., and which will have additional freight carrying capacity compared to the former service, is another welcome event. The Commissioners have installed new berthage facilities at the ferry terminal.

The whole concept of the new Enterprise Zone for Belfast, which extends into the Harbour Estate offers very encouraging prospects, with the added incentives of tax concessions and freedom from local rates for a period. The Commissioners are investing heavily in the infrastructure requirements, and increased employment should quickly follow as areas become available for development.

Investment in new and improved port facilities is continuing on a wide front, and the assistance received from the European Regional Development Fund via the Northern Ireland Department of Commerce has continued to be a great help.

J.S. Pollock
Chairman

(Continued on next page bottom)

(Continued from page 27)

A major reason for high shipper interest in the Port of Boston is the unusually high value of its cargo—three times the national average and 20 percent higher than New York's.

Balance sheet

as at June 30, 1981

Assets	1981	1980
Cash	$ 590	$ 346
	(In Thousands)	
Investments in U.S. Government obligations and certificates of deposit at amortized cost, which approximates market, including accrued interest	85,717	99,768
Accounts receivable, less allowance for doubtful accounts of $401,000 in 1981 and $339,000 in 1980	9,306	7,364
Prepayments and other assets	3,802	3,887
	99,415	111,365
Investments in facilities		
Facilities completed:		
Airports	394,027	381,431
Bridge	51,894	46,382
Port	67,184	53,326
	513,105	481,139
Less accumulated depreciation	(156,946)	(138,574)
	356,159	342,565
Construction in progress	33,214	13,940
Net investment in facilities	389,373	356,505
	$488,788	$467,870
Liabilities		
Accounts payable and accrued expenses	11,479	8,476
Accrued pension cost	7,211	7,448
Accrued interest payable	8,112	8,173
Funded debt	235,295	237,640
	262,097	261,737
Deferred Income	1,619	1,462
Contingent Liabilities and Commitments		
Fund Equity		
Retained earnings	193,384	178,453
Contributed capital, grants-in-aid of construction	31,688	26,218
Total fund equity	225,072	204,671
	$488,788	$467,870

Statements of income and changes in retained earnings

for the year ended June 30, 1981

	1981	1980
Revenues:	(In Thousands)	
Tolls, fees and sales of services	$ 48,774	$ 45,824
Rentals	24,555	21,665
Concessions	22,445	21,442
Income on investments	10,547	11,152
Other	725	789
	107,046	100,872
Expenses:		
Operations and maintenance	40,643	37,104
Administration	10,613	9,113
Insurance	1,212	1,307
Pension cost	2,426	2,407
Interest on funded debt	16,224	16,346
In lieu of taxes	4,351	4,077
	75,469	70,354
Income before depreciation	31,577	30,518
Depreciation, including $1,726,000 in 1981 and $1,436,000 in 1980 on assets acquired with contributed capital, grants-in-aid of construction	18,372	17,105
Net Income	13,205	13,413
Add credit arising from transfer of depreciation to contributed capital	1,726	1,436
Retained earnings beginning of the period	178,453	163,604
Retained earnings end of period	$193,384	$178,453

Clyde Port Authority

(Extracts from Report and Accounts 1981, Clyde Port Authority)

Chairman's statement

The report for 1981 again demonstrates the changing trading situation which we are continuing to face. It is evident that today the ports industry is having to cope with a re-structuring of the country's seaborne trade—particularly so in general cargo due to a shift of traffic from the west coast ports to the south-east, attributable to containerisation and unitisation and to the United Kingdom's closer links with Europe through its membership of the EEC.

For the first time since its formation the Authority shows a loss of £824,000 compared with a surplus of £46,000 last year. This was not unexpected in view of the depressed trading climate and having regard to the exceptional items of £466,000 charged in the year—£401,000 being accelerated depreciation to write off assets no longer in use. Despite the disappointing result, we achieved an operating surplus of £383,000 after charging redundancy costs of £397,000. I also feel entitled to point out that the Authority had to meet some £150,000 in wages to registered dock workers who remained on our pay-roll by refusing—under-standably—to apply for voluntary severance until the national severance figure was uplifted in the latter part of the year to match that was available at the ports of London and Liverpool in March and April 1981.

The change in seaborne trade to which I have referred must be faced with realism if the ports affected are to survive and last year I pointed to the need for the traditional general cargo ports to slim their operations. During the year the Authority implemented a considerable part of a programme of rationalising its activities and withdrew from some which were not profitable, such as road haulage.

Towards the end of the year the Foods & Feeds extraction plant started operations in Shieldhall—a welcome new development in the port, particularly so at a time of economic recession. It is our aim to continue to search for and try to attract developments requiring the waterside facilities we have to offer since, in such, I feel much of our future now lies.

In conclusion I must pay tribute to the Executive team led by John Mather for their realism and unstinting efforts on behalf of the Authority, and to all our employees for their understanding and loyalty during a difficult year.

J.P Davidson
Chairman

(Continued from page 28)

Balance sheet

as at 31 December, 1981

		1981 £'000	1980 £'000
Capital Employed in Undertaking:			
Fixed Assets		9,580	9,311
Long-Term Debt Receivable		1,328	1,279
Current Assets:			
Stores and Materials	199		187
Port Modernisation and E.E.C. Grants Receivable	266		831
Debtors and Payments in advance	1,828		1,301
Short-term Deposits	3,354		3,124
Cash	130		38
	5,777		5,481
Deduct: Current Liabilities and Provisions			
Creditors and Accrued Liabilities	979		862
Interest Accrued	14		20
Short-term Loans	122		20
	1,115		902
Net Current Assets	4,662		4,579
	15,570		15,169
Capital Not Employed in Undertaking:			
Fixed Assets	3,200		3,252
LESS: Capital Debt relative thereto	3,200		3,252
	15,570		15,169
Represented by:			
Capital Debt			
Repayable after five years	3,200		3,521
Repayable within five years	954		1,192
	4,154		4,713
LESS: Relative to Fixed Assets not directly employed in Undertaking	3,200		3,252
	954		1,461
Grants and Contributions not yet applied:			
Contributions to Fixed Asset Costs	1,555		1,266
Port Modernisation Grants	1,061		991
E.E.C. Grants	1,860		1,421
	4,476		3,678
Reserves	10,140		10,030
	15,570		15,169

Revenue account

for the year ended 31 December 1981

	1981 £'000	1980 £'000
Operating Income	4,325	4,325
Operating Surplus before Depreciation	402	462
Depreciation	566	582
Operating Deficit	(164)	(120)
Interest Receivable	566	682
	402	562
Interest Payable	111	57
	291	505
Exception Item – Voluntary Severance	444	89
(Deficit) Surplus before Taxation and Extraordinary Item	(153)	416
Taxation for the Year	–	–
(Deficit) Surplus before Extraordinary Item	(153)	416
Extraordinary Item	263	111
Surplus after Extraordinary Item	110	527

Report for 1981 (extracts)

The general decline in traffic reported last year continued in 1981 due in part to the economic recession and in part to continued rationalisation by the shipping industry of routes and ports of call. General cargo at Glasgow decreased by 32% while the import of grain through Meadowside Granary fell by 22%. The severance of 60 dockers at Glasgow approved by the National Dock Labour Board at the end of 1980 was carried through in the early part of the year and a further 100 dockers, representing 30% of Glasgow registered dock workers, were severed in the last quarter in response to the substantial idle time brought about by the decline in traffic.

In the lower reaches of the Clyde traffic at Greenock Container Terminal was at a similar level to 1980 largely due to diversions from other ports, compensating for the loss of a major North Atlantic customer who left Greenock during the year. Hunterston Ore Terminal had a busy year with an increase in tonnage, but Finnart Oil Terminal again suffered a sharp drop in crude oil imports.

The need for economies in operating, maintenance and administrative costs was recognised in 1980 and the planned reduction in non registered dock labour was carried out early in 1981. Further reductions in manpower were made in mid year and, although redundancy costs were considerable, the ongoing savings in labour costs are essential to recovery and return to profitability.

Trade and finance

The gross registered tonnage of shipping using the Port at 19.2 m tons was down 2.7 m tons on 1980.

The movement of goods though the port totalled 6.4 m tonnes, a decrease of 0.7 m tonnes compared with the previous year. Oil traffic declined by 1.2 m tonnes but mineral traffic at Hunterston Ore Terminal increased by 0.8 m tonnes.

Although the operating surplus improved over the previous year, the final outcome was a deficit of £824,144 compared with a surplus of £46,468 in 1980. Revenue fell by £2,456,111 to £19,326,210 but, with reductions in expenditure of £3,128,046 and in depreciation of £254,493, an operating surplus of £383,746 was recorded. Short term interest rates remained high and the net interest charge at £672,125 was similar to the previous year. A deficit of £58,228 on disposal of fixed assets and exceptional items of £466,510, including £401,212 of accelerated depreciation on surplus assets, contributed to the deficit for the year.

Consolidated revenue and expenditure account

for the year ended 31 December 1981

	1981	1980
Operating revenue	£	£
Dues		
On ships	3,954,869	3,783,783
On goods	2,754,728	2,592,565
On passengers	11,056	11,000
	6,720,653	6,387,348
Cargo handling	7,688,217	9,077,574
Cranes and plant	577,477	607,146
Warehousing and storage	845,832	1,051,187
Haulage	968,765	1,499,096
Sundry services and facilities	802,020	610,225
Other revenue	1,723,246	2,549,745
Total operating revenue	19,326,210	21,782,321
Expenditure		
Operating and maintenance	3,578,239	5,120,882
Dredging	955,791	1,299,334
Cargo handling	8,530,216	8,894,136
Administrative and other general expenditure	4,788,285	5,666,225
Total expenditure	17,852,531	20,980,577
Operating surplus before depreciation	1,473,679	801,744
Provision for depreciation	1,289,487	1,563,942
Proportion of port improvement grants	199,554	219,516
	1,089,933	1,344,426
Operating surplus (deficit)	383,746	(542,682)
(Deficit) surplus on disposal of fixed assets	(58,228)	436,176
	325,518	(106,506)
Interest received	1,259,411	1,355,212
	1,584,929	1,248,706
Interest charges	1,931,536	2,022,366
	(346,607)	(773,660)
Exceptional items	(466,510)	703,089
Deficit for year before taxation	(813,117)	(70,571)
Taxation credit	1,957	135,799
(Defficit) Surplus for year after taxation	(811,160)	65,228
Outside shareholders–share of surplus	(12,984)	(18,760)
(Deficit) Surplus for year	(824,144)	46,468

Consolidated balance sheet

as at 31 December 1981

	1981	1980
Capital employed in undertaking	£	£
Fixed assets		
Gross amount	42,372,196	42,696,281
Aggregate depreciation	21,876,925	20,980,547
	20,495,271	21,715,734
Capital works in progress, at cost	28,856	331,411
Hunterston marine works		
Cost	32,628,848	32,249,564
Aggregate depreciation	126,564	63,281
	32,502,284	32,186,283
	53,026,411	54,233,428
Net current assets		
Current assets		
Stocks	29,427	143,789
Debtors and payments in advance	4,004,033	4,564,104
Tax recoverable		976
Short term loans	8,223,000	8,355,000
Bank and cash balances	254,824	39,766
	12,511,284	13,103,635
Current liabilities		
Bank overdrafts		343,536
Creditors and accrued expenses	2,564,601	2,729,867
Interest accrued	237,477	257,395
Provision	300,000	300,000
	3,102,078	3,630,798
	9,409,206	9,472,837
Deferred liability		
Deferred taxation	(207,743)	(212,081)
Capital not employed in undertaking		
Investments	301,250	
	62,529,124	63,494,184
Represented by		
Capital debt	45,858,345	46,136,402
Reserves	11,183,121	12,007,265
Interest of outside shareholders	13,029	18,805
	57,054,495	58,162,472
Port improvement grants	5,474,629	5,331,712
	62,529,124	63,494,184

Port of Helsingborg

(Extracts from Annual Report 1981)

1981 review (extracts)

Finance

Port of Helsingborg managed to maintain its positions in spite of the economic recession during the first half of the year, and reached a cargo throughtput only 1.9 per cent lower than that of 1980. Containerized and RoRo cargo showed unchanged results, while ordinary break-bulk and rail cargo decreased as did the import of petroleum products.

