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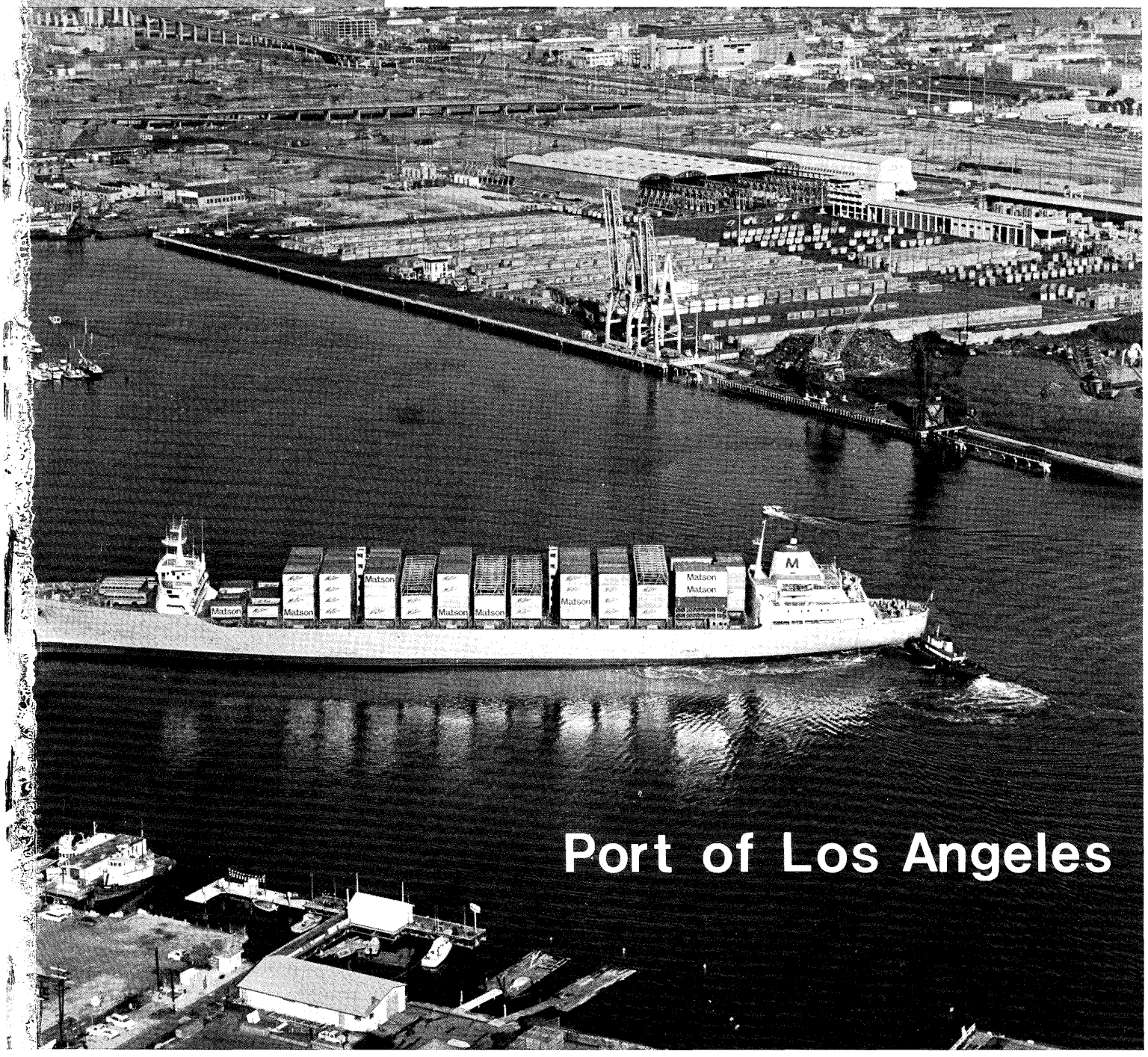
PORTS and HARBORS

January, 1975　Vol. 20, No. 1

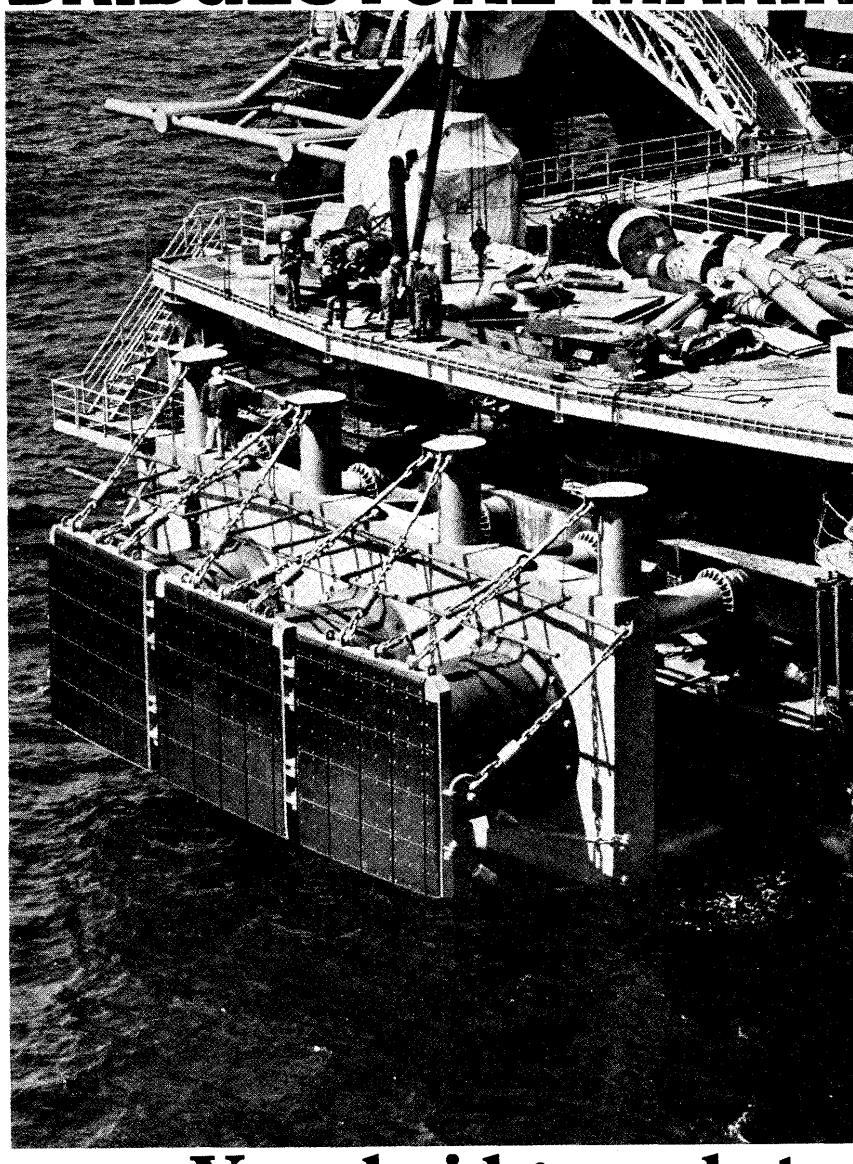


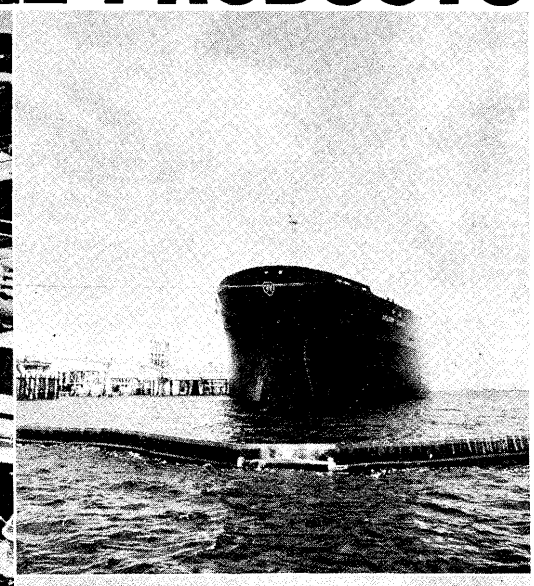
Port of Los Angeles

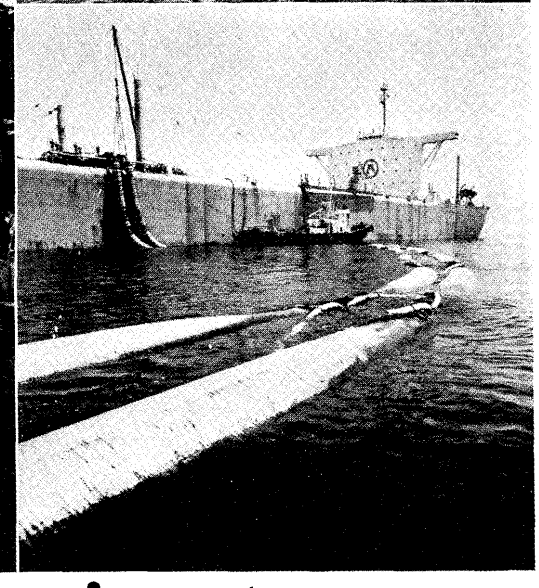
Singapore Conference March 8-15, 1975

The Publisher : The International Association of Ports and Harbors
Kotohira-Kaikan Bldg. 1, Kotohira-cho, Minato-ku,
Tokyo 105, Japan

BRIDGESTONE MARINE PRODUCTS







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Bridgestone has the marine hose to do the job in every offshore heavy oil loading and unloading operation. Boasting outstanding flexibility and pressure resistance, these hoses are available in submarine, floating-submerging and floating ever-float and bead—soon to be available in the world's largest diameter types.

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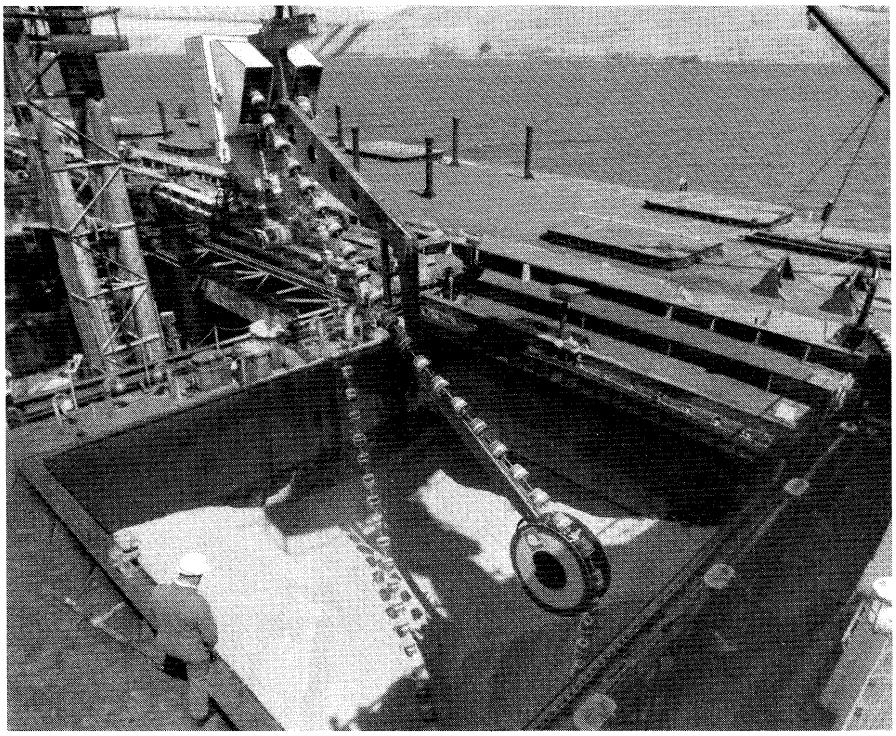

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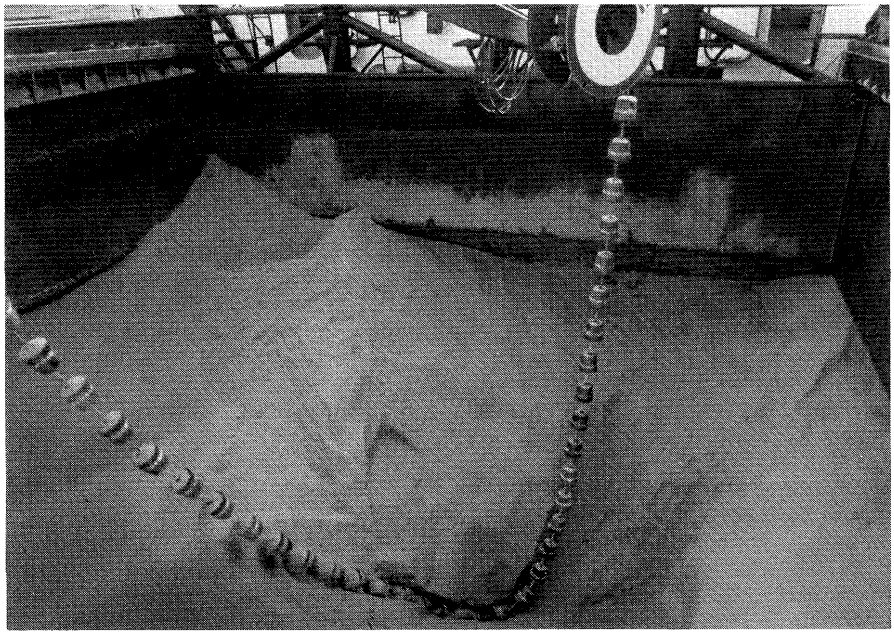

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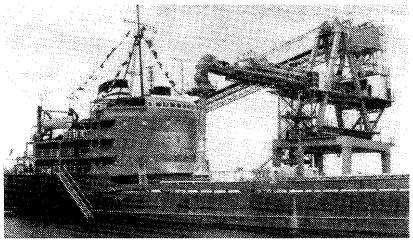

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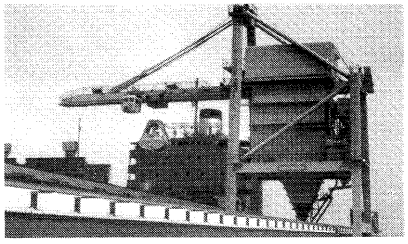

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7 super-fast full containerships service direct to Japan every week.
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6 similar full containerships link Seattle, Portland and Vancouver with Japanese ports. Every-5-days service. Just 8 days from Yokohama to Seattle.

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Y.S. Line arranges completely integrated container service between the U.S. East area, Gulf coasts and Japan via Pacific Coast ports.
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We can provide a service every 4 days with 9 full containerships. Between Sydney, Melbourne or Brisbane and Japan. With scheduled door-to-door delivery.

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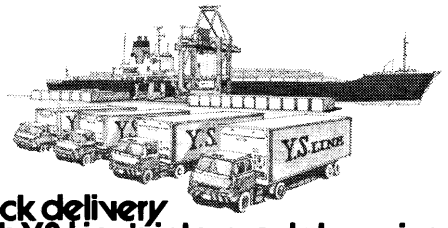
Y.S. Line's containers can be carried over the trans-Siberian railway to Nakhodka and transported by ship over the Japan Sea and vice versa. This is the shortest and most and efficient landbridge container service linking major cities in Europe and Japan.



