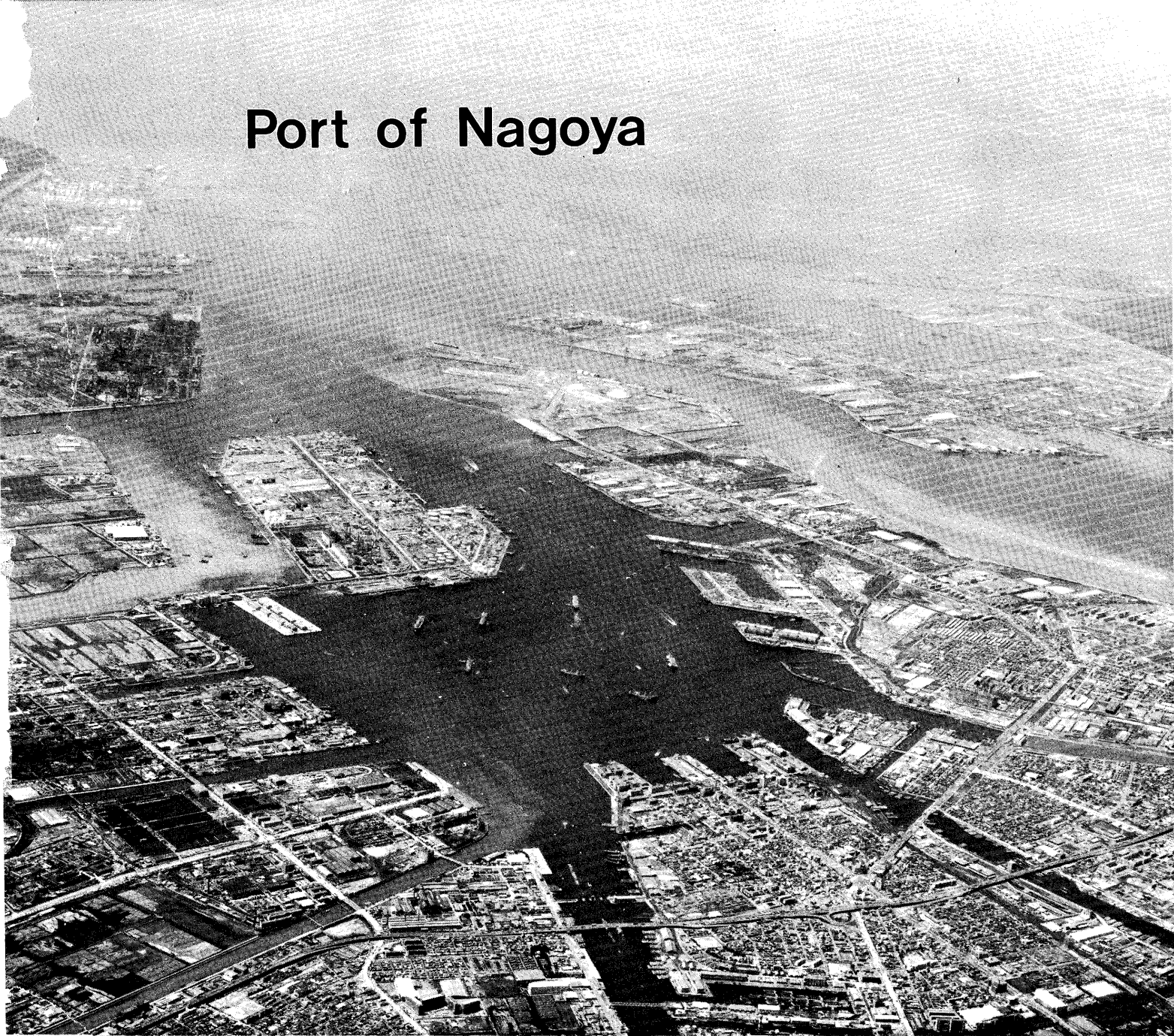


PORTS *and* HARBORS

June, 1979 Vol. 24, No. 6

Port of Nagoya



The Publisher: The International Association of Ports and Harbors

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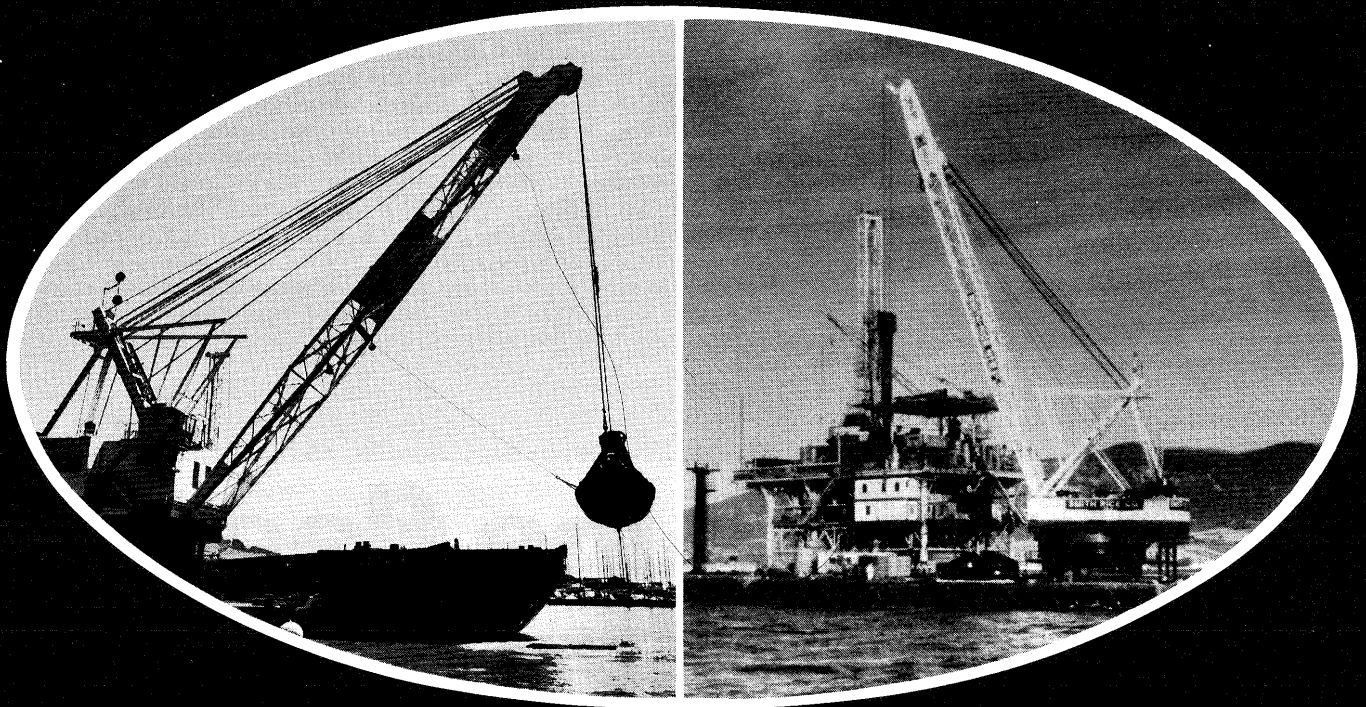
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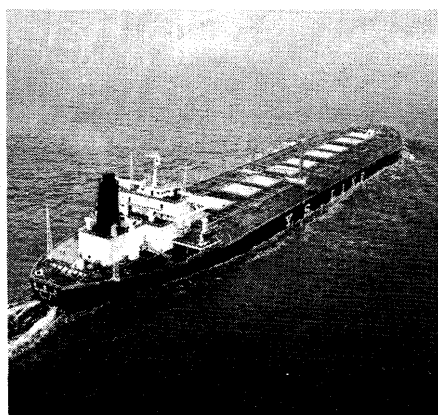




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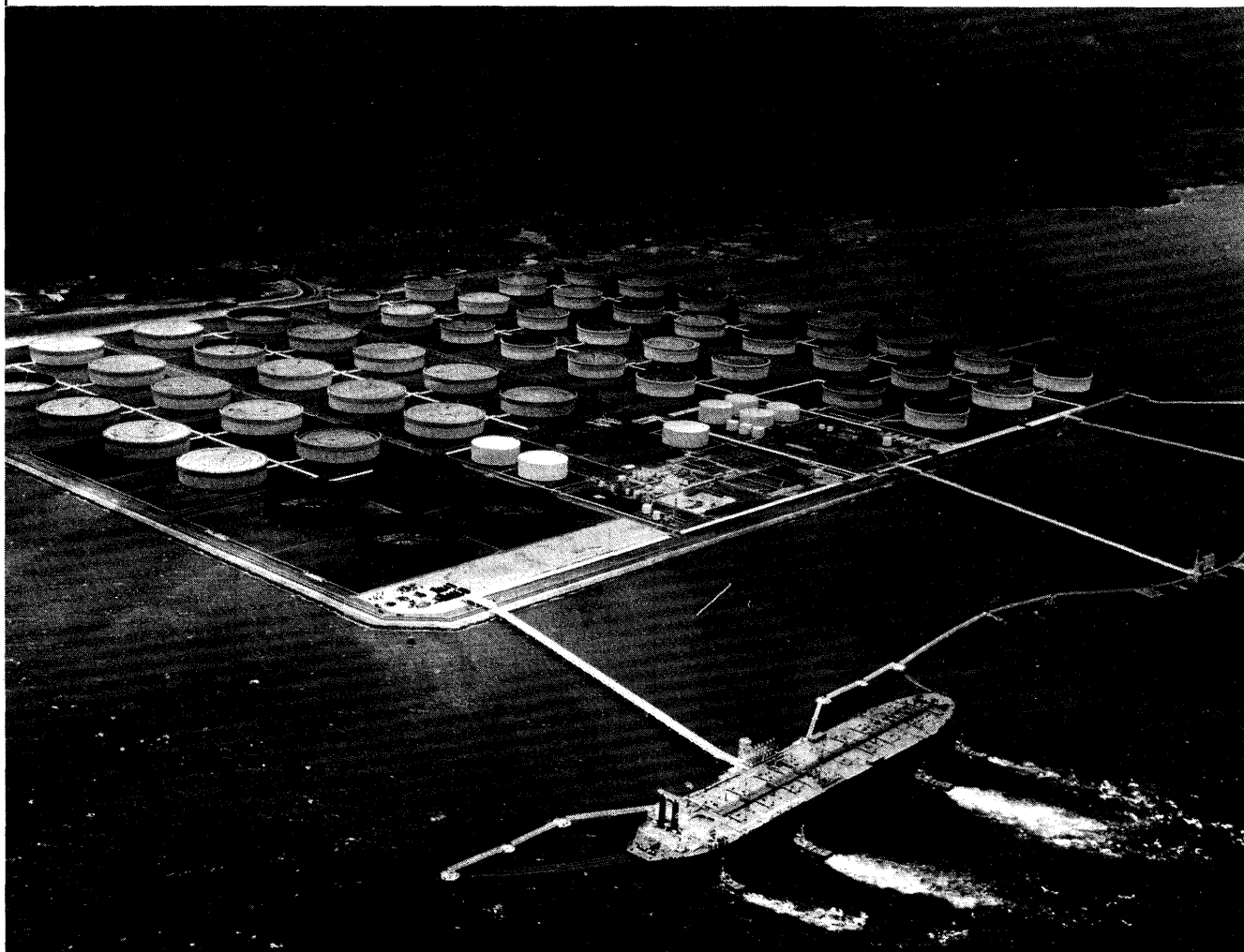
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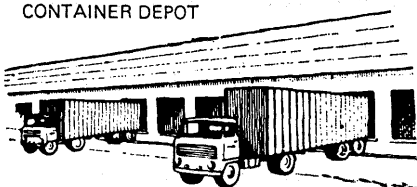
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The Cover: Port of Nagoya, which opened its portals to the world in 1907, has grown to become one of Japan's largest three ports, with an annual cargo handling volume in excess of 100 million tons.

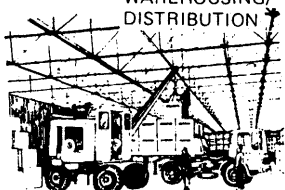
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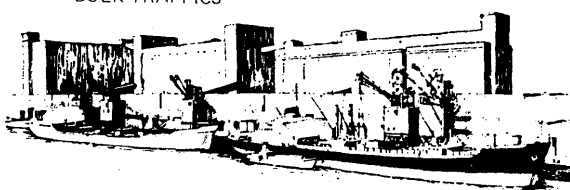


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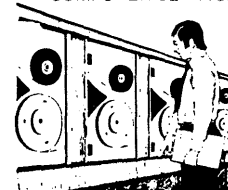
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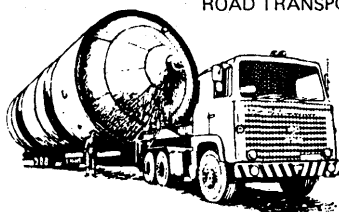
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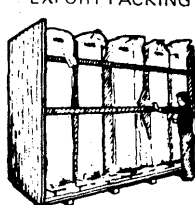
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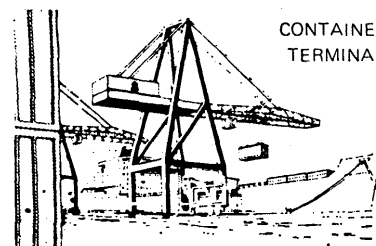
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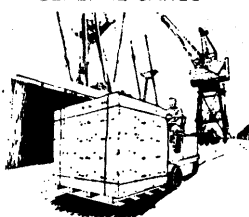
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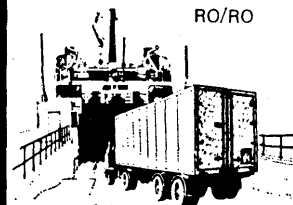
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IAPH announcements and news

IAPH Observer to CCC's Canberra Sessions

Mr. John Taylor, Chief Planner, Port of Melbourne Authority will attend the 53rd/54th Sessions of the CCC (Customs Co-operation Council), which will be in Canberra (Australia) from 14 to 18 May 1979, as an IAPH observer.

Included in the agenda of the sessions are reports of the Valuation Committee, Nomenclature Committee, Harmonized System Committee and Technical Committee of CCC.

The arrangement has been made through the good offices of Mr. A.S. Mayne, IAPH 1st Vice-President and Chairman of Port of Melbourne Authority. (rin)

Sea Transport of Large Volume: One Day Conference in Rouen

Mr. Claude Mandray, General Manager, Port of Rouen, will attend as the IAPH delegate to the Conference on Sea Transport of Large Volume, which is to be convened at Rouen, under the joint hostship of "International Law of Transports Institute" (an institute located in Rouen) and "Akademia Ekonomiczna" (Department of Law of Poznan International Relations, located in Poland), on May 11, 1979.

The subjects to be discussed are: —

- Economical problem in sea transport of large volume
- The Practice of Performance of Large Volume Contracts
- Juridical problems in sea transport of large volume

The Institute will hold its sixth conference in Le Havre on October 18, 1979 on the subject of the contract for road transport, according to the news release. (rin)

Publications

1. "IMCO/ILO Guidelines for Training in the Packing of Cargo in Freight Containers"
Sales No. 78.13.E £1.25 (English), No. 78.13.F £1.50 (French)
2. "Manual on Oil Pollution, Section II, Contingency Planning"
Sales No. 78.11.E £2.00 (English), No. 78.11.F £2.25 (French)
3. "International Conference on Training and Certification of Seafarers, 1978"
Sales No. 78.15.E £4.00 (English)
4. "Official Records of the Conference on the Establishment of an International Compensation Fund for Oil Pollution Damage, 1971"
Sales No. 78.06.E £8.00 (English)
5. "Tanker Casualty Reports — Analysis of serious casualties to ocean-going tankers 1968–1977"
Sales No. 78.16.E £1.50 (English)

IMCO Secretariat, Publications Section,
101-104 Piccadilly, London W1V OAE,
U.K.

Visitor

On April 17, 1979, Mr. Norman F. Matthews, IALA's London Representative and Member of IAPH Special Committee on Large Ships, visited the Head Office to be met by Mr. Kusaka, Dy. Secretary-General, and his staff.

He was visiting Japan to have preliminary discussions with the Maritime Safety Agency of Japan about the IALA Conference in 1981 which will be held in Tokyo. (rin)

Program of IMCO Meetings

1 May – 31 December 1979 (from No. PROG/66)

7 – 11 May	Maritime Safety Committee — 40th session	IMCO
14 – 18 May	INMARSAT Preparatory Committee — 5th session	IMCO
17 May	Committee on Technical Co-operation — 17th session	IMCO
18 May	Pre-Council Budgetary Working Group	IMCO
21 – 25 May	Council — 42nd session	IMCO
29 May – 1 June	Legal Committee — 39th session	IMCO
4 – 8 June	Legal Committee — 40th session	IMCO
11 – 15 June	Marine Environment Protection Committee — 11th session	IMCO
18 – 22 June	Sub-Committee on Subdivision, Stability and Load Lines — 23rd session	IMCO
25 – 29 June	Sub-Committee on the Carriage of Dangerous Goods — 30th session	IMCO
2 – 6 July	Sub-Committee on Safety of Fishing Vessels — 22nd session	IMCO
9 – 13 July	Sub-Committee on Standards of Training and Watchkeeping — 12th session	IMCO
16 – 20 July	Sub-Committee on Fire Protection — 23rd session	IMCO
23 – 27 July	Ad Hoc Working Group on the Relationship between Shipmaster, Shipowner and Maritime Administration — 2nd session	IMCO
3 – 7 September	Sub-Committee on Safety of Navigation — 23rd session	IMCO
10 – 14 Sept.	Sub-Committee on Bulk Chemicals — 6th session	IMCO
17 – 21 Sept.	* INMARSAT Preparatory Committee — 6th session	IMCO
24 – 28 Sept.	Sub-Committee on Life-Saving Appliances — 14th session	IMCO
1 – 5 October	Legal Committee — 41st session	IMCO
8 – 12 October	* Maritime Safety Committee — 41st session	IMCO
15 – 19 October	Sub-Committee on Ship Design and Equipment — 21st session	IMCO

(Continued on next page bottom)

Open forum: Port releases:

Technological change in shipping and its effects on ports: (1)

Current developments in sea-going barges and barge-carrying vessels

Report by the UNCTAD secretariat
(TD/B/C.4/129/Supp. 6)

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22 - 26 October	Fourth Consultative Meeting of Contracting Parties to the London Dumping Convention	IMCO
2 November	Council - 10th extraordinary session	Cunard International Hotel
5 - 16 Nov.	Assembly - 11th session	Cunard International Hotel
16 November	Council - 43rd session	Cunard International Hotel
26 - 30 Nov.	*Marine Environment Protection Committee - 12th session	IMCO
3 - 7 Dec.	*Sub-Committee on Subdivision, Stability and Load Lines - 24th session	IMCO
10 - 14 Dec.	Sub-Committee on Radio- communications - 21st session	IMCO

* Tentative

I. INTRODUCTION

1. In the last few years there has been a profusion of new shipping technologies. The effects of this trend are noticeable in:

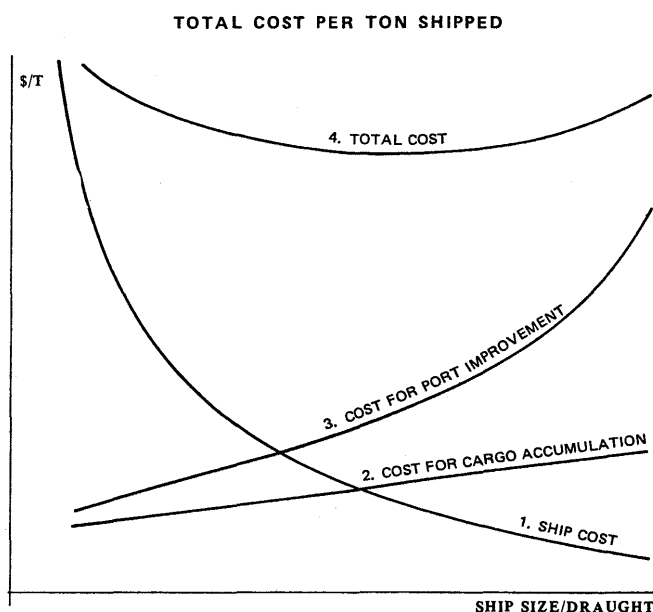
- the level of costs;
- the volume of trade;
- port facilities;
- the development of navigable waterways; and
- shipbuilding.

2. As far as cargo handling is concerned, two trends have proved particularly significant. The first is the development of bulk cargo traffic (solid, liquid and liquefied goods) and the second is the unitization of general cargoes. Both of these developments have increased the scope of mechanized cargo handling. In the case of unitization, pallets have given way to containers and to barges carried aboard vessels, each of which is evolving towards increasingly larger and heavier units.

3. One of the salient characteristics of the development of shipping has been the concern to promote the penetration as far inland as possible by water transport; this has led to the study and implementation of bold projects designed to improve inland navigation conditions, so as to permit carriage by increasingly larger barges. In Europe, this concern has been reflected in the Rhine-Main-Danube project, scheduled to be completed in 1984. This project has already led both to the establishment of the new inland ports of Bamberg and Nuremberg and to the projected Mediterranean-North Sea link - the Rhone/Rhine link. In Latin America, it has resulted in the more functional use of the Amazon river system, the establishment of a series of ports in Brazilian territory and the improvement of existing ports (Manáus in Brazil and Iquitos and Pucallpa in Peru). The concern has also found expression in the ambitious project for the development of navigation on the Río Paraná and in the opening, in 1976, of the "Canal Mitre", which enables vessels drawing 30 feet of water to reach directly the ports of San Nicolás and Rosario.

4. Another aspect which may explain the development of these technologies is the economic one. Many ports cannot further develop facilities for bigger ships because the traffic operated by these ships is too low to justify the considerable expense involved. In point of fact, the use of bigger ships leads to a decreasing cost per ton shipped. But at the same time, to receive bigger ships means additional expenditure on port infrastructure (dredging, new berths, more powerful tugs, etc.) and on the facilities for the reception of the cargo (larger warehouses or storage tanks; increased manpower to meet the sporadic peak demands caused by the incoming big ships). Figure 1 sum-

Figure 1



marizes the effects of increasing ship size on the total cost per ton shipped. Curve 1 shows the evolution of the ship cost. Curve 2 shows the evolution of the cost for cargo accumulation. Curve 3 shows the evolution of the cost for port improvement. By combining curves 1, 2 and 3 one gets a U curve (curve 4). This curve shows that for a particular ship size/draught the total economic cost can be minimized. This one should try to determine for a given development scheme for which ship size/draught this minimum economic cost level is obtained.

5. There are two barge systems by which such penetration inland is achieved: pushed or towed sea-going barges and carried barges. The ocean barges can be considered as a penetration by sea-borne traffic into the inland waterway system, whereas barge carriers are an extension of inland barging across the oceans, linking one inland waterway system with another.

6. The carriage of cargo by pushed, towed or carried barges offers a number of advantages:

- (a) The most obvious advantage of a tug/barge combination is the intensive use of the tug, since it can drop one barge at a port, and pick up another. Thus, the tug, which is the costly part of the system, spends most of its time transporting cargo rather than waiting to load or discharge it. This advantage can readily be observed in the case of so-called "closed-circuit" operations, in which a single tug services a set of three or more barges. Whilst one of the barges is under way with its tug, the other two are at the port of discharge or despatch.
- (b) A tug requires a smaller crew than does a general cargo ship and therefore gives rise to a reduction in crew costs.
- (c) This system is particularly advantageous in the case of goods which require delicate or lengthy (and hence expensive) handling operations and for which freight rates are low.
- (d) It reduces the demand for storage which could prove costly if it were necessary to take delivery of the cargo of an entire vessel at the one time.
- (e) Barges can be designed to meet the requirements of

the goods to be carried, and can be moved by the same type of tug.

- (f) Barges can be designed in accordance with the limits of the waterways they will be used on.
- (g) Barges require a relatively small financial outlay. They can be built simultaneously by different (and small) shipyards.
- (h) Access to the holds of barges is easier than for ships. Consequently, the cost of handling a given type of cargo can be significantly lower.

7. The drawbacks of sea-going barges are:

- (a) The speed of a barge-tug is generally low (on average 10 to 12 knots, and at most 15 knots) for hauls which are necessarily short (although they can go up to 200 nautical miles).
- (b) The system has a number of physical limitations: for instance, it cannot be used in certain areas where the sea is normally fairly rough or where ice conditions exist.

8. The disadvantages of carried barges are:

- (a) These barges are rather expensive to build and maintain.
- (b) The system itself has a number of inherent constraints. For example, it is inconceivable for the barges to navigate each and every inland waterway system because of the physical characteristics of rivers, canals, locks, widths and draughts, etc. Furthermore, the barges may be included in river convoys, but the characteristics of the barges do not necessarily fit with those of the inland barges. Therefore, users have had to resolve a number of practical problems by devising solutions which are expensive to introduce and to operate.
- (c) Cargo must be stored as in a sea-going vessel. This poses no problem if the barges are loaded in seaports where stowage experience is abundant. However, in the case of barges being loaded inland, stowage problems have arisen in the past.