The dry cargo is still dominating the sea-borne trade and accounted for 7.3 of the total throughput of 8.0 million tonnes in 1981. The mineral oils came to a volume of 0.7 million tonnes.

The economic return declined somewhat during the fiscal year partly due to extensive maintenance work, and partly because estimated amounts for port dues and crane charges were not attained.

The West Harbour project attracts great interest for the future. The venture, covering the construction of a complete terminal for container vessels and trailer ferries, is at present the largest port development in Sweden. It is being built during the years 1980–1983. Since the terminal is estimated to be fully utilized on a long view only, the investment of 230 MSEK involves a great strain on the economy of the port. In spite of this, the sound financial position of the port in connection with the estimated pofit growth, will result in cost covering for the total operations without considerable future tariff rise.

Shipping

The shipping of the port was on the same scale as in the previous year. The number of ship arrivals and departures reached 138,409 as against 138,681 in 1980. The aggregate tonnage came to 78,382,923 net register tonnes (78,445,270).

Cargo

The cargo throughput at Port of Helsingborg arrived at 8,031,726 tonnes during the year compared with 8,183,641 in 1980. Excluding mineral oils the cargo throughput amounted to 7,260,724 tonnes (dry cargo).

The handling of containers, flats, RoRo units, etc. is still progressing. At the container harbour Skåneterminalen the throughput came to 525,438 tonnes as against 520,871 in 1980, an increase by one per cent meaning a new record in this section. A similar development was attained for Scandinavian Ferry Lines that had a throughput of 1,384,352 tonnes compared with 1,288,280, up 7.5 per cent. The ferried lorry cargo of the SJ/DSB increased to 659,326, or by 13,411 tonnes. On the other hand ferried rail cargo decreased to 1,805,789 tonnes corresponding to 11 per cent.

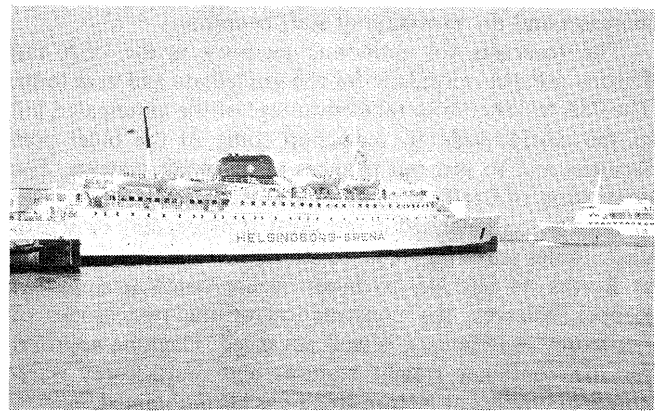
The throughput at the Oil Terminal followed the general pattern of the trade. In comparison with 1980 the throughput of petroleum products decreased by 45,746 tonnes to 771,002. An increase of 11 per cent was observed at the Copper Works Harbour, where the throughput arrived at 1,802,988 tonnes (1,623,047).

Revenue account

	1981 Ksek	1980 Ksek
Operating Revenue		
Port dues	30 030	25 908
Cranage	2 741	3 272
Towage	5 806	5 331
Rents	8 518	7 547
Sundry revenue	2 405	2 902
Collateral revenue	2 109	1 969
	51 609	46 929
Operating and general expenditure	−34 751	−32 411
Net surplus before depreciation	16 858	14 518
Depreciation	−9 770	−8 483
Net surplus after depreciation	7 088	6 035
Interest expense	−11 083	−3 802
Net surplus for the year	3 995	2 233
Funds provided from:		
Net surplus for the year	−3 995	2 233
Depreciation	9 770	8 483
Decrease in long term credit	283	283
Increase in long term debt	80 300	25 700
	86 358	36 699
Funds applied to:		
Investment in real property	97 885	48 293
Investment in shares	–	1 125
Decrease in long term debt	3 310	3 057
	101 195	52 475

Balance sheet

	1981 Ksek		1980 Ksek	
Assets				
Current assets	9 849		10 815	
Fixed assets	272 277		184 445	
Total assets	282 126		195 260	
Liabilities and capital reserves				
Current liabilities	49 093		35 222	
Construction loan	127 703	176 796	50 713	85 935
Capital reserves				
Reserves in fixed assets	108 581		106 113*)	
Working Capital	−3 251	105 330	3 212	109 325
Total liabilities and capital		282 126		195 260
*) Of which investment 1981-12-31		2 318		



The ferry traffic is extensive. In 1981 18.3 million passengers and 1.6 million automobiles were carried by the floating bridges of Helsingborg.

Port of Singapore

(Extracts from Annual Report 1981, Port of Singapore Authority)

Chairman's review

The economies of the Western industrial nations and the USA failed to pick up despite decreases in fuel oil prices and reductions in American bank rates in the third quarter of the year. Instead, these economies faltered and weakened considerably. Their poor performances in turn affected the ASEAN countries to some extent. GNP/GDP growth rates ranging from 4.9% for the Philippines to 9.9% for Singapore were registered, slightly lower than those achieved in 1980.

In the Port of Singapore, shipping traffic continued to be moderately heavy with a total of 56,634 vessels arriving at and departing from the port, an increase of 5%. With more tankers and container ships using the port, the shipping tonnage rose by 10% to 521 million gross registered tons (GRT).

The port handled 92.5 million freight tonnes of cargo in 1981, including 56.8 million tonnes of mineral oil at the refineries. This was a 7% increase over the previous year. The economic downtrend in the Western nations affected the general cargo throughput of PSA's gateways which saw decreasing growth rates in each succeeding quarter. The volume grew by 8% in the second quarter only to drop 1% in the last quarter. A total of 31.4 million tonnes of general cargo passed through the gateways which was an increase of 7% from 1980, a sharp drop from the 13% growth experienced in 1980.

The trend towards increasing containerisation continued with about 47% of the general cargo being shipped in containers. The volume of containerised cargo handled at the PSA wharves increased by 17% while non-containerised general cargo showed a decline of 2%, the latter due mainly to the recession in the timber trade. Bulk cargo shipped through Keppel Wharves and Jurong Port dropped by 3% as a result of reduced trade in grain and vegetable oil.

Gross revenue from port operations which grew by 23% in 1980 showed a sharply reduced growth of 9% to $570 million in 1981. Incomes from container-handling activities and warehousing services were the major contributors to the growth in revenue. On the expenditure side, operating and administrative costs rose by 8% due mainly to wage increases and the provision of staff benefits.

The forecasts for economic recovery in the USA and Europe are not optimistic for the immediate and near term. The PSA will therefore take advantage of the anticipated lull in the world trade to redevelop some of the older port facilities and to test out changes in the work systems. The conversion of Berths 42 and 43 at the conventional wharves to handle containerised cargo ships is proceeding on schedule. Studies are being made to strengthen the wharf decking at Berths 44 and 45 to moor feeder containerships. At Keppel Wharves, the construction of the two blocks of five-storey warehouses is well advanced. Planning approval for the container freight stations and multi-storey warehousing complex at Nelson Road has been obtained.

Some $66 million worth of cargo-handling equipment and marine craft were commissioned in 1981 while the application of computerised systems to port operations was further developed with the installation of two new main-frame computers and their peripheral devices. The level of automation in office and clerical functions increased with the use of more word-processors and microcomputers.

The years ahead will pose difficult challenges with prospects of reduced world trade as nations struggle to improve their economies between alternate bouts of inflation and recession. For PSA to cope with these challenges, it must sharpen its competitive edge by investing in new and improved port facilities. At the end of 1981, some $1,500 million worth of capital projects were approved. Orders amounting to about $60 million for mechanical handling equipment have been placed for delivery in the next two years. The capital expenditure in 1982 alone is expected to amount to some $500 million. However, with an anticipated slower growth in 1982, PSA expects to have a net cash inflow of about $420 million. There will therefore be a shortfall of some $80 million for capital development. To meet this deficit, the surpluses accumulated in previous years will have to be used.

The Port of Singapore has been providing a high level of service at competitive rates to its users. Its investments in capital infrastructure, computerisation and automation in port activities and the good team work by PSA employees will further increase productivity and maintain PSA's position as a port where ships are expeditiously turned around.

Lim Kim San
Chairman

Balance sheet

as at 31 December 1981

	1981 S$'000	1980 S$'000
Fixed Assets	917,175	801,015
Investments	105,341	75,890
Long Term Receivables	6,701	6,930
Current Assets		
Stores and materials	13,797	11,787
Debtors	62,610	68,823
Deposits, prepayments and accrued interest	21,537	18,158
Treasury bills at cost	–	169,054
Bank deposits	892,273	532,994
Bank balances and cash	1,844	2,709
	992,061	803,525
Less Current Liabilities		
Creditors	52,908	60,320
Accrued expenses	11,058	16,560
	63,966	76,880
Net Current Assets	928,095	726,645
	1,957,312	1,610,480
Less Deferred Liabilities		
Long term loans (unsecured)	45,158	47,952
Provisions	30,615	29,503
	75,773	77,455
Net Assets	1,881,539	1,533,025

Represented by:		
Funds Invested in the Authority's Undertaking	1,872,028	1,524,574
Special Funds	9,511	8,451
	1,881,539	1,533,025