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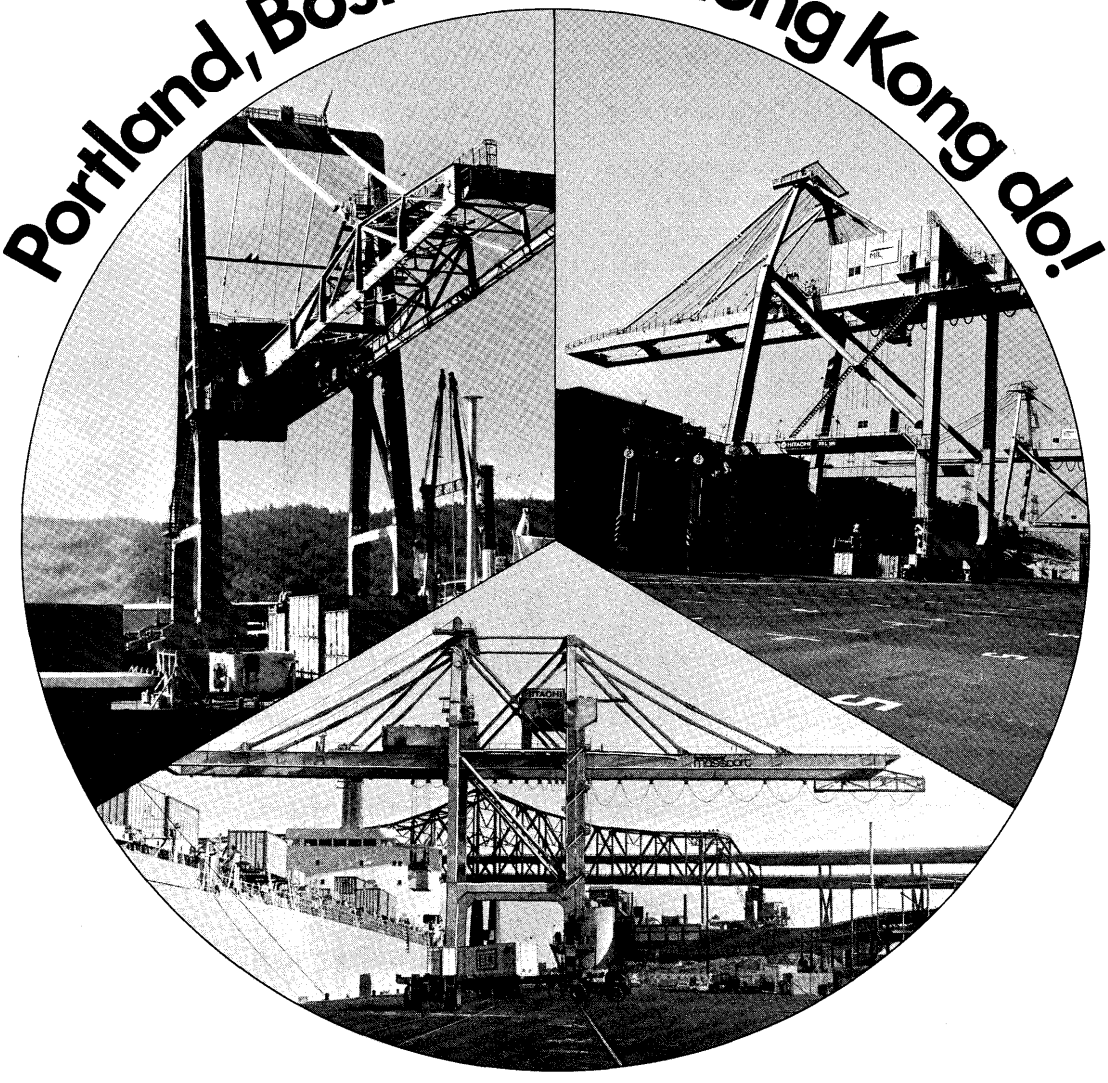
Boom with us?

Portland, Boston and Hong Kong do!



Container cranes supplied to the Port of Portland, U.S.A.

70-long ton container gantry crane for the Port of Boston.

Two container cranes now in operation at the Port of Hong Kong.

Profits go up. Costs go down.
In Portland, Seattle and Boston.
And in Hong Kong, Singapore, Port Kelang and Japanese ports, too.
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And a word to the wise.
Check out our patented "semi-rope" trolley gantry cranes.
They reduce shock and sway of cargo.
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Put both in your port and see for yourself.
You will be busy . . . but happy.

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Sirs,

Re: Rotterdam/Europoort

Has it ever occurred to you that Europe's markets ought to buy your products? Or, if you're already selling in Europe, that you ought to sell more? Yes? You need a distribution point. One of the best is Rotterdam. There are many good reasons why. Here are a few:

Rotterdam reaches Europe's richest markets. Within a 300-mile radius surrounding Rotterdam are 160 million consumers. They live in Germany's Rhine and Ruhr areas, Southern Scandinavia, London and Manchester, all Holland, Belgium and France's industrial north. All are urban-industrial markets. Together they form what may be one of the richest areas of its kind in the world.

Rotterdam is at the hub of transport routes to and through this market. It fronts on the North Sea, with short connections to England. It straddles the mouth of the Rhine, over which 200,000 barges carry cargo to Germany, France and Switzerland every year.
It stands on several of Europe's international highways.
It sends off rail cargoes direct to every point in Europe.
(Not surprisingly, half Rhine shipping is Dutch-owned. And 40% of Common Market road haulage is Dutch.)

Rotterdam's harbour can already berth tankers of 250,000 dwt. Equipped to handle any type of cargo - including all manner of containers, LASH, Seabee and roll-on/roll-off transport.

Rotterdam's industrial activity is reflected, among others, in five refineries and the imposing petro-chemical industry they have fostered.

Dutch customs regulations may be the supplest anywhere. There is no red tape and goods in warehouses may be manipulated in virtually any way. The smooth movement of shipments in and out of Holland is the proud policy of Dutch customs officers.
Another pluspoint: Rotterdam's port area boasts ample storage space, indoors and out.

Distribution through Rotterdam, or from Rotterdam, makes good sense. Don't you agree?

If you're not yet certain, or need to know more, contact us.

Rotterdam/Europoort

Havenbedrijf
der Gemeente Rotterdam
(Rotterdam Municipal Port Management)

Poortgebouw - Stieltjesstraat 27
Rotterdam - P.O.B. 5211
Tel. (010) 84 91 33

PORTS and HARBORS

Editor: Yoshio Hayashi

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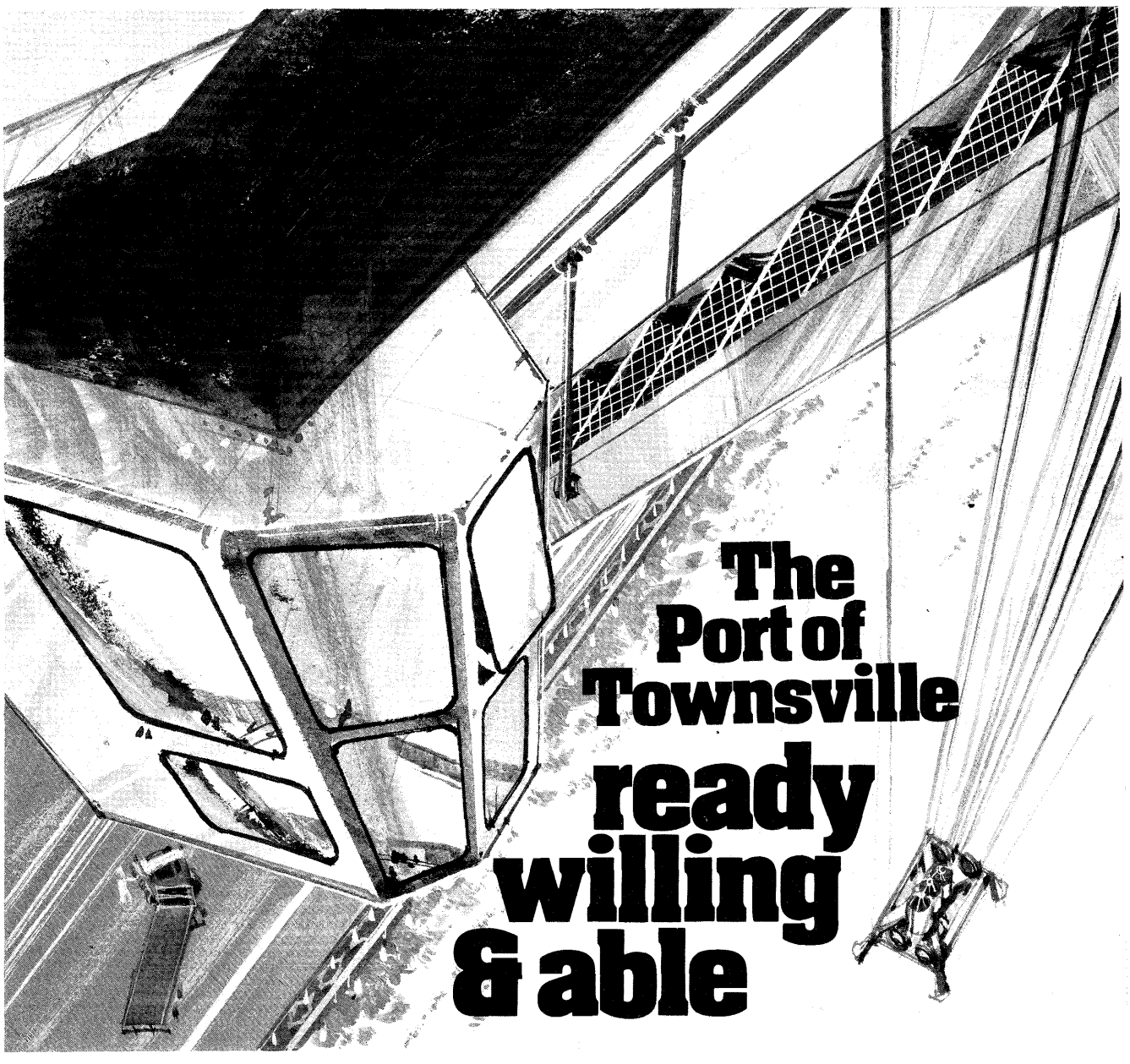
Telex: 02222516 IAPH J

January, 1975 Vol. 20, No. 1

CONTENTS

The Cover:

A powerful tug boat turns around a sleek new containership just before it berths at the Matson Container Terminal at the Port of Los Angeles, seen just behind the vessel. The Matson facility has 50 acres to handle its own containers and those of two Japanese lines. Modern cranes, a computor system to keep track of the individual containers, and a freight station at which two or more diverse types of cargo may be loaded into a single big box are all part of the Matson Container Terminal. (See also pictures on page 36.)



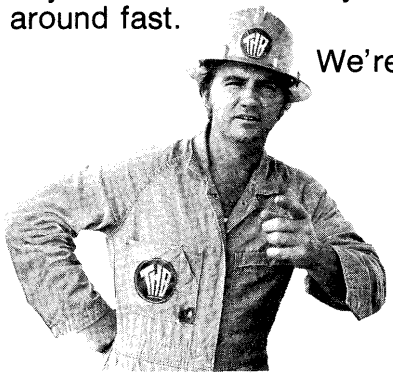
The Port of Townsville ready willing & able

We're ready. Townsville has developed from a bulk port into one capable of handling all types of cargo. Our geographical location means that ships from Asia can make up to 5 extra round-trips per year to Australia.

We're willing — working around the clock, 7 days a week. We'll turn your vessels around fast.

Most importantly, we're able. Our cargo capabilities include bulk, container (up to 60 tonnes a lift), R.O.R.O. and general handling facilities. The port is 35 feet L.W.O.S.T. We've ample storage and clearance area in our terminal layout, and land transport access is easy — there isn't any big city congestion.

We're waiting to hear from you.



Townsville Harbour Board

No. 1 The Strand, Townsville
North Queensland 4810
P.O. Box 1031
Telephone 721011
Cable: 'Nausport'

PORTS and HARBORS

IAPH Head Office Announcements: Pages 7 ~ 16

CONFERENCE DRAWS CLOSER

We are very much pleased to publish a special message from the Port of Singapore Authority as a lead of the first edition of the Singapore Conference year 1975.

Thanks to the good co-operation of people concerned both in Singapore and Tokyo, we have succeeded in squeezing this telexed article herein despite of the seasonal year-end congestion in the printing house. (Dec. 9th, 1974, K. Yokoyama)

The Ninth Conference of the International Association of Ports and Harbors is only two months from now.
Preparations to make it a success has been going on in earnest at the Port of Singapore Authority working closely together with the IAPH Secretariat in Tokyo.
Besides the Conference proper, the PSA as host has prepared very interesting and memorable programmes for the envisaged 400 delegates and their ladies during their stay in Singapore.
These programmes including the post-conference tours to Malaysia and Indonesia will certainly provide an opportunity for delegates to sample the rich cultural and social heritage of the people of South East Asia.
The IAPH Conference Committee is already receiving registrations from participants from ports all over the world.
Your early registration would go a long way in helping the Organising Committee to finalize arrangements for the success of the Conference.
As space for exhibitions is limited members are also urged to send in their bookings as soon as possible.
Singapore awaits you in March 1975.

Conference Agenda to be finalized By the Board before the Year-end

The Secretary General dispatched his two letters under the dates of November 12 and 25, 1974, to the Board requesting its consideration and decision on the 9th Conference agenda in general and an addendum. The dates of the meetings by correspondence are set on December 15 and December 25, 1974, respectively.

The addendum mentioned above is a vital agendum to all the members of this Association. It is a bill to amend Section 5 of the By-Laws, that is, to challenge to revise the Membership Dues Structure fundamentally.

The Resolution No. 3 adopted at the Amsterdam Conference (ref. the July-August, 1973, edition of this journal) resolved that the Finance Committee (former Ways and Means Committee) shall make a comprehensive study of membership dues structure, recommending a new dues formula with a view towards the Association becoming self-supporting at the earliest practicable time and shall render its report at the 9th Conference in Singapore.

As reported in the June and July editions of this journal, the Finance Committee met in Auckland, New Zealand, in March, 1974, and made a recommendation to the Executive Committee which was carefully discussed and approved by the Committee in Auckland in March, 1974.

The detailed contents of the bill will be reported to all the members of this Association through the February, 1975, edition of this journal. (K.Y.)

Amendments to the By-Laws Now Put to the Vote of the Board

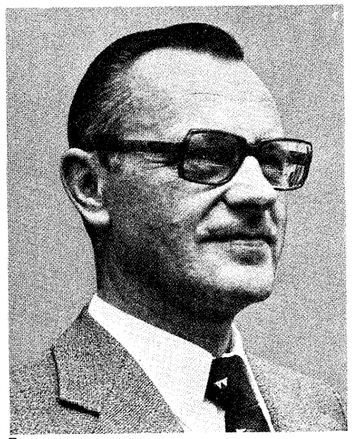
On November 12, 1974, the Secretary General sent to the Board of Directors a bill of amendments to Sec. 2, 7, 9, 15, 16, 21, 29, 30, 36 and 37 of the By-Laws for its approval at the meeting by correspondence set on December 15, 1974.

The amendments to the By-Laws were originally discussed by the Board at its meeting in Amsterdam in May, 1973, and actually drafted by the Special Review Committee on Constitution and By-Laws and then approved by the Executive Committee at Auckland in March, 1974, as reported in the June and July 1974 editions of this journal.

If approved by the Board the same bill will immediately be sent to the Regular Members for their voting at a meeting by correspondence, which may possibly be set on January 22nd, 1975, so that the amendments become effective on

(Continued on page 10)

NEW YEAR'S MESSAGES TO YOU



Mr. Robert L.M. Vleugels

From The President

Wholeheartedly I convey my best wishes to all members and staff of our Association. I hope that the New Year may bring to them good health, good luck and prosperity in a peaceful environment.

May we still more efficiently than before proceed on the way indicated by the objectives of IAPH including the advancing of international friendship and understanding.

When looking back to the activities and work of our Association during the past year I like to express my satisfaction with the progress we made in various fields. We can state that the information distributed via Ports and Harbors has considerably improved, that the Six Special Committees were very active under the able leadership of their respective Chairmen, that our liaison officers to several international organizations did not spare their energy to defend our resolutions and to keep our membership informed on very important matters. These are only a few examples.

I also can state that an ever growing number of members actively contributes with the Staff of IAPH in sending very useful advices and suggestions.

The results will be seen at the Ninth Conference in Singapore!

Looking forward to meet you there, I once more wish you all the best in 1975.

Robert L.M. Vleugels
President IAPH

Dr. H. Sato

From The Secretary General

A Happy New Year! I and my staff jointly pray that 1975 may bring to each one of you, members of the International Association of Ports and Harbors, the best health and the greatest prosperity.

Our Association now celebrates the 20th New Year's Day since its founding. Its membership, through the years past, has kept on growing to reach, as of the end of 1974, a total of 285 and infiltrate into 60 nations of the world. Of the current programme and activity of the Association, you are fully informed from time to time by means of the Association's official monthly journal "Ports and Harbors", requiring no repetition of them here.

The steady development of IAPH in size and quality, which is remarkable no doubt for a voluntary organization with no specific financial backing, owes entirely to the warm and united collaboration of its members and officers. For these facts I extend my sincerest respect and congratulations to you.

The 9th Conference of the Association slated for the new year is only a few months ahead of us. Our immediate concern with the Association business to make this Conference a maximum success.