9. Because of the many advantages and disadvantages of the various types of barge system, there is a need to carry out a careful examination and to prepare a feasibility report in each individual case prior to undertaking steps aimed at the introduction of a given system.

II. SEA-GOING BARGES

10. The first experiments with sea-going barges were conducted on the West Coast of the United States of America and Canada. These tests led to a spectacular development in towing techniques. There now exists a regular coastal trade together with a long-haul trade to Hawaii and Midway. Moreover, there is a sizeable seasonal trade with the Arctic in connexion with oil prospecting and exploration operations.

A. Towed barges

11. The great advantage of towing is its cost. It is extremely flexible since the type of tug can be adapted to expected navigational conditions. A major drawback, however, lies in the navigability of the towed barge. Moreover, a relatively large draught is required for high-capacity barges. It is, however, worth pointing out that a number of towed ro/ro and container-carrying barge services are operating satisfactorily, in particular between Florida

and Puerto Rico and between Marseille-Fos and Yanbu (Saudi Arabia). These barges are specially designed for the door-to-door carriage of goods in semi-trailers or containers. Another application of the system is the FLASH (Feeder LASH system), designed for the transportation of LASH barges, which is described below.

B. Pushed barges

12. Compared with towing, pushing the barge has a number of advantages:

- (a) The pushing speed of a barge is up to more than double that of towing.
- (b) The water resistance is relatively lower in the case of a barge train than in the case of individual units.
- (c) Resistance to waves is lower, at comparable speed.
- (d) Fuller use if made of the pusher craft's power.
- (e) There is much greater control over the barge, and better manoeuvrability of the assembly; in particular, it is easier to shorten the tow-rope when arriving in ports and in roadsteads and when getting underway, or to lengthen it when in the open seas.
- (f) There is a degree of stabilization against yawing.
- (g) In towing, the tow ropes break relatively frequently, and in bad weather the barge can very rapidly be in distress. When navigating near the coast, it may be impossible to pass a second tow rope.

The major difficulty is unquestionably the need to develop a specially designed shape so as to permit an optimum connexion between pusher tug and barge.

C. Different systems of sea-going pushed barges

13. There are three main types of sea-going pushed barges systems:

- (i) free pushing systems with or without notch in the barge;
- (ii) articulated systems: tug/barge connected;
- (iii) rigid connexion pushed barges systems.

1. Free pushing systems with or without notch in the barge

14. There are several examples of free-pushing systems without notch in the barge, used almost exclusively on calm waterways (rivers and lakes).

15. In the free-pushing systems with notch in the barge the barges are notch shaped with the push-boat linked to the barge with wires. According to the type of navigation, the systems allow a greater or lesser degree of autonomy of the push-boat in relation to the barge. They are designed for navigation in sheltered waters. If the weather is bad, the pusher can tow the barge. Depending on the characteristics of the combination and the depth of the barge's notch, it may be possible not to have to disconnect the tug with wave heights of from 0.5 to 3 meters and even higher. The notched barge systems may be classified as follows:

(a) Small notch

The length varies from several centimetres to a few metres. Numerous combinations of this type have been built in the United States of America. They are generally small units designed for inland navigation or for navigation along the coasts of Mexico and the West Coast. They cannot be used for navigating when the waves are higher than 0.5 metres.

(b) Medium notch

The length of the notch measures between one quarter to one half of the overall length of the push-boat. Numerous combinations of this type are currently navigating on the United States, European, Caribbean and Asiatic coasts. The push-boat is fitted with rubber fenders on all parts which have contact with the barge's notch. The system has to be disconnected when the waves are higher than 1 to 1.5 metres, otherwise damage may occur to both the push-boat and the barge. However, modified systems in service in the Mexican Gulf area can be used in up to 3 metre-high waves.

(c) Deep notch

The length of the notch is over half of the overall length of the pusher. Such systems are at present being used along the United States coasts and allow navigation in up to 1.5 to 3 metre-high waves. The pusher is equipped with rubber fenders on all surfaces in contact with the barge.

2. Articulated systems: tug/barge connected

16. In these systems the link between push-boat and barge is by articulation. The advantage of these systems is that the sea movements of yawing and pitching are independent in the barge and in the tug. The tug and the barge are connected at the beam. They have the same roll period but the lengthwise movements are independent. In other words, the two vessels pitch independently of each other, thus reducing the risk of damage to the bow of the pusher tug in heavy seas. These systems may be used in high waves of up to 3 to 5 metres. Among them are the following licensed systems:

ARTUBAR

Sea link

Seebeck tug barge systems

Barge train Inc.

Lundi Seapushtow

Mitsubishi Heavy Industries

Jeff boat systems

Many of these have already been tried, but a great number of problems have yet to be resolved. Nevertheless, the ARTUBAR system is being developed, and such services are used as container feeders between the New York and New Jersey ports and ports in New England.

3. Systems of rigid connexion pushed barges (Tug Barge Integrated - TBI)

17. The characteristic feature of these systems is the shape of the tug's bow and that of the barge's stern which ensure a perfect connexion and a very firm link when the pusher inserts its nose into the barge, to which it is attached strongly by specially designed equipment. The insertion of the pusher's nose is made into a deep slot, at the bottom of which is the prolongation of the barge so that the pusher sits on this prolongation and is gripped by the deck of the barge. When connected, the systems generally have stern forms closely resembling those of traditional ships and have the same comportment at sea, irrespective of the size of the waves. Of the several examples of this system described below, the tug/barge system designed by Breit Engineering is currently the best known.

(a) Breit-Ingram

One of the earlier tug/barge combinations in use was

the tug "Intrepid" and the barge "Ocean 250" which was able to haul about 31,000 tons of petroleum products. In service on the East Coast of the United States are other large tug barge combinations: the barges "IOS 3301" and "IOS 3302" which were built for Ingram barge lines and the tugs which push the barges, i.e. the "Martha R. Ingram" and the "Carole Ingram". These tug-barge combinations are in service between New York and ports of Florida. They resemble a self-propelled tanker when integrated. The tug barge units link 11,128 HP to a 36,581 dwt tank barge. The Ingram corporation has filed an application for the construction of six huge barge systems. The tugs would measure 206 feet in length and would be capable of 12.5 knots for a 35 foot draught. The barges would be 907 feet long with a beam of 136 feet and a draught of 38 feet. They would be able to haul almost one million barrels of hydrocarburines each.

Among other tug/barge systems designed by Breit Engineering, the following should be noted:

TOMCAT LUMBERSAK, in service for the Paper Industries Corporation of the Philippines

PRESQU'ILE 55,000 dwt bulk carrier

VALERIE F 30,000 dwt carrier

MITSUI 6,000 dwt bulk carrier

(two pushboats and six barges)

JANIE A BAXTER 22,500 dwt bulk carrier.

(b) **Agria-Corbis system**

Another application of the TBI-system is the Agria-Corbis combination at present in service between France and Poland to carry coal. The principal characteristics of the "Agria" pusher are as follows:

overall length: 40 m

beam: 13.10 m

draught in charge: 7.86 m

NRT: 75.18 T

GRT: 1,199.78 T

The "Corbis" barge has a dwt of 36,000 tons, for a displacement of 22,760 tons. The length of the barge is 132 metres.

(c) **Cargo Carrier Inc.**

This was the first integrated system and was built in 1950. Currently known under the name of AZTEC CHIEF, it uses the linking system called CARPORT and transports timber and veneers from the United States to the Amazon River. It is worth noting that a derived concept called "sea-wedge" has been introduced designed by Waller and Associates Inc. (see Figure 3).

(d) **Murvicker tug/barge system**

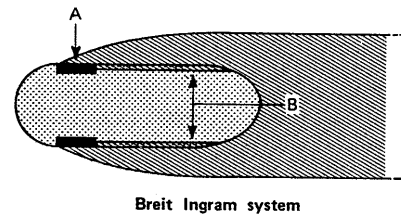
This system is an integrated tug/barge design. The basic principle is absorbing the forces on three wedging points, one on the nose of the tug and the other two on the two shoulders of the barge. This system has not so far been put in service (see Figure 4)

(e) **Inter tug**

Again, this system has been designed but is not yet in service. It foresees a deep-notch connexion, pressurized cushions; a hydraulic low pressure system; a single passive connecting rod; a control console on tug bridge.

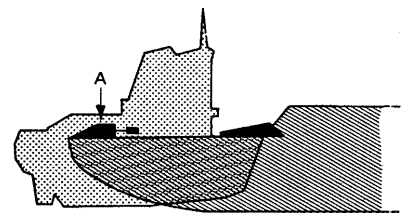
(f) **The CATUG system**

Figure 2



Breit Ingram system

Figure 3



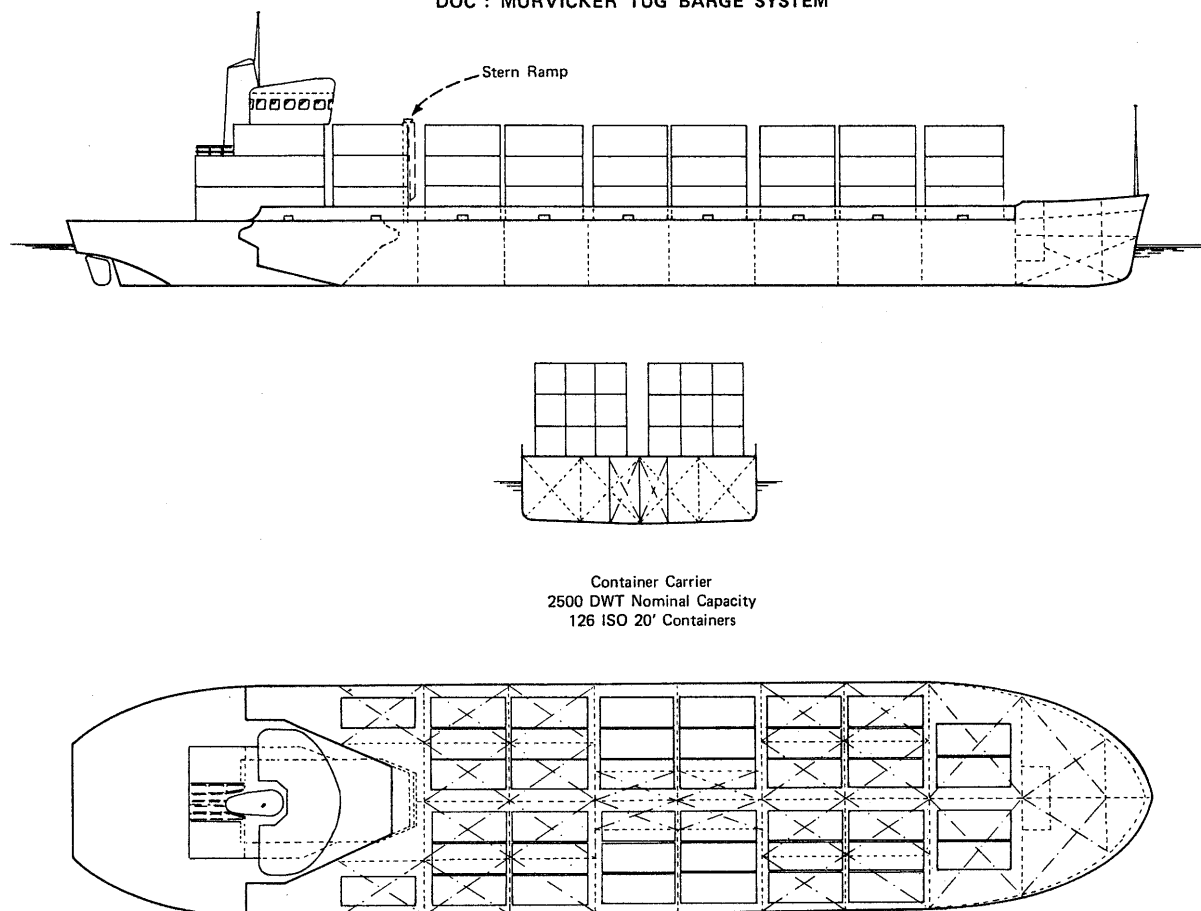
Waller/Forker system

CATUG (catamaran tug) is a new integrated tug/barge transportation system for ocean service and is claimed by its designers to do the same job as a conventional ship. The tug is of the catamaran type that fits closely over and around the specially contained stern of the barge. The hulls of both vessels are faired so that when they are mated together they resemble a single hull. They are locked rigidly together by a patented system of hydraulically operated latches on deck and wedges between the inboard sides of the tug and the hulls and the tongue-like extended stern of the barge. This particular tug combination is used to transport clean oil products between Port Everglades, Florida, and ports in the New England and New York areas. The barge has bow thrusters installed for added manoeuvrability. The CATUG principle as used in this combination could be applied equally to barges developed for other cargoes (see Figure 5).

An example of the CATUG concept is the "Seabulk Challenger" and its matching 41,800 dwt tank barge STL 3901. These vessels were built by a Galveston shipyard, Texas (United States of America) which had had previous experience with catamaran-type tow boats. The tug and barge measure respectively 120 feet and 588 feet long and when locked together their combined total length is 629 feet. The cargo capacity of the barge is 320,000 barrels. The barge has a specially contoured stern which fits between the twin catamaran hulls of the CATUG. Lines are faired for lowest water resistance when vessels are joined together. They are rigidly connected by hydraulic locking mechanisms. Details of these two units are given in Table 1.

Figure 4

DOC : MURVICKER TUG BARGE SYSTEM



Courtesy of W. CORTLYN RHODES, 19 Alexander Square London, SW3 2AX

Table 1
Characteristics of the Seabulk Challenger
and STL 3901 Barge*

	CATUG	Barge
Length	121 ft — 6 ins	587 ft — 7 ins
Beam, moulded	90 ft — 4 ins	97 ft
Beam, each hull	17 ft	—
Depth, moulded	38 ft — 2 ins	46 ft
Draft, full load	28 ft — 11 ins	36 ft — 11 ins
Deadweight (long tons)	—	41,800
Cargo tank capacity (British barrels)	—	320,000
Design speed	15 knots	

* Another combination of the same type is the "Seabulk Magnachem" pushing larger barges, the SCC 3902 with a dwt of 45,000 tons.

The length of the CATUG and barge when combined in one unit is 629 feet, as they partly fit one into each other.

The designers feel that the CATUG combination can save approximately 30 per cent in overall construction costs compared with the construction cost of a traditional tanker of equivalent capacity. Another unit of the same type is in the design stage. This design will be of a much larger scale (from 85,000 to 102,000 dwt).

The CATUG combination can accommodate reason-

ably large variations in barge draught without complicated ballasting. Horizontal misalignment is also automatically compensated for as the tug is guided onto the tonnage of the barge. This fact and the similar roll periods of the two vessels allows them to be connected and disconnected safely in rough waters. The United States Coast Guard has approved a manning scale of 15 men for the CATUG, whereas an ordinary tanker has a crew of between 30 and 35 men.

Other systems based on identical principles have been designed and are in service. For example, the Mitsui TBS system.

4. Miscellaneous

18. A large number of pusher tugs and barges have been constructed or are under study throughout the world. The type of vessel chosen depends on navigational conditions and on the nature of the goods to be carried (e.g. timber, wood chips, bulk cargoes, chemicals, containers, oil).

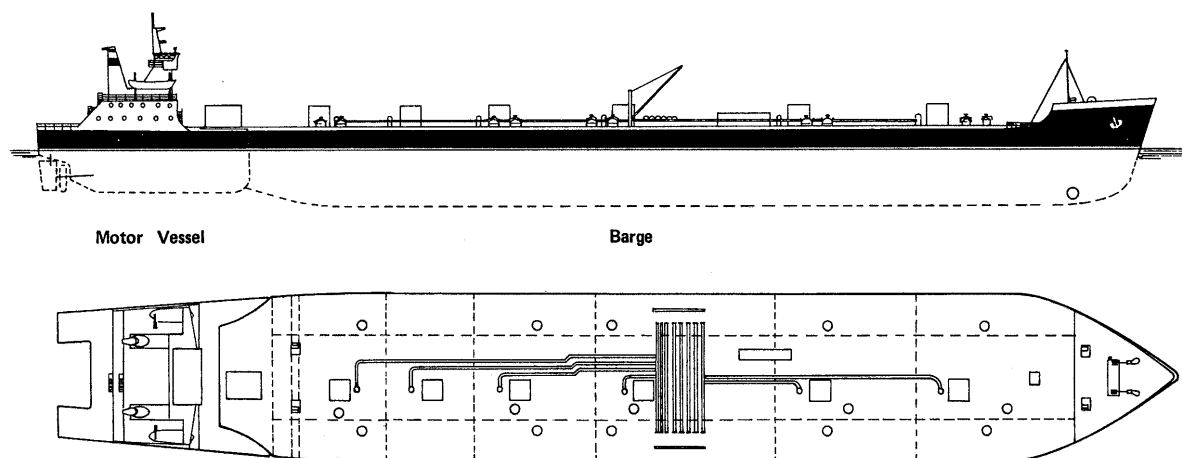
III. EFFECTS OF SEA-GOING BARGES ON PORTS

19. In view of their general characteristics and their use for specialized cargo, barges require less elaborate port facilities. For example:

- shorter quay lengths;
- reduced draughts alongside;
- smaller sheds and open-storage areas.

20. The scheduling of handling operations can be more

Figure 5
SPECIFICATIONS FOR FIRST CATUG SYSTEM M/V "SEABULK CHALLENGER" BARGE S.T.L. 3901



suitably organized, depending on the availability of gangs and equipment, since the cost of the barge time is a less significant cost factor than that of a sea-going vessel.

21. Special port facilities may be designed and built to handle sea-going barges. The type of commodities carried will, however, strongly influence the lay-out of the facilities. For example, at Fos-sur-Mer (France) special facilities for the ro/ro container service between Marseille and Yenbu in Saudi Arabia have been designed and constructed. The quay has a back-up area of 4 hectares, which is the area deemed necessary for a departure every 10 days of a three-deck barge with a capacity of 270 trailers. A special access ramp measuring 35 metres in length has been constructed. It provides access to the middle and upper decks of the barge. Access to the lower deck-level is directly from the quay itself.

22. This system may be of interest to developing ports in so far as containerization can be introduced where berths have a draught of as little as 15 feet. Piers can be as short as 105 feet to accommodate off-loading of trailers. Any standard terminal tractor is suited for discharge. It may be noted that, while these barges are ideal for less developed areas, the major thrust and success of the system up to now has been in the highly mechanized trade between the United States and Puerto Rico.

IV. CARRIED BARGES AND BARGE-CARRYING VESSELS

A. General

23. The idea of the barge-carrying vessel was considered a long time ago and the first tests, which proved inconclusive, were carried out during the nineteenth century. However, it was not until the Second World War that a specially designed vessel was developed in the Pacific which could be operated under acceptable conditions, namely the Landing Ship Dock (LSD). After the war, the LSD technique was gradually improved, but exclusively for military purposes. Only in 1969 did the developed technology result in commercial applications.

24. The concept of the barge-carrying vessel was based on the theory that all that was needed was a safe anchorage where the carrier vessel would be moored while the barges were discharged from or loaded on to it. It was assumed that the handling of cargo could be carried out at shallow

berths, while the port tugs could well be used for the manoeuvring of the barges within the port. It was therefore considered that the system would be economical since it would not require any new facilities. Moreover, where barges were moved inland by water, it was thought that a highly advantageous unitized transport operation could be carried out.

25. Several years of operation of the system have made it clear that the reality is substantially different. It is extremely difficult to load barges into or discharge them from the ship when it is moored at an off-shore anchorage. It is necessary to have a highly sheltered stretch of water—a factor which was underestimated by the promoters of the barge-carrying systems. Consequently, in most cases, discharging and loading the barges from and into the vessel is carried out inside the port itself. More and more frequently, the ship is operated in a berthed position, particularly as there has been an unexpected development in container transport by hybrid barge-carrying/container-carrying vessels, an arrangement which naturally entails quayside handling. The port requirements for such traffic are examined below.

B. The different systems

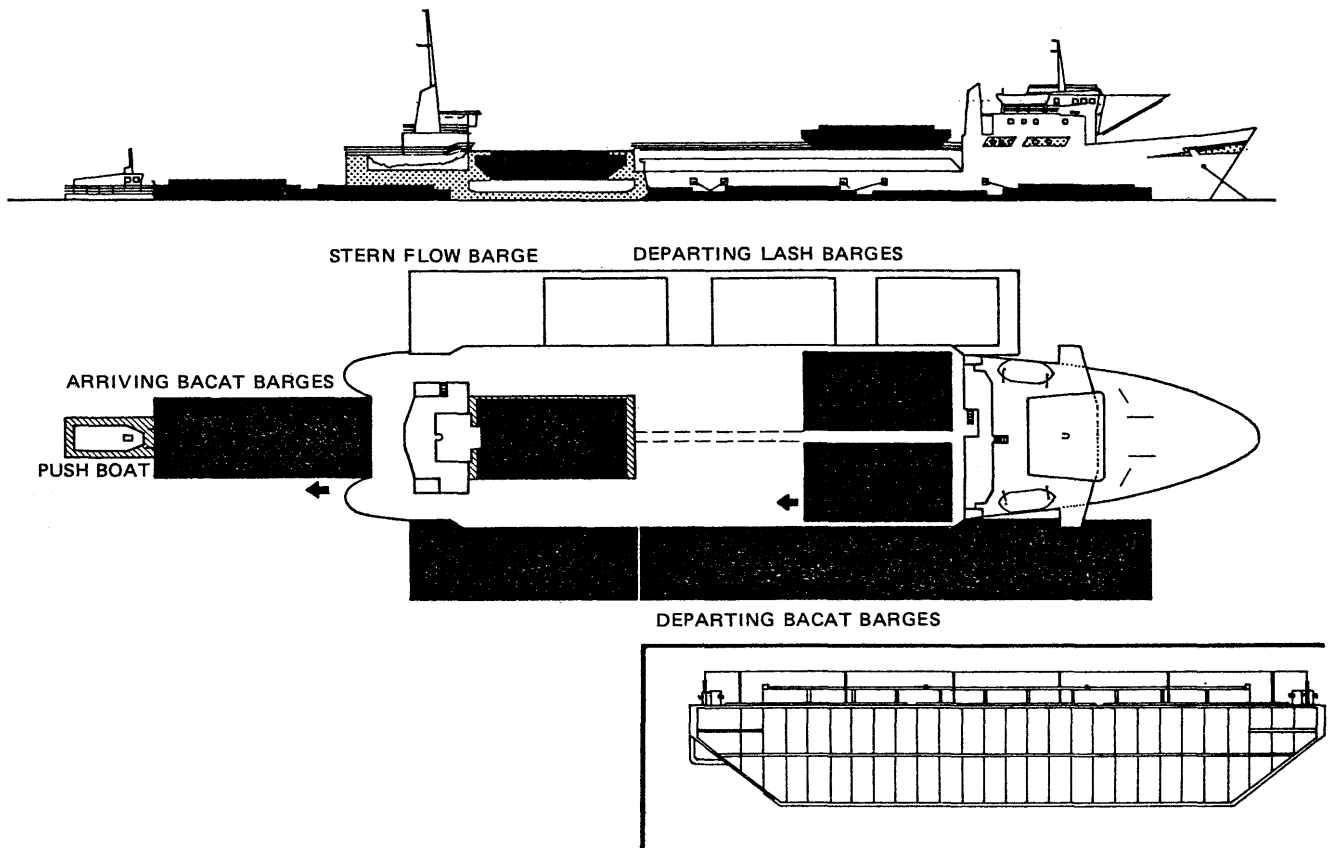
1. The pure LASH (Lighter Aboard Ship) carrier

26. The Acadia Forest, the first commercial barge-carrier, was commissioned on 24 September 1969. This was a vessel of the LASH type. The LASH concept is based on a lift-on/lift-off operation. The vessel is equipped with a gantry crane with a lifting capacity of around 500 tons, which transfers the barges from their place of stowage on board to the stern of the ship and lowers them into the water (or vice-versa, if the barges are being loaded). The equipment is so designed that no problems can occur as a result of accidental stresses or strains due to swells or where the very nature of the goods would cause a considerable displacement of the centre of gravity of the loaded barge. It is generally considered that 3 to 5 barge discharge or loading operations per hour can be carried out.

2. The "hybrid" LASH container/barge carrier

27. The original LASH soon led to the development of a hybrid LASH, capable of carrying barges and containers simultaneously. This was because the volume of goods to

Figure 6
BACAT 1



be carried by barge to or from certain ports was insufficient and because the trade route was already partly or fully containerized. Moreover, the goods do not necessarily come from or go to a hinterland that may be reached by water. The inland penetration of barges is often very low.