Revenue account

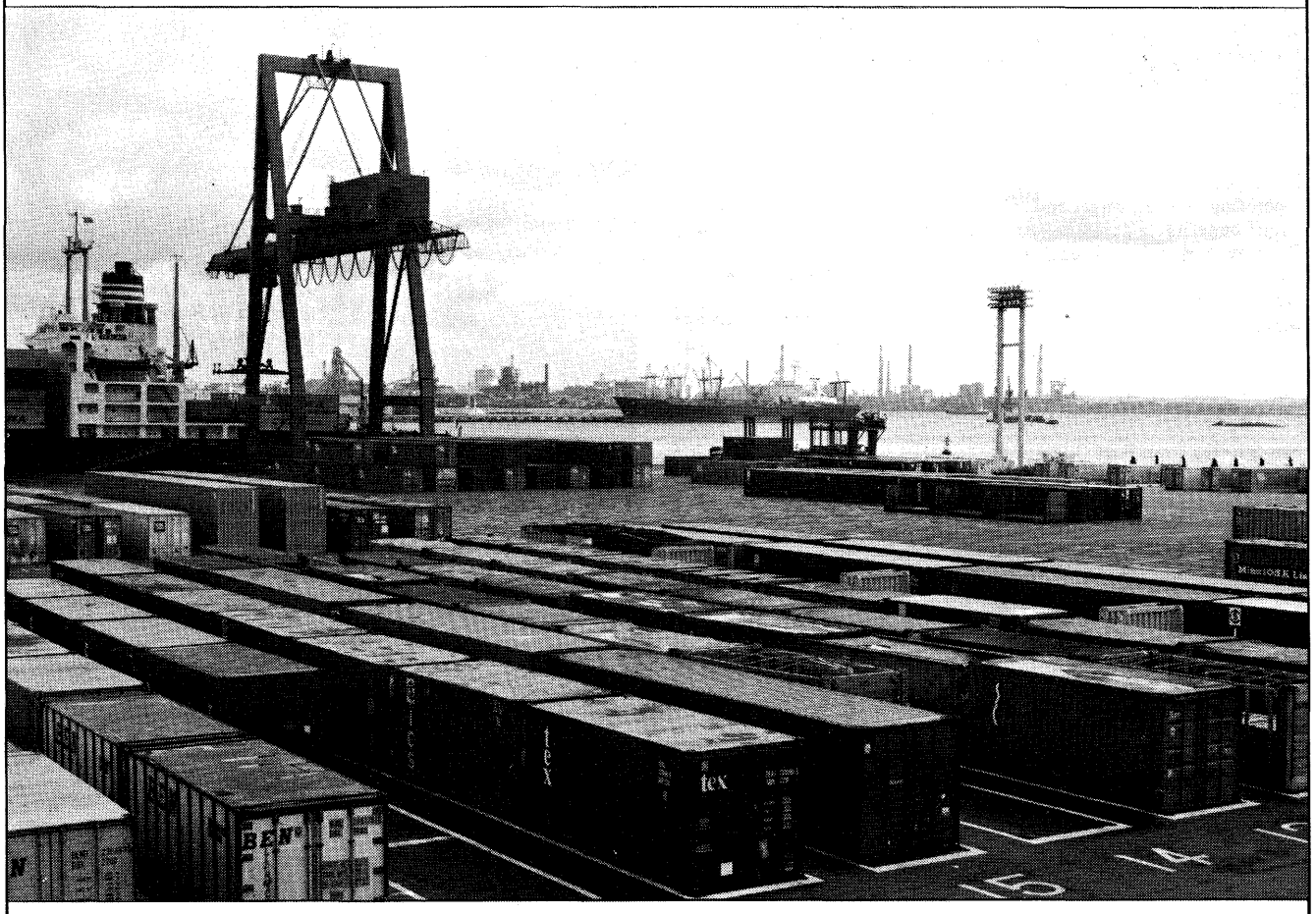
for the year ended 31 December 1981

	1981 S$'000	1980 S$'000
Port Operations		
Revenue		
Container terminal	190,011	169,370
Cargo handling services	69,948	88,148
Wharf services and storage	125,792	120,279
Pilotage and tugs	65,033	54,027
Port and garbage dues	35,205	30,783
Sundry revenue	84,078	62,473
	570,067	525,080
Expenses		
Operating salaries, wages and staff benefits	95,120	85,478
Running expenses and repair of equipment and buildings	50,591	42,220
Depreciation	57,826	43,940
Sundry operating expenses	36,747	50,351
Administration expenses	23,809	22,847
Property tax	57,007	52,508
	321,100	297,344
Net Surplus from Port Operations	248,967	227,736
Income from Investments	77,974	54,479
	326,941	282,215
Interest Expense	(2,898)	(3,424)
	324,043	278,791
Profit on disposal of investments and assets	3,757	3,662
Net surplus for the year before exceptional items	327,800	282,453
Exceptional items	–	1,321
Net surplus available for appropriation	327,800	283,774
Appropriated as follows:		
Transfer to development reserve	326,000	280,000
Transfer to general reserve	576	717
Retained in subsidiary companies	(410)	2,043
Retained in associated companies	1,634	1,014
	327,800	283,774

Tanjong Pagar Container Terminal, Port of Singapore

PORT OF NAGOYA

Ocean Entrance to the Central Japan Economic Region



- Port of Nagoya offers most modern and finest facilities.
- Port of Nagoya takes any type of cargo at specific piers.
- Port of Nagoya handles over 100 million tons of cargo yearly.
- Port of Nagoya plans further modernization and integration of its facilities.

NAGOYA PORT AUTHORITY

8-21, 1-chome, Irifune, Minato-ku, Nagoya, Japan

International maritime information: World port news:

Review of Maritime Transport, 1981: UNCTAD

(Extracts from the UNCTAD Document: TD/B/C.4/251)

The Development of International Seaborne Trade

The volume of total world seaborne trade fell by 2.8 per cent in 1980, the first decrease recorded since 1975. Table 1 gives the tonnages of different categories of cargoes shipped in 1970 and 1978 to 1980. There were variations in the growth of the different cargo sectors. Tanker trades fell by 9.6 per cent, while dry cargo trades increased by 5.1 per cent, owing mainly to an increase of 4.5 per cent in the tonnage of five main bulk commodities. The bulk cargo sector accounted for about 77 per cent of the total world seaborne trade (of which 49.2 per cent consisted of tanker cargoes, 21.7 per cent of major dry bulk commodities and about 6.4 per cent of minor bulk items carried by bulk carriers). The remaining 23 per cent consisted basically of general cargoes carried in the liner sector, together with a small percentage of tramp and specialized cargoes.

Preliminary estimates for 1981 indicated a further decline in world seaborne trade. The volume of the total seaborne trade fell by 5.1 per cent in 1981. This resulted from a sharp decrease of tanker cargoes and a small net increase in dry cargoes. Tanker cargoes declined by 13.4 per cent. Of the major dry bulk trades, iron ore trade fell by 4 per cent while coal and grain trades expanded by 4 per cent and 3 per cent respectively. The aggregate trade in other commodities showed only a modest change from the 1980 level.

The decline in world seaborne trade stemmed largely from a sustained recession in the world economy. Consequently, the GDP of the OECD countries grew by only 1.25 per cent (1.2 per cent in 1980). The GDP growth of the developing countries and national income of the socialist countries decelerated in 1981. The GDP growth of the developing countries grew by 3.6 per cent in 1981 (3.8 per cent in 1980).

This was a consequence of a slowdown in their volume of exports due to recession in the developed countries and a pronounced deterioration in their terms of trade because of an increase in the import prices of manufactures and energy. The national income of socialist countries grew by 3.2 per cent in 1981 (3.8 per cent in 1980).

The other major contribution to the decline in world seaborne trade was the steady fall in oil consumption and imports. In 1981 the volume of oil imports by the OECD countries fell by 10 per cent. This was due to the combined effects of recession, increased conservation efforts and a switch to alternative energy substitutes. In addition the operation of several oil pipelines has taken over the transport of oil previously moved by sea.

In the dry cargo sector the fall in iron ore trade was mainly attributable to declining steel consumption as world recession weakened demand for construction investment. There was also a heavy drawing of stock. In 1981 the total steel production declined by 1.1 per cent. The rate of growth of coal trades slackened in 1981 as compared to 1980, partly because of the slowdown in world steel production and partly because falling oil prices eased

Table 1 Development of international seaborne trade, a/ 1970, 1978, 1979 and 1980 (goods loaded)

	Tanker cargo		Dry cargo				Total (all goods)	
			Total		Of which: main bulk commodities b/			
Year	Millions of tons	Percentage increase/ decrease over previous year	Millions of tons	Percentage increase/ decrease over previous year	Millions of tons	Percentage increase/ decrease over previous year	Millions of tons	Percentage increase/ decrease over previous year
1970	1 440	13	1 165	13	488	16	2 605	13
1978	1 850	−2.2	1 620	2.7	667	3.4	3 470	0.1
1979	2 003	8.3	1 775	9.6	762	14.2	3 778	8.9
1980 (est.)	1 806	−9.8	1 866	5.1	796	4.5	3 672	−2.8

Sources: (i) For tanker cargo, total dry cargo and all goods data communicated to the UNCTAD secretariat by the Statistical Office of the United Nations. Owing to possible subsequent revisions or other factors, these detailed data may differ marginally from the aggregated figures reported in the United Nations, Monthly Bulletin of Statistics, January issues. The 1980 figures are estimates as final figures are not yet available.

(ii) For main bulk commodities: Fearnley and Egers Chartering Co. Ltd., World Bulk Trades, 1980.

a/ Including international cargoes loaded at ports of the Great Lakes and St. Lawrence system for unloading at ports of the same system, but excluding such traffic in main bulk commodities. Including petroleum imports into Netherlands Antilles and Trinidad and Tobago for refining and re-export.

b/ Iron ore, grain, coal, bauxite/alumina and phosphate.

demand for coal as a substitute for oil. Grain trades experienced a modest growth because of poor crop harvests in the major importing countries. The marginal increase in the liner trades reflected the general slowdown in the over-all world industrial production.

Table 2 shows the volume of international seaborne trade in billions of ton-miles. In 1980, the ton-mileage of the total seaborne trade declined by 5.1 per cent and this was reduced further by 6.2 per cent in 1981. This was a result of a large reduction in ton-miles of crude oil and oil products, reflecting falling world oil consumption and imports and the increasing trend towards short haul of crude worldwide. However, in the dry cargo trades there was a moderate rise in ton-miles of coal, grain and other minor bulk cargoes and liner cargoes, but the ton-miles of iron ore suffered a decline. The increase in ton-miles of coal and grain was partly a result of an increase in the volume traded and partly of an increase in the average length of haul. The United States embargo on exports to the USSR resulted in the latter fulfilling its requirements from Canada and Argentina. The disruption of coal supplies in Poland and the congestion at the coal ports on the United States east coast led European coal importers to seek supplies from further afield.

Table 2
World seaborne trade in 1970, 1979, 1980 and 1981 by types of cargo (millions of ton-miles)

Year	Crude oil	Oil products	Iron ore	Coal	Grain[a/]	Other cargo	Total trade
1970	5 597	890	1 093	481	475	2 118	10 654
1979	9 614	1 045	1 599	786	1 026	3 605	17 675
1980	8 385	1 020	1 613	952	1 087	3 720	16 777
1981	7 350	930	1 580	1 030	1 120	3 730	15 740

Source: Fearnley and Egers Chartering Co. Ltd., Review, 1981.
a/ Including wheat, maize, barley, oats, rye, sorghum and soya beans.

World seaborne trade may stagnate in 1982. Weak growth is expected in the bulk trades which form a dominant portion of world trade. In the tanker trade the attempt to reduce dependency on oil as a source of energy and developments which give rise to reduced shipment of crude oil by sea will continue to depress maritime trades as these influences are not temporary in nature. With the prospect of oil prices stabilizing up to the end of 1982, coupled with the high rates of interest, the demand for oil for storage purposes will be reduced. Therefore, the tanker trade may decline.