At the outset of the year, let us hope that the coming conference in Singapore will be participated by as many members and representatives as circumstantially permitted and also that the financial foundation of the Association, through deliberations at the conference, will be consolidated for its future and improved services to the betterment of member ports.

Looking forward to seeing you in Singapore shortly and to your co-operation with your Secretariat.

Hajime Sato
Secretary General

(Continued from page 7)

and after February 1st, 1975.

As to further details of the amendments, they will be reported in the next number of this journal. (K.Y.)

Survey on the Cargo Tonnage of Members Ports

The Regular Members of this Association have been requested every year to report their cargo tonnage handled to up-date the old figures in the Membership Directory. However, the outcome of this tonnage renewal has not always been satisfactory so far.

On the other hand, one item of the 9th Conference agenda, as reported on page 7 of this edition, required amendments to Sec. 5 of the By-Laws, namely, a new Regular Membership Dues Structure based on their cargo tonnage handled.

The Secretary General, consequently, requested all the Regular Members, in his letter of November 11, 1974, to provide this office with the total figure of the "Annual Tonnage Handled" in metric tons and the break-downs thereof into "General Cargo" and "Bulk Cargo" accordingly to the latest official statistics, by not later than December 15th, 1974. (K.Y.)

Election of Directors and Alternate Directors

The Secretary General requested all the Directors and Alternate Directors, in his letter of November 11th, to submit the names of candidates for Directors and Alternate Directors in each member country for the 1975–1977 term.

The By-Laws provides that each Director and Alternate Director shall hold office from the opening date of a Conference until the opening date of the next Conference. However, the 9th Conference is set to be held in March, two months earlier than usual, and besides, the amendments to the By-Laws, if become effective on and after February 1st, 1975, will enlarge the power and duty of the Board, such as the appointment of certain members of the Executive Committee. Under such circumstances, the names of candidates for Directors and Alternate Directors are imminently desirable to be announced in an earlier stage prior to the 9th Conference. (K.Y.)

Finance Committee replaces Ways and Means Committee

The Executive Committee, at its Auckland meeting in March 1975, discussed and agreed to establish a Special Committee named as Finance Committee, replacing Ways and Means Committee, on the ground that a Ways and Means Committee was misleading into the concept of a Conference Committee.

All the members of the Association are kindly requested to use the terminology of the Finance Committee, instead of the Ways and Means Committee, when they refer to this Special Committee on and after January 1st, 1975. (K.Y.)

Large Ships Committee Meets at New Orleans

The Special Committee on Large Ships called its second meeting at New Orleans, U.S.A., on November 18 and 19 following its first convened on March 14 and 15, 1974, at Le Havre, according to the report from Mr. Paul Bastard, Chairman of the Committee and Director General of Port Autonome du Havre.

In his telex to Secretary General Dr. Sato dated November 26, Mr. Bastard said "during these two days, the projects presented from each of the 3 working groups was studied and discussed."

It is expected that the outcome of the meeting will be available to the Secretary General in due course, which in turn will be published in the nearest future issue of this journal for the members. (TKD)

"Thank you", Port of Antwerp for bridging IAPH and France

The current Postal Union's strike in France has been blocking all mails from Japan headed for France since the middle of October, all of them being piled up in Tokyo. IAPH Head Office could not get rid of this situation.

To break through this deadlock, Secretary General Sato made an emergency call for help to President Vleugels, who in response assured the Secretary General to act as a provisional relay-center for all France bound mails until the postal service get normalized.

Due to Mr. Vleugels' quick decision, all IAPH mails destined for France, including important letters such as ballots for meeting by correspondence, have found the way through this blockade again after a month and a half interruption via Port of Antwerp. (TKD)

PIANC International Commission

The Secretary General received a report in the above heading from Mr. Paul Bastard, Chairman of the Special Committee on Large Ships and Director General of Port Autonome du Havre, who represented IAPH at the inaugural meeting of PIANC International Commission for the reception of Large Ships on October 9 at Brussels, appointed by President Vleugels.

The following is the reproduction of Mr. Bastard's report received by the Secretary General on November 15, 1974. (TKD)

P.I.A.N.C. INTERNATIONAL COMMISSION FOR THE RECEPTION OF LARGE SHIPS (1) BRUSSELS—9th OCTOBER 1974

This was the first meeting of the Commission under the chairmanship of Mr. VAN DER BURGT (Holland).

The Chairman of the P.I.A.N.C., Professor WILLEMS opened the session; then the agenda was adopted. After this, each member of the Commission presented himself.

The following definition was adopted for "Large Ships"

- Oil tankers and ore carriers $> 200\,000$ dwt
- Methane carriers $\geqslant 125\,000$ m^3
- Container carriers $L > 250$ m

The coordination with the other organisms occupying the neighbouring problems was assured by:

- P. MASON, observer from the I.A.L.A. (2)

– F.L. DIXON, observer from the O.C.I.M.F. (3)
– P. BASTARD, observer from the I.A.P.H.

After discussion, the following five subjects were given to the five working groups:

Subject n° 1 (Chairman: Prof. VASCO COSTA–Portugal–or Mr. MARIN GARCIAMANSILLA–Spain)

Methods of analysing the data concerning the wind, waves and swells in view of evaluating, on an annual basis, the number of days and the longest period of time during which the maritime and port operations are paralysed by bad weather conditions.

(1) abbreviated ICORELS
(2) International Association of Lighthouse Authorities
(3) Oil Companies International Marine Forum

Subject n° 2 (Chairman: P. BASTARD–France)

International coordination and concertation desirable in the field of aids to navigation concerning the compatibility of the equipment aboard and ashore.

Subject n° 3 (Chairman: A. BOHLIN–Sweden)

Installations and equipment for the reception and treatment of oily slops. Equipment and methods to limit pollution by oil, including fire risks which arise in the ports, at sea and on the beaches, by collecting or clearing the pollutants.

Subject n° 4 (Chairman: H.D. HOFT–West Germany)

Outline and optimal dimensions for the adaptation of the large ships' passage, maritime routes in shallow seas, the straits and maritime roads, taking into consideration, amongst others:

– the influence of the winds, currents, the swell and the mobility of the bottom,
– the means offered by modern technology for the opening and upkeep of the passes,
– aids to navigation
– the control of navigation

Subject n° 5 (Chairman: E. HARLOW–U.S.A.)

Economical and technical aspects of the "off-shore" artificial islands for the reception of large ships.

A provisional division of the members of the Commission amongst the five working groups was effected.

Each working group could add experts who were not members of the I.A.P.H., the initiative being able to be taken by either members of the working groups or outside persons, the decision having been taken by the chairman of the group.

The working groups should hold their first meetings at the beginning of 1975.

The next meeting of the ICORELS will be held on the 13th May, normally, in BILBAO.

IAPH Membership Directory 1975

The Membership Directory 1975 is due to be dispatched to all members from Tokyo towards the middle of December.

Regular Members and Associate Members of Grade One of Class A, Class B and Class C are entitled to receive 3 copies, Grade Two of Class A Associate Members, 2 copies, and other members, 1 copy per unit.

If members wish to receive additional copies, they are available at US$5 per copy including airmail charge.

The distribution of the Membership Directory is limited to its members. (TKD)

Visitors

Mr. Lester Padman, Public Relations Officer, Townsville Harbor Board, Queensland, Australia, has visited IAPH Head Office on November 5 to be met by Mr. Yokoyama, Deputy Secretary General and his staff. Mr. Padman was in Japan on his four weeks trip to Singapore, Thailand and Taiwan with his wife. In Japan he visited ports of Kobe, Osaka and Tokyo.

Prof. W. Langeraar, General Director, Netherlands Maritime Institute, Rotterdam, has visited the Head Office on November 12 to be met by Mr. Yokoyama and his staff to discuss the possibility of exchanging information on maritime affairs in the future, in particular, information on the development of the LPG tanker-Freighter collision case which occurred in the Bay of Tokyo on November 9.

Mr. Lawrence J. Israel, Commissioner, Board of Commissioners of the Port of New Orleans, has visited the Head Office on November 14 to be met by Mr. Yokoyama, during his recent business trip to the Far East. (RIN)

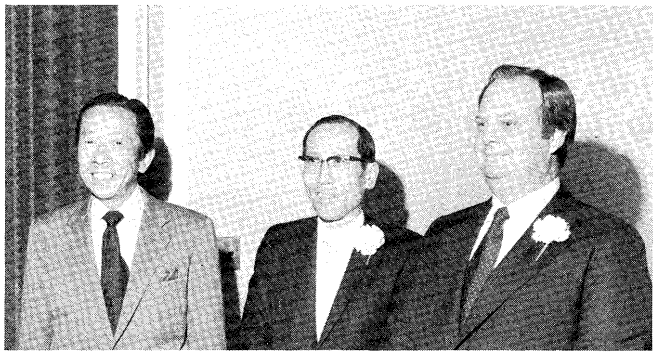


Photo taken at the American Club, Tokyo, at the cocktail reception by the Port of New Orleans on November 13, 1974. Left to right: Mr. Yokoyama, Deputy Secretary-General, IAPH, Mr. Matsumoto, Director, Japan Trade Development, Mr. Israel, Commissioner, Board of Commissioners of the Port of New Orleans.

Membership Notes

Withdrawal

Associate Member (Class D)

Industrial Marketing Information
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(Mrs. Taimi Sammul, General Secretary)

International Federation of Shipmasters' Association Established

Capt. W.B. Vickers, General Secretary, IFSMA (above), has informed us in his recent letter to the Secretary General of our Association that the IFSMA was formed up in Holland on January 1st, 1974, while its headquarters is now situated in London. (President: Capt. R. Grønsand, Norway)

Capt. Vickers offered us in his letter an establishment of a closer friendly relationship between the two organizations through the exchange of information for the maintenance and increase safety at sea.

According to his information, IFSMA is a non-Trade Union, non-profit making, non-political organization and already represents about 3,500 shipmasters of the world.

He further discloses in his letter that the Executive

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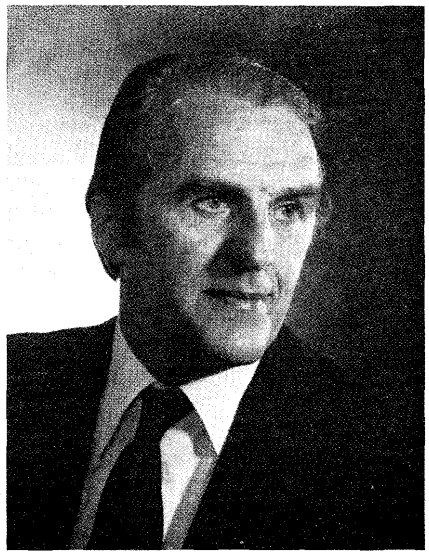
I.M.C.O. PROGRAMME OF MEETINGS, 1975

by Mr. A.J. Smith
Secretary
British Ports Association



Mr. A.J. Smith.

In the January 1974 edition of this journal, we announced 1974 programme of IMCO by introducing its relevant document. It is our great pleasure that we now can publish Mr. Smith's message in connection with 1975 programme of IMCO in this first edition of 1975. Thanks to Mr. Smith's kind cooperation, this Association has been much activated during 1974 in relation to IMCO to such an extent that IAPH introduces a proposal on "Wreck Removal" to IMCO etc . . . (K.Y.)

The programme of IMCO meetings for 1975 is set out in full below, with those of particular interest to I.A.P.H. members marked by an asterisk. All meetings are scheduled to be held in London and arrangements for the attendance of members can, as usual, be made, at very short notice, both by the I.A.P.H. Secretariat and myself.

It has been particularly gratifying to me to meet representatives from member ports during 1974 and to be able to discuss with them IMCO business and other matters of mutual interest in some detail. Such exchanges greatly assist in the clarification of an I.A.P.H. view point. I look forward to further contacts during 1975.

My increasing awareness of matters of specific concern to I.A.P.H. members is made possible by Dr. Sato and his staff to whom I express my warmest appreciation. Their readiness to seek new and better ways for disseminating information on IMCO happenings and encouraging the participation of members in these, is a matter for congratulation. The use of "Ports and Harbours" for this purpose has been particularly successful.

May I take this opportunity to wish all I.A.P.H. members good fortune during 1975.

13–17 January	SUB-COMMITTEE ON SUBDIVISION, STABILITY AND LOAD LINES–17th session
20–24 January	*LEGAL COMMITTEE–25th session
27–31 January	*SUB-COMMITTEE ON THE CARRIAGE OF DANGEROUS GOODS–24th session
3– 7 February	SUB-COMMITTEE ON SHIP DESIGN AND EQUIPMENT–13th session
17–21 February	AD HOC WORKING GROUP ON THE IMCO CONVENTION–1st session
24–28 February	SUB-COMMITTEE ON RADIOCOMMUNICATIONS–14th session
3– 7 March	*MARINE ENVIRONMENT PROTECTION COMMITTEE–3rd session
10–14 March	SUB-COMMITTEE ON SAFETY OF FISHING VESSELS–17th session
17–21 March	*MARITIME SAFETY COMMITTEE–32nd session
7–11 April	*LEGAL COMMITTEE–26th session
14–18 April	*FACILITATION COMMITTEE–9th session
23 April–9 May	INTERNATIONAL CONFERENCE ON THE ESTABLISHMENT OF AN INTERNATIONAL MARITIME SATELLITE SYSTEM, 1975
19–23 Mary	SUB-COMMITTEE ON LIFE-SAVING APPLIANCES–9th session
28–29 May	*COMMITTEE ON TECHNICAL CO-OPERATION–11th session
30 May	Pre-Council Budgetary Working Group
2– 6 June	*COUNCIL–34th session
9–13 June	SUB-COMMITTEE ON STANDARDS OF TRAINING AND WATCHKEEPING–6th session
16–20 June	*LEGAL COMMITTEE–27th session
23–27 June	*SUB-COMMITTEE ON SAFETY OF NAVIGATION–17th session
30 June–4 July	SUB-COMMITTEE ON CONTAINERS AND CARGOES–16th session
7–11 July	SUB-COMMITTEE ON FIRE PROTECTION–17th session
14–18 July	SUB-COMMITTEE ON SAFETY OF FISHING VESSELS–18th session

(Continued on next page bottom)

Council of IFSMA intends to apply for consultative status at IMCO in due course.

In return to this, Dr. Sato, Secretary General of IAPH, has replied that IAPH will agree with the idea of establishing a friendly ties in between for the mutual benefits and promised to start supplying them with our Association's journal "Ports and Harbors" (RIN)

Address of IFSMA is:
H.Q.S. "Wellington", Temple Stairs, Victoria Embankment, London WC2R 2PN
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Questionnaire on Bulbous Bows Vessels

In the October 1974 edition of this journal, we made the first trial, under the Presidential instructions, in addressing questions to all IAPH members by means of this journal. The questionnaire was composed of the following points in respect to "Bulbous Bows Vessels".

[Question 1]

Has your Port Authority been faced with problems resulting from the specific type of hull construction of vessels commonly called "bulbous bows" with respect to towing, berthing, etc..? If so, which were the difficulties, risks?

[Question 2]

Should, to your opinion, an international regulation be introduced obliging ships to carry marks, in a shape to be determined, which indicate the size or extend of bulbous bow?

The outcome of the questionnaire, we consider, should be assessed as a success for the first attempt—15 replies from 3 regions reached this office inside the first one month and a half.

However, a report on the conclusions of this survey must be made at the coming Singapore Conference and, if so agreed, Resolution should be adopted with a view to submitting it to IMCO in time.

Therefore, IAPH members, who have not yet answered this questionnaire, are kindly requested to turn in their replies to this office at their earliest convenience.

The following are the full text of the 15 replies reached here as of November 27, 1974. (K.Y.)

Port names and Answers to Question 1	Answers to Question 2

1. Helsingborg

Our Port has indeed been subject to heavy damages caused by bulbous bows vessel as a certain vessel fitted with bulbous bow of about 3.5 m length caused severe damage on concrete piles supporting the quay-deck.

It is indisputable that the vessel in question at several occasions has touched the quay in such an angle that the piles have been damaged. The damage can occur at every approaching angle over 20° between the vessel and the dock. It has further been proofed that if and when the angle is 45° or more the bulb stem must under all circumstances have been in contact with the pile. By a special technical survey, it has been ascertained that the powers that have been excerted on the pile are exercised by vessel even at a very low speed. In other words the speed at entering may have been normal but in a certain angle damage is bound to occur to the supporting concrete piles.

These circumstances at which the vessel collided with the docks are verified by an official commission. The commission's report states beyond any reasonable doubt that the damage to the dock has been caused by the vessel in question and by her the bulbous bow. The vessel's owner has so far declined to accept liability.