28. However, the use of such vessels entails the use of a berth. Moreover, there is a degree of imbalance in barge-container operations, since the relatively few barges are usually handled more rapidly than the containers.

3. The Barge Aboard Catamaran (BACAT) system (see Figure 6)

29. BACAT 1 was designed and built for a special purpose, namely to link the ports of northern continental Europe with those of the United Kingdom and to carry barges able to navigate the narrow English canals. It was also intended to carry three LASH barges and hence to play the role of a feeder ship. According to the reports of its promoters, the operation was a success until it was interrupted as a result of social labour disputes in the United Kingdom. BACAT 1 is now in service between Bombay and the ports of the Arabian Gulf. The operation of BACAT can be summarized as follows: the barges enter the space between the twin hulls of the mother-ship and are then hoisted to their appointed stowage position, the horizontal stowage operation being completed by rollers. The tunnel between the hulls itself serves as a stowage area during the voyage. However, the tunnel is sealed during the voyage by a "stopper".

4. The SEABEE system

30. The first SEABEE vessel came into service in 1972.

The principle of SEABEE differs from that of LASH in that for barge-handling operations a self-elevating platform is used with a lifting capacity of 2,000 tons, which enables it to handle two barges at the same time. The elevator is situated at the stern and can serve three decks. Once a barge has been hoisted to the desired level, it is transferred horizontally to its stowage position by a system of rollers. This is why SEABEE has been described as the "ro/ro of barge-carriers".

5. The "Super Seabee" barge-carrier

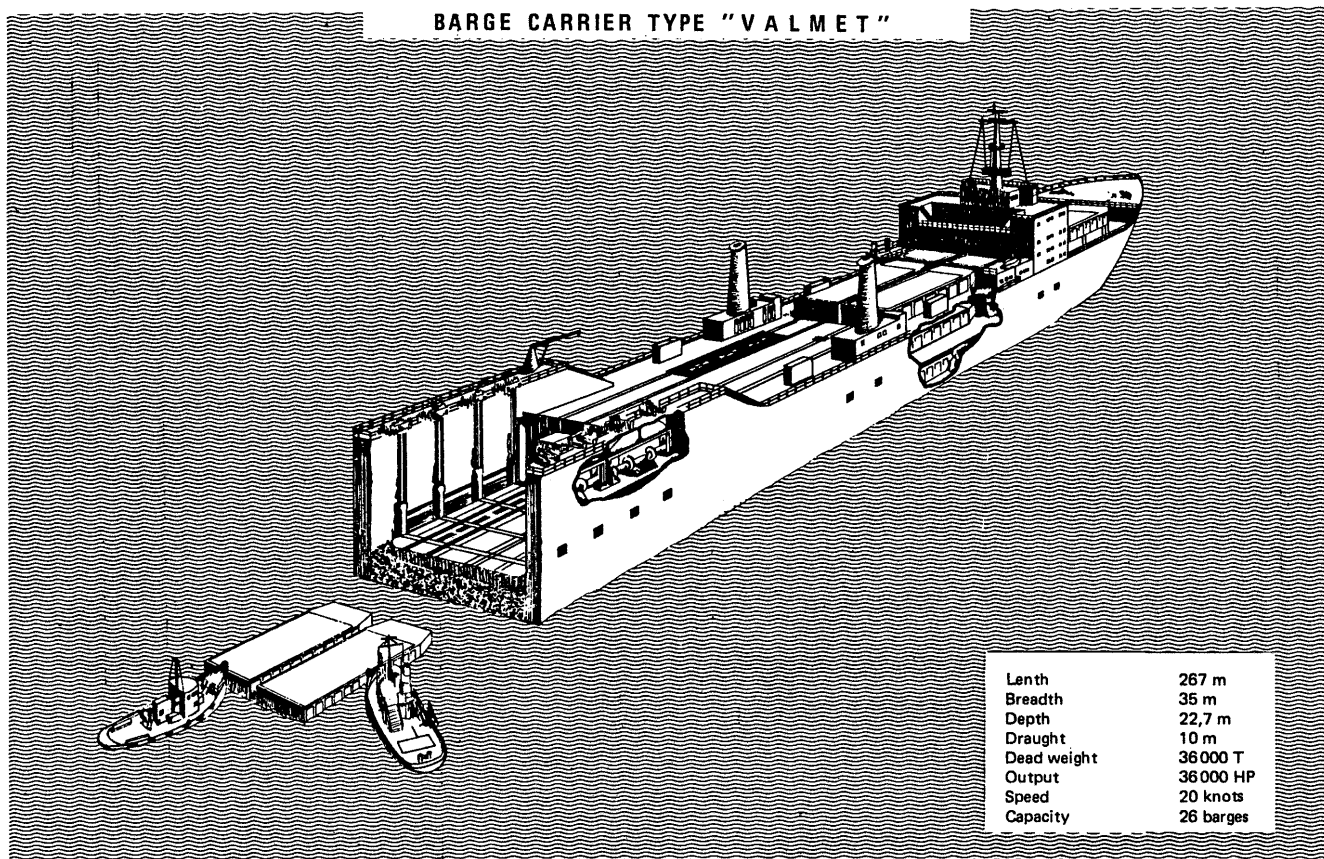
31. A Finnish shipyard is currently building two barge-carriers for the USSR. The principle is that of SEABEE, but the capacity of the barges is somewhat greater. The Valmet barges are of the Danube-Sea type and have a capacity of 1,070 dwt. The ship has a capacity of 26 valmet lighters. She can also be used to carry containers, heavy load, or break-bulk cargo. The bale capacity is 47,000 m³.

32. As in the SEABEE system, the loading operation is achieved with a lift managed with winches. Then the cargo is moved horizontally to its storage area on rails. The horizontal speed is 5.7 m/min when the barges are full, 12 m/min when empty. The estimated time for the loading operation of 26 barges is 13 hours (6 hours for the upper deck, 4 hours for the second deck and 3 hours for the third deck). Assuming the mean net weight of each barge is 800 T, the loading throughput would be 1600 T/hr. (see Figure 7).

33. It seems that new barge-carrier designs have been completed and priced. Those new types belong either to floating-off systems, or lifting-on lifting-off systems.

Figure 7

BARGE CARRIER TYPE "VALMET"



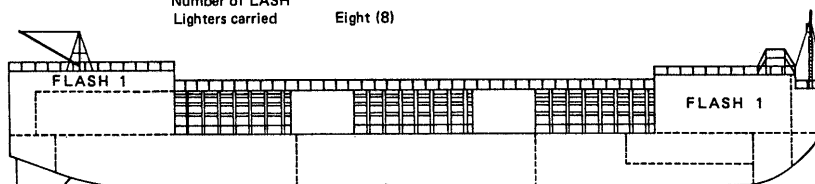
Length	267 m
Breadth	35 m
Depth	22,7 m
Draught	10 m
Dead weight	36 000 T
Output	36 000 HP
Speed	20 knots
Capacity	26 barges

Figure 8

FLASH General Characteristics

FLASH I, II and III
Principal Characteristics

Length Overall	268'2"	81.76m.
Breadth, Molded	80'1"	24.42m.
Depth, Molded	17'6"	5.33m.
Towing Draft	11'3"	3.42m.
Ballasted Draft	27'6"	8.38m.
Number of LASH		
Lighters carried	Eight (8)	



FLASH IV
Principal Characteristics

Length Overall	337'10"	103m.
Breadth, Molded	112'4"	34.23m.
Depth, Molded	21'4"	6.49m.
Towing Draft	11'9"	3.59m.
Ballasted Draft	31'	9.45m.
Number of LASH		
Lighters carried	Fifteen (15)	

Figure 9

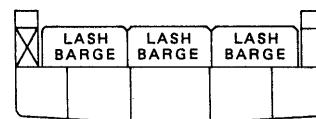
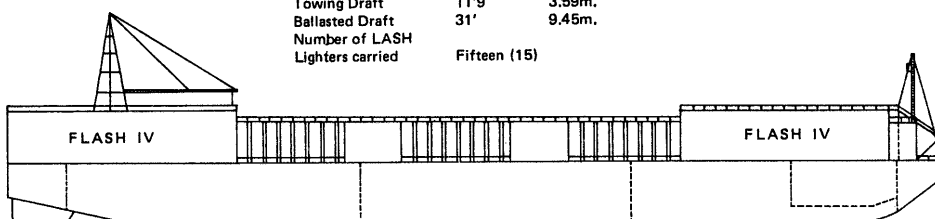
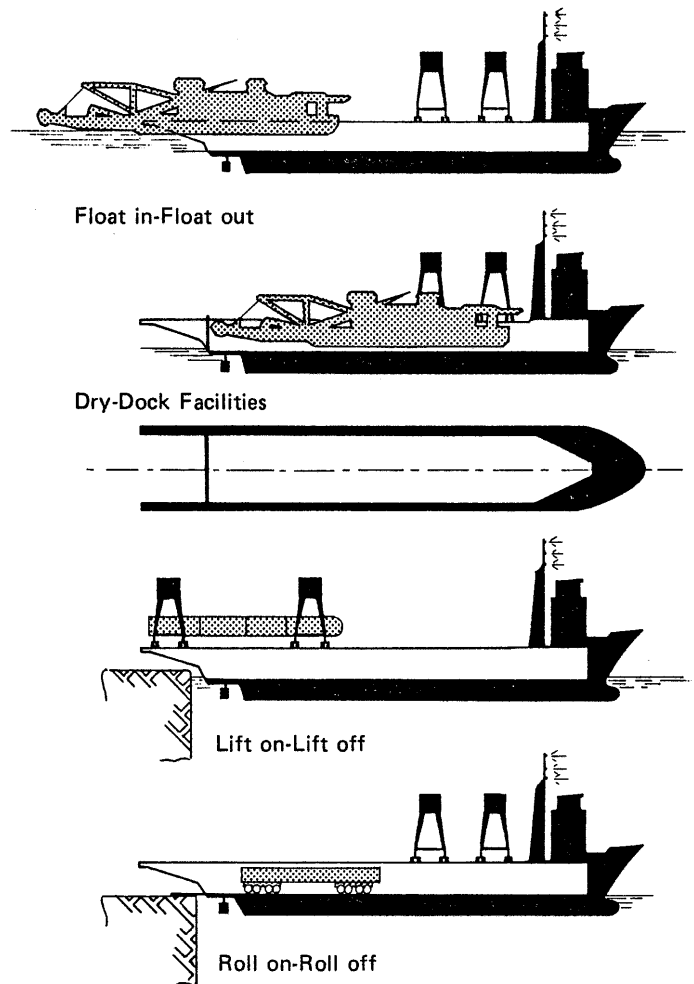
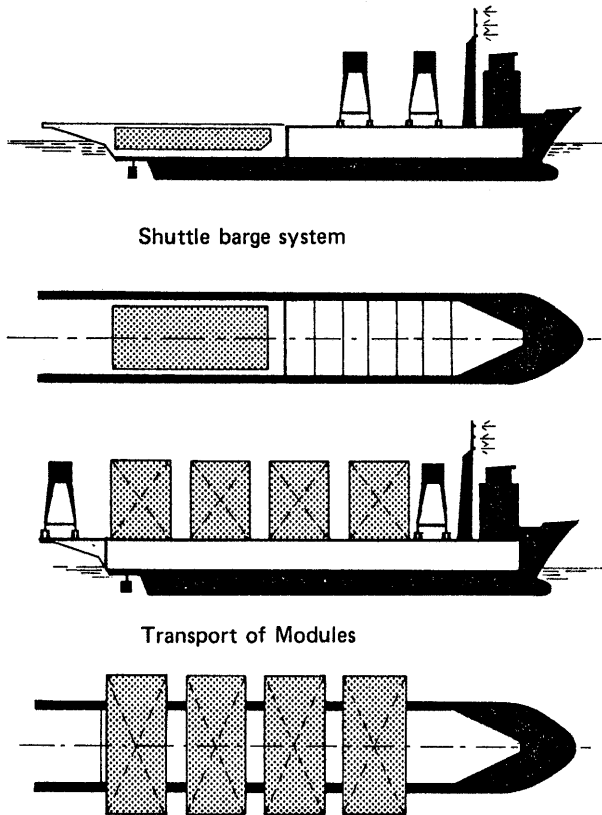


Figure 10

MULTIPURPOSE SHIP

DOCK EXPRESS



6. Float-on/float-off systems

34. Recently various systems of loading/unloading barges by the float-on/float-off system — a system which has been used for several years for military purposes — are beginning to be applied to the commercial sector. During the float-on operation the ship is ballasted by filling the water tanks, which are emptied by pumping as necessary.

35. In chronological order, the following systems and vessels have been put in service (the list is not exhaustive):

- (a) 1972/1974: Docklift I and Docklift II (Big lift shipping line) are able to carry 4 LASH barges.
- (b) 1975: The FLASH (Feeder Lash I, II, III) with a capacity of 15 barges (see paragraph 42 below and Figures 8 and 9).
- (c) 1978: The SPLASH (Self-propelled LASH) whose first ships are the "Mammoth Willow" and the "Mammoth Oak". These ships have the following characteristics: length 149.96; draft 10.36 in operation and 4.88 metres en route, deadweight approximately 12,150 metric tons. They have a capacity of 19 barges and an additional 108 TEUs.
- (d) Mid 1978, a multi-purpose ship will be in service for

"Dock Express", a Dutch Shipping Company. It would be able to carry out the following tasks: shuttle barge system; transport of modules; float-in/float-out (and dry dock facilities); lift-on/lift-off; roll-on/roll-off. When used as floating dock, the floor has the following characteristics: length 116 m; width 20.2 m (see Figure 10).

- (e) Another new idea on this floating principle has been developed by a Finnish shipbuilder for the USSR. The Holmings ships are equipped with powerful cranes and with a stern ramp (see Figure 11). They are able to work as ro/ro, float-on/float-off (by submerging the vessel with water ballast and floating the cargo in and out), and lift on/lift off.
 - (f) Recently there have been plans for a multi-purpose pontoon designed for the German firm of Lütgers und Reimers. It would have a length of 145 m; a width of 36 m; a draught in operation of 8 m; a capacity of 2,500 tons (see Figure 12).
36. Tables 2 and 3 summarize the characteristics of the barge-carrying vessels and barges of the various normalized systems.

Table 2
Characteristics of barge-carrying ships

Type	Barge capacity	Length (m.)	Beam (m.)	Draught (m.)
LASH	73–89 LASH barges	250–272	30.5–32.5	10.7–12.4
SEABEE	38 SEABEE barges	266	32.3	11.9
BACAT I	10 BACAT 3 LASH	103	20.7	5.41
SUPER SEABEE*	26 Danube-sea barges	267	35	10
FLASH I, II, III	8 LASH	81.7	24.4	3.42 En route 8.38 In operation
FLASH IV	15 LASH	103	34.2	3.59 En route 9.45 In operation
SPLASH	18 LASH	120	30	4.1 En route 10.8 In operation

*Super SEABEE refers to the barge carriers and barges built by Valmet OY for the USSR.

Table 3
Characteristics of barges

Type	Capacity		Length (m.)	Beam (m.)	Draught (m.)	Depth (m.)	Capacity Net weight long tons	1974 price (\$)
	(m³)	(cu. ft.)						
LASH	563	19,900	18.74	9.50	2.66	3.96	371	30,000
SEABEE	1,120	40,000	29.75	10.67	3.07	4.80	847	60,000
BACAT	159	5,610	16.82	4.60	2.58	2.75	148	23,000
SUPER SEABEE*	1,300	45,907	38.25	11.40	3.30	5.30	1,070	—

*Super SEABEE refers to the barge carriers and barges built by Valmet OY for the USSR.

V. INLAND PENETRATION OF BARGES

A. Level of inland penetration

37. Contrary to what might have been expected, the inland penetration of barges has been extremely limited. There are many reasons for this situation. For the present, the richest source of information concerning the inland penetration of barges is the United States Gulf – N.W. Europe route, a route which offers a high potential for door-to-door transport because of:

- The existence at both ends of the route of an extensive inland waterway system, with the Mississippi and the Rhine serving as the main arteries;
- The highly developed inland waterway transport system along these rivers;
- The fact that the Mississippi and the major European rivers have a heavily industrialized and densely populated hinterland;
- The large cargo flow on the United States Gulf – N.W. Europe route and the relatively large consignment sizes.

38. In spite of the above, the evidence is that fewer than 10 per cent of the barges on this route move to or from inland destinations. Given that the United States Gulf – N.W. Europe route offers more propitious conditions for through transport of barges than any other in the world, one would not expect the inland penetration of barges on other routes to exceed this figure.

39. The main reasons for the low inland penetration of barges are as follows:

- The draught of the barges was chosen in relation to

Figure 11

HOLMING'S 5000 RO-FLOW SHIP

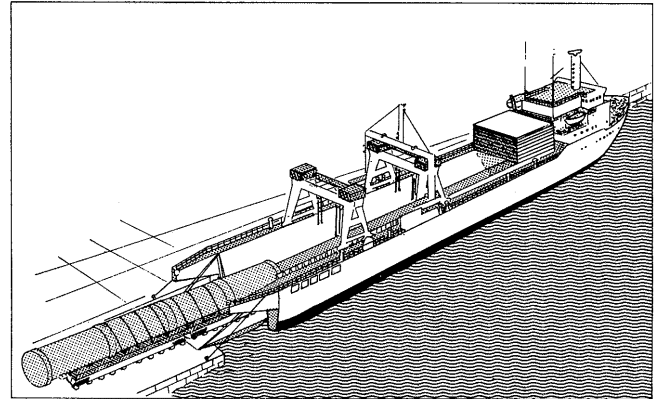


Figure 12

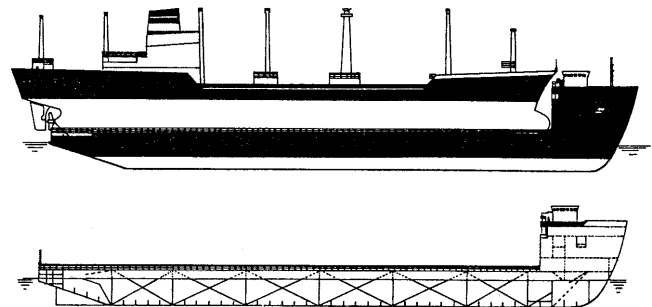
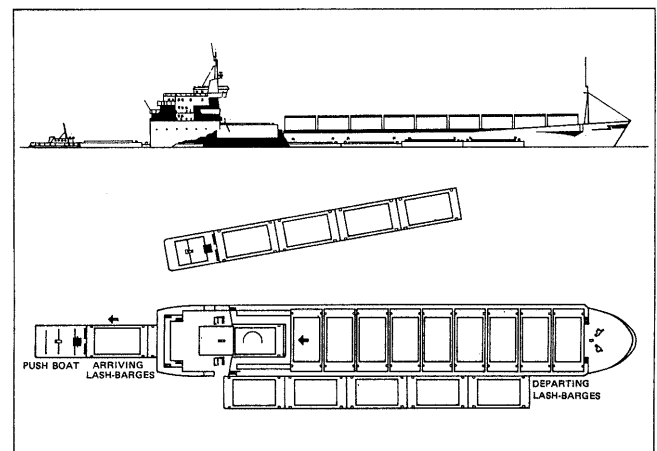


Figure 13

BACAT 2

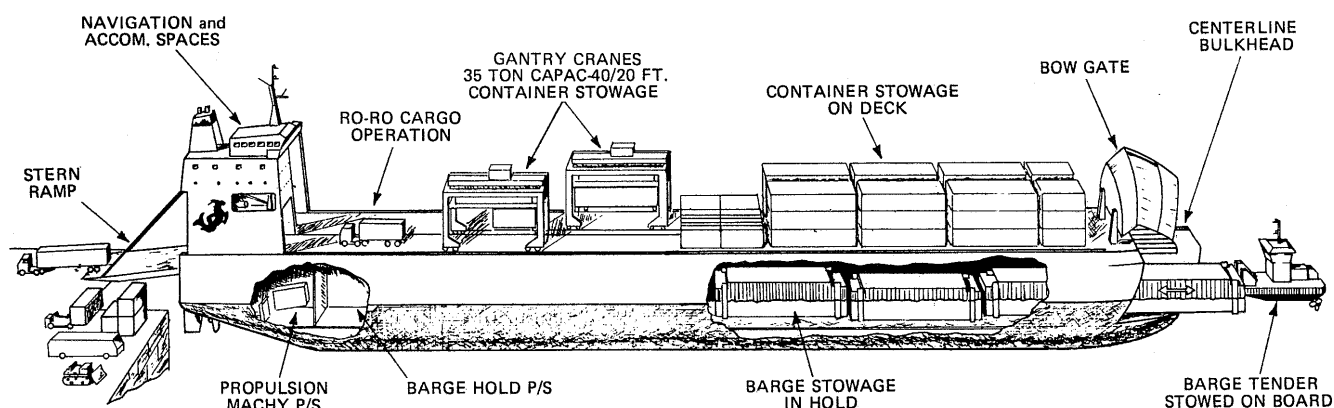


Proposed design for BACAT 2

the United States inland waterways system, without taking fully into account the more severe limitations on European inland waterways. The dimensions of the LASH barge (18.74 m x 9.50 m x 2.74 m) are quite suitable for the Mississippi and its affluents, whilst the SEABEE barges (29.70 m x 10.67 m x 3.25 m) have the same width and draught and are half as long as a standard Mississippi barge. The latter in particular, therefore, fit extremely well into a normal push-convoy in the United States. However, the draughts of fully-laden LASH and SEABEE barges being 2.74 m and 3.25 m respectively, the possible inland penetration in N.W. Europe is less great. On the other hand, the Valmet system at present under construction will use barges half the size of the Europa II barge in operation on the main European waterways. This might well

Figure 14

THE CAPRICORN CARRIER — BARGE/CONTAINER/RO-RO



allow a greater penetration in the European inland waterways network;

- (b) In many cases, the support systems of the inland river ports which handle the import and export commodities suitable for barge-carrier traffic are not sufficiently developed to cater for unmanned barges;
- (c) Since the barges are not equipped with their own means of propulsion, barge-carrier operators have to rely on the existing push-barge companies or on tug services provided by third parties. The latter solution can rarely be adopted because independent tug operators have little or no experience of inland navigation, whilst the inland transport of the barges is so widely dispersed that there are not enough tugs available. The barge-carrier operator then has no choice but to subcontract to the main push-barge companies. In Europe, these companies normally work on long-term contracts with major industries as forwarding agents, and have so far considered LASH and SEABEE as only marginal. Thus, the barge-carrier operator has no guarantee that space will be available in the convoys, as required, whilst the rates charged for services are not very competitive;
- (d) Resistance from the traditional inland waterway barge operators, coupled with legal problems concerning registration and status of the barges, considerably reduces the possibilities of utilizing the barges inland.
- (e) A large number of industrial and commercial enterprises are not located alongside navigable inland waterways;
- (f) Restrictive practices of dock-workers in United States ports, which have resulted in the imposition on barge-carrier operators of a levy on all cargoes not discharged or loaded in the port area;
- (g) Although the loading of a barge is not a very complex matter, it still requires skill and a precise knowledge of the hazards of a sea-voyage. Such knowledge is often completely lacking inland;
- (h) The probability that a barge discharged inland can be used for export cargo without a long haul empty is relatively small. Thus the barge-carrier operator is faced with a dilemma: either he keeps the barge

in the sea port where the likelihood of return cargo is generally the highest, or he provides through-transport service which will entail considerable expense for the return haul of the empty barge;

- (i) The commercial organization and practices in certain main trades for which the barge-carriers cater are not adopted to inland transport of the barges. This is particularly true, for example, of the westbound iron and steel traffic from N.W. Europe.
 - (j) National or local port regulations may prevent inland transport of LASH or SEABEE type barges.
40. The above reasons explain why the proportion of barges remaining in the mother ship's port of call will be very high even where inland waterway links exist. However, quite a number of ports served by barge-carriers simply do not have any such inland waterway links. Since transport of the barges on the high seas is not yet a practical proposition because of their design limitations, they must either be discharged and loaded in such ports or there will be a need for feeder ships which can distribute barges to other ports.

B. The effects of a low level of penetration on ports

41. The implications for ports are that conventional cargo-handling into and out of the barges will remain a major activity. The major advantages for a port of breaking down the cargo in the port area are the following:

- (a) The work-load for handling the same tonnage will not decrease significantly, since most of the cargo will be handled conventionally. However, the sizes of gangs to work barges can be somewhat smaller than those required for deep-sea vessels;
- (b) The work-load can be more evenly spread over the normal working hours. Round-the-clock working is only required while the barge-carrying vessel is in port;
- (c) Cargo-handling productivity may be substantially greater than that for a conventional break-bulk ship. Given the typical open-box construction of the barges, which provides a clear and wide working area inside the hold, and the shorter hook travel distance, the

estimated productivity per gang-hour may be up to 25 per cent higher than on conventional ships. Although no actual output figures have been published, this figure has been confirmed by various port authorities in private discussions with the UNCTAD secretariat.