In the dry cargo trade, seaborne trade in iron ore may decline because of the low level of economic activities. Moreover, the decision by the EEC to apply mandatory cuts on the Community steel production during the first quarter of 1982 may lead to falling steel output. However, this may be partially offset by a rebuilding of stock in 1982 after a heavy period of de-stocking.

As in 1981 the coal and grain trades will provide the impetus for growth in world seaborne trade. The poor crop harvests in USSR, the Far East and Western Europe will give rise to heavy shipment of grain in 1982. The shipment of steam coal for use in power generation may show only a modest increase. The falling prices of oil as a result of the oil glut has led invariably to the slowdown in the rate of growth of steam coal trades. In the liner trades a moderate increase may be expected as world output improves.

Publications

"Crude Oil Washing Systems" (1982 edition including amendments adopted in 1981 by Resolution A.497(XII))
Sales No. 618.82.04.E, Price £6.00 (English)

"Guidelines on Surveys under the 1978 SOLAS Protocol" (Resolution 413 amended by 465)
Sales No. 857.82.06.E, Price £1.25 (English)

"International Convention for Safe Containers, 1972" (as amended)
Sales No. 282.82.02.E, Price £1.25
IMO Secretariat, Publication Section
101-104 Piccadilly, London W1V OAE, U.K.

"RoRo WORLDWIDE GUIDE"
Price £28.00 (ICHCA members £14.00)

'This guide contains over 230 pages of Roll-on Roll-off information including:
31,000 separate saillings with year round frequencies, routes and types of services.
A complete section of over 1,200 operators' port agents, with direct contact telephone and telex numbers for instant results.
Full details of over 500 ports including ramps, berths, cargo and vessel limitations.'
ICHCA
Abford House
15 Wilton Road
London SW1V 1LX, U.K.

"Shipping Statistics"—Monthly figures on shipping, freight markets, seatrade, shipbuilding, ports and sea canals
Annual subscription DM 130.00 including surface mail
Institute of Shipping Economics
Werderstrasse 73, D-2800 Bremen 1,
Federal Rep. of Germany

Seaway Authority report

Despite a trouble-free navigation season, the Seaway Authority of Canada reports that 1981 was a rather "sobering" year for tonnage and financial results. Traffic through the Welland Canal, 59.6 million tons in 1980, dropped to 58.9 million tons in 1981. On the Montreal-Lake Ontario segment, tonnages were up slightly, 50.6 million tons in 1981 versus 49.5 million the previous year. While Seaway Authority revenues increased by $2.6 million, that was not sufficient to offset a $3.9 million increase in expenditures, leaving the Authority with a $1.2 million loss to report compared to a profit of $80,000 realized in 1980.

Other key 1981 developments included agreement between the Seaway Authority and its American counterpart, the St. Lawrence Seaway Development Corporation, on the need to increase cargo tolls and other charges, and to re-introduce lockage fees on the Welland Canal, with the increases to be phased in during the 1982 and 1983 navigation seasons.

Grain supplied 48.4 percent of the tonnage on the Montreal-Lake Ontario section, and 43.4 percent of that handled through the Welland. Iron ore, a critical backhaul

commodity for the system, represented a 25.5 percent share of total traffic on the Montreal/Lake Ontario Section and 17.9 percent on the Welland. For 1982, according to the Seaway Authority, the "prognostics" for iron ore and grain are "not overly encouraging."

Vessel transits declined, from 5,026 in 1980 to 4,628 on the Montreal/Lake Ontario section, and from 6,596 to 5,596 on the Welland.

Major physical improvements included the installation of a major ice boom at the Lake St. Francis entrance to the Beauharnois Canal, dredging and channel modifications in the Lancaster Bar area; completion of a new bascule bridge across the upper end of Lock 8 on the Welland, widening of the latter in the Port Robinson area, and on-going design of "a vastly improved Traffic Control Center at the Welland." *(AAPAADVISORY)*

US Export Trade Company Act

Signed into law by President Reagan October 8, the new act eases antitrust barriers that previously inhibited joint export activities. Trading companies would provide marketing, transportation, financial and other services to small–and medium–sized companies wishing to market their products abroad. For the first time, banking institutions would be permitted to become active partners in trading companies. The Department of Commerce estimates there are 20,000 firms in the United States with the potential to enter the export market, but have until now lacked the resources to do so. AAPA is on record as favoring this legislation. President Reagan has stated that the bill will lead to the creation of hundreds of thousands of jobs. *(AAPAADVISORY)*

U.S. waterborne foreign commerce: U.S Bureau of Census

For the calendar year 1981, U.S. waterborne foreign commerce amounted to 886.3 million tons valued at $318.8 billion. While tonnage overall was down from FY 1979 and 1980, that appears to have been attributable entirely to a significant drop in petroleum cargoes. Tanker imports, most of them crude petroleum, fell from 1979's record high of 447.8 million tons to 362 million tons in 1980 and 337.4 million tons in 1981. Exports, on the other hand, were up significantly in volume, due in large part to the export coal surge.

	1981		1980	
U.S. Total	Volume	Value	Volume	Volue
Exports	409,353,000	$129,388,000,000	403,325,500	$122,266,000,000
Imports	476,961,500	189,438,000,000	487,595,000	174,788,000,000
Total	886,314,500	$318,826,000,000	890,920,500	$297,054,000,000

(Volumes in short tons) *(AAPAADVISORY)*

New AAPA officers

Melvin Shore, Port Director of the Port of Sacramento, was elected chairman of the American Association of Port Authorities at the Association's New York Convention. He succeeds Edward S. Reed, executive port director of the Port of New Orleans.

Lloyd Anderson, executive director of the Port of Portland, was elected chairman-elect.

Named first and second vice chairman, respectively, were W. Gregory Halpin, port administrator of the Maryland Port Administration and Alvaro Gallardo C., vice president of Instituto Costarricense de Puetos de Pacifico (INCOP), San Jose, Costa Rica.

Montrealer elected head of Canadian Ports group

Dominic J. Taddeo, director of Finance and Administration for the Port of Montreal, is the new president of the Canadian Port and Harbour Association.

Mr. Taddeo was elected at the association's annual meeting held recently in Toronto, Ontario. He succeeds Ian C.R. Brown, general manager of The Toronto Harbour Commissioners.

Dundalk completion reflects Port of Baltimore's expansion and progress

The Maryland Port Administration's dedication of Berth 13 marks the end of facility expansion and construction at the Dundalk Marine Terminal, the port of Baltimore's largest general cargo handling facility.

Dundalk, formerly Baltimore City's old airport, Harbor Field, was purchased by the then Maryland Port Authority in 1959 at a cost of $4 million. More than $200 million has been spent in capital improvements since then.

The terminal employs 170 state workers in administrative, operational and security jobs. It provides a large amount of the port's annual 5.8 million manhours for longshoremen. More than 3,500 people are employed each day by private port business tenants on the terminal.

More than 21,300 merchant ships have called at Dundalk during the past 23 years with import and export cargoes totalling nearly 42 million net tons. The terminal handled 3.3 million import automobiles and almost 26 million net tons of container cargo in that period. More than 2 million trucks have serviced Dundalk since 1959.

Cargo handled at Dundalk during the first quarter of this year reached 962,455 tons, a 7.9 per cent increase over the same period of 1981.

New documentation system to recapture lost port cargo: Maryland Port Administration

A simplified system of documentation which will shortly be instituted by Customs should enable Baltimore to recapture some of the import cargo it has lost.

A large percentage of Baltimore's container imports moves in bond to interior ports for Customs clearance at destination. In the past, Customs has required the documentation to permit movement of the cargo, the IT entry, to be filed at the Custom House for approval before being sent to the pier. Other North Atlantic ports have bypassed this procedure and permit the IT to be lodged directly with the Inspector which saves a day in the release of the cargo.

The Baltimore Customs Brokers & Forwarders Association requested Baltimore's new Regional Commissioner of Customs, William J. Griffin, to amend the procedures to bring Baltimore in line with the other East Coast ports so that is could maintain its competitive position. The Regional Office concurred and the new procedure will take effect on November 1.

As a consequence, in view of Baltimore's attractive inland rates to the Mid-West, it is anticipated that the lost cargo will return to the port, the MPA says.

Port of Houston executives elected Gulf Ports Association officers

Two Port of Houston Authority executives were elected officers of the Gulf Ports Association at its semi-annual meeting recently held in Pensacola Beach, Florida.

Port Authority Executive Director Richard P. Leach was elected President, and F. William Colburn, Director of Administration for the Port Authority, was elected Secretary-Treasurer. Colburn was also appointed Chairman of the G.P.A. Law and Legislation Committee.

The Gulf Ports Association is dedicated to enhancing the competitive stature of ports in the Gulf region. It monitors actions by Federal agencies, Federal legislation, and inland transportation rates which affect the maritime, port and transportation industries. The association, whose members consist of executives from regional ports, has standing committees on traffic, law and legislation, port operations and practices, port planning, membership and public relations.

"The economic impact of the Port of Houston"

Nearly 160,000 jobs in Texas last year depended on the Port of Houston, where cargo shipments and other activity generated approximately $3 billion for the local, state and national economies.

These are two of the major conclusions of a comprehensive study entitled "The Economic Impact of the Port of Houston." The $45,000 study was done for the Port of Houston Authority by Booz-Allen and Hamilton, Inc., a nationally recognized Bethesda, Maryland based consulting firm.

In outline form, some of the study's highlights are as follows:

- The jobs of 159,130 Texas residents were in some way related to activity at the Port of Houston in 1981, representing nearly 10 percent of the total employment in Harris County.
- 31,699 of these jobs were a direct result of port activity. The purchase of goods and services by these 31,699 individuals generated an additional 16,521 jobs. If port activity ceased, these jobs would be discontinued. The other 110,910 jobs are related to port activity indirectly and would continue to exist for at least a short time if the Port ceased functioning.
- The $3 billion generated by Port activity in 1981 included $742 million in personal income received by the 31,699 individuals employed as a direct result of port activity. An additional $890.4 million of income was generated in Texas due to respending. Workers who reside in Harris County received more than 85 percent of the $742 million in personal income received.
- Petroleum and petroleum products generated the largest revenue impact ($707.3 million), but automobiles generated the greatest impact on a per ton basis ($192.70 per ton handled). General cargoes, such as automobiles, have a high per ton impact because they are more labor intensive than bulk cargoes.
- Out of $411.5 million collected by the Houston Customs District in 1981, $391 million was generated by activity at the Port of Houston.
- $46.8 million in state and local taxes accrued to Texas as a result of Houston port activity.
- Of the 31,699 jobs generated directly by port activity, nearly 90 percent are held by residents of Harris County, and nearly 40 percent of the jobs were generated by cargo handled over public facilities owned by the Port of Houston Authority.
- Although general cargo accounts for less than 15 percent of the tonnage handled via the Port of Houston, it generated about 60 percent of the 31,699 jobs.

The economic impact was measured for activity at both private and public facilities along the Houston Ship Channel from Bayport to the Houston Turning Basin.

The undertaking was approved by Port Commissioners upon staff recommendations which outlined the study's potential benefits to marketing, port development planning, and allocation of port resources. The last economic impact study authorized by the Port Authority was done in 1965.