We have the opinion that any international regulation warning for bulbous bows would be of value but are doubtful whether a certain mark would be helpful. We believe that vessels' owners or masters should be obliged to advice the harbour authorities before first time of arrival of a vessel with bulbous bow, indicating the size etc of the said bow. This would enable the authorities to state the conditions on which the vessel would be allowed to enter, i.e. compulsory assistance or tugboats.

It is also of utmost importance that this matter is pressed internationally to the respective governments.

2. London

An accident occurred when a tug was caught on a bulbous bow and a vessel so designed struck one of the pierheads at a dock entrance.

IMCO have considered this matter and have concluded that an appropriate signal should be exhibited on each side of the vessel marked "bulbous bow" and illuminated at

1– 5 September	*SUB-COMMITTEE ON THE CARRIAGE OF DANGEROUS GOODS—25th session
8–12 September	SUB-COMMITTEE ON SHIP DESIGN AND EQUIPMENT—14th session
15–19 September	SUB-COMMITTEE ON RADIOCOMMUNICATIONS—15th session
22–26 September	*LEGAL COMMITTEE—28th session
29 September–10 October	SUB-COMMITTEE ON SAFETY OF FISHING VESSELS—19th session
13–17 October	*MARITIME SAFETY COMMITTEE—33rd session
20–24 October	*MARINE ENVIRONMENT PROTECTION COMMITTEE—4th session
27–31 October	SUB-COMMITTEE ON SUBDIVISION, STABILITY AND LOAD LINES—18th session
3–14 November	*ASSEMBLY—9th session
24–28 November	SUB-COMMITTEE ON LIFE-SAVING APPLIANCES—10th session
1– 5 December	*LEGAL COMMITTEE—29th session
8–12 December	SUB-COMMITTEE ON STANDARDS OF TRAINING AND WATCHKEEPING—7th session
15–19 December	*SUB-COMMITTEE ON SAFETY OF NAVIGATION—18th session

Port names and Answers to Question 1	Answers to Question 2
	night. UK have adopted this proposal and the Department of Trade have issued a Merchant Shipping Notice requiring vessels to be so marked. It would seem, therefore, that the designation has been agreed internationally and is unlikely to be changed. As indicated above international agreement exists for the provision of a Notice. Whilst being aware of this, the subject was discussed by the Marine Committee of the British Ports Association. The Committee agreed to recommend to the Department of Trade and to the International Association of Ports and Harbors that all vessels having bulbous bows should be marked with a "profile" symbol, illuminated appropriate.
3. Auckland, N.Z. The introduction of the bulbous bow has presented restrictions on the use of tugs at or near the bow of such craft when manoeuvring. This has been largely overcome by the use, whenever possible, of tugs equipped with Voith Schneider propulsion units. Vessels with this type of bow have rendered a large angle of approach to or clearing from a berth most undesirable. This problem has been overcome by using a second tug.	It should be obligatory for any vessel designed with this type of bow to have a profile symbol painted on the hull, reasonably close to the bow, with the degree of protudance clearly indicated.
4. Melbourne The Port of Melbourne has experienced problems of this nature. Large passenger vessels at the Port Melbourne passenger terminal have had to use a large catamaran to protect the wharf piling when the vessels are angling off on departure. It has also been necessary in the Swanson Dock container complex to have the front line of piles well back from the edge of the wharf to protect them from bulbous bows. Even with this protection taken, it is essential that on berthing and unberthing the vessel be kept as near parallel to the berth as possible. Similar problems have been experienced from time to time with smaller vessels in other parts of the Port, although with the increasing number of vessels so fitted, pilots are becoming more experienced in the handling of these vessels with minimum risk to the wharf structures. With respect to towing, no specific case is known of real risk being involved, but it is considered that a hazard must exist to tugs moving under the bow of deep laden vessels to take a head line.	It is considered that an international regulation should be introduced. This would serve to warn the pilot when boarding and the tugs when approaching a vessel, of the presence of a risk to their respective operations.
5. Copenhagen We have had one single case where a vessel with bulbous bows has run into a quay, where the damage (underwater damage) was of a much larger extent than it would have been if the vessel had not been constructed with bulbous bows.	We can recommend the introduction of international regulations obliging vessels to carry marks. Vessels constructed with double propellers are already carrying such marks.
6. Adelaide, Australia Yes. The main problem is the avoidance of damage to piled wharf structures during berthing and departure.	Yes.
7. Rotterdam Tugs which have to make fast and come very close to the fore-part of the ship must be mindful of a "bulbous bow" in order to keep clear of it and thus to avoid damages. Consequence of "bulbous bow": making fast takes more time. The captain of the tug is to avoid any risk. During the mooring operation the off-shore ropes every now and then cause trouble especially when the ship is heaved alongside. The navigator is to be mindful of the presence of the bulbous bow with a view to dropping anchors.	A clear mark, on both sides of the bow above the load-waterline, is already frequently practised. Obligatory and standardized marking is most desirable indeed, and putting this up through I.M.C.O. should be fully supported.

Port names and Answers to Question 1	Answers to Question 2
8. Osaka (original in Japanese) Up until now, we have encountered with no problem caused by bulbous bowed vessles in our port.	We agree with the idea of establishing an international legislation in displaying the bulbous bow.
9. Fremantle, Australia Yes. There is a risk of damage to the vertical piling system in the design of the Fremantle harbour berths, and to avoid this risk, additional tugs must be employed, or on occasions the use of floating fenders, to berth and unberth vessels with bulbous bows. This Authority, under its Regulations, requires ship's agents to lodge an Application for Berth form prior to the ship's arrival, which provides for details of whether the ship has a bulbous bow or not. However, this information is not always supplied, or perhaps cannot be supplied, and then the Berthing Master must resort to an examination of the Lloyds Register of Shipping in an attempt to obtain the information. This information is not always available in Lloyds Register and is therefore finally obtained by the Pilot when boarding the ship.	Yes. Although the practice of displaying a symbol near the bow on those ships with bulbous bows is increasing, the length or extent of the bow is not shown and it is the opinion of this Authority that an international regulation should be introduced to enforce ships to carry such marks.
10. Public Works Dept., Victoria, Australia It is desired to indicate that in the Port of Westernport, which is operated by this Division, no difficulties have arisen with towage operations provided that the tugs have knowledge of the Bulbous Bow. However, in the case of mooring launches difficulty has been experienced in picking up headlines when vessels so fitted have been underway. The design of the jetties in the port is such that no difficulties have arisen with this type of vessel when manoeuvring alongside.	It is considered that there would be much value in the adoption universally of the symbol ⏢ displayed in contrasting colour on each bow a little above the load water line. This sign could well incorporate a propeller symbol where vessels were fitted with a bow thrust unit and its actual shape should indicate the extent of the bulb. It would be necessary if full value were to be obtained from this sign for arrangements to be available to illuminate it when that was necessary.
11. Antwerp The Harbour Master of our port confirms that up to now such ships have not been a direct cause of accidents or damage nor that they created difficulties with respect to tugging, entrance into locks or on occasion of their berthing.	Although, he declared, many of these ships already have marks which indicate the bulbous bow, it would be advisable that for the sake of uniformity an internationally recognized mark upon the hull of these ships would be made obligatory.
12. Hobart, Australia Since the introduction of the bulbous bow, it has been observed that Masters are very sensitive of its presence. As a result, the pilots are put under additional strain. It would appear that Masters are more concerned about damage to piers and wharves than the vessel, particularly if they are pile structures. As a result, any approach must be made in a direction more or less parallel to the berth. This has resulted in the increased use of tugs. Similarly, on departure it has been found to be advisable to use tugs to haul the vessel bodily off the berth before taking any futher action in any necessary manoeuvre. This is the case particularly at Risdon when a large deep draught vessel has to swing on departure. The river at this point is only some 244 metres in width and it is normal practice to berth head up river and port side to. In the case of a vessel with a conventional stem, it is possible on departure, to swing with the stem hard up to the wharf. However, if the vessel has a bulbous bow it is necessary to swing either stem to the wharf, which is not good practice, or haul off bodily using tugs, thus constricting the available swinging room. The difficulty at Risdon is at times, increased by the considerable ebb tide flow. Of the berths in Hobart, five are "dead end" berths, four being situated on finger piers and the other the inshore	It is considered that a symbol indicating the existence of a bulbous bow should be exhibited on each side of the vessel near the bow. This could be in the form of the outline of such a bow and, if the vessel is equipped with a transverse thrust unit, a symbol in the form of a propellor within a circle could be incorporated. If for example, the bulbous bow extends beyond the vessel's stem head for a distance say of one metre, this could be indicated by an arrow pointing ahead with the legend 1 m. inscribed thereon. The lighting of such symbols as suggested above would present a considerable problem. However, the inscribing of the symbols in a weather resistant iridescent paint could, to some extent, overcome this as this paint, when properly applied responds well to small amounts of light. It is suggested that the symbol or symbols be also represented in the vessel's wheelhouse in some conspicuous place.

berth of a marginal wharf. When approaching any of these berths, it is advisable to dredge an anchor in case of an engine failure and also to increase the manoeuvrability of the vessel at low speed. In the case of a vessel with a bulbous bow, it is necessary to "walk back" the anchor until it is clear of the bow. The pilot is therefore committed to use that particular anchor as in the case of an emergency and the cable refusing to "run", it is possible that, in letting go the other anchor from the pipe, damage will be done to the bulb. Another difficulty which has been experienced in Hobart was the case of a vessel at anchor. When, due to a change in wind direction, the vessel swung, the cable laid across the bow and fouled the bulb and could not be hove up. It was with some difficulty that the vessel was manoeuvred into a position which brought the cable clear, permitting the anchor to be hove home.

Many Japanese fishing vessels visit Hobart for stores and fuel. A large proportion of the newer vessels are fitted with a bulbous bow. As the Japanese masters of these vessels do not, as a rule, speak English, there is a language barrier and, if the vessel has a bulbous bow, the master has no way of conveying this information to the pilot.

To date no difficulty has been experienced in towing, however, the lines handling launch has been exposed to some dancer and difficutly by being unaware of an underwater bulbous bow.

13. Boston

We have had no difficulty in the berthing of vessels with Bulbous Bows. Most of these vessels use tug(s) when arriving/departing the berth. The only time we have experienced a problem was when we had two ships on berth, bow to bow, and both having Bulbous Bows. One vessel had a sketch of the bow on her side while the other did not. We had to estimate the protrusions of the latter vessel because, due to the length of available berth, both vessels had to have minimum clearnace between them.

Most definitely. A standard mark or identification showing the length of protrusion forward of bow, painted on each side would be most beneficial to dock operations.

14. Hamburg

Difficulties observed.

a) Manoeuvres of small craft (boats) may be complicated by swell of above vessels when going alongside. (Minimum speed is necessary)
b) Masters may forget to tell and pilots may forget to ask whether the ship has bulbous bow or not.
c) Failing of correct information about length and forward draft of the bulbous bow.
d) Tugs have difficulties in taking over the towing-wires, considering length of the bulbous bow, length of the towing wire in restricted waters.
e) Loss of time when anchors have to be used and were not lowered down before.
f) Save berthing/unberthing without tugs or by means of steaming into a rope has to be carried out with more precaution.
g) Non-observance of the bulbous bow by many of the harbour craft which pass or go alongside while vessels are berthed.

We think that such a uniform mark which indicates the extend of the bulbous bow is necessary. Such a mark, painted in luminous paint should be satisfactory (and practicable) while vessels are proceeding, mooring or unmooring. For vessels alongside however a special design should mark off the dimensions (length and width) of the bulbous bow.

15. Tokyo (original in Japanese)

Though, there have occurred no serious incident within our Port, we observe the existence of danger of collision with tugs and such vessels with bulbous bow when tugs are assisting such vessels. In particular, the danger increases when the bow is submerged.

An establishment of an International Legislation for the prevention of possible accidents will be of great necessity.

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Planning of a Multi-Product Offshore Terminal

by Bela Koman
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(This paper has been presented at the Tenth Annual Conference of the Marine Technology Society. It was published in the proceedings of that conference. It is published here with the author's permission.)

ABSTRACT

The planning of an offshore terminal at Ponta Dobela near Lourenco Marques, Mozambique is described. This terminal will handle at a single berth a variety of liquid and dry bulk cargoes: crude oil, petroleum products, iron ore, coal, phosphate, and other raw materials.

Ships of 25,000 DWT to 300,000 DWT will be loaded and unloaded at an open-sea pier located 6,000 feet (1,800 meters) from the shore. The water depth at the sea-berth is 15 fathoms (27 meters) at low tide. The pier and the storage facilities on shore will be linked by a trestle structure carrying the oil and ballast pipelines, a belt conveyor and a roadway.

An extensive computer analysis using the SEA-BERTH program developed by Soros Associates was carried out to determine the oscillations of ships moored at the offshore berth and the tensions in the mooring lines. The results of the computer analysis were confirmed by hydraulic laboratory tests.

The pier was designed to accommodate four hydraulically operated flexible marine arms for the handling of liquid cargoes and two telescopic shiploaders of the linear slewing type, developed by Soros Associates, for the loading of dry bulk materials. This equipment has sufficient reach to operate even when there is a gap of 30 feet (9 meters) between the dockface and the ship.

The analysis of force, direction and statistical distribution of winds, currents and waves indicated that during an average year docking and undocking maneuvers can be carried out at least 85% of the time and loading and unloading can take place at least 95% of the time. With the help of the PORT-LOG computer program of Soros Associates, it was determined that this single berth terminal will be suitable for the efficient handling of at least 15 million tons of bulk cargo per year.

INTRODUCTION

Master planning carried out by Soros Associates for the development of the harbor of Lourenco Marques in Mozambique concluded that the facilities now existing in the port for the shipment of bulk materials (iron ore, coal, phosphate, etc.) could not be adequately expanded to handle the increased future volumes due to the limited available space. Furthermore, the draft restrictions imposed by the silted and relatively shallow waters of the harbor would preclude the use of the very large vessels required in this trade.

After extensive studies by Soros Associates, the Mozambique Port and Railroad Administration decided to build a new, multi-purpose bulk terminal south of Lourenco Marques at Ponta Dobela (Fig. 1). This terminal will be able to accommodate up to 300,000 DWT ships at an offshore berth. With storage capacity of 2 million tons and peak shiploading capacity of 10,000 tons per hour it will initially handle a yearly throughput of 15 million tons.

This marine facility can properly be called an "OBO-Pier" (Ore-Bulk-Oil). It solves the problem of shipping several commodities where it would be uneconomical to build a deep-water pier for any one of these commodities.

CHOICE OF SITE

Studies have been made of the entire Bay of Lourenco Marques and of the coastal area in the general vicinity to establish a suitable location for a new deep-water terminal.

The entire Lourenco Marques area is a flat, broad plain with meandering rivers. Along the seacoast are sand dunes rangeing up to 150 feet (45 meters) in height. The generally low meadows behind the dunes are occasionally interrupted by bays, lagoons, lakes and marshes.

In the coastal area north of Lourenco Marques the sand dunes are subject to shifting. Towards the south the dunes are reasonably well stabilized. The shoreline here has a north-south orientation and is scalloped with long sweeping coves.

The feasibility studies indicated three general areas where a deep-water terminal for very large carriers could be considered. (See Fig. 1). Cabo Inhaca at the northern tip of the string of islands separating the bay of Lourenco Marques from the Indian Ocean is 22 miles (40 kilometers) due east of the existing port. Ponta Pabjini is approximately 40 miles (72 kilometers) north of Cabo Inhaca. Ponta Dobela is approximately 35 miles (63 kilometers) to the south (26°30'S.,32°56'W.).

Neither the Cabo Inhaca area nor the Ponta Pabjini area were found desirable for locating the terminal. Neither location has sufficient open area on which the stockpiles could be built. In addition, the railway connections would be long and costly, traversing poor ground over a long distance. Although deep water is relatively close offshore, the unstable ground would present especially difficult problems.

The coastline in the vicinity of Ponta Dobela is reasonably stable with hard, cemented outcroppings showing on the beaches. The sand dunes are stabilized with brush and tree growth protecting a large, inland area. While there are no highways or railways leading directly to Ponta Dobela, the construction of a railway spur and a highway connection does not present any difficulties and has been to a large extent completed.

In considering the entire coastline and the harbor area of Lourenco Marques it was our conclusion that Ponta Dobela represents the best location from the view point of short railway connections, deep water close to shore and firm level ground for stockpiles. For these reasons, the Ponta Dobela area was selected as the site for the multi-product terminal.