VI. TRANSPORT OF BARGES BY FEEDER VESSELS

42. In some cases, the traffic of particular ports which are relatively close together is insufficient to justify direct calls by a barge-carrying vessel to all of them. There has therefore been a move towards transport by barge feeder vessels. One example is BACAT 1 which can carry, in addition to 10 BACAT barges, 3 LASH barges over short distances. Other systems have been planned and some have already been introduced. Among them, the following may be of interest to developing countries:

(a) **BACAT 2** (Project) (see Figure 13)

This vessel would be capable of carrying 16 LASH barges, 10 on deck and 6 between the hulls.

(b) **FLASH** (Feeder LASH)

FLASH is somewhat like a sea-going dry dock capable of carrying barges from or to ports which cannot accommodate large ocean-going vessels. FLASH is itself a barge and is towed by sea-going tugs at a service speed of about 8 knots. This vessel is partially submerged like a dry dock during loading and unloading operations. It is unmanned during sea passages.

At present, two types of towed FLASH vessels are in service. The first type (FLASH I, II, III) has a capacity of eight LASH barges. The main characteristics are as follows: length: 81.7 metres; beam: 24.4 metres; travel draught: 3.4 metres. When loading/unloading the draught is greater — 8.5 metres.

The second type — FLASH IV — has a capacity of fifteen LASH barges. These vessels make it possible to service a wide range of ports. For example, in South-East Asia, the ports of Singapore and Hong Kong are linked by a FLASH IV unit; the ports of Malaysia, Indonesia and Burma are served by the FLASH I, II; FLASH III unit links up Bombay and Arabian Gulf ports.

Other developments in this kind of traffic are the SPLASH (Mammoth Willow) and the new ships DOCK EXPRESS and Holmings RO-FLOW, already described in paragraph 35 above and Figures 10 and 11.

(c) **Capricorn Carrier** (Project) (see Figure 14)

Another new feeder carrier development is the Capricorn Carrier, designed by Capricorn Corporation of Hong Kong. This design is based on the principle that the buoyancy of a floating cargo can be utilized to support the major portion of its own weight, leaving a minimal portion to be carried by the vessel's hull. Lighters and barges are loaded and unloaded by floating them through the hinged bow and stern doors. To begin the loading operation, the carrier is ballasted down to accept the draft of the heaviest lighter. With the vessel's bow or stern door hinged up and open, the tug positions the string of lighters to enter the hold. Once inside, they are locked into place by hydraulic spuds. The vessel is then trimmed and de-ballasted to pick up 20 per cent of the deadweight load of the lighters. Containers are loaded/discharged on

deck via a stern ro/ro ramp.

Three sizes of "capricorn carriers" have been proposed with 4,000 grt, 9,000 grt, and 18,000 grt respectively and provision for 8, 12 and 26 barges respectively. So far, however, there have been no reports that orders have been received for any of these types of Capricorn Carriers.

(d) **Other types**

Many other barge carrying concepts have been developed. Among them are:

(i) **BYCO Barge System** (float-on/float-off);

(ii) **The EBCS** (European Barge Carrying System): this ship would be similar in operation to LASH and SEABEE, but the barges would be of a variable modular size;

(iii) **BACO LINER** (Barge-Container): this is a ship planned by research and development departments in the Federal Republic of Germany. It is a dock ship with the following characteristics:

Length:	204 metres
Breadth:	28.5 metres
Height:	14 metres
Speed:	15 knots
Draught: route	6.5 metres
Operating draught:	7.5 metres

It can carry 12 BACO barges (24m length, 9.5m breadth, 6.5m high) and 500 containers. She may also carry LASH and SEABEE barges, and every type of cargo.

(iv) The Finnish "VALMET FLOATER", planned to carry a minimum of four European barges.

43. Although many plans for barge-carrying feeder vessels have been prepared and presented, so far few of them have actually been realized. This is doubtless because the technique of carriage by barge has fallen short of expectations, except in a few very special cases. In particular, it is often an expensive mode of transport because of the cost of the ships and barges, the service requirements (mooring at a quay or operation in a very sheltered area), and operating conditions (difficulty of ensuring that barges have a full load both inward and outward). In the circumstances, it is understandable that the enthusiasm of the promoters of the system should have been somewhat dampened. An assessment of the operating costs is undoubtedly decisive in decision-making and remains, at least for the present, rather high.

(To be concluded in the next issue.)

The Joint Consultative Council of the Port of Antwerp

From "Hinterland", Antwerp

Structure

The idea of holding contact meetings between representatives of the municipal authorities (in their capacity of port authority), employers in the port and employees in the port dates back to early 1964. They first received a definite form by the establishment of a «socio-economic contact group» which had a consultative, advisory character. This contact group met twice a year from mid 1964 until the end of 1967. However, the meetings took place outside of any institutional framework and their composition was fairly heterogeneous and large.

A desire for a more effective way of organizing joint contacts soon made itself felt, first of all amongst the ranks of the employees. In the course of 1968 informal discussions took place which led to the decision to set up a «Joint Consultative Council for the Port of Antwerp» which would have two bodies, viz. the General Assembly, which would have the task of laying down guide-lines, and a Bureau, which would act as the executive organ. The aim was to ensure the continuity of the contacts thus increasing the chances of effective action.

It was felt that at the start numbers should be limited and thus at first the Bureau had fifteen members: five representatives of each of the three partners under the chairmanship of the Alderman of the Port. The secretarial duties were entrusted to the City authorities.

The Bureau met for the first time on 2 December 1968 and it was decided to meet every other month except in July and August.

The first thing to be noted was the general readiness of all parties to make a positive contribution. It is without any doubt the merit of the employees that they took the initiative. The municipal authorities, who had already had experience with advisory bodies in various fields, were not slow to support the initiative. Very soon the port employers also saw the usefulness and even the necessity of having a consultative body, as is clearly revealed by the annual reports of the various professional associations involved at that time.

It was agreed without much difficulty that the Bureau should achieve some sort of stability before proceeding to the establishment of a General Assembly and a period of from two to three years was laid down for this. The first General Assembly, composed of 45 members (15 of each of the three partners) met on 4 October 1971. It was decided to call General Assemblies twice a year, which seemed quite enough for that body to be able to fulfil its function of supervising the work of the Bureau and laying down the guide-lines for further work.

The Bureau remained true to its principle of monthly meetings except for unforeseen circumstances. Moreover the essential value of having continuing joint contacts was appreciated from the early stages.

What is surprising about this structure is the absence of any definite statutory norms. It all evolved and grew quite naturally out of consultations. To the not inconsiderable amazement of outsiders enquiring about the Council it does not possess any statutes divided into sections and articles

laying down neatly what it may or may not do. For ten years the Council has functioned on the basis of agreements and not in accordance with written rules.

All of this had led over the years to a certain flexibility with regard to the number of actual members and to their being represented by others. At the present time the Bureau has 19 members: 8 from the municipal authorities (two aldermen and six officials), 5 representatives of the employees (two for the A. B. V. V. (Federation of Socialist Trade-Unions), two for the A. C. V. (Federation of Christian Trade-Unions) and one for the A. C. L. V. B. (Federation of the Liberal Trade-Unions) and 6 representatives of the employers, viz. the chairmen of the following bodies: the Port of Antwerp Employers' Federation, the Antwerp Chamber of Commerce and Industry, the Antwerp Shipping Federation, the Professional Association of Antwerp Master Stevedores and Port Operators, the Association of Cargo-Handling Enterprises and, since 1977, the Community of Antwerp Port Interests. All of these members are completely free to choose somebody to represent them.

Tasks

The specific tasks of the Joint Consultative Council were examined during the first few meetings of the Bureau. The wish was clearly expressed that the various bodies of the Council should with regard to the legislation in force only have an advisory capacity but that this should extend over every aspect of port policy. It is obvious that the Council cannot put itself in the place of corporate bodies such as the Court of Burgomaster and Aldermen. Even less can the Council interfere in the affairs of committees and other bodies which specifically deal with the relations between port employers and employees.

It has constantly been stressed that the Joint Consultative Council must be more than a place where information is exchanged and contacts made, more than a centre where needs and desiderata can be made known and argued for, it must be a body where a real and honest dialogue can take place. This has repeatedly been expressed in both trade-union pamphlets and the annual reports of professional associations. Thus, for instance, we find the following passage in the annual report for 1970 of the chairman of an employers' association: «The Antwerp City authorities have called on us for closer cooperation. This invitation is most gratifying and our answer is thus positive. But on the basis of recent experience we want to add at once that in such cooperation we want to be recognized as an equal partner and that such cooperation may not be limited to prior study and consultation but must lead to effective action for the good of our city».

The trade-unions have insisted even more strongly on a better balance of powers between the Joint Consultative Council, which is an advisory body, and those bodies which are decision-making. Nevertheless all parties have agreed about the positive experience with regard to cooperation which they have enjoyed as a result of the Joint Consultative Council. The most recent and best example of this is the Five-Year Plan (1978–1982) for the Port of Antwerp which grew out of an initiative taken by the Council. It can

now be said without fear of contradiction that a body was set up in 1968 which had the potential of creating a real dialogue between the City, the employers and the employees and that by 1978 this potential has been fully realized.

Work

Very soon a difference in approach to the various problems tackled by the Council made itself felt.

On the one hand there is a number of subjects which are regularly brought up and which can be directly discussed in the Joint Consultative Council. There is for example, the situation with regard to the development of port traffic and cargo-handling.

Each year the port budget drawn up by the municipal authorities is explained and discussed. Everything involving municipal port dues is submitted for discussion. Special projects and works in the port are reviewed at regular intervals and where possible the competent authorities are contacted with a view to speeding up action. The same is true for the improvement of the accessibility of the port, the opening up of the new port zone on the left bank of the Scheldt and everything it involves, the connections with the Hinterland, etc. The mutual relations between the seaports of Western Europe are also regularly brought up.

Besides all this a lot of specific port problems arise which the Joint Consultative Council wants to examine in more detail before making any recommendations. Thus over the years some fifteen sub-committees have been set up either of a temporary nature for one single problem, or with a task of a more lasting kind in view of the complexity of the problems involved. The working groups — as these subcommittees are called — handle commercial, nautical or social aspects of port activity as the case may be.

Experts of the relevant sector involved take part in the work of these working groups. The members of the Bureau of the Joint Consultative Council are kept informed of the progress made by these subcommittees by means of reports and thus it is always possible to provide extra guidance and assistance.

Most reports lead to positive results. On the social level much has been achieved, both for sailors and bargemen and for dockers and other employees. Thus working groups have devoted their attention to problems such as public transport in the port, land transport in the port zone, a general system of stormwarning for crane-drivers, employment in the shiprepairing industry and in port industries in general, crew problems in ships flying flags of convenience, the question of barges and house-boats which have been laid up, the supply of drinking water to barges, customs formalities for lighters at the Scheldt quays, etc.

We do not want to hide the fact that differences of opinion have arisen. Mostly the cause of these has been the changes in port dues which have been proposed or, even more fundamental, a difference of opinion with regard to the roles the public sector and the private sector have to play in the various aspects of running the port.

In spite of a far-reaching study which formed the basis for discussions with regard to this latter question, it has not been possible to reach a general consensus, but the whole question has to some extent receded into the background as attention has been diverted by the growing recession and the dangers involved by the national policy of port investment.

If the work of the Joint Consultative Council could be presented visually in graph form, then besides the lines going up and down there would be one line going upwards

List of the members of the Bureau of the Joint Consultative Council

From the City of Antwerp:

J. Huyghebaert, Alderman for the Port, Chairman
H. B. Cools, Alderman for physical planning, town-planning and housing, Registration Officer
R. Vleugels, General Manager of the port
J. Smits, Inspector-General
M. De Wilde, Chief Engineer Director, Technical Service of the port
G. Thues, Chief Engineer Director, Technical Service of the port
J. De Decker, Chief Harbour Master
E. Van Peel, Manager. 10th Direction (Port affairs), reporter

From the employers, port customers:

J. Senders, President of the Port of Antwerp Employers' Federation
R. J. Lhonneux, President of the Antwerp Chamber of Commerce and Industry
K. Noeninckx, President of the Professional Association of Antwerp Master Stevedores and Port Operators
C. A. Van Gestel, President of the Association of Cargo Handling Enterprises
H. Verhulst, President of the Community of Antwerp Port Interests

From the labour organizations:

- a) for the Federation of Socialist Trade-Unions:
F. Lauwers and M. Devolder
- b) for the Federation of Christian Trade-Unions:
R. Guns and J. Janssens
- c) for the Federation of Liberal Trade-Unions:
A. Janssens

in a steady curve (slowly but surely at first but with a great leap upwards over the last few years), viz. the general impact curve. The Joint Consultative Council of the Port of Antwerp has become an authoritative body.

An unanimous decision of the Council has become a weighty element in the decision-making process with regard to port problems both at the local and at the national level.

In short it is possible to look back at what the Council has achieved with some satisfaction. A whole series of important decisions have been taken which are partly due to the efforts of the Joint Consultative Council which must not be underestimated.

Future

Naturally there still remains a lot to be done. The Council must follow closely realization of the priorities for Antwerp which were laid down by the Antwerp United Front within the framework of the Joint Consultative Council. Measures to maintain the competitiveness of Antwerp require untiring attention. Antwerp's point of view must be clearly and unanimously put in the newly established National Commission for Port Policy. There are still the important problems of the accessibility of the port and the infrastructure and maintenance works involved. The main guide-lines for a solution to the problems of the establishment of a port zone on the left bank of the Scheldt, for years a subject of dispute at regional and at national

(Continued on next page bottom)

Trade Isolation could force new economic trouble

By Harvey Kapnick*
"Port of Houston Magazine"

During the past two generations, the United States has taken the leading role in building a liberal and open international economy. By law and by example, we have encouraged the free flow of people, ideas, goods and services, and investment funds across national boundaries. These efforts helped produce the longest sustained and most widely shared prosperity in human history.

Now, on many policy fronts, the healthy movement toward greater internationalism is being reversed and replaced by a disturbing new trend toward narrow economic nationalism, protectionism and even outright isolationism. Indeed, even we in the United States are in danger of embracing a shortsighted New Isolationism that would repeat many of the mistakes made during the 1930s, when the United States turned inward and the world economy sank into the Depression.

Consider the plight of our currency. The American dollar was for more than 30 years the world's most respected and sought-after currency, the symbol of our nation's power and primacy. Today, the steep decline of the dollar in foreign exchange markets reflects widespread doubts abroad about our willingness and ability to continue bearing the responsibilities of leadership. Despite record-breaking payments deficits, we seem unable to control domestic inflation or restrain the flow of imports, especially imported petroleum.

*Mr. Kapnick is Chairman of Arthur Andersen & Company, Chicago. He is Chairman of the 1979 Chicago World Trade Conference held March 26-27.

(Continued from page 21)

level, have at last been laid down in a law. Article 18 of that law provides for a Joint Consultative Council for the Left Bank consisting of representatives of employers, port customers and labour organizations, as well as of the Commission for Land and Industrialization Policy on the Left Bank of the Scheldt and the City of Antwerp. This Council will have an advisory function extending over every aspect of port policy. It would thus seem that the Port of Antwerp will have two Joint Consultative Councils, one for each bank, but each with an «advisory function extending over every aspect of port policy». Even if it is a little early to predict what the results of this will be, it is certainly not too early to reflect on it. The Joint Consultative Council of the Port of Antwerp has grown into an indispensable link in the chain of the bodies which are involved in the running of the port. Any body which can clearly and rightly show that its work is to the benefit of the port deserves to be such a link. As a trade-union report put it: if the Joint Consultative Council did not exist, it would have to be invented.

The best that we can wish the Joint Consultative Council is that it may continue along its well trodden path of real dialogue and constant consultation between all the partners.

E. VAN PEEL

Of course, there are abundant explanations and excuses for our international economic difficulties. But until we admit to ourselves that most of our troubles are home-grown and that we bear full responsibility for our mistakes, progress toward solutions to these problems will continue to be inadequate.

The New Isolationism is an attempt to rationalize the loss of economic strength and trading vigor caused by misguided domestic policies, especially those that foster renewed high inflation. Instead of blaming ourselves for the basic causes of our problems, we blame foreigners for the results. But this self-deception is rapidly coming to an end.

Rhetoric vs. Reality

Today, we are approaching major decisions about our economy that may affect the course of events for many years to come. To decide wisely, we must separate rhetoric from reality. We hear soothing rhetoric to the effect that we as a nation can withstand the huge budget deficits we are accruing at a peak period in an economic cycle. We hear similar rhetoric that we can withstand huge trade deficits in our balance of payments. But reality challenges such rhetoric: can we withstand *both* kinds of deficit simultaneously?

We are told that our trade deficit is due in large measure to the rise in oil prices, which in part is true. But the non-oil part of the deficit is growing rapidly. Our politicians and others find it easy to blame OPEC, but that is more emotional than factual. Our problems go beyond OPEC and are much more complex than dealing with the effects of the oil price increase. After all, both Germany and Japan import their oil — but both have strong and stable currencies in spite of that and both have surpluses in their trade and fiscal accounting. Further, both countries are avid supporters of their business enterprises, which bring significant support to their economies.

Unfortunately, here in the United States we tend to discredit our multinational companies and, through legislation or regulation, put them at a disadvantage in competing abroad.

If we are to change this attitude the American people must be informed of what international trade and investment means to them and their well-being. Trade is important to curbing domestic inflation because it encourages competition. Trade is important in the creation of jobs in the United States because foreigners who sell to us are able to become our customers. International trade now represents about 10% of the entire U.S. economy, and our national prosperity is endangered if our trading performance falters.

We Americans sometimes seem to think we are an island unto ourselves and that the vast world outside the United States is simply waiting for us to serve it. We are not so fortunate. Trade is not an American invention and we have no monopoly on it. Every developed nation is in the game, along with most developing nations — and many of them can teach us a few things about international marketing and salesmanship and trade finance. Even more, these governments could teach a great deal to our own government in

(Continued on page 24)

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(Continued from page 22)

how to encourage trade to eliminate trade deficits, declining value of our currency and, yes, even our fiscal deficit.

A hostile world is not forcing us to retreat into the New Isolationism. Our government is promoting it as a way to protect and insulate the domestic economy. Washington is encouraging us to suppose that we can, in effect, "drop out" of the competitive race and abandon our leadership role in the world economy. It is a dangerous illusion to believe we can do so without hurting ourselves and others and interfering with the functioning of the world economy.

Eroding competitive position

Some may suspect that I am exaggerating. The United States is simply too large and too central a factor in the world economy to attempt to "drop out." But the trend is rather clear; the U.S. represents a steadily shrinking share of total world gross national product — more than one-third in 1960, less than one-fourth in 1975. Since the late 1960s the overall competitive position of American multinational corporations in world markets has weakened, and this process has accelerated since 1970. In 1965, approximately 70% of the world's 100 largest industrial companies were based in the United States. Now, however, we can claim only about 50% of these companies.

In itself, a smaller American presence within an expanding world economy would scarcely be a cause for alarm. As other nations grow stronger and more prosperous they ought to be better equipped to assume greater responsibilities for maintaining international stability.

But in this era of stagflation, the world economy is *not* expanding at anything like its former rate. Moreover, the weight of American influence behind liberal economic ideas, principles and institutions that we once championed is rapidly diminishing. Behind the official rhetoric of free trade is now the reality of piecemeal, sector-by-sector protectionism. Even more dismaying is the mismanagement of the priceless asset of American agriculture, and this can have a dramatic impact on our trade deficit.

It is inconceivable to me that with people in various parts of the world still unfed, we have not yet turned our highest priority attention to increasing the productive capacity of our farmers and expanding our food exports. Instead, by taking acreage out of production, government is again trying to restrict our farmers' production and is considering paying farmers subsidies, thereby worsening our inflationary problem. Of we instead increased farm production for export, we would reap benefits at home and abroad, making any increased cost a fair bargain for consumers. But the existing and proposed government policies mean we taxpayers pay, the hungry remain unfed and the farmers get only a small fraction of the increase in our grocery bills. Only government grows at our expense.

Also, nowhere is the waning force of economic liberalism and internationalism more sadly evident than in government policies, laws and regulations dealing with the activities of American multinational corporations. To put the matter bluntly, the U.S. government too often treats these companies as though they were enemies engaged in subversive activities and thus does very serious damage both to the companies and to the broad national interest. At a time when we urgently need to expand our earning abroad, the government is irrationally and destructively impeding American business expansion overseas.

The modern multinational corporation is a distinctive product of the imagination of American businessmen

applied to the global opportunities of the postwar era. The expanding new system of international finance and commerce based on the ascendancy of the dollar excited not only our nation's profit-seeking ingenuity but also our deepseated idealism about the kind of world we wanted to build.

Several years ago, N. R. Danielian, then President of the International Economic Policy Association, eloquently described the plight of multinational corporations to a Congressional committee:

"There is no other instrumentality with the same flexibility, inventiveness, initiative and effectiveness as the multinational corporation in undertaking the extraction, refinement, fabrication, transportation and marketing (of the world's) resources. No armies, no governments, no foreign aid, no international institutions can match this achievement (Yet) they (multinational companies) are confronted with a diversity of political motivation — some of emotional origin, such as nationalism; others ideological, such as consumerism; and some even humanitarian, as in the case of welfarism *Multinational corporations, the most important instrument of economic development, are buffeted by the violent currents of world politics, with no support in public opinion, no court of appeal, and often abandoned by their own governments.*"

Businessmen can bear up under the pain of being abandoned by their government in tough foreign political situations. But they have every right to be concerned when their own government inflicts such pain by imposing restraints on them for dubious domestic political reasons and thereby puts them at an ever-worsening competitive disadvantage with their foreign counterparts. The latter typically enjoy powerful government economic and political support in foreign markets.

For example, the New Isolationists seem to believe that foreign investment by U.S. multinational firms inescapably comes at the expense of alternative domestic investment, thus "denying" American workers additional new jobs.

Of course, as investment studies show, things don't work that way in the real business world. The businessman's choice is *not* between domestic or foreign investments; it is whether to seize or pass up a market opportunity not available elsewhere. Government can force a company to forfeit such an opportunity, leaving it to the Germans or the Japanese, which may lower our exports and cost many American jobs in the long run, but government cannot magically transform an uninviting market into an attractive one worthy of investment.

It is a widely ignored economic reality that the exports of U.S. multinational corporations to their foreign subsidiaries actually produce a large *surplus* in manufactured goods and support many scores of thousands of jobs in U.S. industry.

Need to look outward

There is in the New Isolationism a strong element of blind economic irrationality and anti-business emotionalism. There is, in other words, an unworthy desire to make businessmen the scapegoats for social and economic problems rooted in politics. We will not solve these urgent problems of inflation, the dollar, trade deficits and energy imports by punishing business or penalizing its growth. That will merely sacrifice the long-term national interest to short-term political expediency.

If we want a healthy domestic economic society, the

(Continued on next page bottom)

Annual Report of National Port Authority, Liberia

(Extracts)

1. Organization of Liberia Ports

After the first port, the Freeport of Monrovia was opened in 1948 under the Land-Lease Agreement between the Republic of Liberia and the United States of America, a number of other ports notably the Ports of Greenville and Harper came into existence primarily to cope with the increased volume of trade resulting from the rapidly expanding Liberian Economy.

With these existing ports operating independently of one another, it became evident that, without proper management, coordination and control, these Ports could not effectively respond to the needs of the Liberian Economy. Hence, the idea was conceived to create the National Port Authority which could manage, plan and develop all ports in the Republic.

The overall objective of the National Port Authority is embodied in three enactments of the National Legislature. The first systematic approach to port operations, development and planning in Liberia was conceived by the Act of Legislature dated April 20, 1967 which amended the Public Authorities Law by creating a Public Corporate entity, specifically designed to manage, plan and develop all ports in the Republic.

The Act of 1967 was subsequently repealed and replaced by a new Legislative Enactment of May 12, 1970.

The Act of May 12, 1970 describes in board terms the functions of the National Port Authority as an entity and states very clearly and adequately the intention of the Government THE ACT STATES:

"The National Port Authority is hereby established and created to plan, design, construct and shall engage in the development, maintenance and operations of all Public ports with Liberia subject to Articles and principles enumerated herein and such other and further powers as may be rested in it. To carry out its function, the NPA is also given the greatest degree of financial and administrative autonomy. It shall manage, operate, maintain, develop and construct all ports within the Republic, and all funds for services which NPA renders and provides shall be under its sole and complete control. In addition, the NPA shall assume the responsibilities and functions

(Continued from page 24)

American people will have to produce more, not less; and if we want to correct our trade and payments deficits, we will have to sell more, not less. Indeed, if we want to control the menace of inflation that threatens our society's basic values, we must demand that big government do less to restrict the initiatives of the private sector. The complex and little-understood issues involved in international trade and investment are a good place to start.