The study is particularly timely because new federal policies may result in a shift of some or all of the costs of channel dredging from the federal to the local level. If this occurs, the report would help the Port Authority explain why local funds should be spent to keep the channel navigable.

Port Developent Corporation—good news for economy of area: Port of Houston

By Joe Chapman

These days news of businesses expanding or being established is as welcome as a drop in the prime interest rate. Although the Port Development Corporation (PDC) plays no role in the prime rate's rise and fall, it has played a significant part in the establishment or expansion of several businesses in Harris County.

To date, 103 companies have received PDC bonds totalling approximately $348 million, while more than $1 billion in applications has been filed. This is good economic news for the country as well as the Houston area.

The Port Development Corporation was established by the Port of Houston Authority under the Development Corporation Act of 1979. The state law authorizes local governmental entities, such as the Port Authority, to foster industrial development by issuing bonds. The method has been used in some other states for decades.

Interest on the bonds is tax-exempt and usually several points below the prime rate, therefore offering substantial savings to the user.

Bond monies may be used to buy existing facilities or to finance construction. The bonds can also be used to fund commercial and medical research projects. To get approval of the Texas Industrial Commission, it must be shown that the bonds will benefit the general community, create jobs or save existing ones. Federal law limits the bonds to $10 million unless the project involves docks, wharves and related facilities. For such projects and several others, such as pollution control facilities, there is no statutory limit.

For the bonds to be salable, nationally recognized counsel must review them and issue an opinion that the bonds qualify as tax-exempt. Once issued, the bonds are

not an obligation of the political entity. If the user of bond funds defaults, the bond debt is not retired by the political subdivision.

Once the bonds are issued and projects are underway, the community feels the impact. Take the Lubrizol Corporation's $19 million undertaking, for example. The company installed two 10-inch and two 8-inch pipelines from its Deer Park plant to a terminal on the Houston Ship Channel.

The 3½-mile pipelines connect nine new storage tanks at the terminal with additional new tanks at the plant. More than 40 people were given permanent jobs as a result of the project, which increased the company's capacity for receiving and delivering bulk shipments of raw materials, chemical intermediates and finished products.

J. Douglas McDonald, assistant to the plant's general manager, said the construction payroll was more than $90,000 a month.

Draftsmen, engineers and consultants were hired to design the facilities. Construction materials were bought locally. A company was hired to drive the pilings, then had to fill in the area and raise it 10 feet. One company laid the 14 miles of pipe. Another insulated it. The tanks were purchased; a company installed them, and on and on.

The same trickle-down formula applies to Gulf Motorships, Inc., and to Bridgestone Tire Company of America, Inc., as well as to the other 100 companies that have received Corporation bonds.

Gulf Motorships is a new 22.5-acre automobile processing facility at the Port of Houston Authority's Barbours Cut Terminal. The facility is divided into two areas: 10 acres for processing and 12.5 for storage.

Shops used for installing radios and air conditioners, striping vehicles, and doing body work and painting are housed in a 23,000-square-foot building. It also contains a modern fully automated decosmoline facility which removes the protective coating from 150 cars per hour. The rest of the area is for storing vehicles before loading them aboard trucks or railcars. A rail spur and unique loading ramp allows for 10 multi-deck rail cars to be loaded or unloaded simultaneously.

Gulf Motorships handles approximately 25,000 Renaults, Peugots, Saabs and Volvos as well as other European automobiles. Bob Larson, vice president, estimates that $225 million worth of vehicles a year are processed.

Approximately 30 permanent jobs were created by the opening of the facility.

Bridgestone's new $9 million, 215,000-square foot warehouse, located on 13 acres on Houston's southwest side, created 26 jobs. The facility houses tires, an engineering and sales department and a data processing area.

E.A. Stanton, operations manager, said the business has grown from "nothing to this", a warehouse that is the distribution center for seven states and receives orders from 11 states. Literally hundreds of dealer outlets are on the receiving end of the well-run operation.

The man in Kansas who puts tires delivered from the Bridgestone warehouse on his Renault processed at Gulf Motorships and fills it up with gas treated with Lubrizol additives has no idea of the jobs and money his three purchases represent.

Areas all over the world also benefit from the PDC bonds. Ships loading at Lubrizol's terminal load and discharge cargo at international terminals, just as the ships calling at the Mitsui & Co. (USA), Inc., $13.9 million facility do.

The Fluor Corporation received $5 million in bond funds to build a 40,000-square-foot oil field supply warehouse in northwest Houston. Toshiba International Corp. used $1 million to add 300,000 square feet. Oceanic Shipping Company of Texas, a subsidiary of Strachan Shipping Company, used $1.25 million to construct a multipurpose container and chassis storage/repair complex. E.I. du Pont de Nemours & Company was awarded $20 million to expand their operations.

The list goes on and on, providing a bright note to offset somewhat the dullness of the current economic situation. *(Port of Houston)*

Alabama State Docks spearheads effort to boost lumber exports

An aggressive export program, spearheaded by the Alabama State Docks, is helping the state's forest products industry combat the twin problems of a depressed domestic homebuilding market and an influx of foreign wood products into the U.S.

According to State Docks Director Robert M. Hope, the export of forest products through the Port of Mobile during the first four months of this year showed a healthy 14.75 per cent increase over the comparable period in 1981. Hope said that 69,400 tons of wood products were handled at the State Docks compared to 60,800 tons during the same period last year.

Director Hope pointed to some specific actions taken by Docks personnel. He said that General Sales Manager Gerry P. Robinson called on lumber and plywood importers in the United Kingdom, France, Belgium, Germany, Italy and Spain last year. As a result of the visits which were made with the State Docks European representative, Francis X, Cleary, Robinson was able to find out the particular types of wood products the various importers were handling and then relate the information to production in Alabama and other Southeastern states.

In addition, the State Docks prepared a "directory of Southeastern United States Lumber Producers and Exporters." The booklet contains a listing of producers in Alabama and neighboring states as well as species of timber and items produced. The directories have been sent to European importers and are now used extensively in the Docks' marketing efforts.

New Bonneville Lock moves forward: Port of Portland, Oregon

Federal funding for a new lock at Bonneville Dam on the Columbia River to speed present and future barge moves is receiving increased support from Congress. According to the Oregon Congressional delegation, formal approval to begin construction could come as early as 1983.

Soil tests and other preliminary work is currently under way at the site, in anticipation of receiving the construction go-ahead.

At a recent series of hearings, a Columbia/Snake River delegation urged the House Public Works Subcommittee to approve the project authorization.

Among the delegation were Port of Portland Executive

Director Lloyd Anderson, Pacific Northwest Waterways Director Stephen Lindstrom and Oregon Congressman Ron Wyden.

The advocates for moving ahead stress that the economic benefits of the new lock would go far beyond the Pacific Northwest, since the Columbia/Snake is used as a world gateway for cargoes originating thousands of miles away.

Authorization would be a key step in the process that could result in completion of the lock by as early as 1989. Total construction cost is estimated at $167 million.

A recent study by the Columbia/Snake River System Ports Development Planning Group revealed that by the year 2000, cargo tonnage on the river could triple.

The 34-port coalition identified Bonneville Lock as the major impediment to the projected growth.

In 1981, 30 million tons of cargo moved through the Columbia River. Almost a third of that—roughly 10 million tons—originated in the upriver shallow-draft portion of the Columbia/Snake and passed through Bonneville Lock.

The Army Corps of Engineers estimates lock capacity at Bonneville to be 13 million tons annually. Based on last year's tonnage and current growth projections, the lock would reach capacity by the end of the decade.

Mammouth Transtainer* cranes for Port Elizabeth, NJ

PACECO Inc. recently shipped the first four of its new generation MACH (Modular Automated Container Handling) Transtainer cranes to Maher Terminals, Port Elizabeth, New Jersey.

The cranes were manufactured and completely assembled in PACECO's newly expanded manufacturing facility located on deep water near Gulfport, Mississippi.

Significant features include:

An addition of 13'3" overall height (from 56' to 69'3").

9' additional lifting height which will allow them to stack five 9'6" containers, working one over four.

A near tripling of hoist speed (from 30 fpm to 82.4 fpm).

A near doubling of horse power (diesel) which allows a gantry speed of 440 fpm on a 1½% (was 1% with no wind) grade into winds of up to 50 mph.

A telescopic spreader which includes a new hydraulic rather than the conventional mechanical anti-sway mechanism.

Extensive diagnostic equipment will be imbeded into the electronic automation system. With this new system, several hundred parats are monitored from a central maintenance location remote from the crane.

Automation modules included on the Maher Cranes:

Radio data link—operations	Automatic steering
Radio data link—diagnostic	Automatic position control
Operator command display	Digital crane drives
Position monitoring	Performance data acquisition
Central maintenance computer	Talking stone position identifiers

Oakland gains added flexibility with new terminal

The Charles P. Howard Terminal, which began operations this month, is a multi-purpose facility designed to handle the full range of ocean-going vessels—containership, combination, roll-on/roll-off and conventional.

The terminal will provide additional flexibility to the Port of Oakland in the handling of worldwide cargo, as well as enhance its position as the leading containerport on the U.S. West Coast.

For in addition to its modern container facilities, one of the features of the Howard Terminal is its capability to handle break-bulk cargo in an efficient way.

The facilities include two transit sheds for the storing of cargo. One already completed measures 56,000 square feet, and another measuring 60,000 square feet will be completed by February 1983.

There is a railway running from the terminal wharf directly to the railheads of three mainline railroads—Southern Pacific, Western Pacific and Santa Fe. This enables the expeditious handling of "heavy lift" cargoes, such as tractors and other agricultural equipment, between the rail cars and the ship at berth.

The terminal has direct access to the interstate highway and freeway systems for the movement of trucks and trailers to and from the inland regions. It is also located close to extensive refrigerated cargo storage facilities.

The Howard Terminal will utilize transtainers to carry out a stacked system of storage. But the terminal has been designed so that it can also accommodate a port packer operation, all chassis, or a combination of the systems.

The terminal covers an area of 49 acres, containing three berths with an overall length of 2,278 feet, including a 70-foot mooring dolphin. It is served by two 100-foot gage container cranes.

The adjacent berths H and I have a total length of 1,642 feet and Berth J is 566 feet long.

Plans call for the construction of a new 10,000-square-foot administrative building, a 7,500-square-foot maintenance and repair facility, a 2,000-square-foot marine operations-longshoremen building, and a customs inspection dock.

Other features of the terminal include:

- A four-lane secondary gate facility at Grove Street served by one truck scale. The facility will serve as temporary main gate until a permanent gate complex at Market Street is completed by late 1983. The Market Street complex will have 12 lanes served by four truck scales and ample queuing area.
- The open storage area will be about 198,000 square feet with room for up to 2,966 TEUs grounded.

The new Howard Terminal was developed on the site of two former terminals—the Port's Grove/Market Street complex and the adjoining original Howard Terminal property, acquired by the Port in 1978. It was developed at a cost of $48 million.

Benefits to community

The Port of Oakland is the main gateway for containerized exports on the U.S. West Coast—the principal export port for cargo moving on liner vessels to the world.

The Port's total trade, representing both foreign and domestic cargo passing through the port, amounted to nearly 11 million tons in 1981, of which nine million tons consisted of container cargo.