The location of the shiploading and unloading berth is in the open ocean 6,000 feet (1,800 meters) from the shore at

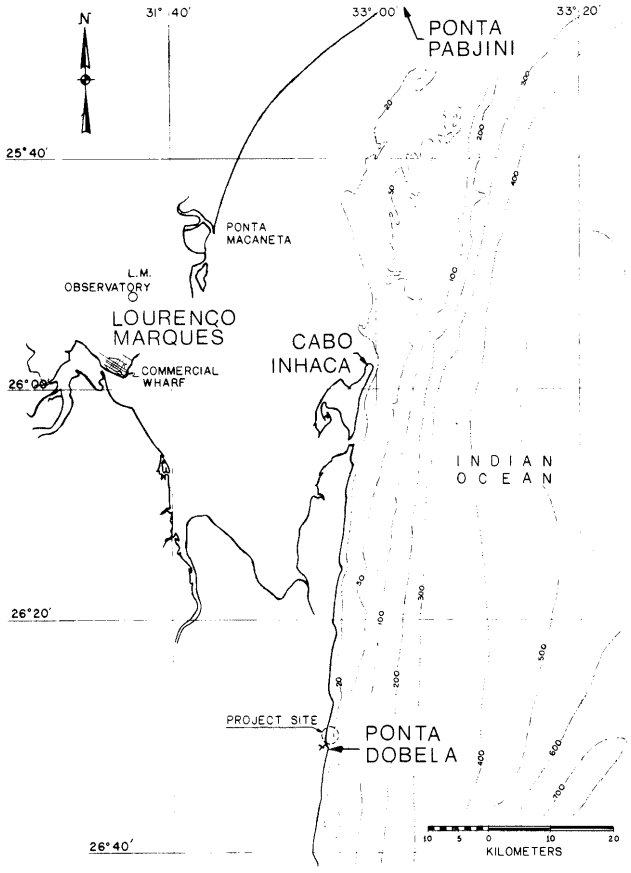

Figure 1. Potential Offshore Terminal Sites in the Vicinity of Lourenco Marques.

a point where the water depth is approximately 15 fathoms (27 meters). The 10 fathom (18 meter) line is approximately 1,500 feet (450 meters) further inshore as shown in Figure 1. There are no off-laying dangers in this are, and the bottom contours are approximately parallel to the North-South running coastline for several miles in either direction.

An access trestle will connect the open-sea berth with the shore based facilities. Where the trestle crosses the coastline the top of the dunes is approximately 43 feet (13 meters) above low water level, making it possible for the roadway, belt conveyor and pipelines to be above the top of the dune. Thus the breaching of the dunes can be avoided and the natural protection of the inland area maintained. There is a large, relatively flat area north of Ponta Dobela, sufficiently high above sea level for the construction of the required extensive storage yards and tank farms. Test borings and laboratory tests have proven that the soils in the area are capable of supporting the stockpiles and the tanks.

The general area is north of Lagoa Piti whose partially blocked outlet to the sea is between Ponta Dobela and the site of the terminal. The whole area is at the edge of the Maputo elephant reserve. The connecting railway under construction approaches the terminal area from the North.

TYPES OF TERMINALS CONSIDERED

In the course of planning the installations at Ponta Dobela several alternative layouts were considered for the shiploading and unloading facilities. (1) One alternate involved the construction of a breakwater protected harbor with large curved break waters enclosing a turning and

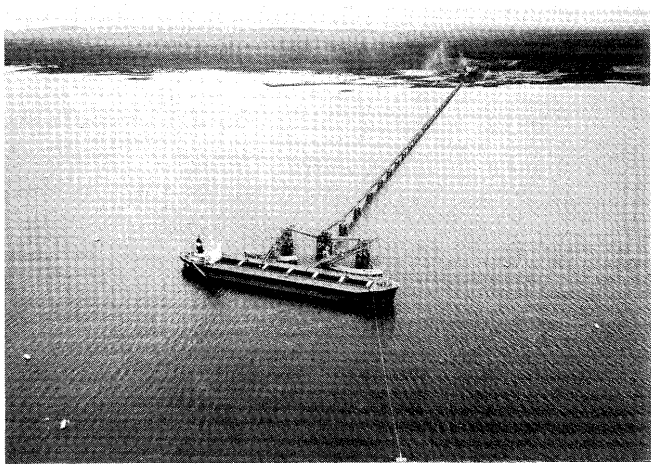

Figure 2. Ore Loading Terminal, Port Latta, Tasmania.

berthing basin dredged to a depth of 75 feet (23 meters) initially and possibly deeper in the future. An approximately 6,000 foot (1,800 meter) long approach channel would also have been dredged. This rather expensive solution would have made it possible to load and unload all ships in a protected harbor.

Another alternative layout included a breakwater built approximately 7,000 feet (2,100 meters) from the shore. A single combined ore-bulk-oil (OBO) berth was located in the lee of the breakwater with direct pipeline and conveyor connections to the storage areas on shore. Some initial dredging and continued maintenance dredging would have been carried out in conjunction with this layout which also included a second smaller breakwater closer to shore for the protection of the lineboats, tugboats and other service crafts used in the operation of the terminal. The main breakwater for the protection of the offshore pier would have been at least 3,000 feet (1,000 meters) long with an approximate overall height of 150 feet (45 meters).

Detailed site investigations and thorough analysis of the currents, waves and winds indicated that the main deep sea berth could operate without breakwater protection provided that the ship is properly oriented and moored to flexible mooring dolphins, breasting dolphins and mooring buoys. Thus, a terminal similar to the one shown in Figure 2 would be suitable, with some modifications, for this site. (2)

LAYOUT SELECTED FOR THE PONTA DOBELA TERMINAL

The Ponta Dobela Multi-Product Offshore Bulk Terminal, as shown on Figure 3, was designed to accommodate ships of up to 300,000 DWT. Liquid cargoes can be loaded or unloaded and dry bulk cargoes can be loaded at the peak rate of 10,000 TPH. Liquid storage capacity is approximately 800,000 tons and the dry bulk storage capacity is approximately 1,200,000 tons. Inland transporation is by railroad and pipelines. Total throughput is approximately 15 million tons of liquid and dry bulk cargoes per year.

Receiving and Stockpiling

Iron ore, coal and other dry bulk materials arriving by railroad are unloaded by means of two rotary cardumpers. Four trains of 75 cars each can be accommodated on the full-car tracks ahead of the dumpers. The cars are moved to the dumpers by an automatic Barney Carpusher system.

The material dumped into the receiving bins is fed onto

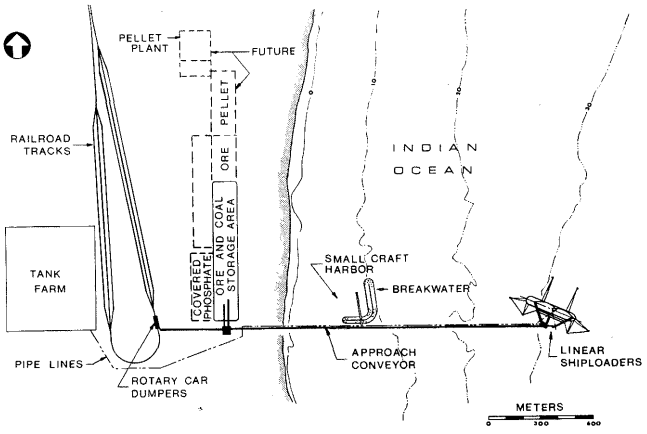

Figure 3. General Plan of the Ponta Dobela Terminal.

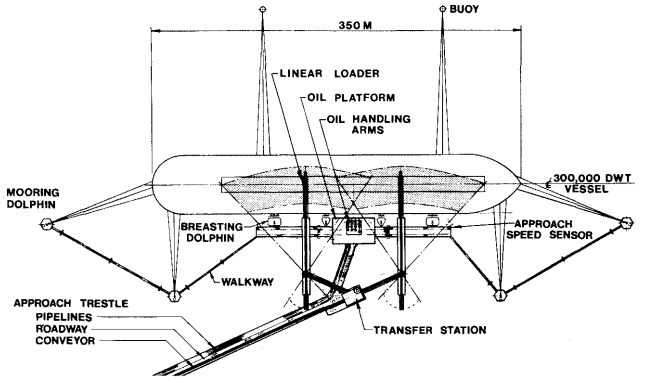

Figure 4. Plan of the Open-Sea Berth.

a conveyor system of 4,000 TPH nominal capacity. This system, using 48-inch (1.22 m) wide belts moving at 600 feet per minute, (3.05 m/sec.) carries the material to a traveling rail-mounted stacker equipped with a 177-foot (54-meter) long boom. This stacker can build two rows of stockpiles, one on each side of the long runway which also accommodates the rails supporting the reclaimers. Approximately one million tons of iron ore and 200,000 tons of coal can be accumulated in the stockpiles.

Reclaiming

Material is reclaimed by two bucketwheel reclaimers of 4,000 TPH nominal capacity each. These reclaimers, traveling on rails and feeding a common conveyor, can operate at any location along the stockpile, independently from the operation of the stacker. Their 148-foot (45-meter) long boom, can reach 90% of the stockpiled material. Each reclaimer is equipped with a surge-bin to regulate the flow of material and achieve uniform feeding of the reclaiming and shiploading conveyor system.

The 60-inch (1.52 m) wide reclaimer conveyor has a dual-speed drive to operate at 900 feet per minute (4.60 m/sec.) for some materials and at 600 feet per minute (3.05 m/sec.) for others. All principal conveyors meet inside the onshore transfer station. Here two-way transfer chutes and movable head-pulleys allow the directing of the flow to the desired destination. The transfer station is equipped with a dust collecting system and with a dust-suppressing chemical spray system which is also employed at the cardumpers. Conveyors have hood covers for protection against wind, rain and sun.

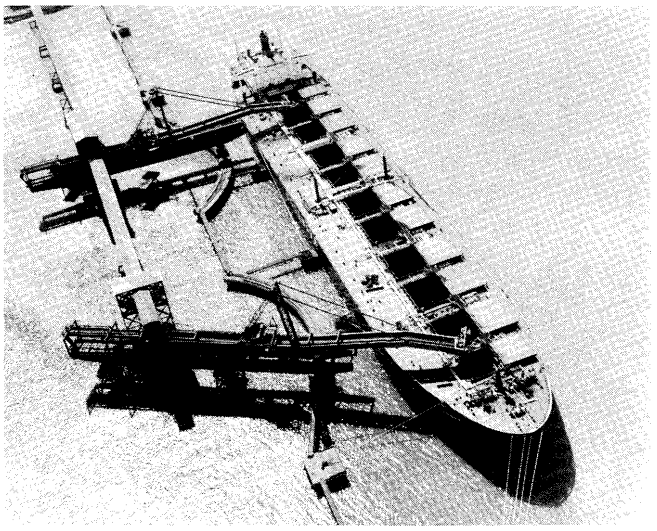

Figure 5. World's Largest Shiploaders at Tubarao, Brazil.

From the onshore transfer station a 60-inch wide approach conveyor carries the material to the shiploading berth offshore. This belt has 3 speeds; 600 and 900 feet per minute for ship-loading; and a reverse speed of 150 feet per minute (0.76 m/sec.) to recirculate the material left on the belt at the completion of shiploading. The peak capacity of this belt is 10,000 TPH of iron ore.

The quantity of material loaded is controlled with the help of an elaborate weighing system near the onshore transfer station. Several belt-scales are employed, to provide accuracy for the different materials at the various belt-speeds.

The approach conveyor rests on a pile-supported access trestle. This structure also carries the pipelines and a service roadway for vehicular access to the offshore berth and to a small-craft harbor provided for the protection of tugboats and lineboats.

Shiploading

The approach conveyor ends at the offshore transfer station where the flow of material can be directed to either one of the two shiploaders by means of a moveable stone-box. This transfer station also accommodates an electrical substation and a control tower severed by an elevator (Figure 4).

The shiploaders are the SOROS linear slewing bridge type. Their design makes it possible to switch the loading from hatch to hatch without interrupting the flow of material from the reclaimers or stopping the approach conveyor. Each shiploader has a peak capacity of 10,000 TPH. Shiploaders of similar size but somewhat different design are used at Tubarao, Brazil, the highest capacity installation in the world, shown in Figure 5.

The shiploading berth also accommodates four flexible 16-inch (0.40 m) diameter liquid handling arms on a special two-level platform. Three of these arms are used to receive crude oil from large tankers which are capable of pumping it to the tank farm on shore at the rate of 70,000 BBL per hour (10,000 TPH) through a 48-inch (1.22 m) pipeline. The fourth arm is used for ballast pumping, or, alternatively for bunkering. Separate, 24-inch (0.61 m) diameter pipelines are provided for ballast and for bunker oil. Provision is made for the treatment of ballast-water on shore. Fire-fighting equipment is incorporated in the piping system.

The shiploading berth structures are supported on large

diameter piles driven into the sandy seabottom. Each of these piles can support a vertical load of several hundred tons.

Berthing

To resist the horizontal impact of docking ships, four breasting dolphins were designed, each consisting of several vertical pipe piles of high-strength steel, driven to a deep penetration. These piles can deflect up to 7 feet (2.13 meters) horizontally, and can absorb the normal kinetic energy of the largest ship approaching the berth. To assist the docking master in controlling the approach velocity, the distance of the ship from the berth and the rate of approach are monitored by means of a sensor system and displayed on a large indicator board mounted on the berth and visible from the bridge of the ship.

The four mooring dolphins and two large mooring buoys have been designed to resist the forces resulting from the action of waves, wind, and currents on the moored vessel. The mooring dolphins and buoys have also been checked for the line pulls resulting from a storm with 60 knot (30 m/sec.) winds.

Ships moored at the loading berth head toward East-South-east, into the prevailing swell. The layout of the mooring buoys and dolphins allows the ships to be held off the dockface, leaving a gap of several yards between the ship and the breasting dolphins. Alternatively, when wind and wave conditions are favourable, the ship can be breasted against the fendered face of the dolphins.

Arriving ships are expected to be boarded by a Mooring Master at a waiting area off the coast, approximately 3 miles (5 1/2 kilometers) to the north. Approach to the offshore berth can be made on a general southerly course. Ships will maneuver into position with the help of tugboats. Lineboats will render assistance to secure the mooring lines.

EXPOSURE TO WINDS, WAVES, TIDES AND CURRENTS

Extensive site investigations were carried out in order to be able to properly plan, design and build the offshore installations. For this purpose a meteorological and oceanographical station was established at Ponta Dobela. The measurements and observations obtained were correlated with long term statistical data available from various sources. The results were presented in digital and graphical form suitable for use in the analysis of conditions and planning of the facilities. Extreme conditions were determined with the help of historical records and special calculations.

General Climatic Conditions

The area is just south of the Mozambique Channel occasionally visited by tropical storms. Records shown that storm-paths stay well to the north of Lourenco Marques. The stormy areas south of the Cape of Good Hope, the "Roaring Forties" exert only a limited influence of the weather off Mozambique. The coast is, however, exposed to the long swells of the Indian Ocean.

Winds

The prevailing winds at Ponta Dobela are from the northeast and southwest. The strongest winds, however, occur from the south and southeast directions, but with less frequency. In analyzing the hourly records of wind directions, frequent shifts occur during the course of the day,

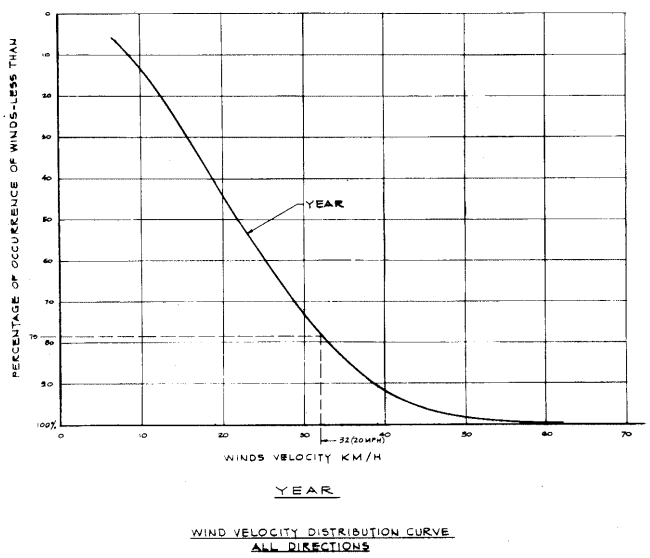

Figure 6. Yearly Frequency of Wind Forces.