Instead of turning inward, we Americans must continue to look outward and strive for a free and more open world economy and political environment. Therein lies our best hope of keeping these ideals alive at home, too.

of the various Government Ministries with respect to the operation and supervision, of ports in the Republic of Liberia."

In order to establish the appropriate administrative machinery for implementing the intentions of the basic legislation governing the Port Authority, it was necessary to further amend the Act of 1970 by a new Act approved May 23, 1972. This amendment restructured the Board of the National Port Authority, strengthened the Management of the organization, as well as extended its jurisdiction to the Port of Monrovia, Greenville, Harper and such additional ports as the Government shall from time to time decide to construct or acquire within the territorial limits of the Republic.

The NPA primarily provides services to the general public and the entire shipping world. This includes vessel calls that bring essential commodities vital to the existence of the nation. In addition, warehousing facilities are offered for the transshipment of goods entering the country and also raw materials being exported to the outside world.

2. Operation

FREEPORT OF MONROVIA

Harbour :	Artificial
Entrance of the Harbour :	Depth 47 ft.
Enclosed Waters :	750 acres
Breakwater :	1½ mile

Volume of Traffic (Long Tons)

	IMPORT	EXPORT	TOTAL
1976	1,427,155	10,456,047	11,883,202
1977	894,195	9,516,489	10,410,684

PORT OF GREENVILLE

Quay Length	—	250 m
Draft	— alongside	6 m
Draft in Basin	—	10 m
Breakwater	—	400 m long

Volume of TRAFFIC (Long Tons)

	IMPORT	EXPORT	TOTAL
1976	6,661	247,238	253,899
1977	2,680	304,646	307,326

PORT OF HARPER (Long Tons)

	IMPORT	EXPORT	TOTAL
1976	11,945	43,836	55,781
1977	7,870	39,439	47,310

(Liberia continued on financial figures on pages 26 and 27)

Annual Report 1977-'78(extracts): Port of Melbourne

From Chairman's Review

Due to the depressed state of world trade, and the effects of major industrial disputes in October 1977 and May 1978, which virtually brought the Port's operations to a standstill, total cargo shipped through the Port of Melbourne for the financial year under review declined by three per cent on the previous year's figures. Tonnage exceeded seventeen million tonnes of which seventy-seven per cent (13,158,000 tonnes) was general cargo.

Although container traffic, with a throughput of 413,773 units, decreased five per cent, a record sixty-five per cent of the total general cargo was shipped in containers.

Revenue amounted to \$30,617,000, a decrease of \$479,000, and expenditure was \$29,322,000, an increase of \$579,000. Whilst every effort was made to contain

costs, it was found necessary for the first time in two years to increase the principal charges — wharfage and tonnage dues — by approximately ten per cent in February.

During the year eleven new shipping line services commenced operating through the Port. Some were extensions of existing services and the balance were inaugurating trades to new markets. This expansion of services reflects more active marketing by manufacturers and producer organizations, and the effects of the devaluation of November 1976 and after.

Asian countries were the main growth area for trade with twenty-eight per cent of the Port's total tonnage. Japan continued to be our major trading partner, accounting for twenty-six per cent of the imports and twenty-two per cent of exports to pass through the Port. It is interest-

3. Preliminary Statement of Income, Expense and Equity year ended December 31, 1977

(Liberia continued)

	LOCATION				YEAR ENDED Dec. 31, '76 (in 000\$)
	NONROVIA (in 000\$)	GREENVILLE (in 000\$)	HARPER (in 000\$)	TOTAL	
OPERATING REVENUE					
Services and fees	\$ 9,942	\$ 2,474	\$ 428	\$12,846	\$10,711
Land rentals	426	—	—	426	1,227
TOTAL	\$10,368	\$ 2,474	\$ 428	\$13,272	\$11,938
OPERATING EXPENSES					
Direct	\$ 4,600	\$ 987	\$ 291	\$ 5,879	\$ 4,112
% to operating revenue	44.37%	39.92%	67.87%	44.30%	34.44%
Administrative and financial	2,979	95	47	3,122	4,156
% to operating revenue	28.73%	3.86%	11.08%	23.53%	34.81%
Depreciation and amortization	1,978	728	137	2,844	
% to operating revenue	19.08%	29.45%	32.07%	21.43%	20.53%
TOTAL	\$ 9,558	\$ 1,812	\$ 476	\$11,846	\$10,719
% to operating revenue	92.18%	73.23%	111.02%	89.26%	89.78%
Net profit/(loss) from operations	\$ 810	\$ 662	\$ (47)	\$ 1,425	\$ 1,219
% to operating revenue	7.82%	26.77%	(11.02)%	10.74%	10.22%
OTHER INCOME					
Interest on time deposit	\$ 439	\$	\$	\$ 439	\$ 374
Gain on sale of fixed assets	64			64	7
Other interest	150			150	150
Sundry	71			71	
TOTAL	\$ 724	\$ —	\$ —	\$ 724	\$ 531
Net profit/(loss) for year	\$ 1,534	\$ 662	\$ (47)	\$ 2,149	\$ 1,750
% to equity at beginning of year (as adjusted)				3.39%	
EQUITY AT BEGINNING OF YEAR					
Revaluation profits				\$53,559	
Accumulated profits			\$ 9,908		
Add-income from prior year			98		
			\$10,006		
Less-prior year adjustments			218	9,788	63,347
EQUITY AT DECEMBER 31, 1977					\$65,496

ing to note that approximately twenty-two per cent of the value of cargo shipped through all Australian Ports was handled through Melbourne.

Coastal trade figures showed an encouraging increase with imports up six per cent and exports rising by three per cent. Coastal exports of general cargo were approximately equal to the level of 1976/77. Imports of iron and steel from South Australia and New South Wales increased 68,000 tonnes.

The past century has seen the Port of Melbourne, through careful management of successive Boards of Commissioners, grow in substance. Constant attention to the updating of facilities for Port Users will ensure that the Port, and the State of Victoria, remains in the forefront of world trade. However, to maintain this standard an improvement in trade is essential otherwise it will be necessary to increase our main charges early in 1979.

Trade Review 1977/78

Trade through the Port of Melbourne for the year ended 30 June 1978 totalled 17,089,000 tonnes, a decline of 589,000 tonnes (3%) on the previous year.

General cargo throughput totalled 13,158,000 tonnes, a 6% decline on the high level of trade recorded in 1976/77. This lower level of trade can be attributed to a number of factors, including the decline in overseas imports of general cargo which commenced in the second half of 1976/77 and continued into the year under review; a significant slump in wool exports during the September quarter; the

depressed level of coastal trade, particularly exports; and disruption to trade caused by major industrial disputes, particularly the power dispute in October and the unrest on the waterfront during April and May.

Total bulk trade increased 9% to 3,931,080 tonnes, due mainly to higher shipments of crude oil and refined petroleum through the Port.

Container Cargo

A total of 413,773 T.E.U.'s, down 5% on the previous year, were handled in the Port. Loaded container traffic declined 10% to 338,060 T.E.U.'s and empty containers increased 22% to 75,713 T.E.U.'s. The large increase in empty containers occurred mainly in the overseas import sector, due in the main to the introduction of new shipping services and the need to reposition containers to meet the requirements of these trades.

The throughput of container cargo in the year under review was 7,404,000 tonnes, a 7% decline. However, the proportion of total general cargo shipped in containers continued to increase. Over the last four financial years the degree of containerization of general cargoes has grown from 57% in 1974/75 to 65% in 1977/78.

Swanson Dock, the Port's six-berth container complex handled 216,164 T.E.U.'s, 52% of the total container traffic. A further 23% was handled at the four roll-on roll-off berths at Webb Dock.

4. Preliminary Balance Sheet as of December 31, 1977

(Liberia continued)

ASSETS	Dec. 31, 1977 AMOUNT (in 000\$)	Dec. 31, 1976 AMOUNT (in 000\$)
CURRENT ASSETS:		
TOTAL CURRENT ASSETS	\$10,601	\$ 9,424
INVESTMENTS, ADVANCES AND OTHER ASSETS:		
Loan to Republic of Liberia	2,500	2,500
Intangible assets	303	303
Deferred loss on exchange	1,362	817
TOTAL	\$ 4,165	\$ 3,620
FIXED ASSETS:		
Property, plant and equipment (less provision for depreciation of \$5,615,038.25)	71,598	71,866
Capital projects in progress	2,340	322
TOTAL	73,938	72,188
TOTAL ASSETS	\$88,706	\$85,232
LIABILITIES AND EQUITY		
CURRENT LIABILITIES:		
TOTAL CURRENT LIABILITIES	4,055	2,897
LONG TERM LIABILITIES:		
Government of Liberia	13,972	14,723
Other	5,181	4,148
TOTAL	19,153	18,871
EQUITY AT DECEMBER 31, 1977	65,496	63,464
TOTAL LIABILITIES AND EQUITY	\$88,706	\$85,232

Trade and Shipping

Overseas Trade					
Year	No. of Vessels	Gross Tonnage	Import Tonnes	Export Tonnes	Total Tonnes
1976/77	1,438	16,536,824	6,490,361	5,350,805	11,841,166
1977/78	1,467	17,775,929	6,196,946	4,844,605	11,041,551
Coastal Trade					
Year	No. of Vessels	Gross Tonnage	Import Tonnes	Export Tonnes	Total Tonnes
1976/77	1,058	6,825,875	2,953,121	2,883,760	5,836,881
1977/78	1,016	6,614,075	3,091,913	2,955,585	6,047,498
Total Trade					
Year	No. of Vessels	Gross Tonnage	Import Tonnes	Export Tonnes	Total Tonnes
1976/77	2,496	23,362,699	9,443,482	8,234,565	17,678,047
1977/78†	2,483	24,390,004	9,288,859	7,800,190	17,089,049

* Denotes figures from 1st January 1973 to 30th June 1973.

Bunkering Statistics, not included in Overall Trade, totalled 442,626 tonnes in 1977/78.

† Wool—Number of bales included in Total Trade—1,543,661.

Revenue Account for the year ended 30th June 1978

Revenue

	1977/78 \$000	1976/77 \$000
Charges on Ships		
Tonnage Rates	2,306	2,173
Shed Rent and Accommodation	488	502
Special Berth Charges	279	331
Appropriation Fees	173	183
Mooring and Unmooring Vessels	864	748
Cleaning Wharves and Sheds	174	184
Miscellaneous Other Charges	154	126
	<u>4,438</u>	<u>4,247</u>
Charges on Goods		
Import and Transshipment Wharfage Rates	12,572	13,350
Export Wharfage Rates	4,943	5,043
Wharf Storage Fees	106	147
Common User Stacking Area	133	89
Compensation by Aust. Postal Comm.	41	34
	<u>17,795</u>	<u>18,663</u>
Charges for Services — Cranes	<u>2,089</u>	<u>2,383</u>
Charges for Services — Other	<u>374</u>	<u>434</u>
Other Revenue	<u>5,921</u>	<u>5,369</u>
TOTAL REVENUE		
CARRIED FORWARD	<u>\$30,617</u>	<u>\$31,096</u>

Balance Sheet as at 30th June 1978

Liabilities

	1977/78 \$000	1976/77 \$000
Loan Capital		
Total at 30th June	68,769	61,303
Reserves retained in the Undertaking	58,739	55,218
Liabilities and Provisions	16,311	14,880
Sinking Fund	3,042	3,077
Trust Accounts	53	45
	<u>\$146,914</u>	<u>\$134,523</u>

Assets

	1977/78 \$000	1976/77 \$000
Works of Construction and Plant	183,846	166,818
Less Provision for Depreciation	51,672	46,836
	<u>132,174</u>	<u>119,982</u>
Other Assets	<u>10,581</u>	<u>10,045</u>
General Reserve Fund	<u>2,064</u>	<u>2,374</u>
Sinking Fund	<u>2,042</u>	<u>2,077</u>
Trust Account	<u>53</u>	<u>45</u>
	<u>\$146,914</u>	<u>\$134,523</u>

International maritime information:

World port news:

The Maritime Transport of Hydrocarbons

Extracts from the Report by the UNCTAD secretariat (UNCTAD/SHIP/130 GE.78-70543)

The term "hydrocarbons" covers four main commodity groups, as follows:

Commodity group Tonnage carried by sea in international trades, 1976 (Million tons)

Crude oil	1,418
Oil products	260
Liquefied petroleum gas (LPG)	12
Liquefied natural gas (LNG)	12

Tons are metric tons in all statistics quoted in these tables.

Table 1 World seaborne oil trade, 1966-1976

	Crude oil Oil products		Crude oil Oil products	
	Million tons		Billion ton-miles	
1966	607	195	2629	700
1967	672	193	3400	730
1968	768	207	4197	750
1969	871	209	4853	760
1970	995	245	5597	890
1971	1068	247	6554	900
1972	1184	261	7719	930
1973	1365	274	9206	1010
1974	1360	264	9660	960
1975	1259	233	8882	845
1976	1418	260	10229	950

Table 2 Seaborne trade in crude oil, 1976
(Million tons)

To From	Developed market economy countries					Socialist countries			Oil-exporting developing countries					Other developing countries				Total
	Total	Europe	North Amer- ica	Japan	Other	Total	East- ernEu- rope	Asia	Total	Mid- dle East	Indo- nesia	Afri- ca	Latin Amer- ica	Total	Asia	Afri- ca	Latin Amer- ica	
Developed market- economy countries	24.9	21.1	3.5	0.1	0.2				0.1			0.1						25.0
Of which:																		
Europe	24.6	21.1	3.5						0.1			0.1						24.7
North America																		
Japan																		
Other	0.3			0.1	0.2													0.3
Socialist countries	31.4	25.0	0.3	6.1		0.3	0.3							9.2	1.9	0.9	6.4	40.9
Of which:																		
Eastern Europe	25.4	25.0	0.3	0.1										8.4	1.1	0.9	6.4	33.8
Asia	6.0			6.0		0.3	0.3							0.8	0.8			7.1
Oil-exporting de- veloping countries	1114.8	573.6	297.2	212.7	31.3	18.3	18.3		1.0				1.0	204.3	98.5	14.8	91.0	1338.4
Of which:																		
Middle East	790.1	448.4	130.2	181.8	29.7	14.0	14.0							157.2	95.9	12.5	48.8	961.3
Indonesia	54.5	0.3	26.5	27.6	0.1									9.3	2.3		7.0	63.8
Africa	226.1	117.0	105.6	3.0	0.5	4.3	4.3							24.0	0.3	2.3	21.4	254.4
Latin America	44.1	7.9	34.9	0.3	1.0				1.0				1.0	13.8			13.8	58.9
Other developing countries	50.9	18.8	18.5	10.8	2.8	0.8	0.8							7.9	1.4		6.5	59.6
Of which:																		
Asia	22.0	9.1	1.0	10.5	1.4									1.9	1.3		0.6	23.9
Africa	15.1	9.2	5.1	0.3	0.5	0.8	0.8							1.0	0.1		0.9	16.9
Latin America	13.8	0.5	12.4		0.9									5.0			5.0	18.8
Total	1122.0	638.5	319.5	229.7	34.3	19.4	19.4		1.1			0.1	1.0	221.4	101.8	15.7	103.9	1463.9

Table 3 Major seaborne trades in oil products, 1976

(Million tons)

From \ To	Western Europe	USA	Japan	Others	Total
Middle East/Gulf	4.1	2.9	11.1	32.8	50.9
Caribbean	10.0	80.1	0.3	11.0	101.4
South-East Asia	0.3	1.5	15.1	4.0	20.9
Eastern Europe	32.1	0.9	0.5	7.2	40.7
Others	6.3	19.9	3.5	16.4	46.1
Total	52.8	105.3	30.5	71.4	260.0

Table 5 Seaborne trade in LNG, 1976

From \ To	France	Italy	Spain	UK	USA	Japan	Total
Million cubic metres							
USA						2.23	2.23
Algeria	4.90		0.29	1.59	0.48		7.26
Libyan Arab Jamahirija		4.36	2.37				6.73
Brunei						11.28	11.28
Total	4.90	4.36	2.66	1.59	0.48	13.51	27.50
Million tons							
USA						1.00	1.00
Algeria	2.21		0.14	0.72	0.22		3.29
Libyan Arab Jamahirija		1.96	1.12				3.08
Brunei						5.08	5.08
Total	2.21	1.96	1.26	0.72	0.22	6.08	12.45

Table 4 Seaborne trade in LPG, 1976

(Million tons)

From \ To	Developed market economy countries					Socialist countries			Oil-exporting developing countries					Other developing countries				Total
	Total	Europe	North America	Japan	Other	Total	East-Europe	Asia	Total	Middle East	Indonesia	Africa	Latin America	Total	Asia	Africa	Latin America	
Developed market-economy countries	2.62	1.16	0.07	1.39		0.03	0.03		0.17	0.11		0.06		0.37	0.02	0.12	0.23	3.19
Of which:																		
Europe	1.18	1.16	0.02			0.03	0.03		0.17	0.11		0.06		0.15		0.12	0.03	1.53
North America	0.25			0.25										0.19			0.19	0.44
Japan														x	x		x	x
Other	0.19		0.05	1.14										0.03	0.02		0.01	1.22
Socialist countries	0.30	0.30				0.02	0.02							0.10		0.05	0.05	0.42
Of which:																		
Eastern Europe	0.30	0.30				0.02	0.02							0.10		0.05	0.05	0.42
Asia																		
Oil-exporting developing countries	6.81	0.91	0.93	4.97		0.04	0.03	0.01	0.02				0.02	1.13	0.25	0.14	0.74	8.00
Of which:																		
Middle East	5.76	0.56	0.23	4.97		0.04	0.03	0.01	0.02				0.02	0.45	0.25	0.06	0.14	6.27
Indonesia	x		x															x
Africa	0.51	0.31	0.20											0.10		0.08	0.02	0.61
Latin America	0.54	0.04	0.50	x										0.58			0.58	1.12
Other developing countries	0.01	0.01	x											0.23	0.10	0.01	0.12	0.24
Of which:																		
Asia	x		x											0.10	0.10			0.10
Africa														0.01		0.01		0.01
Latin America	0.01	0.01	x											0.12			0.12	0.13
Total	9.94	2.38	1.00	6.36		0.09	0.08	0.01	0.19	0.11		0.06	0.02	1.83	0.37	0.32	1.14	11.85

Table 6 World capacity for maritime transport of hydrocarbons, 1 January 1977

Countries of registration	Tankers and combined carriers 10,000-60,000 dwt		Tankers and combined carriers over 60,000 dwt		LPG vessels over 2,000 cbm		LNG vessels over 2,000 cbm	
	No.	'000 dwt; in brackets, percentage	No.	'000 dwt; in brackets, percentage	No.	'000 cbm; in brackets, percentage	No.	'000 cbm; in brackets, percentage
Open-registry countries	522	17,658 (31.3)	729	116,352 (37.4)	37	1,161 (36.1)	8	802 (36.4)
Developed market-economy countries	903	27,208 (48.2)	1,050	176,151 (56.7)	121	1,958 (60.9)	27	1,234 (56.1)
Of which:								
Europe	634	18,872 (33.4)	792	134,177 (43.2)	98	1,144 (35.6)	27	1,234 (56.1)
North America	198	6,149 (10.9)	43	4,565 (1.5)	2	34 (1.1)		
Japan	56	1,764 (3.1)	211	37,138 (11.9)	21	780 (24.2)		
Others	15	423 (0.8)	4	271 (0.1)				
Socialist countries	254	6,324 (11.2)	36	3,491 (1.1)	5	40 (1.2)		
Of which:								
Eastern Europe	226	5,632 (10.0)	25	2,647 (0.8)	5	40 (1.2)		
Asia	28	692 (1.2)	11	844 (0.3)				
Oil-exporting developing countries	49	1,557 (2.8)	40	6,868 (2.2)	1	6 (0.2)	2	165 (7.5)
Of which:								
Middle East	20	608 (1.1)	27	5,031 (1.6)				
Indonesia	4	63 (0.1)						
Africa	8	297 (0.5)	13	1,837 (0.6)	1	6 (0.2)	2	165 (7.5)
Latin America	17	589 (1.1)						
Other developing countries	152	3,691 (6.5)	63	8,039 (2.6)	8	50 (1.6)		
Of which:								
Asia	35	978 (1.7)	43	5,360 (1.7)				
Africa	10	262 (0.5)	1	87 (0.0)				
Latin America	107	2,451 (4.3)	19	2,592 (0.9)	8	50 (1.6)		
World total	1,880	56,438 (100.0)	1,918	310,901 (100.0)	172	3,215 (100.0)	37	2,201 (100.0)

Table 7 Percentage distribution of cargo turnover and fleet ownership in maritime transport of hydrocarbons among country groupings, 1976

Country groupings	Crude oil		Oil products		LPG		LNG	
	Cargo turnover	Fleet ownership	Cargo turnover	Fleet ownership	Cargo turnover	Fleet ownership	Cargo turnover	Fleet ownership
Developed market-economy countries	42.6	94.1	45.0	79.5	54.6	97.0	54.0	92.5
Socialist countries	2.1	1.1	9.5	11.2	2.2	1.2	—	—
Oil-exporting developing countries	45.7	2.2	21.0	2.8	34.5	0.2	25.6	7.5
Of which:								
Middle East	32.8	1.6	10.2	1.1	26.9	—	—	—
Indonesia	2.2	—	1.5	0.1	—	—	—	—
Africa	8.7	0.6	1.6	0.5	2.8	0.2	25.6	7.5
Latin America	2.0	—	7.7	1.1	4.8	—	—	—
Other developing countries	9.6	2.6	24.8	6.5	8.7	1.6	20.4	—
Of which:								
Asia	4.3	1.7	9.6	1.7	2.0	—	20.4	—
Africa	1.1	—	1.6	0.5	1.4	—	—	—
Latin America	4.2	0.9	13.6	4.3	5.3	1.6	—	—
World total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Totals on which percentages are based	2927.8 million tons	310.9 million dwt	520 million tons	56.4 million dwt	23.70 million tons	3.215 million cbm	24.90 million tons	2.201 million cbm

Present Status of Maritime Conventions

The following consolidated list and the table, forwarded from IMCO secretariat (No. C XLII/5, March 30, 1979), show the present status, as of March 30, 1979, of the maritime conventions and other multilateral instruments which in many aspects affect and concern the IAPH members and their relevant bodies. (DSG)

- (1) International Convention for the Safety of Life at Sea, 1948 (SOLAS 1948) Entry into force: 19 November 1952
- (2) International Convention for the Safety of Life at Sea, 1960 (SOLAS 1960) Entry into force: 26 May 1965
 - (a) 1966 Amendments : not yet in force
 - (b) 1967 Amendments : "
 - (c) 1968 Amendment : "
 - (d) 1969 Amendments : "
 - (e) 1971 Amendments : "
 - (f) 1973 (General) Amendments : "
 - (g) 1973 (Grain) Amendment : "
- (3) International Convention for the Safety of Life at Sea, 1974 (SOLAS 1974)
Not yet in force
- (4) Protocol of 1978 relating to the International Convention for the Safety of Life at Sea, 1974 (SOLAS PROT 1978)
Not yet in force
- (5) International Regulations for Preventing Collisions at Sea, 1960 (COLREG 1960)
Applied since 1 September 1965
- (6) Convention on the International Regulations for Preventing Collisions at Sea, 1972 (COLREG 1972)
Entry into force: 15 July 1977
- (7) International Convention for the Prevention of Pollution of the Sea by Oil, 1954, as amended (OILPOL (amended) 1954)
Entry into force: 26 July 1958
Entry into force of amendments adopted in 1962: 18 May and 28 June 1967
Entry into force of amendments adopted in 1969: 20 January 1978
 - (a) 1971 (Great Barrier Reef) Amendments: not yet in force
 - (b) 1971 (Tanks) Amendments: not yet in force
- (8) International Convention for the Prevention of Pollution from Ships, 1973 (MARPOL 1973)
Not yet in force
- (9) Protocol of 1978 relating to the International Convention for the Prevention of Pollution from Ships, 1973 (MARPOL PROT 1978)
Not yet in force
- (10) Convention on Facilitation of International Maritime Traffic, 1965 (FAL (amended) 1965)
Entry into force: 5 March 1967
 - (a) 1973 Amendment : not yet in force
 - (b) Amendments to the Annex:
 - (1) 1969 Entry into force: 12 August 1971
 - (2) 1977 Entry into force: 31 July 1978
- (11) International Convention on Load Lines, 1966 (LL 1966)
Entry into force: 21 July 1968
 - (a) 1971 Amendments : not yet in force
 - (b) 1975 Amendment : "
- (12) International Convention on Tonnage Measurements of Ships, 1969 (TONNAGE 1969)
Not yet in force
- (13) International Convention relating to Intervention on the High Seas in Cases of Oil Pollution Casualties, 1969 (INTERVENTION 1969)
Entry into force: 6 May 1975
- (14) Protocol relating to Intervention on the High Seas in Cases of Pollution by Substances other than Oil, 1973 (INTERVENTION PROT 1973)
Not yet in force
- (15) International Convention on Civil Liability for Oil Pollution Damage, 1969 (CLC 1969)
Entry into force: 19 June 1975
- (16) Protocol to the International Convention on Civil Liability for Oil Pollution Damage, 1969 (CLC PROT 1976)
Not yet in force
- (17) Special Trade Passenger Ships Agreement, 1971 (STP 1971)
Entry into force: 2 January 1974
- (18) Protocol on Space Requirements for Special Trade Passenger Ships, 1973 (SPACE STP 1973)
Entry into force: 2 June 1977
- (19) Convention relating to Civil Liability in the Field of Maritime Carriage of Nuclear Material, 1971 (NUCLEAR 1971)
Entry into force: 15 July 1975
- (20) International Convention on the Establishment of an International Fund for Compensation for Oil Pollution Damage, 1971 (FUND 1971)
Entry into force: 16 October 1978
- (21) Protocol to the International Convention on the Establishment of an International Fund for Compensation for Oil Pollution Damage, 1971 (FUND PROT 1976)
Not yet in force
- (22) International Convention for Safe Containers, 1972 (CSC 1972)
Entry into force: 6 September 1977
- (23) Athens Convention relating to the Carriage of Passengers and their Luggage by Sea, 1974 (PAL 1974)
Not yet in force
- (24) Protocol to the Athens Convention relating to the Carriage of Passengers and their Luggage by Sea, 1974 (PAL PROT 1976)
Not yet in force
- (25) Convention on the International Maritime Satellite Organization (INMARSAT) (INMARSAT C)
Not yet in force
- (26) Operating Agreement on the International Maritime Satellite Organization (INMARSAT) (INMARSAT OA)