Stretching along 19 miles of waterfront, the Port encompasses 475 acres of container and 60 acres of general cargo facilities, including 28 berths and 21 container cranes.

Oakland and the Bay Area community as a whole will derive substantial economic benefits from the operation of the Howard Terminal.

A Port of Oakland study shows the Howard Terminal, when operating at full capacity, will generate the following economic impact:

An estimated 750-800 direct and indirect jobs in Oakland.

An estimated 950-1,000 direct and indirect jobs in the Bay Area, including Oakland.

$62 million annually in Bay Area sales.

$27 million annually in Bay Area personal income.

$24,000 annually in Oakland sales tax revenue.

First U.S. ship traffic and location fully automated system demonstrated: Marine Exchange of The San Francisco Bay Region

A cooperative agreement between the Federal government and maritime industry has resulted in development of a prototype, fully-automated ship traffic and location reporting system for U.S. harbors, which was recently demonstrated in San Francisco.

A 1981 award by the U.S. Maritime Administration, Department of Transportation, to the Marine Exchange of the San Francisco Bay Region assured development of a joint product—a management information system emphasizing automated storage and retrieval of reports of anticipated and actual arrivals and departures of vessels at the Golden Gate. Additionally, current locations within the three bay and river navigation system of as many as 60 or 70 active vessels, and their intended shifts, are also for the first time computerized.

Oldest of the vessel traffic reporting agencies in the United States—founded in 1849 to herald the arrivals of Gold Rush-bound sailing vessels—the Exchange under operations manager Len Silva has been testing and evaluating the data processing application to record almost 4,000 annual ship arrivals and many more thousands of movements within the Golden Gate port system. Results of the prototype system will soon be available to NAME and other participants which account for monitoring more than 100,000 annual ship arrivals and departures at U.S. ports.

One of the keys to the industry-government program was development of common codes, reporting formats, statistical reports and methods used in reporting and recording such information. Hopefully, the basis for a national vessel traffic data network will result from the San Francisco prototype operation.

Cooperating in the undertaking have been industry organizations at the ports of New York/New Jersey, New Orleans, Baltimore, Hampton Roads, Portland, Houston, Seattle, Philadelphia and Los Angeles.

Indonesian officials visit Port of Tacoma

Port of Tacoma recently honored Indonesian dignitaries representing the Port of Belawan, Medan, Indonesia. The delegation included Messrs. J.E. Habibie, Secretary to Director General, Department of Sea Communications; H. Luntungan, Deputy Project Manager, World Bank Loan III; S.F. Makalew, Port Administrator, Port of Belawan. Mr. Glenn Wood, Port of Tacoma's Representative from Southeast Asia (Singapore) was also on hand for this special occasion. In 1980 Port of Tacoma and Port of Belawan established a sisterport relationship and at that time Port of Tacoma officials visited Indonesia.

The delegation spent six days in the Tacoma area.

Their stay was highlighted by participating in the dedication of Port of Tacoma's new office building. To commemorate the sisterport relationship a room on the new building was named the Belawan Room and Mr. Richard Dale Smith, Port of Tacoma's Executive Director, presented a ship's wheel to Mr. Makalew.

Port of Tacoma is the largest U.S. West Coast rubber handling port and Port of Belawan is Indonesia's largest port exporting rubber. This sisterport relationship was supported by both the Indonesian and U.S. Governments and it is anticipated that this will encourage the continuation of existing trade and promote future trade opportunities with these countries.

Port of Tacoma presents ship's wheel to sisterport of Belawan. Left to right; G. Wood; J. Habibie; R.D. Smith, POT Executive Director; P.J. O'Malley, POT Comm.; S. Makalew; H. Luntungan.

Port of Tacoma purchases Monospar

Port of Tacoma's Manager Terminal Operations, Mike Sawers and Operations Superintendent Backup Warehouse, Cold Storage, Jim Amador, inspect the Monospar upon its arrival at Tacoma's Terminal 4.

Port of Tacoma is proud to announce after many years and several attempts at having a reliable, expandable lift

beam for container operations, they have purchased the first Monospar in the United States to resolve the situation.

For those not familiar with container lift beams, it is a device that hangs underneath the container crane and fits over the top of the container and enables the crane to lift the container. Containers come in two primary sizes: 20′ and 40′ lengths. Rather than change the beams for the different sizes, terminal operators have been seeking the perfect expandable lift beam that will expand automatically to handle 40's and retract to lift the 20's, making a much faster and efficient loading operation.

This type of device has, historically, been rather sophisticated with complicated wiring and hydraulics. An Australian inventor introduced Port of Tacoma to a much simpler device that he invented had been using satisfactorily for about five years. A thorough investigation by Port of Tacoma's Maintenance, Engineering and Operations Departments indicated that the Monospar could be Port of Tacoma's answer to the continuing problem.

In recent years Port of Tacoma has had an ever-increasing role in container operations. During 1981 the number of containers handled at Tacoma increased by 19%, and signs point to a continuing trend in this direction. With the latest equipment and trained personnel to move the cargo, Tacoma offers the steamship operators and exporters/importers a highly productive service in container handling.

New Tilbury combi berth comes on stream: Port of London

The first of the Port of London Authority's major berth redevelopments to handle expanding combi traffic is now fully operational.

After reconstruction was completed at No. 34 Berth full combi status was quickly achieved, with two multi-purpose vessels discharged in the first week. The newly installed Nellen mobile crane handled containers carried on deck, while at the same time existing quay cranes discharged conventional cargo and forest products from below deck.

Until recently No. 34 Berth was a multi-user forest product and bulk cargo berth. However, to cope with increasing volumes of combi cargoes passing through the port, particularly Chinese, and South American. P.L.A. decided to redevelop No. 34 Berth, along with other areas, to handle the traffic. This would allow all kinds of general cargo, project traffic, containers, palletised cargo and forest products to be handled with maximum efficiency on one berth.

The next area for redevelopment is No. 40 Berth. P.L.A. has just received Government approval to plans to adapt this berth for combi operations. This will cater for the growing number of multi-purpose ships, particularly from the People's Republic of China.

40 Berth was originally a short sea container berth and therefore has some 14 acres of open stowage available. Container traffic will be handled by an existing 40 tonne Paceco-Vickers crane, with general cargo handled by conventional quay cranes.

Covered storage area will be supplemented by a modern transit shed transferred from Millwall Docks.

This latest stage in P.L.A.'s plans to provide modern facilities in Tilbury Docks will be completed early next year. Other sites are available for similar development and these options will be kept under review underlining P.L.A.'s recognition of the importance of the combi concept.

BTDB achieves strong first half recovery despite the continued recession

The British Transport Docks Board's results for the half year to end-June 1982 show operating profits rising to £7.9 m, £5.3 m higher than in the same period of 1981 (£2.6 m). Revenue increased from £64.7 m to £76.0 m.

Mr. Keith Stuart, who became the Board's Chairman earlier this year, said at a press conference held in London recently: "This improvement reflects the Board's success in containing costs and in increasing efficiency; the more stable industrial position at Southampton; and an increase in business handled at our ports, most notably in unit loads."

Mr. Stuart said that the improvement in results for the first six months was achieved despite the effects of the continuing deep recession in economic activity in the UK and overseas. "The improved performance has been sustained since the end of June," he added.

"The Board's 19 ports, with their wide geographical spread, are well placed to take advantage of an economic upturn as and when this flows through to an increase in UK seaborne trade."

With reference to privatisation, Mr. Stuart said that while no firm date had been fixed, it was understood that the Government wished to proceed as quickly as possible. The Docks Board foresaw significant advantages to the business arising from the greater freedom to respond to commercial opportunities

Developments at BTDB ports during 1982 have included the gain of several new regular shipping services linking the Humber ports with the Far East, West Africa, the Eastern Mediterranean and the Middle East. Following completion of a major phase of the re-cranage programme at Immingham, the port has had its busiest half year ever, including further growth in roll-on/roll-off business.

Agreement in principle has been reached with the C.Y. Tung Group of Hong Kong to develop a joint business venture at Southampton to operate and market a newly equipped container terminal on 201/202 berths. Further diversification of Southampton's business has taken place with the opening of a new £2½ m grain export silo; a second grain export terminal is due to be opened at the port in Spring 1983.

The Docks Board's involvement with the offshore oil and gas industries has continued to increase: BP have used Fleetwood as the base for an offshore drilling programme, and British Gas have indicated an expanded role for Fleetwood and Barrow in connection with the development of offshore gas supplies from the Irish Sea.

At Garston on Merseyside, the £1½ m North Dock Container Terminal has been completed; during the first half of 1982 container volumes through Garston were almost half as much again as in the corresponding period of 1981.

On privatisation, the British Transport Docks Board will change its name to Associated British Ports.

Traffic figures for Dunkerque at the end of August 1982

Imported tonnage stabilised (-4%) while exports fell further (-17% against–15% end of June).

Cereal and sugar are accountable for poor results: to wit the low tonnage shipped in August (cereals: 987 T in August 1982, compared with 90 380 T in 1981–sugar: 14 012 T instead of 132 037 T). Steel products were hit by the current slump in the steel industry (-306 742 T compared with the corresponding period in 1981) there is however some good news from flour +204%, cement +170%, chemicals +23%.

Ore imports have kept last year's levels, crude oil seems to be picking up. Vegetable oils, textiles and chemicals remain steady.

Western Bulk Terminal: Port of Dunkerque

The new Western bulk terminal represents a 352 million French Francs investment and is intended to confirm Dunkerque as France's largest port for imported coal.

The terminal is due to become operational on the 1st January 1983. It will be able to receive 3 million tons a year brought in by bulk-carriers of up to 180,000 T dwt with a possibility to double its capacity by installing a new storage area and by further dredging within a short time for ships-up to 220,000 T dwt.

On the quay side a new 50 T gantry is being assembled. Towards the end of September a second gantry of similar lifting capacity is to be transferred from the Eastern Harbour. The operating building of the new ore and coal terminal and the conveyor belts, the bucket wheel stacker-reclaimer are also being assembled.

Bremerhaven expecting a Round One Million Containers for 1985

With a further construction-section being put into operation in September 1982 and the inauguration of the complete installation in August 1983, Bremerhaven will, in the coming year, command the world's largest compact container-handling installation–having a total quayage length of 3.2 kilometres, 18 container bridges, halls, warehouses, packing-centres, etc., on an operational area of 2.1 million square metres.

The installations employees here now have increased more than sevenfold within one decade–from 145 in 1971 to over 1,000 in 1981; containers handled rose from just 16,670 in the initial year (i.e., 1966) to, currently, 811,872 TEUs in 1981.

The one-million mark should be exceeded, according to cautious estimates–taking latest developments into consideration- by 1985 at the latest. Until now Bremen has already invested over one milliard DMarks in this installation as a whole. In accordance with this unique concentrated form of container-handling there are also bundled together here the diverse advantages to the maritime trading economy of: speed, safety, warehousing, control, experience and rail, road, autobhn, river, canal and air connections –to all countries in Central-Europe.