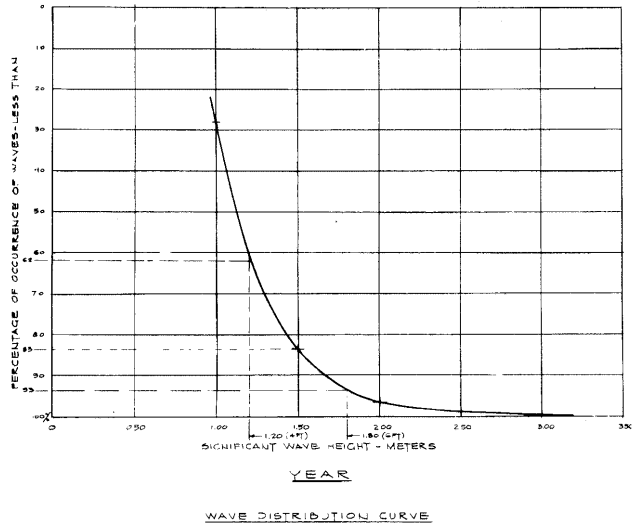

Figure 7. Yearly Frequency of Wave Heights.

but there is no correlation of wind shifts with seasons or even daytime versus nighttime readings.

The statistical distribution of wind velocities is illustrated by Figure 6. This frequency curve shows that a very small increase in wind velocity results in a substantial decrease in the frequency of occurence, within the range of 16 to 22 knots (30 to 40 kilometers per hour). This is of great importance, as limiting conditions for berthing, taking into account winds only, are generally in this range for winds abeam of the vessel.

A review of the daily fluctuations in wind velocities revealed that the winds are strongest during the afternoon and night, but about 25 percent weaker during the early morning. This pattern is a positive factor, in terms of delayed berthings, since on most occasions a ship will need wait only about half a day before wind velocities diminish to the extent that berthing can be accomplished.

Waves

Waves approach practically always from the east and southeast, with a very small percentage from the northeast. The direction of the waves does not appear to be affected

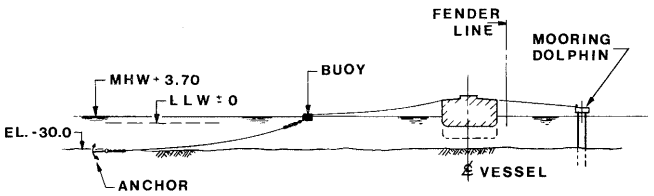

Figure 8. Ship Moored to Buoys and Dolphins.

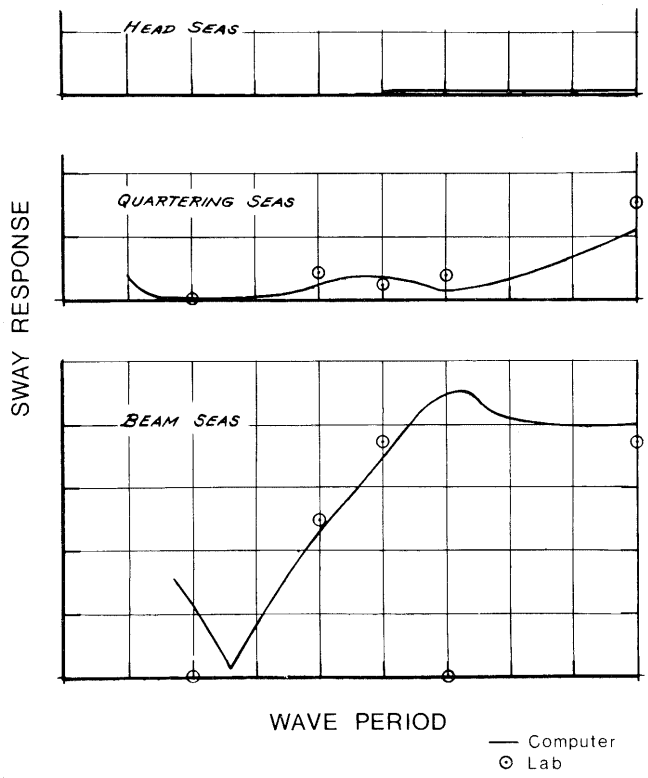

Figure 9. Sway Response of Moored Ship.

by local varying wind conditions, but instead, represents swells primarily influenced by major weather conditions in the Indian Ocean.

Figure 7 shows the wave distribution curve and percentage of occurence for the entire year. It can be seen that 93 percent of the time the significant wave height is less than 6 feet (1.8 meters). On the other hand, calms, or waves less than 2 feet (0.6 meters) in height occur only 0.3 percent of the time.

Particularly important is the fact that within the 3 to 6 foot (0.9 to 1.8 meter) wave height range, a very small increase in the limiting wave height, results in a relatively large decrease in frequency of occurence.

Studies were made to determine if there was any statistical relationship to indicate that wave heights during early morning hours might be less than during the afternoons and evenings when wind velocities increase. No relationship was found. The wind direction changes during the course of a day are not statistically consistent to build up the wave height during the afternoon and evening, nor do the winds flatten or diminish the wave heights during the calmer early morning hours. It is therefore indicated that for all practical purposes, the wave heights are to be considered equal during the day and night hours.

The wave periods vary through a relatively narrow range, with long periods (around 10 seconds) predominating as shown in Table 1.

TABLE 1.

RECORDED WAVE PERIODS

PERCENT OCCURENCE	PERIOD (SECONDS)	APPROXIMATE ESTIMATED WAVE LENGTH (FT.)	(M.)
13	6.1 to 9.0	200-400	60 to 125
74	9.1 to 11.0	430-625	130 to 190
13	11.1 to 14.1	140-1000	195 to 310
100%			

Tide

Tidal observations are still under way and continuous records are being kept. Preliminary indications are that the tides at Ponta Dobela occur about half an hour after Lourenco Marques, with a maximum tidal range of approximately 10 feet (3 meters).

Currents

During the summer and fall the offshore currents are from south towards north, generally paralleling the coast with some onshore drift towards the northwest. Although the direction of currents is fairly constant, the speeds vary from about 0.2 to 1.1 knots (0.10 to 0.55 m/sec.). The variations relfect the influence of both tides and local winds.

The currents during the spring and summer are more variable in directions, although northerly currents prevail. Some measurements show currents of constant northerly direction lasting for as long as two days, but also, some measurements recorded constant southerly directions of similar duration. The maximum recorded current was 1.0 knot (0.5 m/sec.) with most readings well below this value.

MOORING OF SHIPS AT THE OFFSHORE BERTH

One of the first problems encountered in the design of the offshore berth was the influence of wind, current and waves on the maneuvering of ships and on the behavior of ships moored at the berth. The predominance of relatively long period (10 sec.) waves indicated a possibility of overstressed mooring lines and excessive ship oscillations. The key to a solution that would avoid these occurances was the orientation of the berth, the relative location of dolphins and buoys and the elastic characteristics of the individual components of the mooring system. Computer analysis and laboratory testing was used in arriving at the best solution. A layout was prepared on the basis of a tentative orientation of the berth and location of the buoys, mooring dolphins and breasting dolphins. The strength and elastic characteristics of the individual components were tentatively determined through a series of preliminary calculations in the course of which an attempt was made to build the maximum practical elasticity into the dolphins and fenders.

A cross-section through the berth is shown in Figure 8.

The geometry and the elastic characteristics of the moorings were developed in the course of the initial calculations and were used as the starting point of a computer analysis. The SEABERTH program developed by Soros Associates was used to determine the oscillations of the ship and the tensions in the mooring lines.

In the course of the computer analysis many alternate arrangements were investigated for all likely conditions of winds, waves and currents. (3) The arrangement which appeared most favorable from the view point of movement and forces as well as from the practical view point was selected for further checking by means of laboratory model tests. The testing carried out for the selected arrangement produced results for a wide range of wave periods and directions as well as for winds and currents. The results of the tests were in close conformity with the results of the computer analysis.

Computer analysis and laboratory testing included regular and irregular wave trains, both alone and in combination with winds and currents. The behavior of several sizes of ships from 25,000 DWT to 300,000 DWT was charted for the various different mooring layouts.

Figure 9 illustrates the sway response of a moored ship exposed to regular waves. The direction of the waves has great importance for this response, as head seas cause no sway at all, while the sway caused by beam seas is substantial, especially for long-period waves.

The surge response of a moored ship was similarly determined. For short period waves the surge is negligible but it increases with the increase of wave period. Maximum values occur in the range where the wave period approximates the natural period of the moored ship. This phenomenon is especially pronounced in the case of head seas and quartering seas, as there is only negligible surge in the case of beam seas.

The heave response is most pronounced in the case of beam seas with long period waves.

Roll, pitch and yaw responses were charted similarly, and the tensions in the mooring lines were determined in all cases.

Ship responses and mooring tensions were also determined for irregular waves and for combinations of waves, winds and currents.

OPERATIONAL LIMITATIONS AND BERTH AVAILABILITY

On the basis of the computer analysis and the model testing, the berth was oriented to head the ship East-Southeast into the waves rolling in from the southern half of the Indian Ocean. Analyses showed that under favorable conditions the ship can be pulled up against the flexible breasting dolphins by means of lines running to the flexible mooring dolphins.

Under certain conditions, when the ship's sway would exceed the allowable deflection of the breasting dolphins, the ship will be held off the dolphins, by means of mooring lines running to the offshore buoys. The telescoping shiploaders and the flexible liquid handling arms can reach the ship even when there is a gap of 30 feet (9 meters) between the dock and the ship.

Ships can remain at berth and loading and unloading operations can continue as long as both the ship oscillations and the mooring line tensions are within allowable limits. Whenever the allowable limits of ship oscillations are exceeded, the ship loading has to be interrupted, the flexible liquid arms disconnected and the shiploader booms retracted behind the dock face.

Ships should neither approach nor remain at berth when conditions are such that excessive tensions can be expected in the mooring lines. A ship at berth when such conditions threaten to develop will be able to get underway quickly since all mooring lines expected to be cables on winches and since all lines will be connected to quick-release hooks, thus facilitating the taking in of the lines.

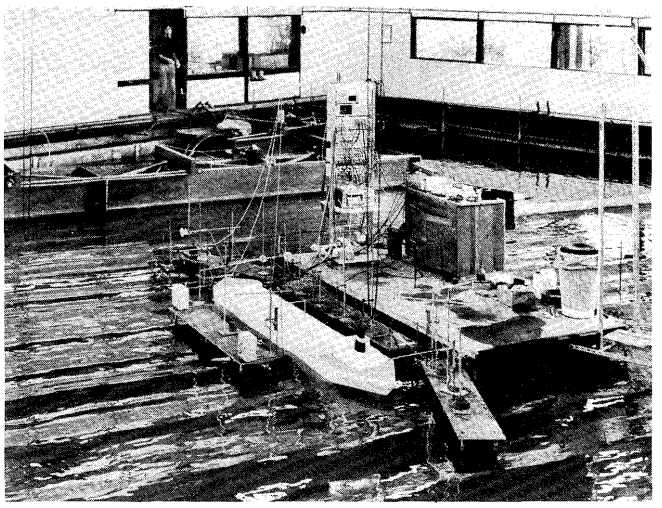

Figure 10. Hydraulic Laboratory Testing of Moored Ship.

The limiting conditions were determined for the various sizes of ships. These conditions were then compared with the statistical data in order to determine the percentage of time when the berth is suitable for use by the various sizes of ships. It was found that, for the fleet composition predicted for Ponta Dobela, during an average year docking and undocking maneuvers can be carried out at least 85% of the time and loading and unloading can take place at least 95% of the time.

OPERATIONAL ANALYSIS

In order to determine the shiploading and unloading rates necessary to handle the required yearly cargo volume, the operation of the terminal was analyzed with the help of the PORT-LOG computer program developed by Soros Associates. Several possible combinations of commodities, ship sizes and shiploading and unloading capacities were investigated. Table 2 lists a representative case where the operation of the terminal was simulated over a period of ten years. It shows a berth occupancy rate of 34%, an average time at berth of 24 hours per vessel and an average delay of ten hours per vessel. Delays are caused by having to wait for another ship to vacate the berth or by inclement weather preventing the arriving ship from occupying the otherwise empty berth. Approximately 50% of the vessels are not delayed at all.

Table 3 presents a breakdown of delays, listing the number of ships being delayed for various lengths of time. It can be seen that very few ships are delayed more than 2 days and only 4 ships per year are delayed more than 4 days per ship.

The operationsl analysis demonstrated that with a peak shiploading and unloading capacity of 10,000 TPH the offshore berth can efficiently handle at least 125 ships per year with a yearly throughput of 15 million tons.

TABLE 2

BERTH OCCUPANCY ANALYSIS

Total time for 10 years:	Hrs. 87,996
Average service time per vessel:	Hrs. 24.0
Total service time for 10 years:	Hrs. 30,000

Berth occupancy percentage:			34.2
Average waiting time based on all vessels:	All delays	Hrs.	10.0
	Due to weather only:	Hrs.	3.5
	Due to berth being occupied:	Hrs.	6.5
Total number of vessels:			1,250
Number of vessels with no delay:			639
Number of vessels delayed:			611

TABLE 3

WAITING TIME OF DELAYED VESSELS

Waiting Period Hours	Number of Vessels Delayed	
	All Delays	Weather Delays Only
0-12	270	218
12-24	159	51
24-36	91	39
36-48	52	6
48-60	18	4
60-72	9	3
72-84	3	3
84-96	3	
96-108	3	
108-117	2	
Greater than 117	1	
Total Number of Vessels Delayed:	611	324
Average Waiting Time of Vessels Delayed: (Hrs.)	20.3	13.5
Total Waiting Time of Delayed Vessels: (Hrs.)	12,392	4,378

OBO TERMINAL

One of the major advantages of the Ponta Dobela Terminal is that, while it would be uneconomical to build a deep water terminal for any one of the individual commodities, the undertaking becomes economical when a single pier is built to handle all these commodities. The vessels expected to call at the terminal will be mostly tankers and ore carriers: but, since this is an ideal arrangement for the use of ore/bulk/oil carriers (OBOs), every effort will be made to make use of these vessels.

In the case when an OBO brings in crude oil and expects to load coal or iron ore, the problem of tank cleaning arises. Tanks aboard ships are usually cleaned two or three at the time and the process of cleaning all the tanks can sometimes take several days. Time is usually not a factor because the trip between terminals normally provides more than sufficient time. However, manufacturers of tank cleaning equipment state that if there is a need for cleaning tanks more rapidly than is presently done, it is possible by utilizing the cargo pumps to provide a sufficient quantity of water at a high enough pressure.

The tanks of an OBO vessel could be cleaned and gas freed in less than 6 hours. With such a system the vessel could remain in the same position for unloading the ore and taking on ore or coal. Even if the vessel was required by safety regulations to leave the berth and clean the tanks in the open sea, it could soon return and start loading without extensive delay. Considering that both the loading and unloading would be done at a very high rate, the turn around time for a 150,000 DWT OBO vessel could be kept down to 2–2 1/2 days, or the same length of time most existing terminals would need to turn around the ship arriving in ballast and leaving laden with ore.

ENVIRONMENTAL CONSIDERATIONS

Locating a new terminal at Ponta Dobela, rather than inside the bay of Lourenco Marques, or further inland in the Espirito Santo estuary is a definite improvement as far as the protection of the environment is concerned. The use of this offshore terminal will avoid an increase in the number of ships entering the inshore waters and will even remove a portion of the present traffic. The importance of this cannot be overestimated, as for instance, 48% of the worldwide oil spills between 1956 and 1969 was the result of grounding in shallow water. If it is further considered that during the same time period 79% of all collisions involving tankers occured in harbors, rivers, bays or estuaries, the desirability of keeping tanker and bulk carrier traffic away from the inshore waters becomes even more evident. Any alternative that reduces the number of tankers and bulk carriers entering bays and estuaries is a distinct improvement over traditional methods.

The offshore terminal at Ponta Dobela will not only keep many ships out of the bay of Lourenco Marques but it will also keep them away from the heavily traveled sea lanes leading to the entrance of the bay, thus further reducing potential navigational hazards.

In case undesirable pollution occurs at the offshore terminal, the contaminant discharged a mile from the shore in the open sea for a given size of spill would be less detrimental than if it had been discharged in the bay or in the estuary where it would endanger large areas of wetlands essential for the survival of marine fauna. The accidental discharge of solid bulk cargoes–coal, iron or phosphate, etc.–is also more damaging to the marine environment in shallow waters than at the site of the open sea terminal.