- Not yet in force
- (27) Convention on Limitation of Liability for Maritime Claims, 1976 (LLMC 1976)
- Not yet in force
- (28) Torremolinos International Convention for the Safety of Fishing Vessels, 1977 (SFV 1977)
- Not yet in force
- (29) International Convention on Standards of Training, Certification and Watchkeeping for Seafarers, 1978 (STCW 1978)

- Not yet in force
- (30) Convention on the Prevention of Marine Pollution by Dumping of Wastes and Other Matter, 1972 (LDC (amended) 1972)
- Entry into force: 30 August 1975
- (a) 1978 (Disputes) Amendments:
- not yet in force
- (b) 1978 (Incineration) Amendments to the Annex:
- Entry into force: 11 March 1979

	Amendments														Amendments						Amendments																								
	1948 SOLAS	1960 SOLAS	1966	1967	1968	1969	1971	1973 (General)	1973 (Grain)	1974 SOLAS	1978 SOLAS PROT	1960 COLREG	1972 COLREG	1954 (amended) OILPOL	1971 (GBR)	1971 (Tanks)	1973 MARPOL	1978 MARPOL PROT	1965 (amended) FAL	1973 Amendment	1966 LOAD LINES	1971	1975	1969 TONNAGE	1969 INTERVENTION	1973 INTERVENTION PROT	1969 CLC	1976 CLC PROT	1971 STP	1973 SPACE STP	1971 NUCLEAR	1971 FUND	1976 FUND PROT	1972 CSC	1974 PAL	1976 PAL PROT	1976 INMARSAT C	1976 INMARSAT OA	1976 LLMC	1977 SFV	1978 STCW	1972 (amended) LDC	1978 Amendments		
	1	2	(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	3	4	5	6	7	(a)	(b)	8	9	10	(a)	11	(a)	(b)	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	(a)	
Number of ratifications, acceptances; approvals or accessions	35	98	(47)	(37)	(38)	(27)	(18)	(9)	(9)	(22)	(1)	73	62	*1	60	(22)	(22)	(4)	0	45	(25)	*1	91	(26)	(18)	(39)	33	(4)	37	(2)	9	6	6	15	(2)	16	(2)	0	(12)	(20)	(1)	(2)	0	40	(1)
														(+2)						(+1)		(+1)				(+2)	(+2)									(+6)									
Number of ratifications, etc. necessary for entry into force	-	-	66	66	66	66	66	66	66	66	25	15	-	-	-	40	40	15	15	-	30	-	61	61	25	-	15	-	8	-	-	-	-	8	-	10	10	-	-	12	15	25	-	27	
Number of IMCO Members having ratified, etc. the Instrument	-	90	39	30	31	22	17	9	9	19	1	67	59	59	22	22	4	0	43	25	85	25	18	36	33	4	36	2	9	6	7	16	2	20	1	0	10	18	1	2	0	33	1		
Number of non IMCO Members having ratified, etc. the Instrument	-	10	8	7	7	5	1	0	0	3	0	6	3	3	0	0	0	0	0	3	0	7	1	0	3	2	0	3	0	0	0	0	0	0	2	1	0	2	2	0	0	0	7	0	
Number of IMCO Members not having ratified, etc. the Instrument	-	22	73	82	81	90	95	103	103	93	111	45	53	53	90	90	108	112	69	87	27	87	94	76	79	108	76	110	103	106	105	96	110	92	111	112	102	94	111	110	112	79	111		

*1 Includes signature without reservation as to ratification, acceptance or approval.

*2 Signatures, in accordance with Article 2 of the INMARSAT Convention.

*3 The combined merchant fleets of which constitute not less than fifty per cent of the gross tonnage of the world's merchant shipping.

*4 The combined merchant fleets of which constitute not less than sixty-five per cent of the gross tonnage of the world's merchant shipping.

*5 Including five states each with not less than 1,000,000 gross tons of tanker tonnage.

*6 The quantities of contributing oil received in the preceding year by potential contributors within the States parties to the Convention must amount to not less than 750 million tons.

*7 States representing ninety-five per cent of the initial investment shares.

*8 The aggregate of whose fishing fleets constitutes not less than fifty per cent by number of the world's fleet of fishing vessels of 24 m in length and over.

*9 The combined merchant fleets of which constitute not less than fifty per cent of the gross tonnage of the world's merchant shipping.

ILO seeks more experts for Technical Co-operation Programme

The International Labour Office invites applications for posts of expert, adviser and consultant in its programme of technical co-operation. Applicants should have high technical qualifications in the fields covered by the maritime programme of the ILO, and in particular: conditions of employment and regularisation of employment of dock labour; hiring practices; training of port personnel; welfare of dockworkers; port operation; training of equipment maintenance personnel; safety and health of dockworkers; training of seafarers; and training and conditions of employment of inland navigation workers.

The languages used in technical co-operation mission are English, French, Spanish, Arabic and Portuguese. Technical co-operation missions have durations varying, according to circumstances, from one month to several years.

The remuneration, which is normally exempt from income tax, is in accordance with the United Nations scales.

Applications, which will be treated confidentially, should be addressed to:

The Personnel Department
International Labour Office
CH-1211 Genève 22.

First "IMCO Prize" under deliberation

(IMCO document No. C XLII/30)

The IMCO Council decided that the IMCO Prize will be awarded annually and that the first Prize will be awarded in 1980. The Council also decided that it would consider the candidates for the 1980 Prize at a session in 1980. Pursuant to this decision the Secretary-General will, at the appropriate time, circulate a suitable document inviting nominations from Governments and the organizations entitled to nominate candidates for the IMCO Prize. The document to be circulated will set forth the terms and conditions for the award as determined by the Council, on the proposals of the Secretary-General.

As the Prize for 1980 will be presented in conjunction with World Maritime Day in 1981 the Council may consider that a suitable time for the selection of the candidate for the 1980 Prize would be the forty-fifth session of the Council in October/November 1980. For this purpose, nominations would be invited at the end of 1979 with a closing date about the end of July or August 1980. This would give adequate time for interested Governments and organizations to consider and submit their nominations and for details of the candidates to be made available to Members of the Council sufficiently in advance of the

session at which a decision on the award is to be taken. A decision in October/November of 1980 would also enable the recipient to be informed reasonably in advance of the presentation of the Award in March 1981. Such advance information would be particularly necessary if, as expected, the recipient may wish to deliver a lecture or present a paper on the occasion of the presentation of the Award.

Port of Montreal news

• A look at 1978: Montréal

Total traffic at the Port of Montreal during 1978 reached 20.3 million tons of general cargo and commodities of various kinds compared to 19.8 million tons during the previous period.

Foreign shipments totaled 5.7 million tons compared to imports of 4.7 million tons for a total traffic of 10.4 million tons in the international category.

Domestic traffic reached 9.9 million tons; inward shipments representing 5.6 million tons and outward movements 4.3 million tons.

General cargo traffic (the most profitable for the Port) registered an increase of 475,000 tons and, at the end of the year, accounted for 3.7 million tons. Containerized cargo traffic continued its upward trend, its volume jumped from 1.5 million tons to an all time high of 2.2 million tons and the number of boxes handled reached a record of 179,800 units.

• Plan to attend Montréal Port's Day

Representatives of the business community as well as the maritime industry are cordially invited to attend the Montreal Port's day which will be held at the Queen Elizabeth Hotel on Monday, June 4, 1979 under the theme "The Port of Montreal during the '80's."

An informative and enjoyable program is being prepared and participants will be briefed during this Special day on proposed developments at the Port of Montreal during the next decade and on the manner in which various industry representatives plan to meet new challenges during this period.

The preliminary program includes four workshops where panelists, all experts in their respective field, will discuss containerization, breakbulk cargo handling, labour relations and grain traffic at the Port of Montreal. In addition, two well-known guest speakers will each make an important presentation at the end of the luncheon and dinner.

The general public will be invited to visit the Port on Sunday, June 3rd, tour the harbour by bus or boat and inspect some of its facilities. In previous years, more than 20,000 interested citizens took advantage of the opportunity to learn a little more about their Port. Plans are being made to handle an even larger crowd this year.

• Training longshoremen as heavy equipment operators

The efficient operation of the Port of Montreal is brought about by the cooperative efforts of many men and women. This is particularly true of winter operation which is now taken for granted to the extent that some people have forgotten that ships did not always sail up the St Lawrence River during the winter months.

The steady expansion in the commercial use of the river up to Montreal during the winter months, in addition to the

continuing increase in port business during the other seasons, are attributable to the planning, the skills and the hard work of men in many professions and trades. The longshoremen at this port form an important segment of this group.

In years past the longshoremen were pictured in song and story as men with strong backs but with no mechanical skill. If that image was ever valid, it no longer is. It is true that these men still engage in strenuous manual labour in humid summer heat and during the extreme cold of a Montreal winter but it is equally true that many of their number are well trained operators of light and heavy mechanical equipment.

Machines of many types and sizes are necessary for the efficient transfer of cargo from ship to terminal and then to land transport. In addition to winches, fork lift trucks and relatively light cranes, this equipment includes mobile cranes with a lifting capacity up to 200 tons, gantry cranes for loading and unloading container ships, straddle carriers and transtainers. Relatively few people are aware that practically all of this equipment is operated by longshoremen.

Any longshoreman can apply for training as an operator of heavy equipment and selections are made on the basis of seniority, physical fitness, age and other considerations. Most of those who apply have had some experience as operators of light cranes. The men selected are not sent to a special school but receive their training on the job. If a man is selected as a potential gantry crane operator, a regular operator first teaches him how to handle the machine when no ship is being loaded or unloaded. When he becomes familiar with the crane, he is taught the actual loading and unloading process. Each man receives part of his training during day shifts and part at night in order that he will be accustomed to working on either shift. A sufficient number of men are trained for each job to guarantee that an operator will be available under all circumstances.

After several weeks of training, the aptitude of each man for this work is judged by the operator who has instructed him and by several representatives of management and the union.

The training of longshoremen for this work has developed since the first container terminal began operating in 1968. It has proven very beneficial to both labour and management for it means that more jobs are available to longshoremen and it provides the terminal operator with a pool of trained operators.

MARAD Port Activities

Current trends in port pricing

Research into the existing pricing practices of U.S. public ports was recently conducted for Maritime Administration (MarAd), U.S. Department of Commerce, by an independent consultant. The focus of the research was on pricing unique to public port usage. Interviews were conducted with 28 port officials, and detailed tariff research covering 21 ports for 10 years was undertaken. Some of the major report findings were:

- The trend in public port development is away from public support and toward a revenue base.
- Tariff rates for port usage by ships and cargoes, although showing substantial movement in recent years, remain

- generally depressed in terms of allocated facility cost.
- Given an orderly program of retiring the deficit, the shortfall in these rates is manageable in view of their large relative weight in port economics and their small relative weight in the economics of shipping.
- Considering the existence of regulatory acceptance of marine terminal conference agreements, much of the machinery necessary for an industry-wide effort to improve rates has been achieved or is underway.

Copies of this 101-page study are available from the MarAd Office.

Public involvement in maritime facility development

A study covering public involvement in maritime facility development recently was released by the Maritime Transportation Research Board of the National Academy of Sciences.

Prepared by the Committee on Impact of Maritime Services on Local Populations, the study was undertaken due to the impact on the general public by recent maritime technological advances resulting from changes in trading patterns and increased energy needs. The goals of the committee were to investigate ways to improve public participation in port and maritime planning, to improve the process of communicating with people most affected by change, and to suggest methods for easing adverse effects, particularly those involving social, economic, and environmental costs. Mr. Armour Armstrong, Office Director, was a member of this Committee.

Copies of this report, at a cost of \$7.00 each, can be obtained by writing to the Office of Publications, National Academy of Sciences, 2101 Constitution Avenue, N.W., Washington, D.C. 20418. Make checks payable to the National Academy of Sciences.

Baltimore fastest growing East Coast port

Baltimore was the fastest growing port on the U.S. East Coast in 1978 according to statistics released by the U.S. Department of Commerce.

In a summary of total foreign waterborne commerce for the ports of Baltimore, New York, Philadelphia and Norfolk the Maryland port was the only port which experienced gains in all areas of commerce.

The port of Baltimore had a tonnage increase between 1977 and 1978 of 10.2 per cent in total foreign commerce. The increase totaled 3,098,085 tons, from 30,408,083 in 1977 to 33,506,168 in 1978 and was larger than any gain reported for the other ports.

A largest tonnage increase for Baltimore in 1978 was in import commerce. Between 1977 and 1978, Baltimore's imports jumped from 16,368,524 tons to 19,166,990 tons. The 2,798,466 additional import tons reflects a 17.1 per cent gain.

Mr. O. Suarez appointed Port Everglades' Director

The appointment of Orlando Suarez as Port Director was announced by June M. Silvernale, Chairman of the Port Everglades Commission.

"We are pleased to have Mr. Suarez as the new administrative head at the Port," said Chairman Silvernale. "His

exposure to international markets coupled with his valuable business experience provides solid credentials for the leadership necessary at Port Everglades.

62.7 million tons of cargo through the St. Lawrence Seaway in 1978

Newsletter, Niagara Frontier Transport Authority: — The St. Lawrence Seaway closed its 1978 navigation season on December 20, somewhat later than the scheduled date in mid-December. Assisted by favorable weather conditions, the last ocean vessel cleared the U.S. locks December 20 and the Seaway system December 22. The Seaway closing was smooth and orderly despite the fact that 119 ocean vessels were above the Welland Canal on November 22, 1978 compared to 87 on the same date in 1977. The Welland Canal closed for the season on December 30, 1978, as scheduled. Seaway officials noted that preliminary figures indicated that 62.7 million tons of cargo, 600,000 tons less than the record 1977 tonnage, had been shipped through the waterway in 1978. Shipments of general cargo were down to 4.7 million tons in 1978, compared to 6.4 million tons in 1977. Grain shipments, however, rose to 30.7 million tons in 1978 from 22.3 million tons in 1977.

South Carolina Port News

• Tonnage records smashed

It is said that records are made to be broken, and the State Ports Authority's 1978 performance is a classic example.

Four major cargo records were established — and by wide margins — to make it overwhelmingly the best calendar year in history.

Containerized cargoes continued to soar, reaching 1,742,620 tons, a 38.8 per cent increase (483,364 tons) over the 1977 tonnage of 1,259,256. The overall total, including breakbulk commodities, was 4,292,827 tons at SPA terminals in Charleston, Georgetown and Port Royal.

The grand total was a 16.9 per cent gain over last year's volume of 3,672,066 tons. Never before in a calendar year had that figure passed 4 million.

• Efforts continue for seafood port

Serious consideration is being given to establishment of the first seafood industrial port in South Carolina. It would be located in Port Royal, near Beaufort, adjacent to or near State Pier 21.

Authorization has been given to the State Ports Authority for issuance of \$1.5 million in general obligation bonds for the project. Legislation approving the bond issue was passed by the 1978 General Assembly of South Carolina.

A seafood facility is the top-priority item for economic planners of the Lowcountry Council of Governments.

It is hoped that federal funding assistance will be provided to make up the remainder of the \$5 to \$7 million needed. Backers of the project say that it will allow exploitation of seafood resources presently largely untapped.

A November, 1976, feasibility study indicated that the facility could provide at least 400 jobs. It could serve 75 fishing boats in its first year, with expansion potential to a 100-boat operation.

SPA participation in the project was limited to construction, equipping and overseeing the port. The group which would operate the facility has not been decided.

One millionth passenger on Sam Houston honored



Mrs. Patricia Flynn of Chicago, second from right, receives a color plaque of the Port of Houston from Port Commissioner John Garrett, in honor of becoming the 1,000,000th passenger to ride on the Port of Houston's inspection vessel SAM HOUSTON. Looking on are her husband, Jim Flynn, left, George W. Altwater, Executive Director of the Port of Houston, and the Flynn children, left to right, Jim Jr., 11; Erin, 8; Dan, 7; and Kelley, 10.

Mrs. Patricia Flynn of Chicago, Illinois, was honored on April 19th as the one millionth passenger to ride on the Port of Houston's inspection vessel SAM HOUSTON.

Mrs. Flynn, her husband Jim, a Captain with the Chicago Fire Department, and four children were visiting relatives in Houston when they boarded the 95-foot long boat used for taking tours of the Houston Ship Channel. Mrs. Flynn was the 65th person to board the boat that day, making her the one millionth person to ride on the SAM HOUSTON in its more than 20 years of showing tourists around the Port.

During welcoming ceremonies, Mrs. Flynn was presented a gold watch, donated by the West Gulf Maritime Association; a color plaque of the Port; a silver money clip; and a mounted photo of a hill covered in bluebonnets, the state flower of Texas.

The SAM HOUSTON travels more than 5,000 miles per year up and down the Houston Ship Channel carrying hundreds of thousands of tourists and school children as well as many visiting dignitaries.

THE "SAM HOUSTON"

The Port of Houston Authority's Inspection Vessel SAM HOUSTON is known around the world as the "Pride of the Houston Ship Channel."

Since she was christened on July 30, 1958, the 95-foot boat has served as the show window of the Port, carrying members of royalty, ambassadors, presidents, governors, and hundreds of thousands of tourists and school children.

The SAM HOUSTON is the only vessel owned by any U.S. port that is made available daily, without charge, to the general public for the express purpose of showing off the Port.

The boat makes 11 one-and-a-half hour trips a week on a 14-mile round-trip tour of the upper reaches of the Houston Ship Channel. She runs every day except Monday and during the month of September when she goes to dry dock for hull repairs and general maintenance. The boat can carry up to 100 passengers per trip, and all that is required of them is that they make reservations well in advance.

Houston requesting \$50 million bond election

Funds for developing Port of Houston Authority facilities will be included in a \$338.8 million Harris County bond election called for May 22.

At their January meeting, Port of Houston Commissioners passed a resolution requesting that the County call a bond election of \$50 million for use at Port Authority installations.

Shortly thereafter Harris County Commissioners Court announced the County election encompassing the Port Commission's request.

"We want people to realize that we come to the taxpayers for general obligation bonds only when all other avenues of financing have been exhausted," said Port Commission Chairman Fentress Bracewell. "The County has assured us that passage of the bond issue will not raise taxes and we want to emphasize that new funds for capital improvements are imperative if the Port of Houston is to serve its customers and maintain its competitive position among Gulf ports."

The bonds will be issued over a period of six years.

If the bond election is passed, projects called for in the proposed capital improvements program include:

Barbours Cut: development of a fourth container terminal; an additional Roll on/Roll off platform; dredging of the channel and turning point; a second container freight station; two more container cranes and a yard crane; and an entry complex for Terminal No. 2.

Bulk Materials Handling Plant: second working berth and a new lay berth.

Fire Protection: a new fireboat, and new barracks and berth for existing fireboats.

Environmental Improvements: dust control system at the bulk plant and sanitary sewers in the Turning Basin.

Additional funds: are designated for land acquisition and rehabilitation of existing facilities.

Houston sets a new record for tonnage handled

109,246,422 tons of cargo moved across the wharves in 1978. This is a seven per cent increase over 1977's record total of 104,291,267 tons.

In fact, record increases were the rule for 1978 Port figures as shown in preliminary statistics just released by the Port of Houston Authority.

Total foreign commerce handled at the Port in 1978 was 58,543,308 tons, compared to 51 million tons moved in 1977. Houston handles more foreign trade every year than

any other port in the nation outside of New York.

General cargo, which includes all goods not moved in bulk quantities and is the money-making tonnage for any port, also showed a dramatic increase at 8,756,491 tons, a 29 per cent jump over the 6.8 million tons handled in 1977.

The significant 153 per cent increase in cargoes handled at the Port Authority's Barbours Cut Terminal reflected the many new shipping lines making use of this ultra-modern intermodal facility. A total of 864,364 tons were handled at Barbours Cut in 1978, compared to 341,177 tons the previous year.

A record number of vessels, 5,527, called at Houston in 1978, 645 more than had called in 1977. Of the total, 1,061 were American flag vessels while the remainder represented the flags of 57 foreign countries.

The Port welcomed ten new steamship lines that began serving the Port of Houston in 1978. Several other lines are planning to begin service early this year.

Long Beach first in foreign trade among West Coast ports

Latest figures just released by the Corps of Engineers lists the Port of Long Beach in first place among all United States West Coast harbors in total foreign tonnage, with 22,532,914 tons handled during 1977, the latest figure provided by the nation's 30 leading tonnage ports.

With an additional 10,452,510 tons of domestic trade added, Long Beach posted a total of 32,985,424 tons of cargo moving across its wharves during the same 12-month period, again to lead all West Coast ports in combined tonnage figures.

Wildlife protection measures for deepening project agreed

The Los Angeles Board of Harbor Commissioners recently adopted a resolution containing a series of wildlife protection measures worked out between the Port and various agencies so that the Los Angeles Main Channel dredging and landfill project on the Southern end of Terminal Island can proceed.

Fourteen specific conditions of the agreement which protects harbor fish and wildlife were agreed upon after a year of negotiations among the Harbor Dept., the U.S. Army Corps of Engineers, U.S. Fish and Wildlife Service and the California Dept. of Fish and Game.

Concern about the landfill project has been directed toward the least tern (a species of sea bird listed as rare and endangered) which has nested seasonally on Terminal Island over the past several years, though not every year. The resolution commits the port to providing a 15-acre site in the vicinity of Reeves Field on Terminal Island in Los Angeles Harbor for the least tern. It will also allow the department to proceed with the channel deepening and other Reeves Field developments without the objection that the projects are incompatible with the nesting and feeding of the least tern.

Jack Wells, Harbor Dept. General Manager, noted that deepening the Main Channel is essential if Los Angeles Harbor is to continue as a major seaport. Increasingly, larger ships are being used in international commerce and their deeper draft requires that the harbor depth be increased if the port is to remain competitive with other West Coast ports.

Long Beach



FLY IN/ROLL ON CONCEPT AT PORT OF LONG BEACH: Something a little unusual in intermodalism occurred at the California United Terminal in the Port of Long Beach recently when a \$3.5-million 26-passenger Sikorsky S-61 N helicopter landed on Pier B, where its rotors were removed. The 60-foot long aircraft was then rolled aboard the RO/RO ship *Allunga* of Pacific Australia Direct Lines for shipment to Sydney for use by offshore oil drilling rigs.

On April 5, Harbor Dept. representatives will appear before Congress to urge continuing Congressional support for the deepening project. Full Congressional support can only be obtained if certain inter-agency issues concerning the protection of wildlife have been resolved.

Having authorized the Main Channel deepening from its current minus 35-ft. to minus 45-ft. in 1976, Congress allocated \$500,000 to the Corps of Engineers for fiscal year 1978-79 for environmental and engineering work which is necessary before the channel can be deepened.