Hamburg-Tea port of the Federal Republic

In the first half of 1982 a total of 9,803 tons of tea worth 44.8 million DM was discharged in the Port of Hamburg. Imports thus rose over the comparable period of the preceding year by 2,686 tons (some 27.4 per cent). The growth in terms of value was four million DM.

Total figures for 1981 were 16,616 tons, with an overall value of 98.2 million DM. The Hanseatic city has therefore become one of Europe's most important tea ports.

Of the world's tea production totalling approximately 1.5 million tons, the Federal Republic alone imported some 1.1 per cent in 1981. The share of Hamburg tea importers in all Federal German imports was 60 per cent. Today 73 per cent of the population of the Federal Republic occasionally drink tea. Among the people who regularly enjoy tea are 25 per cent of the population. Federal citizens favour good and best qualities. These include Indian highland teas from Darjeeling and strong Assams, good quality Ceylon or Kenya tea, as well as aromatic China teas. The trend towards favourably-priced aroma teas is declining.

Transit traffic via Hamburg developing satisfactorily

"Taking the overall economic situation into consideration, Hamburg can on the whole be satisfied with the results in the first six months of this year. A critical point is the fact that the volume of labour-intensive general and bagged cargo is showing a decline in transit traffic. The port economy is observing this trend with some concern." Helmut F.H. Hansen, Executive Director of Port Commerce, Port of Hamburg, The Representative, made these points at a press conference in Hamburg when surveying the course of transit traffic in the first half of 1982.

In total terms, just under ten million tons of goods of all kinds were dispatched in the Elbe port in transit for third countries during the first six months of this year. This meant that the quantity exceeded the amount for the preceding year's period by 0.4 per cent or 38,000 tons. In his report, Hansen pointed out in this connection that on the basis of the official statistics method, consignments which are dispatched in maritime handling–that is to say, arrive by seagoing ship in Hamburg and leave the port in the same way, and regardless of whether they are handled directly or indirectly at the quay–are classified as both incoming and outgoing cargo. However, this has no effect on the "balance sheet" of the individual transit country but only on the overall transit volume. For the rest, a factor of significance arises only in respect of the degree of the port services provided.

The most important transit partner group still comprises the COMECON states with a total volume of 5,177,000 tons. Following the GDR with nearly two million tons (minus 21.7 per cent), the USSR with 1.7 million tons (plus 41.7 per cent) has moved up to second place among the transit countries. Czechoslovakia with 1.2 million tons (minus 14.8 per cent) can still show a remarkable quantity at fourth place. Hungary transit (231,000 tons) fell back by 16.5 per cent. The worldwide economic recession was also noticed with the COMECON states Rumania, Poland and Bulgaria as transit partners of the Port of Hamburg. Whereas in the first half of 1981 just under 1.2 million tons of

general and bagged cargo were still being loaded and discharged at the Port of Hamburg quays, the amount dropped in the first six months of 1982 to a little over 900,000 tons. This development naturally had a noticeable effect on the overall handling results in the general cargo sector. It should be added that there were also losses in bulk cargo volume due, among other things, to the fact that the GDR has expanded the capacity of its Baltic seaports.

Austria, the Port of Hamburg's most important West European transit partner, was able in the period under review to improve even upon the outstanding results in the first half of 1981: 1.3 million tons of goods, a growth of 3.4 per cent, were handled via the Hanseatic city. About 40 per cent of all maritime Austrian foreign trade is routed via the Port of Hamburg. Switzerland, also of major significance because of its high general cargo share, increased its volume by 21.8 per cent to 86,000 tons.

Hamburg's traffic with the Scandinavian countries and Finland also showed a negative trend. The total volume dropped from 973,000 tons to 835,000 tons. Only Sweden was on the positive side, increasings its amount by 3.6 per cent to 267,000 tons.

Hansen: "The question remains as to which countries helped to ensure that there was nevertheless in overall terms a positive result. In addition to the states already mentioned, the Netherlands, Great Britain, Italy and Spain helped to make the transit traffic picture a little brighter," At the same time, however, these were not large "contributions".

"The Port of Hamburg has the advantage of being able to rely on very many partners; but this is of little use when we are dealing with a worldwide recession. And this is undoubtedly the case. On the other hand there is no reason for despair; for the competitive position of the Port of Hamburg has not weakened, and the readiness to make investments to safeguard this competitiveness is unbroken", Hansen said in conclusion.

A look at cargo handling in the Port of Rotterdam in 1981

Seaborne world commodity transport fell by over 5% in the year 1981 as compared with the year before, which could hardly fail to dent the annual results of the big seaports in north-western Europe, as the following table shows:

Total commodity handling

	1981 versus 1980
World transport	– 5.1%
Rotterdam	– 9.3%
12 West German ports	– 7.5%
including:	
Hamburg	– 3.1%
Bremerhaven	– 5.2%
Wilhelmshaven	–22.1%
Emden	–25.1%
Dunkirk	– 8.5%
Le Havre	– 7.3%
Marseilles	– 6.4%
Amsterdam	– 5.7%
Antwerp	– 2.3%
Ghent	+ 4.9%
Terneuzen	– 2.0%

Ghent in Belgium was the only one among these seaports to chalk up a rise.

Overall handling of cargo from and into seagoing ships at Rotterdam amounted to 253.3 million tonnes, 9.3% down to 1980. It will be clear from the following that the fall in aggregate commodity handling at Rotterdam was chiefly a result of a decline in the flow of crude oil through this port.

Total cargo handling in 1981 comprised 195.5 million tonnes unloaded and 57.8 million tonnes loaded. Compared with 1980, unloadings fell by 9.9% and loadings by 7.4%.

Results in the fourth quarter of 1981 were virtually unchanged from those in the same 1980 quarter. Compared with figures for the first three 1981 quarters, however, the fourth quarter showed a marked improvement.

Total cargo handling at Rotterdam

1981 versus 1980, per quarter, million tonnes:

	1st quarter	2nd quarter	3rd quarter	4th quarter
1980:	76.4	69.7	66.4	66.9
1981:	62.9	62.5	61.1	66.8

Crude oil

World crude poil production fell by 6.5% in 1981 as compared with 1980. Seaborne world transport of crude plunged much further, by a hefty 11.5% Landings of crude oil at the north-western European seaports in 1981 showed the following picture:

Crude landings

	1981 versus 1980
World transport	–11.5%
Rotterdam	–19.2%
Le Havre	–13.9%
Marseilles	–18.6%
West German ports	–20.2%
Zeebrugge	–13.0%
British ports	–24.0% (10 months)
Dunkirk	–34.3%

The relative decline in crude landings at Rotterdam in 1981 was some 5% larger than the one suffered by Le Havre, but was less than for the other big onloading ports. Unloadings at Rotterdam in 1981 stood at 83.1 million tonnes. After a sagging trend throughout the first three quarters of 1981, landings picked up slightly during the final quarter.

Crude handling at Rotterdam

1981 versus 1980, per quarter, million tonnes:

	1st quarter	2nd quarter	3rd quarter	4th quarter
1980	35.7	29.1	26.2	27.7
1981	24.9	22.4	22.5	23.1

Oil products

Some 33 million tonnes of oil products were transhipped in the port of Rotterdam in 1981. This was a drop of 6.4% from the previous year, a far lesser decline than occurred for crude oil. Amsterdam showed a striking increase by 18.6%.

Oil products handling

	1981 versus 1980
World transport	–13.0%
Rotterdam	– 6.4%

West German ports	−16.3%
Terneuzen	−37.1%
Ghent	−12.1%
Amsterdam	+18.6%
Le Havre	+19.3%
Dunkirk	−27.2%
Marseilles	+30.3%

Rotterdam handlings of oil products

1981 versus 1980, per quarter, million tonnes:

	1st quarter	2nd quarter	3rd quarter	4th quarter
1980	8.9	9.1	8.2	9.2
1981	7.6	7.9	9.1	8.6

Ores

World transport of iron ore dropped by 3.5% in 1981, compared with 1980. Ore handling in the big north-west European ports felt the impact of the steel industry crisis, which in turn was a result of sagging activity in the construction and engineering industries. Only Ghent was an exeption.

Ore handling

	1981 versus 1980
World transport	− 3.5%
Rotterdam	−12.2%
West German ports	−16.3%
Dunkirk	−12.2%
Amsterdam	−51.0%
Ghent	+ 3.0%
Marseilles	−11.4%

Rotterdam ore handling

1981versus 1980, per quarter, million tonnes:

	1st quarter	2nd quarter	3rd quarter	4th quarter
	1980	10.8	10.6	11.0
9.7	1981	9.3	9.0	8.4
10.4				

Coal

Expectations as to maritime coal transport were high for the year 1981. With world transport growing 4.3% over 1980, coal handling at Rotterdam soared 20.5% over 1980. In the other ports in the following list growth was less spectacular, apart from Marseilles, and a few even saw their coal trade decline.

Coal handling

	1981 versus 1980
World transport	+ 4.3%
Rotterdam	+20.5%
West German ports	+ 1.6%
Terneuzen	− 4.1%
Amsterdam	−19.2%
Ghent	−13.8%
Le Havre	−10.0%
Dunkirk	+ 3.5%
Marseilles	+41.1%

Coal unloadings at Rotterdam during 1981 grew by a thumping 40%, reaching 8.4 million tonnes. Coal loadings amounted to 5.3 million tonnes in 1981, only 1.3% down on 1980.

Coal landings during the final 1981 quarter, at 2.4 million tonnes, exceeded those in the preceding quarters.

Rotterdam coal handling

1981 versus 1980, per quarter, million tonnes:

	1st quarter	2nd quarter	3rd quarter	4th quarter
1980	3.0	2.9	2.7	2.7
1981	3.0	3.9	3.6	3.2

Other bulk

Handling of other bulk, including grains, fertilisers and unspecified bulk commodities, rose sharpy in 1981 by 10.8% over 1980. Reaching a volume of 39.3 million tonnes, it consisted of 29.9 million tonnes unloaded and 9.4 million tonnes loaded. Compared with 1980, unloadings rose by 6.5% and loading by 27.2%.

Other bulk handling at Rotterdam

1981 versus 1980, per quarter, million tonnes:

	1st quarter	2nd quarter	3rd quarter	4th quarter
1980	9.0	8.7	9.2	8.5
1981	9.5	9.6	8.4	11.7

General cargo

Total general cargo handlings (comprising lash, container, ro-ro and other general cargo) rose by 3.2% from 36.5 million tonnes in 1980 to 37.6 million tonnes in 1981. The shift in the make-up of the general cargo package continued in 1981, as shown in the following survey:

	1980	1981
All general cargo	100.0%	100.0%
including Lash	4.3%	3.8%
Ro-ro	10.3%	10.3%
Containers	52.9%	56.4%
Other general cargo	32.5%	29.5%

General cargo handling in 1981 comprised 17.2 million tonnes unloaded and 20.5 million tonnes loaded. Unloaded volume dropped by 4.9% and loaded volume increased by 11%. The overall general cargo trade picked up considerably in the fourth quarter of 1981, with unloadings rising by about 0.3 million tonnes and loadings by 0.4 million tonnes.