CONCLUSIONS

Many problems were encountered and solved in the course of site investigations, feasibility studies, planning and design of this terminal. The solutions of these problems are reflected in the final arrangement of the facilities.

The orientation of the offshore berth takes advantage of the constant direction of the ocean swell. The structural design of mooring elements, combined with the advantageous berth orientation, makes it possible to use the terminal during all but the stormiest days of the year.

The efficiency of the linear slewing bridge shiploaders, combined with the high capacity belt conveyor system, enables the terminal to completely load most ships in 24 hours or less.

The ample storage capacity and the efficient stockpiling and reclaiming system make it possible to accumulate sufficient quantities of the different bulk materials, to have ready entire shiploads of cargo whenever needed.

The material weighing system facilitates record keeping and the control of cargo movements.

The dust suppression and dust collection systems prevent the pollution of the atmosphere.

The large-diameter pipelines and ship connections speed up ballast pumping and bunkering, as well as the unloading of crude oil.

The oily water treatment facilities prevent the pollution of the sea and of the beaches, marshes and lagoons.

Locating the terminal away from the heavily traveled

(Continued on next page bottom)

NEW YORK-NEW JERSEY PORT PROMOTION ASSOCIATION

Observance of the first National Port Week

New York, Sept. 29:—Observance of the first National Port Week, to remind Americans of the importance of the port industry of the United States to our national life, begins today in the nation's leading port, the Port of New York-New Jersey. James P. McAllister, President of the New York-New Jersey Port Promotion Association, urged that the public direct its attention between now and October 5 to the role our nation's ports play in the economy, in accordance with proclamations issued by the President of the United States, the Governors of New York and New Jersey, and the Mayors of cities in the bi-state Port District.

As National Port Week began, The Port Authority of New York and New Jersey released a comprehensive, 44-page study, **The New York-New Jersey Harbor, Its Scope, Waterways, Commerce, Terminals and Shore-line,** emphasizing the vast expanse of its harbor and the facilities and services which it provides for the movement of waterborne commerce. The report describes the harbor's geography, vessel traffic and commerce; then details its channel system, major ocean terminal development, harbor services inventory, the elements of its vessel traffic system, and the available harbor shoreline.

Businessmen and visitors at The World Trade Center, including the new United States Customhouse at the Center, will be reminded of National Port Week by attractive banners and ship's pennants in the concourse and Customhouse.

The public is invited to a week-long maritime and port exhibit in the Customhouse exhibit hall, co-sponsored by the Port Authority and the United States Customs Service. The Customs Service, which is also observing its 185th year of operation, is co-operating in local observances for National Port Week across the country.

During the 12 months ending last June 30, collections of Customs duties and taxes in the Port of New York totaled $1.3-billion to lead the nation, a position held by the New York-New Jersey port area for almost 100 years.

Also at the Trade Center, cadets of the State University of New York Maritime College will give a concert at 12:15 P.M. on Monday, September 30, in the lobby of One World Trade Center, as a musical salute to our nation's ports.

On Tuesday, October 1, some 400 trade and civic leaders, Port officials and press have been invited to a four-hour Circle Line inspection of port facilities in the bi-state harbor. The inspection is being jointly sponsored by the New York-New Jersey Port Promotion Association, comprised of about 25 maritime groups, government agencies, and trade and civic associations; the New York City Council on Port Development; and the Port Authority.

The inspection will also afford a preview of the new $35.9 million Passenger Ship Terminal, nearing completion on the Hudson River between 48th and 54th Streets. The terminal, which is scheduled for dedication on November 23, is being developed by the Port Authority at the request of The City of New York. The vessel will debark and return from Pier 88, one of three piers being modernized and reconstructed as part of the new cruise and transatlantic steamship facility.

Ships in the Port of New York-New Jersey, as in all other United States ports, are being asked to "dress ship" with attractive flags and pennants during the week, in tribute to the nation's port industry.

New York Port facilities with major ocean terminal developments

Eleven major ocean terminal developments in the Port of New York have been developed on the New York side of the harbor. Two of these publicly owned and developed terminals—a passenger ship terminal in Manhattan and a cargo terminal in Brooklyn—are under the joint auspices of the New York City Department of Ports and Terminals and The Port Authority of New York and New Jersey. Six terminals are being developed by New York City in Staten Island, Brooklyn and the Bronx, and three by the Port Authority in Brooklyn.

City of New York and Port Authority

New Passenger Ship Terminal

The new Passenger Ship Terminal on the Hudson River, being developed by The Port Authority of New York and New Jersey under a lease with The City of New York, will feature six berths, new auto access ramps, rooftop parking, air-conditioned passenger lounges, automated baggage handling apparatus, and a host of other refinements designed to meet the needs of passenger ship travelers.

For the first time New York will have a passenger

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approaches of existing harbors reduces the danger of collisions. The investigations, studies, computer analysis and laboratory tests leading to the conclusion than an open-sea berth is possible at this location were extensive, time consuming and expensive, but vitally important for the success of this undertaking.

The multi-product facility designed for Ponta Dobela demostrates the economic advantage and environmental desirability of offshore terminals built to handle the very large carriers.

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2. Paul Soros, "Port Latta–Open Sea Loading Terminal", Civil Eng. (Jan., 1969).
3. Paul Soros and Bela Koman, "Offshore Berths with Multiple Orientation", Offshore Technology Conference, Houston, Texas (1971) OTC 1366.

terminal that is integrated with the overall development of the mid-Manhattan Hudson River waterfront. The $35.9 million terminal included complete rehabilitation and rebuilding of Piers 88, 90, 92 (between 48th and 52nd Streets). In addition, the existing Pier 40 at Houston Street will be used as a companion three-berth facility.

Cruise passengers account for at least two per cent of New York's annual hotel occupancy rate. On the whole, passenger ship activity contributed $137 million to the Greater Metropolitan Area's economy in 1973 by generating income to restaurants, theatres, hotels, and other tourist-related enterprises. In 1972, existing facilities handled 972 cruise and transatlantic ships carrying 643,147 passengers.

Red Hook Containerport

At the request of The City of New York, The Port Authority of New York and New Jersey has been working on plans for a jointly developed container terminal facility in Red Hook, Brooklyn.

This new containerport on the Red Hook peninsula would cover 230 acres and cost approximately $54 million. It would incorporate the most modern technological refinements and offer a two-berth container-ship terminal, a stuffing and stripping shed, and additional storage and back-up space. Revised rail and truck links to the facility will minimize truck traffic on local residential Streets.

This project will create 500 new waterfront jobs and 2,200 port-related positions.

City of New York

Stapleton Trailership Terminal

Under a proposed lease with the City of New York, Transamerican Trailer Transport, Inc., will build an $18 million, two-berth cargo facility for its unique roll-on, roll-off trailership operation at Stapleton, Staten Island. The TTT installation is planned to handle every kind of equipment and vehicle that moves on wheels. The cargo will roll on and roll off TTT ships and be dispatched to destination without the use of lifting cranes or containers.

The 42-acre facility, consisting of 23 acres of upland and 19 acres of land created by fill between existing piers, will feature a quay-type wharf to be constructed along a new 1,800-foot bulkhead. The development will create 500 waterfront jobs.

Howland Hook Containership Terminal

The City of New York's recent purchase of this 515-acre maritime complex at Howland Hook, Staten Island, from American Export Lines, inaugurates the full-scale development of a 187-acre containerport with United States Lines as the prime tenant and operator. American Export Lines will continue to sublease a portion of the facility and share operating responsibilities with United States Lines. This restructured containerport will handle 180,000 containers annually, or 18 per cent of the container volume moving through the Port, and create 500 waterfront jobs.

Scheduled refinements of the containerport, as specified in the lease between the City and United States Lines, include a fourth ship berth, a doubling of the existing stuffing and stripping shed space, and 50 acres of new paving for marshaling and storage areas. In addition to the container terminal proper, approximately 215 of the 515 acres in the Howland Hook tract will be developed as an integrated distribution facility that will generate 15,000 new jobs and attract $140 million worth of private investment for land improvements.

Northeast Marine Terminal

The Northeast Marine Terminal in Brooklyn is New York City's first fully equipped containerport/breakbulk general cargo operation. Northeast now employs an average of 800 longshoremen and handles about 800,000 tons of cargo annually.

One of Northeast Marine Terminal's greatest features is two City-purchased "Starporter" gantry cranes whose lifting capacity and reach in all directions exceed that of any other crane model in the world. Phase One of Northeast's renewal, between 33rd and 36th Streets, is already operational. Phase Two, between 29th and 33rd Streets, is under construction and scheduled to open in 1977. Construction on Phase Three, between 39th and 51st Streets, will begin in late 1974. The Phase Three portion involves former Bush Terminal Piers 1–7 and is located south of Gowanus Bay in Brooklyn. This facility currently provides a breakbulk general cargo operation that moves 300,000 tons of cargo annually. The City of New York purchased the terminal and development plans call for this facility to become a major expansion of the Northeast Marine Terminal.

The three-phase, $80-million renewal program will quadruple Northeast's cargo handling capacity to two million tons per year, and almost triple its work force to 2,000 longshoremen.

Brooklyn Army Terminal

The City of New York leases a portion of the 110-acre Brooklyn Army Terminal from the United States of America, and in turn, subleases it to International Terminal Operators, Inc., as a breakbulk general cargo facility. The facility, which handles about 200,000 tons annually, represents the last remaining area on the Brooklyn waterfront suitable for development as a modern shipping installation.

Hunts Point Deepwater Cargo Facility

This new $37-million City of New York deepwater cargo facility and refrigerated warehouse will handle 65 per cent of all the meat imports to the United States and consolidate the distribution of domestic provisions in both the City and the region. The unit will occupy 40 acres of the Bronx waterfront on the East River, and have a 1,700-foot pier capable of accommodating second and third generation containerships, as well as lighterage. The 5 million-cubic foot warehouse will handle over 700 million tons of meat annually.

At its opening in 1975, this installation will have 200 employees and an annual payroll of $1.1 million. Eventually, more than 2,000 new jobs will be created by the deepwater cargo facility.

Port Authority of New York and New Jersey

Brooklyn-Port Authority Marine Terminal

The Brooklyn-Port Authority Marine Terminal is among the busiest marine facilities owned by The Port Authority of New York and New Jersey on the New York side of the Bi-state Port. The terminal extends southward along two miles of prime waterfront from the Brooklyn Bridge to, and

including, Atlantic Basin. The Port Authority's redevelopment program for this facility, begun upon acquisition of the property in 1956, has resulted in the replacement of 25 obsolete piers with 12 new piers and the rehabilitation of one pier, at a cost of $95,900,000.

The 13 highly modern piers at the facility offer shippers wide aprons and ample shedded space to facilitate loading and discharge of vessels. Extensive upland area and broad truck platforms also contribute to the terminal's reputation for fast, efficient cargo handling. During 1973, approximately 1.5 million tons of cargo were handled at the facility. The spaciousness of the facility and its supporting 60 acres of upland area have made the terminal ideal for conventional general cargo handling, including accommodation of unitized and palletized freight. Containerized cargoes are also handled at the terminal. Since 1966, an Employment Information Center for the Waterfront Commission of New York Harbor has been in operation, providing a hiring center equipped with the latest electronic devices.

In 1973, employment at this Brooklyn facility was equivalent to 2,246 people earning more than $25 million.

Columbia Street Marine Terminal

The Columbia Street Marine Terminal, located on Gowanus Bay in Brooklyn, is a six-berth facility. The terminal, originally built in 1922 by the State of New York as part of the New York State Barge Canal System, was transferred to The Port Authority of New York and New Jersey in May 1944. The Columbia Street Marine Terminal represents an investment of $4.2 million for the Port Authority in rehabilitation and improvement projects.

In 1973, the terminal handled 117,001 long tons of cargo with an annual payroll of almost $2 million.

Erie Basin-Port Authority Marine Terminal

Located on Gowanus Bay in Brooklyn, this facility, owned by The Port Authority of New York and New Jersey, includes property purchased in 1958 from Beard's Erie Basin, Inc., and the United States Navy. The five-berth breakbulk terminal is over 4,000 feet long and 300 feet wide, has two breakwaters, contains five transit sheds, and comprises 40 acres of upland. The Port Authority has invested more than $12.8 million to rehabilitate the terminal.

This facility generates an annual payroll of more than $1.6 million.

New Jersey Port facilities with major ocean terminal developments

Five major ocean terminal developments for general cargo in the bi-state harbor have been developed in the State of New Jersey. Three of these are publicly owned and developed terminals of The Port Authority of New York and New Jersey in Elizabeth, Newark and Hoboken. The two remaining terminals are the privately owned and developed Port Seatrain Terminal in Weehawken, and Port Jersey Industrial Marine Center in Jersey City and Bayonne.

Elizabeth-Port Authority Marine Terminal

The Elizabeth-Port Authority Marine Terminal began operation in 1962 and is owned by The Port Authority of New York and New Jersey. This 1,165-acre marine terminal, located on Newark Bay in the City of Elizabeth, is a $244 million development providing modern, efficient facilities for steamship lines and shippers. At present, there are 19 container cranes servicing 22 fully equipped container berths. There are 12 huge cargo distribution buildings with over a million square feet of space, eight cargo terminal buildings and 50 miscellaneous service buildings.

Within this facility, 8,471 linear feet of wharf and 364 acres are occupied by Sea-Land Service, Inc., the pioneer container steamship company which started services at the facility in 1962 and this year dramatically expanded its terminal. The combination container and roll-on/roll-off vessels of Atlantic Container Line, Ltd., began transatlantic operations from the Elizabeth terminal in September 1967. Atlantic Container Line operates from 1,550 linear feet of wharf at Elizabeth, supported by 65 acres of paved upland area. Adjacent to ACL is the Pittston Stevedoring Corporation, which operates 1,090 linear feet of wharf. In Spring 1968, service at a three-berth, 87-acre public containership terminal was inaugurated by International Terminal Operating Company, Inc. Maher Terminals, Inc., began service at its new 150-acre, 2,400-foot berth terminal in 1972.

During 1973, employment at the Elizabeth Marine Terminal was equivalent to 2,000 people with an annual payroll of $21,417,000. When completed and fully operational, the facility is expected to handle 12 million tons of containerized cargo per year.

Port Newark

Located in the City of Newark and adjacent to the Elizabeth-Port Authority Marine Terminal on Newark Bay, Port Newark is eight miles from The Narrows by way of the Kill van Kull. It is being financed, developed and operated by The Port Authority of New York and New Jersey under a long-term lease with the City of Newark. In creating this modern, efficient 848-acre marine terminal, the Port Authority provided many new improvements, including 17 new or rehabilitated cargo terminal buildings, 18 new wharves, 34 cargo distribution buildings, 13 miles of roadway, public cold storage warehouses, a frozen meat inspection building, a wine terminal, fumigation building, 70 miscellaneous service buildings, public truck scales, a Waterfront Commission Employment Information Center, the Seamen's Church Institute Recreation Center, two commercial bank buildings, 180,000 square feet ground level storage buildings, 330 acres of transit and open storage. There is a 10-acre railroad container transfer and storage yard. Over 38 miles of railroad tracks permit the loading or discharging of cargo at the waterfront or at distribution buildings in the upland area.

The newest terminal, with 3,058 linear feet of berthing and 60 acres of upland, was opened in 1972 and is leased and operated by Universal Maritime Service Corporation. Development has also begun in the "Navy Area" on the north side of the Port Newark Channel. Scheduled for completion in 1976, the Navy Area development will provide additional upland area and 2,500 feet of new berthing space.

Beyond construction now under way, there is a proposal for a further expansion of Port Newark to accommodate the steadily growing volume of worldwide waterborne commerce. Under a proposed agreement, the Port Authority would lease from the Penn Central Transportation

(Continued on next page bottom)

NPC BOOK:

Government subsidies keep down Continental port charges

'Users and public should be aware of situation'—NPC Chairman

London, October 24th (National Ports Council News Release):—Substantial increases in the charges levied by major Continental Ports would result if the port authorities were required to operate on the same commercial basis as British ports, according to a report published by the National Ports Council.*

The report, which updates a previous study carried out for the Council five years ago by City accountants Touche Ross and Company, assesses the extent to which four major Continental ports are subsidised compared with the un-subsidised British ports which are expected to be self-supporting.