The Board of Harbor Commissioners agreed to spend \$50,000 of port capital development funds during this fiscal year for engineering and design work in preparation for the deepening project. Preparation and review of necessary environmental documents is expected by September 1979. Assuming final approval of the project, construction should be underway by mid-1980. The total project will span two and one-half to three years and is expected to cost in excess of \$44 million with \$18.6 million to come from federal funds and the balance from the port.

Citizens Advisory Committee established for port planning: Los Angeles

The Los Angeles Board of Harbor Commissioners recently adopted a resolution establishing a 30-member Citizens Advisory Committee which will participate in planning the West Channel/Cabrillo Beach Recreational Complex in the Port of Los Angeles.

Serving in an advisory capacity, the purpose of the committee is to review community needs and desires for the West Channel/Cabrillo Beach area, to participate in the development of a master plan covering all uses of the area and to participate in the actual facility planning with the staff of the Port of Los Angeles and consultants as the Port may elect to employ.

Committee nominees represent a wide variety of interests and were suggested by local, federal, state, county, city, port leaders and by private individuals. The group has extensive involvement in the following interest areas: community groups, business, marina users, homeowners groups, unions and environmental movements. This is the first time the Port has actively sought out a committee of citizens to take part in the project planning process with a Harbor Department project team and an outside consulting firm.

Pete Mandia, the West Channel/Cabrillo Beach Recreational Complex project manager, pointed out that he expects that public input from committee members will be highly influential in determining the ultimate design and recreational uses of the Cabrillo Beach area. He also noted that planning and engineering the complex will take approximately 27 months with completion scheduled for 1982.

Sea-Land 99.8 percent damage free

C. Eugene Spitz, Vice President of Insurance, Claims and Safety for Sea-Land Service, Inc., told that "99.8 per cent of shipments moved by Sea-Land arrive at destination damage free."

"That's an enviable record," said Spitz, "particularly considering the size and scope of our operation. Sea-Land's container shipping network is the largest in the world, serving 124 ports in 45 countries. Cargo is transported in our containers over-the-road, by rail, and ocean. Yet with this extensive transportation system, an average of only 2 out of every 1000 shipments sustain damage resulting from carrier liability."

At a meeting held in New York City, Mr. Spitz also calculated Sea-Land's safety record in terms of revenue savings. "Sea-Land's cargo paid claim ratio," explained Spitz, "is only 0.48 per cent of revenue. This means that for every \$100 that Sea-Land earns, we remit a mere 48 cents in claim payments."

General cargo trade revives significantly in 1978: NY & NJ

The Port of New York-New Jersey's foreign oceanborne general cargo trade rebounded significantly in 1978 from the dock strike-depressed levels of 1977, according to an analysis of the Port's foreign trade issued recently by Alan Sagner, Chairman of The Port Authority of New York and New Jersey. Volume was 15,708,124 tons, up 10% from 1977. Both general cargo exports and general cargo imports

participated in the advance.

The Port's oceanborne foreign trade — bulk and general cargo — was valued at \$36.5 billion in 1978, up 17.2% from 1977. Exports accounted for \$12.0 billion and imports \$24.5 billion. New York is by far the leading U.S. port under the value criterion.

The Port's foreign oceanborne general cargo exports rose 9.1% to 5,305,214 tons in 1978. Severe winter weather and rail congestion at Conrail terminals hurt exports in the first half of the year. The absence of these factors in the second half of the year, combined with recovery from the eight week dock strike in the final quarter of 1977, enabled the Port to register a significant gain for the year.

The Port's foreign oceanborne general cargo imports rose 10.4% to 10,402,910 tons in 1978. The strong performance on the import side reflects the buoyant national economy, record levels of personal income, and the continued strong demand of American consumers for foreign goods.

NY-NJ officials recommend an increased appropriation for the Harbor

Congress recently was asked to appropriate \$3,000,000 for four Federal channel improvement projects in the New York-New Jersey Harbor in Fiscal Year 1980, in lieu of the Federal Budget recommendation of \$2,000,000 limited to only one harbor project. All work would be performed by the United States Army Corps of Engineers.

The requests were made by The Port Authority of New York and New Jersey, and the City of New York. The joint presentation also represented the interests of 26 port, maritime and civic organizations in the bi-state Port.

Planning and Development Director Edward S. Olcott, speaking for the Port Authority, and New York City Commissioner of Ports and Terminals Anthony Gliedman, testified at hearings in Washington before the Subcommittees on Energy and Water Development of the House and Senate Committees on Appropriations.

Specifically, the two New York-New Jersey area officials recommended an increased appropriation of \$2,500,000 for the New York Harbor Collection and Removal of Drift Project (waterfront cleanup), in lieu of the \$2,000,000 contained in the Federal Budget.

"We consider a \$3,000,000 request to be a modest sum for expenditure on four Federal navigation improvements in the New York/New Jersey Port, in view of the leading national and international role it plays in oceanborne trade," the two port officials said. They further pointed out that "this expenditure would constitute only one tenth of one percent of the nation's \$3 billion Civil Works Program budget."

Harbor Festival 1979: NY & NJ

Plans for a fun-filled five-day celebration of the U.S. Independence — Harbor Festival 1979 — with an exciting program of water, land and air spectacles from Saturday, June 30 through Wednesday, July 4 has been outlined by Chairman Alan Sagner of The Port Authority of New York and New Jersey; E. Virgil Conway, Chairman of the Harbor Festival Advisory Committee; and Frank O. Braynard, Harbor Festival General Manager. They will be joined by Port Authority Executive Director Peter C. Goldmark, Jr., and representatives of the U.S. Army, Coast Guard, U.S.

Navy and sponsors of individual Harbor Festival events.

The Port Authority has accepted responsibility for over-all sponsorship of Harbor Festival 1979 as part of its continuing efforts to promote and protect the commerce of the Port, and to call attention to the many attractions of the port region for tourism and business development. The events scheduled on land, in the harbor waters and in the air will be a source of enjoyment for millions of port area residents and visitors alike.

New Foreign-Trade Zone to be established: NY & NJ

The Foreign-Trade Zones Board of the United States Department of Commerce has approved the establishment of Foreign-Trade Zone No. 49 in Port Newark and at the Elizabeth-Port Authority Marine Terminal, it was announced recently by Port Authority Chairman Alan Sagner.

The first tenants of the Zone are expected to be in operation by the fall of 1979, Mr. Sagner said. He predicted that the new zone would generate about 100 jobs in handling and processing 34,000 tons of cargo a year valued at about \$55 million.

"We anticipate that the new tonnage generated by the zone will require expansion of the initial 208,000-square-foot zone to one million square feet. This could generate an estimated 163,000 tons of cargo valued at \$266 million and employment for approximately 500 people. All of this represents a significant boost for our Port's future prosperity," he added.

65th National Foreign Trade Conference held in Manhattan

"Realistic Policies for Expanding World Trade and Investment" was the theme of the 65th National Foreign Trade Conference recently held at the Port of New York and New Jersey. Vital subjects discussed during the two-day meeting ranged from the dollar problem and energy crisis to protectionism and the current high rate of inflation.

The Role of Exports in United States Foreign Policy, was the subject of the address given by Deputy Secretary of State Warren M. Christopher, who noted that as Cold War tensions have lessened, restrictions on U.S. non-military exports have been relaxed. He stressed that while national security requires that certain products be placed under tight export controls, these categories are extremely limited when compared to overall U.S. exports of \$120 billion.

Another representative of government, C. Fred Bergsten, Assistant Secretary of the Treasury for International Affairs, told those gathered that a key issue dominating the outlook for the world trading system was the evolution of the U.S. trade balance. He stated his belief that the deficit in the U.S. trade account will continue to decline in 1979 in both value and volume terms. Mr. Bergsten noted, "Despite all the uncertainties, it seems clear that basic improvement in the U.S. trade balance can be expected to derive from a number of changed conditions. These include a reversal of relative growth rates, back to the more traditional situation where real growth abroad exceeds that in the United States; regained international competitiveness of U.S. exports; energy conservation and legislation; and a sharp increase in U.S. gold sales."

Dr. Robert J. Richardson, vice president of Finance for E. I. du Pont de Nemours and Company, was one of the

many speakers from private industry. Noting that the DISC (Domestic International Sales Corporation) provisions of the tax law give U.S. manufacturers an incentive to increase their exports, he observed that the DISC legislation also has serious drawbacks. He criticized the complexity of the provisions which make it difficult to determine how much benefit is actually generated by export of a specific product, and he noted that DISC isn't considered a permanent part of the U.S. tax structure, a situation which impedes long-term business commitments in reliance on DISC benefits such as investment to build plants specifically dedicated to serving export markets.

Calling vessels statistics at U.S. major ports

THE MARITIME ASSOCIATION OF THE PORT OF NEW YORK has compiled the following statistics relating to the number of vessels calling at the eleven major ports of the Continental United States during the calendar year 1978.

The total number of vessels arriving at the eleven major ports of the Continental U.S. during the calendar year 1978 was 46,692 an increase of 2,614 vessels over 1977.

7,620 vessels called at the Port of New York, an increase of 220 vessels as recorded in 1977. The New York figure is exclusive of Naval, M.S.C., Fishing Vessels and Ocean Going Barges.

The port of Los Angeles-Long Beach, with 6,765 vessel calls, was second for the year.

Houston, with 5,529 vessel calls, was third for the year.

In the following table, details are given of the number of vessels arriving at the eleven leading U.S. ports during the calendar year 1978, compared with 1977.

POSTS ANALYZED	1978	% OF TOTAL	1977	% OF TOTAL
New York	7,620	16.3%	7,400	16.8%
Los Angeles-Long Beach .	6,765	14.5%	5,546	12.6%
Houston	5,529	11.9%	4,882	11.1%
New Orleans	4,572	9.8%	4,631	10.5%
Baltimore	4,295	9.2%	3,857	8.8%
Philadelphia	4,345	9.3%	4,339	9.8%
San Francisco	3,974	8.5%	3,887	8.8%
Hampton Roads	3,675	7.9%	3,815	8.6%
Seattle	2,557	5.5%	2,581	5.9%
Columbia River	2,181	4.7%	1,950	4.4%
Boston	1,176	2.5%	1,190	2.7%
TOTAL	46,692			

Embarcadero Promenade is ready for sitting or strolling

"Port Talk", The Port of San Diego: — What was once a grim, utilitarian area on Harbor Drive has been transformed into a beautiful tree lined promenade.

Once choked with parked cars and auto traffic, that section of Harbor Drive extending from Broadway around to the intersection of Market and Pacific Highway has been changed into a people oriented, parklike setting.

The area is now inviting for a variety of active or passive recreation. Broad walkways and a bike path satisfy those who enjoy exercise, while contoured benches and picnic tables along the water are available for leisurely watching the activity along the waterfront.

Observing ocean commerce — the comings and goings of a wide variety of vessels — is a popular pastime for many. The improvements along Harbor Drive have made that simple form of recreation even more pleasant.

The Harbor Drive Redevelopment Project — the formal name given to the improvement work — is located in one of the busier areas of San Diego's Embarcadero (waterfront). Visitors can watch ships steaming in and out, loading or discharging cargoes.

Part of the promenade overlooks the new G Street Pier with its colorful fleet of coastwise fishing boats and large ocean going tuna seiners.

The promenade was completed by the Port District last month at a cost of \$1.4 million and comprises one of the first portions of the Embarcadero Development Plan (EDP). When completed, the EDP will have transformed the most attractive portion of San Diego's waterfront into an area which enhances its potential for water oriented recreation.

Traffic patterns have been changed and parking has been eliminated to make room for grassy areas and other attractive landscaping features.

In years to come, there could be as much as three and one-half miles of extremely attractive promenade area constructed fringing one of the most beautiful and interesting waterfronts in the world.

Port of Seattle news

• Port examined on TV

Port issues are being discussed on a monthly cable television program called "Port of Seattle Community Roundtable."

In the program, community action groups ask questions of Port officials. The first show was broadcast in December on two cable, public-access channels. Members of the Seattle League of Women Voters questioned Port Executive Director Richard D. Ford and Port Commissioner Merle D. Adlum.

• Customs collections increase in FY 1978

U.S. Customs Service collections for Fiscal Year 1978 increased 24 per cent over the same period last year.

The totals were \$7,525,009,495, compared to \$6,058,300,918, an increase of \$1,466,708,577.

On the average, U.S. Customs returned more than \$18.60 to the U.S. Treasury for every budget dollar it expended in carrying out its responsibilities at the nation's 300 port of entry.

Customs collections consist of duty on imported goods (tourist purchases as well as commercial shipments), excise and other federal taxes, forfeited merchandise, fines and recoveries of government property.

• Customs revisions benefit importers

Significant benefits for commercial importers are incorporated into the recently-passed Customs Procedural Reform and Simplification Act of 1978 (HR 8149). Highlights are:

Requires Customs to liquidate entries within a year of date of entry. This will reduce the importer's risk of having to pay additional duties later and will reduce bonding costs for importers.

Provides procedural safeguards in penalty cases to insure that alleged violators get full review of their cases.

Helps Customs implement its Automated Merchandise Processing System (AMPS), bringing the benefits of automation to all Customs/importing community transactions.

Revises Section 592 of the Tariff Act of 1930 dealing with fraud and negligence and reduces monetary penalties.

Provides the courts more leeway in determining appropriate penalties than had been possible before.

Gives Customs more flexibility in assessing penalties to more accurately reflect the seriousness of infractions.

Establishes the Immediate Delivery (ID) procedure as Customs' formal entry procedure.

National Ports' Institute news

"Carta de la C. A. Venezolana de Navegación" —

• Port congestion overcome

The National Ports' Institute Venezuela, reports through its Traffic Manager, Capt. Jose Jesus Rodriguez, that the problem of congestion in national ports has been overcome and that at this time there are no queues of vessels waiting to load or discharge. One year ago some 50 vessels were awaiting service in the diverse ports.

• Port tariffs

The National Ports' Institute in its objective of achieving self-financing has informed the elimination of the 20% reduction in ports' tariffs decided in 1976, in an attempt to improve its in-come and reduce operating losses which by 1978 are estimated in over Bs. 170 million. This announcement has produced a strong impact upon the country's economic media, since it will have repercussions upon the operating costs, sensibly increasing them and will, therefore, will have an influence upon price increases.

Container traffic 1978: Antwerp

From data of the General Management of the Port it appears that 1978 was a new record year for container handling in the port of Antwerp.

In all 359,317 containers were handled as against 304,296 in 1977 (+18.1%), empty containers not being taken into account. 16,455 more incoming containers and 38,566 more outgoing containers raised the 1978 total to 153,533 incoming and 205,784 outgoing containers respectively. When converted into TEU's, in all 477,304 units were handled as against 414,182 in 1977.

The volume of goods transported by container rose from 4,878,466 tons in 1977 to 5,737,542 tons in 1978, representing a 17.6% increase.

International training course on port management and harbour organization in Antwerp

"Hinterland", Antwerp: — For the first time an international post-university course on «port management and harbour organization» was held in Antwerp on behalf of managerial staff-members of port authorities in developing countries.

This first course which was organized for French speaking participants will be followed by a second one for English speaking participants, starting early April 1979, and will last for 10 weeks. These courses start a regular programme which will be organized every year in French (second semester of the year) and in English (first semester).

A.P.E.C. (Antwerp Port Engineering & Consulting) takes care of the organization and elaboration of the courses which are given in the premises of the Antwerp State University Centre (R.U.C.A.) and more in particular in the rooms of the College for developing countries. The programme's aim is to convey to the developing countries the vast know-how available in the port of Antwerp in the field of transports in general and transport techniques in particular, of economics, of port management and organizations, etc.

Besides the theoretical courses which are held in the morning commented visits and possible demonstrations in the Antwerp port area are planned in the afternoon.

The courses are given by high functionaries of the General Management of the Port of Antwerp, of the Port of Antwerp Promotion Association and of other local authorities such as the Customs, as well as by University professors and professors of the Superior Nautical College.

Candidates will have to fulfil a number of conditions for applying and participating. More information can be obtained from «Antwerp Port Engineering and Consulting», Brouwersvliet 30, B-2000 Antwerp.

Programme of the international training course on port management and harbour organization-April 1979

1. Transports and economic development

- economic activity and the needs of transport
- transportation techniques
- transport planning and management

2. Port economy

- the various port functions
- port policy

3. Technique of maritime transport

methodology of selecting cargo vessels, the ship's documents and certificates, methods of loading, average marine insurance, etc.

4. Port economy

- general plan of port development
- planning inside the port entity
- distribution, equipment and operation of specific terminals

5. Port organization

- different port management systems
- organization (authorities, employers, people employed)
- consultation structures
- port finance: tariffication and investment
- customs systems and free ports
- forwarding (documents and intermediaries)

Clydeport's former chairman retires

Mr. Alister G. McCrae has retired this month from the board of the Clyde Port Authority which he chaired for 11 years from 1966–77.

In his place, the Minister for Transport has appointed Mr. William Cuthbert, who is Managing Director of the Clyde Shipping Company Ltd.

Commenting on Mr. McCrae's retiral, Clydeport's present Chairman Mr. Robin G. Duthie said: "His contribution has been a tremendous one and the present standing of Clydeport is due in no small measure to his efforts."



IT LIGHTS: Still in perfect working order after 59 years: Checking an acetylene gas flashing light sent by the Port of Liverpool Mersey Docks and Harbour Company to AGA Navigation Aids Ltd., Beacon Works, Brentford, for servicing, after being submerged in the sea on a capsized light buoy. It is still in perfect working order. The company's Sales Department traced its history and found that this is the equipment's first factory service since it was supplied in 1920, some 600 million light flashes ago.

Mr. McCrae has been a prominent figure in national and local shipping circles for many years.

Port of Liverpool news

• Move to increase dockside specialists

Port of Liverpool dockers are being urged to earn themselves a double bonus by volunteering for specialist training. Mersey Docks and Harbour Company Managing Director Mr. James Fitzpatrick, says that by boosting their own pay packets they can help keep their mates fully employed.

Mr. Fitzpatrick has appealed for more of the registered dock workers to join the steady stream of men now being trained to accept the greater responsibility — and extra cash — that comes with a key role in running the port.

The move follows the exceptional demand for specialists — particularly checkers and plant drivers — created by the aftermath of the lorry drivers' dispute.

"There have been odd days when we have been faced with a shortage of gangs — and at the same time, we have had to send men home," said Mr. Fitzpatrick. "One of the

(Continued on next page bottom)

The Government responds to the Port of London

"Port of London"

The Government has responded quickly to the PLA's Trade and Manpower Target Plan for 1979, which was submitted by PLA to the Secretary of State, Mr. William Rodgers, on 24 October, 1978.

In reply to a question in the House of Commons on 21 November, Mr. Rodgers said that the Government had agreed that the PLA should proceed as rapidly as possible with securing the agreed target figure of 1,489 manpower reductions referred to in the Plan, and hoped that the PLA would be able to identify and implement further reductions

main reasons for this situation has been the absence of just a handful of specialists — men without whom the rest of a gang can't work".

At present an average of ten men a week are acquiring new skills under the Dock Company's training programme. The courses vary in length from three days for a checker to three weeks for a straddle carrier driver.

"It stands to sense that the more versatile our workforce, the more able is the Port to deal with any exceptional circumstances which might arise in the future," said Mr. Fitzpatrick. "And of course the man with more than one skill collects the differentials in his pay.

"On top of that he could prove to be the difference between his mates earning a full wage packet or taking home their fall-back pay".

The Managing Director said the Dock Company had looked closely at its present and future labour requirements. "And we are more than confident that we have got our sums right that our planning and training programme will produce a sound future for the Port".

• Lights to Liverpool

The Port of Liverpool will never look quite the same again for mariners arriving in the River Mersey by night.

The myriad lights on land and buoys guiding them to safe waters are being changed to conform to a new international system.

The Port Authority, the Mersey Docks and Harbour Company is faced with the task of altering no less than 48 buoys and 70 shore lights.

When the work is completed in July, buoyage at Britain's second major port will be in line with the new International Association of Lighthouse Authorities' Maritime System "A".

The change-over in the Mersey, costing the Port Authority £32,000, will involve repainting starboard buoys green and fitting them with a flashing green light. They were previously black with a flashing white light. Portside buoys will remain the same — red with a flashing red light.

Previous use of green lights was restricted to buoys marking wrecks.

All the shore lights on the East side of the river will be red — port side for incoming ships — and green on the west side.

as soon as possible.

He also informed Parliament that the Government had agreed in principle to make grants available to cover the net cost of voluntary severance of registered dock workers in the Port, as well as nonregistered personnel employed by the PLA from 5 May 1978.

The Plan was prepared as a basis for Government aid following the statement on 31 July that the Government endorsed the PLA's recommended strategy and were prepared to make available up to £35 m towards severance costs, providing the Royal Docks remained open.

Its preparation involved long and detailed discussions between PLA and trades union representatives forming a Joint Committee representing the whole PLA workforce and it is seen by the Committee as the basis on which the targets that need to be achieved should be set to begin the process of returning the PLA to viability.

The Government's agreement to the specific target figure of 1,489 reductions — a figure which, as Mr. Rodgers added the Union side of the Joint Committee are confident will be attained — is a critical factor towards further progress. The target figure of 1,489 takes into account the view of the unions that sufficient manpower should be retained to handle any traffic that might be attracted because of improved service, productivity and working practices and other cost-saving measures being considered by the Joint Committee.

The Secretary of State's endorsement of the Plan means that the way is now open for discussions to take place to consider the practical arrangements necessary to put the reductions into effect (approximately half the 750 non-registered personnel covered by the Plan have already taken severance) as a first step on the path towards the long-lasting financial stability of the PLA.

Mr. Rodgers, in a confirmatory letter to PLA, acknowledged the constructive part played by the unions in the preparation of the Plan, but emphasised its short-term nature. He said: "The Government attaches great importance to the review to be carried out next year in the light of overall performance between now and then. It will be necessary for the PLA to keep closely in touch with the Department of Employment and my Department about the terms of the severance payments proposed."

The starting date of 5 May was suggested by the Joint Committee because that was the date on which the PLA's financial problems were announced, and it has now been accepted by the Government. Mr. Rodgers also said that the Government did not expect proposed severance payments to the registered workforce to depart significantly from the terms which apply under the national voluntary severance scheme, and warned: "The continuance of existing policies might be put at risk if there were any serious slippage, and the position might in any case need to be reviewed before mid 1979 if the PLA's trading position made this necessary."

The Government response to the PLA Trade and Manpower Target Plan concentrates on endorsement of the

target manpower reductions and payment of the grants because of the urgency attached to putting the reductions into effect. Other matters which the Joint Committee raised, related to 'non-commercial costs', are to receive further consideration in the light of further information being provided.

London Port Employers have also been quick to respond to the need for urgency in putting the reductions into effect. On the 28 November it was announced that improvements in the terms of voluntary severance scheme for registered dock workers had been agreed by the National Association of Port Employers after discussions with the Department of Employment.

The improvements take the form of a London differential payment which can add up to £1,500 to the present national maximum payment of £7,000 for men with 20 years' continuous service in the industry.

The improved terms, designed to help overcome London's problem of surplus manpower, are presently available to all dockers aged 60 years or over, all registered tally clerks who are aged 60 years or over or are subject to certain medical restrictions, and to all lightermen.

The improved offer is effective from 24 November.

PLA Chairman, Sir John Cuckney, has welcomed the Government's support of the short-term solution to the PLA's financial and manpower problems. He said: "I am delighted that the Minister wants us to press ahead with a more detailed costed plan. I believe the target reductions we have proposed can be achieved by the end of June 1979, by which time I expect to have our new five year plan formulated. It will incorporate a review of future medium and long-term manpower needs as part of a strategic long term view."

Re-designed with records in mind

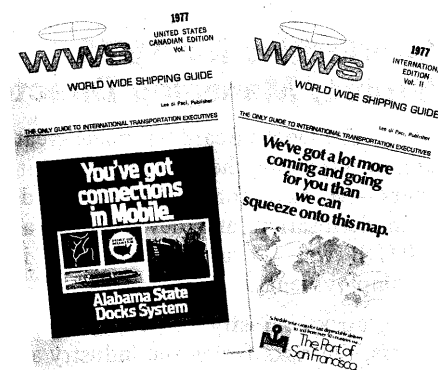
"Port of London": — The redesign and redevelopment of the PLA's multi-user forest product terminal at No. 34 Berth, Tilbury Docks, have cost a little in excess of £½m, but are already proving their worth as an investment by their contribution to the improved performance in the discharge and turn-round times of the bulk carriers now using the berth.

The engineering work, which has taken a year to complete, was carried out after careful planning, with the co-operation of the shipping companies concerned and minimum interruption to vessels discharging at the berth.

The planning of the progress of the work was a prerequisite to ensuring, as far as possible, that there was no disturbance to the regular users of the berth because the 'front halves' of Nos 34A and 34B Sheds parallel to the quayside had to be demolished and the area re-paved. This operation effectively widened the quay apron by 60 ft to 104 ft, and now provides ample unobstructed scope for faster and more efficient transfer of cargo away from the ship's side to storage.