Total general cargo handling at Rotterdam

1981 versus 1980, per quarter, million tonnes:

	1st quarter	2nd quarter	3rd quarter	4th quarter
1980	9.0	9.3	9.1	9.1
1981	8.6	9.8	9.3	10.0

Lash transport

Transport by lash vessels calling at Rotterdam stood at 1.4 million tonnes in 1981, 7.4% down on 1980. Unloadings dropped by 14% to 635,000 tonnes, while loadings fell by 1.5% to 805,000 tonnes. During the final 1981 quarter lash transport via Rotterdam picked up slightly.

Rotterdam lash transport

1981 versus 1980, per quarter, 1,000 tonnes:

	1st quarter	2nd quarter	3rd quarter	4th quarter
1980	316	410	410	419
1981	315	371	351	403

Ro-ro transport

The share of ro-ro transport in overall general cargo handling at Rotterdam in 1981 was the same as in 1980. Aggregate volume shifted by this kind of transport rose by 2.9% from 3.7 million tonnes in 1980 to 3.9 million tonnes in 1981. Unloading fell by 2.1% compared with 1980, reaching 1.7 million tonnes in the year under review. Outgoing cargoes followed the picture presented by the overall general cargo package, if at a lowel level. Volume of cargo rolled aboard rose by 7.2% from 2.0 million tonnes in 1980 to 2.2 million tonnes in 1981. Handling results in the final 1981 quarter differed only slighly from those in the preceding quarter.

Ro-ro transport at Rotterdam

1981 versus 1980, per quarter, million tonnes:

	1st quarter	2nd quarter	3rd quarter	4th quarter
1980	1.0	0.9	0.9	1.0
1981	0.8	1.0	1.0	1.1

Containers

Growth of cargo volume unloaded at Rotterdam in containers continued in 1981, reaching 21.2 million tonnes, up 10% on the year before. Unloaded volume, at 9.1 million tonnes, was 2.1% better than in 1980, a far cry from the performance of other modes of transport.

Container loadings, which had reached 10.3 million tonnes in 1980, rose a further 16.8% to 12.1 million tonnes in 1981. Over 1.4 million containers were handled in 1981, equalling 2.1 million TEUs.

Rotterdam container handling

1981 versus 1980, per quarter, million tonnes:

	1st quarter	2nd quarter	3rd quarter	4th quarter
1980	4.7	4.9	4.8	4.8
1981	4.8	5.5	5.3	5.5

(Rotterdam Europoort Delta)

Record trade in 1981-82: Port of Melbourne

A record 19,354,000 revenue tonnes of cargo passed through the Port of Melbourne in the twelve months ended 30 June, 1982.

Container traffic through the Port was also a record with 525,221 twenty-foot equivalent units, an increase of 3.6 per cent, being handled.

The previous highest totals of cargo and TEU's were achieved in 1979-80 when 18,825,098 revenue tonnes of cargo and 511,327 TEU's were handled.

In the first six months up to December 1981, trade declined 2.5 per cent when compared with the same period in the previous year. This was offset by a strong recovery in the June 1982 half, partially the result of the high incidence of waterfront industrial stoppages at other major Australian ports causing a significant diversion of overseas import cargoes to Melbourne. An upsurge in overseas imports also contributed to the recovery in the second half of the year.

Both overseas imports and exports increased during the year under review, but this was offset by a fall in the overall coastal sector tonnages. Total general cargo throughput increased while bulk cargo, which accounted for only 17.1 per cent of the total trade, declined.

An increase in containerised cargo accounted for all the growth in the general cargo trade, 70 per cent of all general cargo being transported in containers.

The number of containers handled increased by 18,220 TEU's compared to the previous year.

Overseas imports were up by 6.5 per cent to 7,242,000 tonnes. Of this total imports of general cargo increased by 11.4 per cent to 6,786,000 tonnes. Imports of liquid or dry bulk commodities declined by 35.6 per cent to 455,000 tonnes. *(PORT GAZETTE)*

Objectives statement explains Port's role: Port of Melbourne

A statement of Objectives, a six-point summary of the PMA's functions and responsibilities as detailed in the Port of Melbourne Authority Act 1958, has been approved by the Board.

This is the first time that definitions of the Port's management role in operations, administration, planning and development, finance and community responsibilities have been consolidated in a concise, easily read form.

Provision is made for the Port's performance to be assessed from time to time against the criteria stated in the Objectives.

Objectives Statement

The Port of Melbourne Authority Act 1958 empowers the PMA to regulate, manage and improve the Port of Melbourne and certain portions of the Yarra and Maribyrnong Rivers, and to construct, maintain and operate a World Trade Centre in the Port of Melbourne.

General Objective

To plan, provide and manage facilities and services to ensure the efficient and safe movement of shipping, cargo and passengers through the Port of Melbourne in a cost-effective manner and to facilitate the development of trade, for the ultimate benefit of the community.

Specific Objectives

(i) Port Operations

- to ensure that all port operations are carried out in an efficient, safe and secure manner.
- to promote increased efficiency of cargo handling as measured by the ratio of tonnes of cargo handled to the number of ship hours at the berth.
- to promote the efficient receival and delivery of cargo.
- to reduce the real annual maintenance and operating costs/tonne of cargo.
- to improve administration efficiency by regular review of methods and procedures.

(ii) Planning and Development

- to plan and provide port facilities and services giving due regard to:
  - Utilisation and performance of current facilities.
  - Likely changes in trading patterns and economic conditions
  - Changes in technology
  - Requirements of Port users

- Safety
- Community requirements
- Activities of other agencies
- Facilities in other ports

- to maintain a long term development strategy outlining the likely future direction and extent of Port activities.
- to contribute to economic growth and associated employment opportunities within the Port hinterland by the promotion, development and facilitation of trade through the Port.
- to carry out appraisals of individual projects giving consideration to financial and other costs and benefits, and to use a test discount rate of at least 5% in real terms.
- to ensure that Port land is developed for port-related purposes.

(iii) Finance

- to maintain an independent, financially viable organisation.
- wherever practicable, to set the level of charges for use of facilities and services to reflect the costs incurred in their provision.
- to regularly review accounting practices giving due consideration to the effects of inflation.
- to achieve an annual real rate of return on total assets of at least 4%.
- to maintain a long-term Equity/Wealth ratio (as measured by the proportion of Total Assets not covered by debt) above 60%.
- that the minimum level of financial reserves during the financial year be the equivalent of 3 weeks total cash expenditure.

(iv) Community Responsibilities

- to ensure the current and future needs of the community are fully understood and given proper consideration in the PMA's objectives, plans and activities.
- to improve public awareness of the Port by dissemination and discussion of planning, development, financial and operation information.
- to provide improved public access to the Port.
- to ensure that necessary social and environmental considerations are included in the assessment of Port operations and development.

(v) Personnel & Industrial Relations

- to provide effective communication between management and employees.
- to ensure that employees have an oveall appreciation of the PMA's objectives, plans and activities.
- to provide employees with the necessary training and development opportunities and to encourage them to realise their full potential.
- to maintain a safety policy that will ensure a safe working environment and minimise work-related injuries.
- to reduce and maintain the number of employee lost-time injuries per million man-hours to less than 30. *(PORT GAZETTE)*

Fruit exports increase at Auckland

One of the strongest contributors to recent growth in the Port of Auckland's exports and the use of Fergusson Container Terminal has been an upsurge in fresh fruit loadings, the General Manager, Mr. R.T. Lorimer, reported to the Auckland Harbour Board's meetings.

'In the five years to September 1981 these recorded a four-fold increase to more than 60,000 cubic metres', he said.

Most of the growth had been in kiwifruit exports stemming from a production boom in Te Puke. Auckland has been the favoured port for kiwifruit exports because the major markets in Europe, Japan and North America were on trade routes using Auckland and because refrigerated containers were needed to preserve high value fruit.

'Longer term growth in exports of kiwifruit through Auckland is underpinned by the spread of plantings in Northland and the Rodney and Franklin counties, which should match current Bay of Plenty production by 1986.'

Port's efficiency means less work for Committee: Wellington Harbour

The need for action by the Port Users Committee has decreased markedly because the Port of Wellington is running so smoothly says the Committee's Secretary, Richard Airey.

"Our level of activities has dropped enormously over the last few years because the port is running so smoothly. There's no industrial unrest, we have the best container terminal in the country, far better than any in Australia."

However, Mr. Airey is convinced there will always be a need for the unique role played by the Port Users Committee.

The Committee grew out of an idea conceived by the Wellington Chamber of Commerce and between 1966 and 1971 it ran largely at the expense and under the direction of the Chamber.

Independent

However, in 1971 its structure was reorganised; it became a fully independent, ad hoc committee financed by subscriptions (which pay for the administrative service provided by the Chamber) under the control of an appointed Chairman.

It was decided, and the Committee's thinking has remained unaltered, that a formal constitution and policy would only hamper the ease with which it could become involved in matters of concern as they arose and the directness and immediacy with which it could exert its influence.

"Our strength has always been our independence. We have no actual authority but because we are seen to be truly independent and nonpartisan we have a great deal of influence," said Mr. Airey.

The Committee has no stated objectives but in practice endeavours to achieve efficient service and reasonable charges for the members of the commercial community that it represents—the port users. It also works to foster and maintain co-operation between the providers and consumers of port facilities.

It has deliberately avoided limiting its aims to enable it to become involved in anything that might affect port users.

When first established (and still under the auspices of the Chamber of Commerce) its prime concern was over the receipt and delivery of cargo. The Wellington Harbour Board had just given up its wharfingering service and the the private company which had taken over had introduced steep charge increases.

Success

The Committee monitored the service offered and the rates charged and made representations to the company, with quite considerable success, on behalf of all port users, especially importers.

In the late 1960's concern at the increased incidence of cargo pillaging led the Committee to organise a forum of Police, the Insurance Underwriting industry and the port users to investigate the problem.

It was the first really coordinated approach to the issue and the exchange of information and the awareness it generated among all concerned of their roles in the prevention and reduction of pillaging proved rewarding.

The advent of containerisation decreased the incidence and changed the nature of pillaging and provide a new and important "area of interest" for the Committee.

Lobbied

It lobbied Government for the speedy establishment of Wellington's Container terminal and later added its support to the Board's unsuccessful submissions to Government not to grant container facilities to the Port of New Plymouth.

Congestion at the port in the mid 1970's proved a perfect opportunity for the Committee to demonstrate the effectiveness of its informal approach. Members wrote directly to the managers of importing companies asking them to promptly remove from the port their recently delivered cargo. The exercise worked.

The Committee works closely with the Board and Board General Manager Mr. J.F. Stewart is a member. The Committee is kept constantly informed of the Board's activities and consulted about increases in charges.

Mr. Airey said the Committee was particularly glad to see the more aggressive marketing approach being adopted by the Board and said that at its recent meeting members had praised the Board's port promotion activities.

He said the Committee believed the Board's financial difficulties could be resolved in part, by getting more cargo through the Port and the members were willing to help the Board in its promotional drive in any way they could.

Only recently the Committee sent overseas pamphlets urging exporters to ship direct via Wellington—an exercise Mr. Airey describes as "unashamedly banging Wellington's drum".

Mr. Airey said although it was difficult to measure the success of such an exercise, he said the Committee was anxious to help the Board get its message across and could use its association with similar overseas groups to inform exporters and shippers about Wellington's facilities.

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