The ever-increasing demand for undercover storage was recognised and provided for by the construction of a 62,000 sq ft transit shed on a site at the south and rear of the berth. This accommodation more than doubles the amount of space lost by the quay widening.

The first vessel to berth alongside the completed quay produced a record discharge performance for the ship's owners, Reardon Smith Line. The *Prince Rupert City*



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discharged 7,200 tonnes of North American timber, baled pulp and plywood, using its own Hagglund cranes, in two days in early November. This was a full day ahead of schedule and at an overall average of 80.28 tonnes per net gang hour.

BTDB's priorities for 1979: Keith Stuart, Managing Director

"Docks": — The Docks Board has made great progress in recent years, in improving the service and facilities we offer our customers — we have, for example, invested some £150 million in modernisation and development at our ports since the BTDB was set up in 1963, and in providing stability of employment.

Dangers facing docks industry

Nevertheless, the risks facing the industry at the present time are very considerable. The problems of the Port of London have been widely publicised in recent months, but it should not be imagined that Docks Board ports are free from the same kind of dangers which have brought London to its present situation.

The fact is that the overall level of trade available to UK ports is static and in some key areas is actually declining. This in turn means that competition for the available trade is intensifying and that only the fittest will survive.

Investing in new equipment

I think everyone who works for the Docks Board has a right to know how management is facing up to the problems, just as the Board can expect every employee to make a real contribution. What then are our priorities for 1979?

First — to match and beat our competitors on service and reliability.

Second — to keep a strict control on costs so that our prices are competitive.

Third — to improve the quality of our service through investment in new and better equipment. Here we plan to invest some £13 million on new developments during the coming year.

Fourth — to step up our marketing efforts both at home and overseas.

In order to achieve our objectives of winning more trade and investing in new projects, both vital to maintaining stable employment, we must, of course, achieve reasonable levels of profit at each port and over the whole business. The alternative is interference by third parties, less investment and fewer jobs.

Increased participation

Of course, none of our objectives can be achieved unless there are good human and industrial relations within the organisation. The Docks Board is doing its best to encourage good industrial relations.

We are, for example, aiming to expand the programme of Training and Education, and we are now jointly working with the Trade Unions on ways of improving and increasing participation in the running of the business.

Working together

At the same time, if the service at the ports is disrupted through industrial strife, all our efforts in other directions will come to nothing. We cannot claim that 1978 was a good year in this respect. At Southampton alone, industrial disruption cost a loss of revenue of almost £4 million and

was a direct benefit to competing ports. With our ports facing so many potential dangers from outside, so-called 'industrial action' can achieve nothing and often amounts only to industrial self-injury.

Our prospects in 1979 are, as I have explained, uncertain. Nevertheless, if we work together, the Docks Board ports should more than hold their own in the coming year. In this way, we can best set ourselves on a stronger base for a stable and prosperous future.

BTDB news: "Docks"

• Major development at Lowestoft

The Docks Board are going ahead with a major development at Lowestoft, more than doubling the size of ship which will be able to use the port's commercial Inner Harbour.

The scheme, which involves deepening the entrance channel by 1.5 metres, is expected to take a year to complete, and to cost in the region of £½ million. When the work is finished the channel will have a width of 22.5 metres and a depth of 6.2 metres below ordnance datum, allowing vessels of up to 6,000 tonnes to be handled at the port.

Announcing the scheme, the Board's managing director, Keith Stuart said that there was a growing demand for facilities at Lowestoft for the larger vessels increasingly being used on the near and short-sea routes.

"The BTDB have the resources available to invest in new developments where, as in this case, there is a clear requirement for improved facilities" Mr. Stuart added.

Lowestoft docks manager, Robin Nicholls, welcoming the Board's decision, said "This is really excellent news for Lowestoft. The project will allow the port to cater for more of the shipping lines wanting to take advantage of our location as Britain's most easterly port".

• Garston joins big league

Our Merseyside port of Garston has received a boost for its thriving 'box' traffic with a major expansion of its container facilities.

Garston's move up the port container league has been made possible by the development of a second container terminal, carried out over the past year by the BTDB in conjunction with Irish Sea Ferries, on the site of the old coal shipping berths in North Dock.

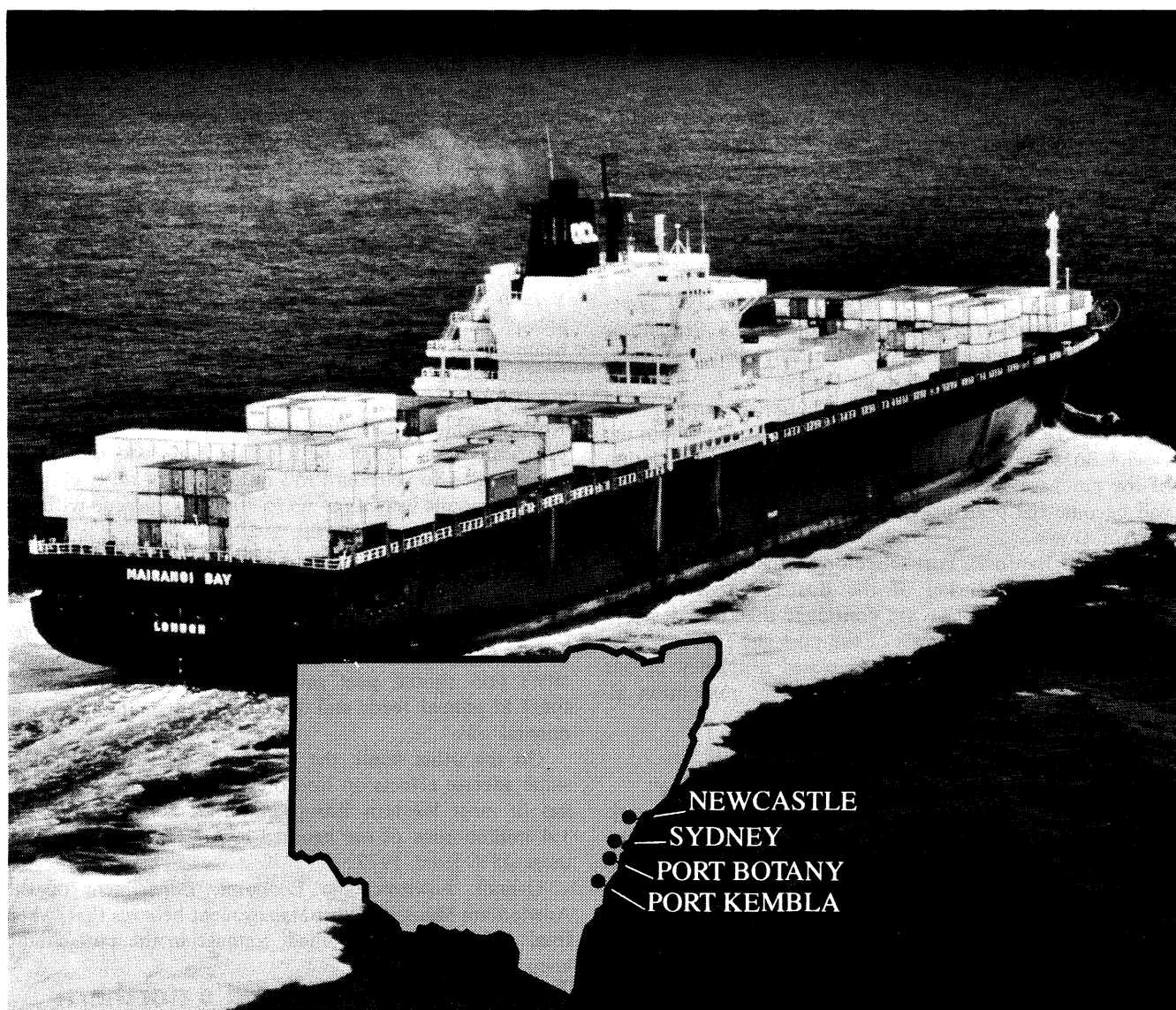
Garston's container traffic only began to develop on a significant scale in the late 'sixties when the then Cawoods Containers considered the port to be the ideal entry and exit point for their Irish Sea cellular service. The first container service to Ireland from the port had started in the mid-sixties, operated by Irish Sea Ferries from a berth in the North Dock, using a Scotch derrick crane.

During 1978 approximately 35,000 containers passed through the port, and with the new North Dock terminal coming into operation the 1979 figure should show a substantial increase.

Today, the service to Ireland is operated by Irish Sea Ferries who acquired Cawood Containers' Irish service in 1976, and now run a daily service to Belfast, with a service every other day to Warrenpoint. In addition, Unimar Lines' container service to Portugal operates every ten days.

Garston and its work force have a good record for fast

(Continued on page 46)



IF YOU'VE GOT THE TONNAGE, THE PORTS OF NEW SOUTH WALES HAVE THE CAPACITY TO HANDLE IT.

And that capacity is increasing all the time.

To June last year, total trade for all ports was 72 million tonnes – an increase of 3.7 million.

Port Jackson (Sydney Harbour) recorded a cargo throughput of 23 009 291 tonnes.

Oil imports through Port Jackson and Port Botany increased by 9.8 per cent, and new bulk liquid facilities are underway at Port Botany.

Port Botany alone increased its overall trade to

10 515 519 tonnes, and new construction there will almost double Sydney's container facilities.

Newcastle handled an all time record tonnage of 18 958 316 tonnes last year – a figure that will grow as current dredging operations continue to deepen the harbour.

Another record was created at Port Kembla, with an increase of 994 309 tonnes,

lifting total trade to 17 615 796

tonnes. And even the outports of the State: Twofold Bay, Trial Bay, Clarence River and Richmond River accounted for a total trade of 1865 597 tonnes.

Last year was a record year for the ports of New South Wales. Current port development projects will ensure that our ports maintain the capacity to meet growing future shipping needs.

For details, contact The Maritime Services Board of New South Wales Circular Quay, Sydney, 2000.



THE MARITIME SERVICES BOARD OF N.S.W.

ship turnaround times.

Although classed as one of the BTDB's 'small ports', its upward traffic trends in recent years have proved it worthy of the description some have given it of 'David opposing Goliath' — Goliath being the Port of Liverpool, just down-river.

Docks Board to acquire Cargo Handling Company at Goole

The British Transport Docks Board has reached agreement with the shareholders of West Riding Stevedores Limited for the purchase of the Company, which provides cargo handling services at Goole Docks.

West Riding Stevedores Limited currently employ 146 Registered Dock Workers and 10 other staff, for whom the Docks Board will assume responsibility upon completion of the purchase, and with this acquisition the Docks Board will become the principal employers of dock labour in the port of Goole.

Mr. Ken Bantock, Port Director of the Humber ports, welcomed the extension of the Board's cargo handling activities at Goole. "We are confident that this development is in the best interests of the port and its users", he said, "and will make possible increased efficiency of our services which will enhance the excellent reputation already enjoyed by Goole."

Bremen International

• "Today ports are centres of comprehensive service"

"The modern port is no longer a place for simple handling operations, but has become a centre of extraordinarily complicated and complex services", wrote Bremen's Senator for Ports, Shipping and Traffic, Oswald Brinkmann, within the framework of Bremen's special report in "Lloyd's List" of London. Every vestige of romanticism has gone by the board. "Economy and productivity, in short: objectivity and cool business thinking have taken over". The industrialisation of maritime trading, which began in Europe in 1966 with containerisation in Bremen/Bremerhaven and Rotterdam, has by no means made the docker superfluous. 21,000 work, according to Brinkmann's information, in and with the ports of Bremen and Bremerhaven — "and in many fields at a far higher standard", he wrote, with reference to the exemplary Bremen portworker specialistic school; and, indirect — so Brinkmann further — another 100,000 jobs depend upon this port-group.

• Six German ships equipped with satellite communications

Important steps are currently being taken in Bremen towards continuous international satellite ship radio-telecommunication. The mvs. "RHEINFELS" (40,000 GRT) and "TRANSVAAL", (19,500 GRT) are the first German freight and reefer-container ships within the framework of a test program, to be fitted with plant for communications via satellite — stated Messrs. ERNO Raumfahrt GmbH. Four more German shipping company vessels are shortly to be included. Ships so fitted with satellite radio equipment are connected to the international telephone network, which means that: the equipped vessel is contactable from every shoreside telephone or telex machine by means of just dialling a specific number — and vice-versa, and also from ship to ship. This is made possible by three geo-

stationary maritime satellites — one each over the Atlantic, Pacific and Indian oceans. Still in this present year the international operating company INMARSAT is to be formed in London for conducting the continual functioning of satellite ship radio-telecommunications.

• World's largest Ro-Ro ship built at Bremen's shipyard

The m.v. "Lillooet", currently the world's biggest ro-ro freighter, was delivered by a Bremen major shipyard, — Vulkan — at the end of March to the shipping company, Messrs. Bremer RoRo-Seetransport. Length 229.93/210m; beam 32.26m; moulded depth 20.2m; 34,200 tdw, accommodating 59.775cbm/2,110,945sbf general-cargo; 1,745 TEU containers, 160 autos and 462 cbm cargo-tanks. RoRo-handling is effected over the stern-ramp, extending practically the whole width of the ship, and the jumbo-ramp angled to starboard (53 m long: 12m wide) designed to take mobile weights of up to 400/500 tons and with two spoors, for two-way traffic.

Animal feeds up 71% at Amsterdam

Amsterdam News Letter: — A preliminary forecast for the Port of Amsterdam during 1978, based on actual figures for the first 10 months of the year, indicates that the capital city's port should post gains of 71.4% (to 1.65 million tons) in animal feeds and 13.7% (to 5.3 million tons) in mineral oils.

On the other hand, the worldwide steel slump has had some adverse effects on iron ore cargo in Amsterdam, as it has in most Western European ports; consequently, the 1.4 million tons of ore handled in Amsterdam is down almost 45% from 1977.

Overall, however, the Economic Department of the Amsterdam Municipal Port Management believes that, when final 1978 figures are tallied, tonnage in the port should keep pace with 1977.

Townsville-Queensland's northern container port

The policy of continuing development in the areas of more efficient cargo handling and provision for the needs of ships of more varied type and ever-increasing size has been the objective of the Townsville Harbour Board.

Regular Schedules

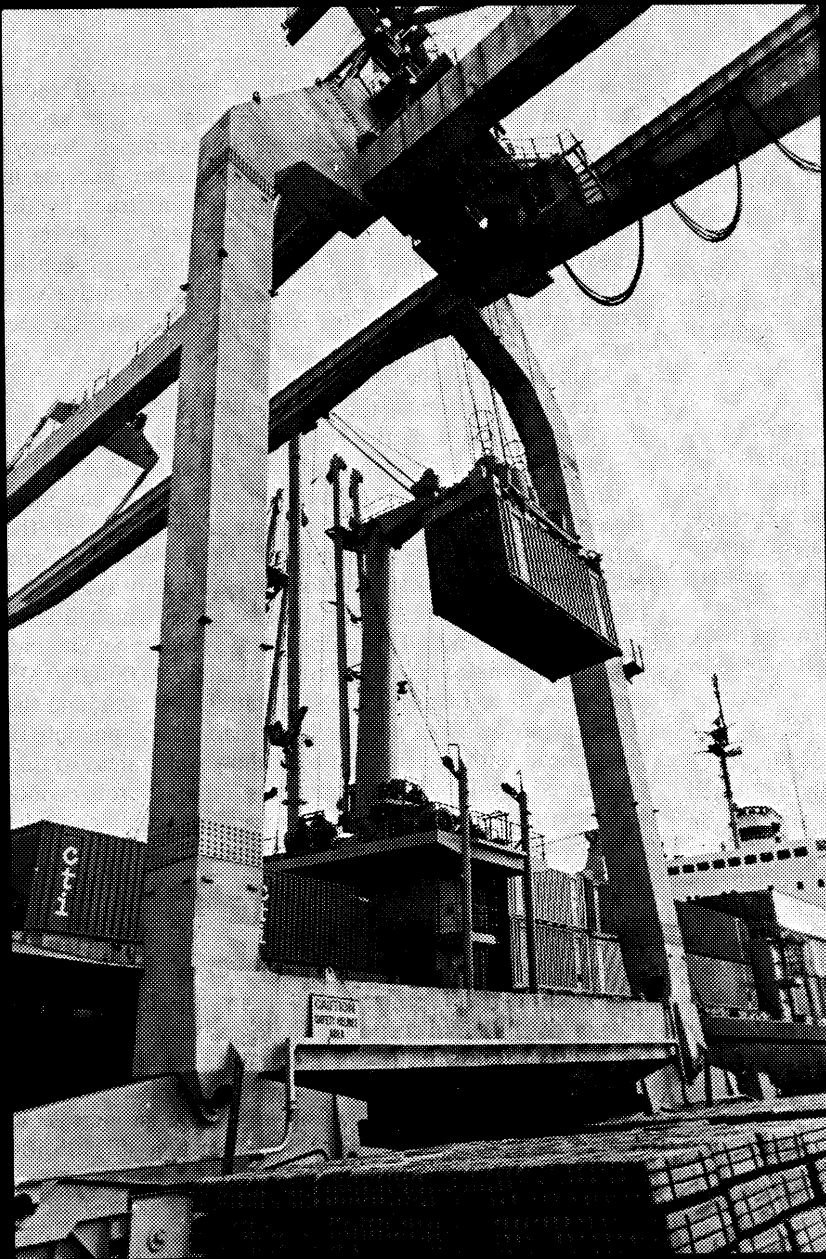
The Port of Townsville is still the only Port North of Brisbane equipped with modern container handling facilities, and the increasing rate that shipowners are providing regular schedules into the Port indicates recognition of the Port's record for efficient cargo handling. Primary products such as wool and beef are now shipped through the Port in increasing tonnages with frozen beef in refrigerated containers being regularly lifted for the Philippines, Japan and West Coast U.S.A. ports as well as occasional shipments to the Middle East.

Stern Ramp

During the year the reconstruction of No. 2 berth has been completed and in addition \$420,000 has been expended on the installation of a stern-loading ramp at the No. 3 Container berth. This work completes Stage ONE of the \$11,500,000 dredging and reconstruction programme which will enable vessels of up to 65,000 tons d.w. to manoeuvre the Port at all tides.

(Continued on page 48)

It's the tempo of **TOWNSVILLE**



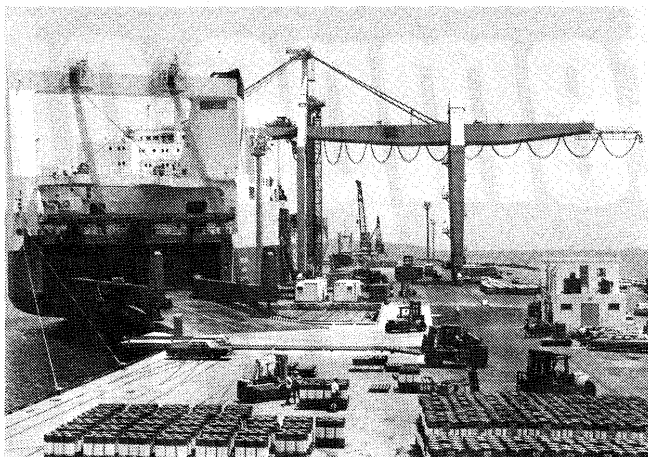
Whilst the container crane loads the last of the boxes destined for Manila, Japan and the U.S. West Coast, already the start of 20,000 tonnes of refined lead and copper for Europe and the U.K. is being stacked for the container crane to load on the next vessel, due tomorrow. That's the TEMPO at TOWNSVILLE and whilst this is going on there's plenty of activity at the oil berth, and Ro/Ro and the bulk mineral and sugar berths. At the same time rail and road transports are feeding to and from the Port playing their part in Queensland's vital "land bridge" to the world.

Ships don't linger long at Townsville — less than 1.7 days per vessel is the average.



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ScanCarrier TOURCOING makes a quick turn-around at Townsville using stern ramp and container crane to load nickel, copper, general cargo and containerised frozen beef for European markets.

Quick Turn-around

The stern loading Ro/Ro ramp has further enhanced the already impressive record of the Port with quick turn-around of cargo ships. The average stay in Port for the year 1978 is as low as 1.7 days per vessel, and with 494 cargo vessels using the Port during 1978, this record is unrivalled in Australia.

Whilst the present container crane is servicing only No. 3 berth, the reconstruction of the adjacent No. 2 will ultimately give container crane traverse for the full length of 512 metres.

More Containers

Stage TWO of the Townsville Harbour development plan embraces additional reclamation of an additional 22.3 hectares behind the Eastern breakwater. This area will be utilised to service the No. 3 Container berth and to provide handling and additional storage area for the rapidly developing container trade. The construction of the necessary rock retaining walls are already in progress.

Containers handled through the Port carry frozen meat, nickel and general cargo. 25% more containers are now handled compared with last year.

Forward Planning

Chairman of the Townsville Harbour Board, Mr. A. G. (Bert) Field, leads a team who are dynamically dedicated to making the Port the most versatile and efficient in Australia.

Intensely aware of the opportunities which are occurring in North Queensland both in primary and secondary industry, and particularly the nearness of Townsville to Eastern and Asian markets, Mr. Field makes it clear that the Port of Townsville will not be lacking in meeting the demand for future containerisation and efficient cargo handling.

Seminar held at Port of Nagoya

In order to learn from the management of the Nagoya Port, which has shown a remarkable development compared with other regular liner ports of the world, sixteen port people from 14 developing countries came to Nagoya to attend a port seminar on the past February 22-23rd.



Executive Vice President, Mr. Kohmura, giving his lecture at "Harbor Hall".

The study was arranged by the Government of Japan (with the Ministry of Transport as the main sponsor) as part of its aid (Colombo Plan) to developing countries. Nagoya was chosen as the site for this study session, because in recent years Japan and the world have been struck by the fast development and superb management of Port of Nagoya. Also the number of groups coming to inspect the harbor has increased. Mr. Fumio Kohmura, Executive Vice President of the Nagoya Port Authority, delivered the lectures.

Main topics at the seminar were:

1. Present operation of the Nagoya Port Authority
2. Special features of the Nagoya Port Authority as compared with management bodies in Europe and America.

In his lectures Mr. Kohmura pointed out as the main reason for the port's speedy postwar development the formation, under the auspices of Aichi Prefecture and Nagoya City of the first Japanese Port Authority system for the management of the port, according to which littoral waters of three cities (including Nagoya) one town and one village, covering a vast area of approximately 80,000,000 M² were able to be managed as a single integrated unit, and the fact that, as with the port of Rotterdam, it was possible to press ahead with reclamation of shallow water areas so that a balanced layout of basic industries, immune from economic fluctuations, and related port facilities, could easily be established.

100 million-ton-mark topped consecutively: Nagoya

Fresh 1978 statistics for Nagoya Port show that, in last year's world-wide economic slump and the low-key turn-over in the national economy, there was very little increase in the number of ships of call and in cargo handling volume. Export-import cargo handling was slightly less than last year but the decrease was made up for by an increase in Japan's inter-port cargo, with the total reaching 101,306,104 tons, the highest yet, and an increase of 0.5% over the previous year. During 1977, the 70th year since Port of Nagoya was thrown open to the world, the volume of cargo handled passed a record 100,000,000 tons.

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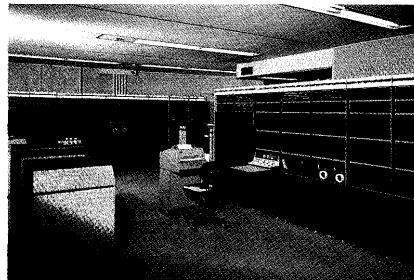
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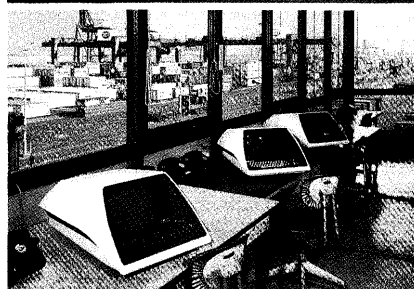
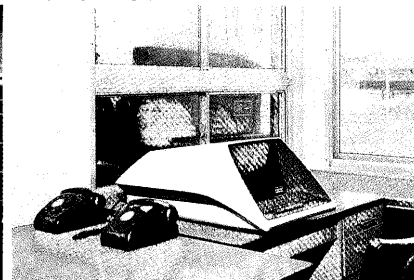
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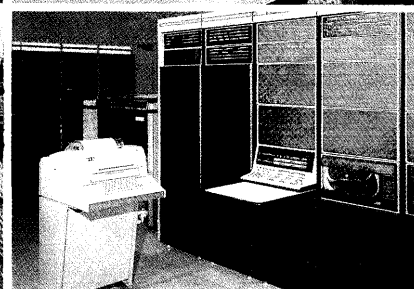
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