Most heavily subsidised of the Continental ports is Hamburg, whose financial structure is fully integrated into the economy of the City of Hamburg. If all Hamburg's port subsidies were withdrawn revenue from port users would have to be increased by 78 per cent to achieve a 'break even' situation; on the other hand, if British ports were subsidised to the same extent as Hamburg, they would be in a position to reduce their charges substantially—in the case of Southampton by as much as 90 per cent. (These figures relate to port dues on vessels and goods: cargo handling charges are not included).

The other Continental ports studied were Antwerp, Dunkirk and Rotterdam. Increased revenues to break even in non-subsidised conditions which would be required by these ports are assessed by Touche Ross as: Antwerp, 67 per cent; Dunkirk, 36 per cent; and Rotterdam, 29 per cent.

Three British ports were included in the study: London, Southampton and Bristol. Under Continental conditions these ports would be able to reduce charges by amounts varying from 14 per cent (London under Rotterdam conditions) to 90 per cent (Southampton under Hamburg conditions).

Mr. Philip Chappell, the Council's Chairman, welcomed the report as providing 'a bedrock of factual information' for the examination of a number of difficult questions with many implications affecting a wide range of port-related national issues. The Council hoped to arrange, in conjunction with the British Ports Association, a conference at which the implications of the report would be fully discussed. Representatives of Continental ports would be invited to attend this conference, along with representatives of British ports, interested Government departments, shippers, shipowners, and Trade Unions whose members work in ports.

Mr. Chappell said the Council had identified five main areas requiring further study in the light of the report. These were:

The ultimate effect of subsidies, whether given to all or concentrated on relatively few ports, and the risks of excessive provision of port facilities if ports were not required to operate on a fully commercial basis; the

*A Comparison of the Costs of UK and Continental Ports Published by the National Ports Council, Commonwealth House, 1-19 New Oxford Street, London, WC1A 1DZ. Price: £10.

Company a 95.6-acre parcel of land north of the New Jersey Turnpike Extension. The Port Authority would build about 830,000 square feet of cargo distribution and storage space, and provide about 2.3 million square feet of paved upland area at an estimated cost of $19 million.

By 1976, through development programs now under way, Port Newark will have over 4¼ miles of berthing space, 416 acres of paved upland area, over 50 cargo storage and distribution buildings and numerous specialized cargo installations. The annual cargo handling capacity will be increased to 6 million tons. The full development of Port Newark in 1976 will represent an investment of $185 million.

In 1973, employment at Port Newark was equivalent to 3,800 people with an annual payroll of $41,477,000.

Hoboken-Port Authority Marine Terminal

The Port Authority of New York and New Jersey has spent well over $18 million to develop this facility, which it operates under a 50-year lease with the City of Hoboken, New Jersey, and the United States Maritime Administration. The development program included the construction of Piers A and B as two modern, efficient cargo piers, and the rehabilitation of Pier C. Piers A and B each provide 192,440 square feet of covered space and have the latest fire protection devices.

The terminal handled more than 300,000 long tons of cargo during 1973 and generated payroll of $2,900,000.

Privately Owned and Developed Marine Terminals

Port Seatrain Terminal

The multi-million dollar Port Seatrain is a privately-owned and operated containerport of Seatrain Lines, Inc., located along the Hudson River in Weehawken, New Jersey. Its two-berth, 903-foot long finger pier is 120 feet wide, providing turnaround space for tractor-trailer units. Port Seatrain also offers 210,000 square feet of warehouse space at the 80-acre facility.

The terminal operation employs some 500 people.

Port Jersey Industrial Marine Center

Port Jersey, developed and operated by the Port Jersey Corporation, is the largest privately owned industrial park/containership complex of its kind in the Bi-state Port of New York. It is located partly in Jersey City and in Bayonne, New Jersey, on the Upper New York Bay. The overall complex, when completed, will comprise 540 acres, 15 entry and departure gates, three "Starporter" cranes for containership operations, a dry bulk handling facility, and will represent an investment of about $150 million.

The marine facility handled more than 237,000 long tons of cargo during 1972. Together, the marine and industrial complex employed more than 2,200 people.

extent to which other forms of central assistance were relevant (e.g. freedom from light dues, and regional and labour policies); the implication of the practice of encouraging an 'industrial' port alongside the 'commercial' cargo handling port for policies on economic growth or regional planning; the extent to which port development of itself engendered industrial activity and the relative effectiveness of financial assistance direct to industry as compared with such assistance to ports; and the growth and importance of cargo transhipment as it affected ports, carriers, industry and the total national interest.

"These are all difficult questions, and further themes could well emerge as a result of the conference," said Mr. Chappell.

Mr. Chappell said the Council were fully aware that the crucial issue was not the subsidies as such but whether their effect on Continental port charges mattered for British ports or, more important, for the British economy as a whole.

The Council fully recognised that a direct port subsidy was only one of the ways in which Governments could encourage greater utilisation of specific ports. Moreover, the role of ports in the economy and so port objectives were viewed differently on the Continent from the way in which they were viewed in Britain. As the report stated:

"The four Continental ports we have studied serve more or less the same hinterland. They are in competition with one another for both through traffic and industrial development. Hence, it is natural for a country to view a particular port as an integral part of the economy and not as an enterprise which is necessarily a commercial viable entity."

Mr. Chappell said that ports in Britain were expected to be selfsupporting and this must condition their financial approach, and he added:

"While it is right to emphasise that charges levied by port authorities represent only a small portion of total transport costs, it is important that port users, and the general public, should be aware that British ports are not assisted by central or local government on the same scale as those Continental ports with which they may be competing for certain types of traffic."

The Report

In addition to up-dating their ealier Report, Touche Ross have provided additional information on the ports studied, particularly in respect of the three British ports, so that a fuller comparison of relative performance becomes practicable. An alternative basis of measurement of the scale of assistance provided to the Continental ports has also been developed. These improvements should increase the interest and value of the report, particularly to overseas readers.

A separate Chapter is devoted to each of the seven ports studied. Touche Ross stress that the contents of these chapters are purely factual, and have been agreed as correct by the ports. The remaining Chapters contain Touche Ross's own calculations, comparisons and conclusions.

The report summarises the extent to which the Continental ports receive financial assistance as follows:

Antwerp: Large capital subsidies were paid by the State between 1956 and 1967. The port does not have to pay interest or charge depreciation on the assets so provided. The State still continues to provide capital subsidies, but at a lower level. The State also pays for the capital and maintenance dredging of the river, and for the construction of sea locks. In addition, the port's operating losses a written off each year.

Under Antwerp's conditions, Bristol would be able to reduce its charges by 30 per cent, London by 34 per cent, and Southampton by 44 per cent.

Dunkirk: The State bears 60 per cent of the cost of the quays, quay walls and dry docks and 80 per cent of the cost of other infrastructure, including capital dredging. The port does not pay interest or depreciation on the State's contribution. The State also pays for maintenance dredging outside the port area and for the operation and upkeep of access locks.

Under Dunkirk conditions Bristol could reduce charges by 19 per cent, London by 30 per cent and Southampton by 36 per cent.

Hamburg: The port operations of the City of Hamburg are not regarded as a separate financial entity and there is thus no requirement upon the City to relate port income to expenditure. Analysis of the City accounts showed that the income received directly by the City from its port activities does not cover the City's operating expenditure on the port, even before charging interest on capital or depreciation of fixed assets. In addition, the German Federal Government pays for all dredging of the lower Elbe below Schulau. The Touche Ross analysis does not incorporate the considerable tax revenues which the City receives from private operators in the port which the City argue should be taken into account in assessing the overall performance of the port. Hamburg's conditions would enable Bristol to reduce charges by 63 per cent, London by 84 per cent and Southampton by 90 per cent.

Rotterdam: At Rotterdam the State pays for all maintenance dredging outside the port area. The State also pays two thirds of the cost of sea dykes, breakwaters and capital dredging outside the port area. There is often a considerable delay between works being carried out and the port paying over its share. The port pays interest on a notional capital equal to the written down value of its fixed assets, rather than on the gross capital contributed. Moreover, this interest is reduced by accelerated depreciation in the past. Under Rotterdam's conditions Bristol could reduce charges by 15 per cent, London by 14 per cent and Southampton by 30 per cent.

The report points out that the three British ports did receive Port Modernisation Grants and Investment Grants, but no other subsidies. Port Modernisation Grants were given at the rate of 20 per cent on certain eligible expenditure between 1967 and 1971, but have now ceased. British ports also have to pay local rates calculated as a proportion of certain types of income and thus not related to the value of services provided by the local authority.

In his introduction to the report Mr. Chappell says that while there may be room for some discussion about methods of comparison between the British and Continental ports "the orders of magnitude speak for themselves."

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Orbiter Probe

Assembly Wharf tonnage is up

Nanaimo, B.C., Canada (Nanaimo Harbour News, November 1974):—Tonnage through the Nanaimo Assembly Wharf continues to increase. For the first nine months of the year 148 vessels moved through the port, against 130 for the same period last year, and the tonnage of every commodity increased.

One of the most encouraging signs for the port is that shipments of lumber continue at a high level although the lumber industry in B.C. is facing problems through declining export markets.

To the end of September the following were the major export figures with 1973 in brackets: lumber 165,749,663 f.b.m. (139,170,124); pulp 73,237 s. tons, (53,977); newsprint 40,410 s. tons (739); logs, f.b.m. Brereton 23,787,557 (3,844,886); kraft s. tons 3,324 (665).

"Nanaimo is becoming known as a first-class port for the marshalling of lumber products and trans-shipment," says Bob Chase, Trade Development Officer. "We have the storage facilities for pulp, newsprint and lumber and we can assemble cargo in a very short time, keeping the turn-around time of ships down to a minimum.

"This year, the most spectacular increase has been in the movement of newsprint, brought by barge from Ocean Falls and then shipped over-seas."

"We can also handle cargo on an import/export basis. An example was the 3,800 tons of kraft liner board from Japan which was off-loaded from the Star Boxford and shortly afterwards loaded onto the Fresno City for England. This is one example of how we can help to stream-line the movement of cargo and reduce costs to shippers."

Record tonnage pace continues

Baltimore, Md., November 5 (News from Maryland Port Administration):—If Baltimore's marine terminals continue handling cargo at the pace set for the first seven months of 1974, an all-time high of 41 million tons of import-export freight will move through the port this year.

Statistics just compiled by the Maryland Port Administration through July indicate that the port handled a record 24 million tons of foreign commerce for the first seven months of 1974. This figure is nearly 18 per cent of last year's pace, when an all-time Baltimore record of 37.7 million tons of import-export trade for a single year was established.

Continuing to highlight Baltimore's 1974 cargo surge through July were exports, which rose 30 per cent to a figure of 7.8 million tons. Imports also increased 12.5 per cent over the same 1973 figure to a total of 16.2 million tons.

Largest export commodities for the first seven months were: coal, up 47 per cent to 3.5 million tons; corn, up 10.4 per cent to nearly 1.7 million tons; soybeans, up 34 per cent to 528,186 tons; iron and steel products, up 40 per cent to 439,462 tons; soybean meal, up 28 per cent to 355,601 tons; and automobiles and trucks, up almost 52 per cent to 87,316 tons.

Continuing a trend present in earlier 1974 tonnage reports, imported iron ore remained the largest single commodity handled in the port through July, registering about 6.5 million tons, up 27 per cent above last year.

Other major imports included coke, up a huge 233 per cent to 494,416 tons; gypsum, up 32 per cent to 436,344 tons; and sugar, up 27 per cent to 379,346 tons.

Although totals for imported petroleum and petroleum products were down slightly from a year ago, they still reached a figure of 5.6 million tons for the first seven months of 1974.

Dramatizing the extremely high volumes of cargo now moving through Baltimore are totals from the MPA's two largest marine terminals—Dundalk and Locust Point. Both facilities are far ahead of their respective tonnage paces for 1973, when each registered individual cargo handling records.

For the first eight months of 1974, total tonnage at Dundalk, Baltimore's largest terminal, registered 2.32 million tons. This is some 17 per cent above the terminal's pace for 1973, when it handled 3.05 million tons for the

entire year.

For the first nine months of 1974 at Locust Point, total tonnage reached a mark of 612,790 tons, nearly 12 per cent ahead of 1973. For all of last year, this terminal recorded 741,946 tons of waterborne freight.

Container figures from these two facilities also indicate that Baltimore will have a record year for this important type of cargo as well.

Eight month totals from Dundalk, which normally accounts for about three-fourths of Baltimore's overall container traffic, show that 1.5 million tons of containerized freight was interchanged at the terminal, almost 300,000 tons ahead of 1973's pace.

Totals for nine months at Locust Point indicate that 26,156 tons of container cargo was registered, about 5,000 tons ahead of last year.

Overall in 1973, Baltimore handled about 2.64 million tons of container freight, an all-time record for the port and the second largest total for the year among all U.S. East Coast ports.

The port of Baltimore has a total of nine major international cargo handling terminals. Five of these—Canton, Sea Girt, Port Covington, Terminal Corporation and Rukert Terminals—are privately owned and operated.

In addition to the Dundalk and Locust Point terminals, the MPA, an agency of the Maryland Department of Transportation, owns facilities at Clinton Street and Hawkins Point.

Record container tonnage

Baltimore, Md., November 11 (News from Maryland Port Administration):—Baltimore's Dundalk Marine Terminal handled an unprecedented 1.65 million tons of container traffic through the first nine months of 1974.

Statistics just compiled by the Maryland Port Administration indicate that the 550-acre terminal will handle an all-time high of 2.2 million tons of containerized freight in 1974 if the pace set for the first three-quarters is maintained through the rest of the year.

This would better the terminal's record of 1.91 million tons of container cargo for a single year, set in 1973. Dundalk usually accounts for about two-thirds of the annual port of Baltimore total container tonnage.

For the month of September 1974, Dundalk's seven 40-ton-capacity container cranes moved 12,466 boxes totaling 154,506 tons of cargo, bringing the total for the year thus far to 126,932 boxes and 1,652,163 tons of containerized freight.

The nine month totals for 1974 are 6,280 boxes and 268,913 tons or about 20 per cent ahead of the record pace set by Dundalk for the same period of 1973.

Current MPA projections indicate that portwide container tonnage (Dundalk, Sea-Land, Locust Point and other operations) will become heavier in the future, possibly reaching levels of over 3.5 million tons by 1975 and some 5 million tons by 1980. Baltimore currently registers the second highest annual container totals among all U.S. East and Gulf coasts ports.

Since 1967, the MPA, an agency of the Maryland Department of Transportation, has invested about $40.6 million into making Dundalk one of the most modern container terminals in the world.

As a result of this development, Dundalk now has, in addition to seven of the port's eight specialized container cranes, a roll-on/roll-off platform, three consolidation sheds totaling 192,500 square feet of space, over 120 acres of paved open storage, five straddle carriers, four high-speed whirly cranes, five container berths and trailer-on-flatcar/container-on-flatcar (TOFC/COFC) accommodations.

Currently underway at the terminal is a project that will result in a 17-acre TOFC/COFC rail yard with a capacity for 125 railcars when completed in 1976. In addition, current MPA plans call for eventual construction of two more container berths and a minimum of two container cranes at Dundalk.

Ship traffic

Buffalo, N.Y. (Niagara Frontier Transportation Authority Newsletter, May—June/1974):—A number of ships have visited the Port of Buffalo since the arrival of the Consumer Power and the Ontario Power in the latter part of March opening the 1974 shipping season at the Port of Buffalo. Three American ships, the Charles C. West, the J.R. Sensibar and Robert C. Norton, all brought in cargoes of salt in April, as did the Canadian freighter Roy A. Jodfrey, in May. A Greek ship, the Stolt Dimitris, arrived in April to take on 671 tons of tallow for export and the Russian vessel Shura Kober brought in 4,000 tons of clay, also in May. The arrival of the Shura Kober marked the second consecutive season that the Port of Buffalo has been visited by Russian vessels after more than two decades of absence. At least four more Russian Ships are presently expected to dock at Buffalo this season.

International Trade Conference

Charleston, S.C., October 30 (South Carolina State Ports Authority):—Charleston, S.C.—The second annual South Carolina International Trade Conference, scheduled in Charleston, May 21-23, 1975, will have an honorary chairman. He is Yancey S. Gilkerson of Greenville, president of Textile Hall Corp.

Gilkerson is favorably known in textile manufacturing and other industrial circles and among traffic and trasportation interests throghout the world. He will play an active role in principal activities of the big, fun-filled business meeting.

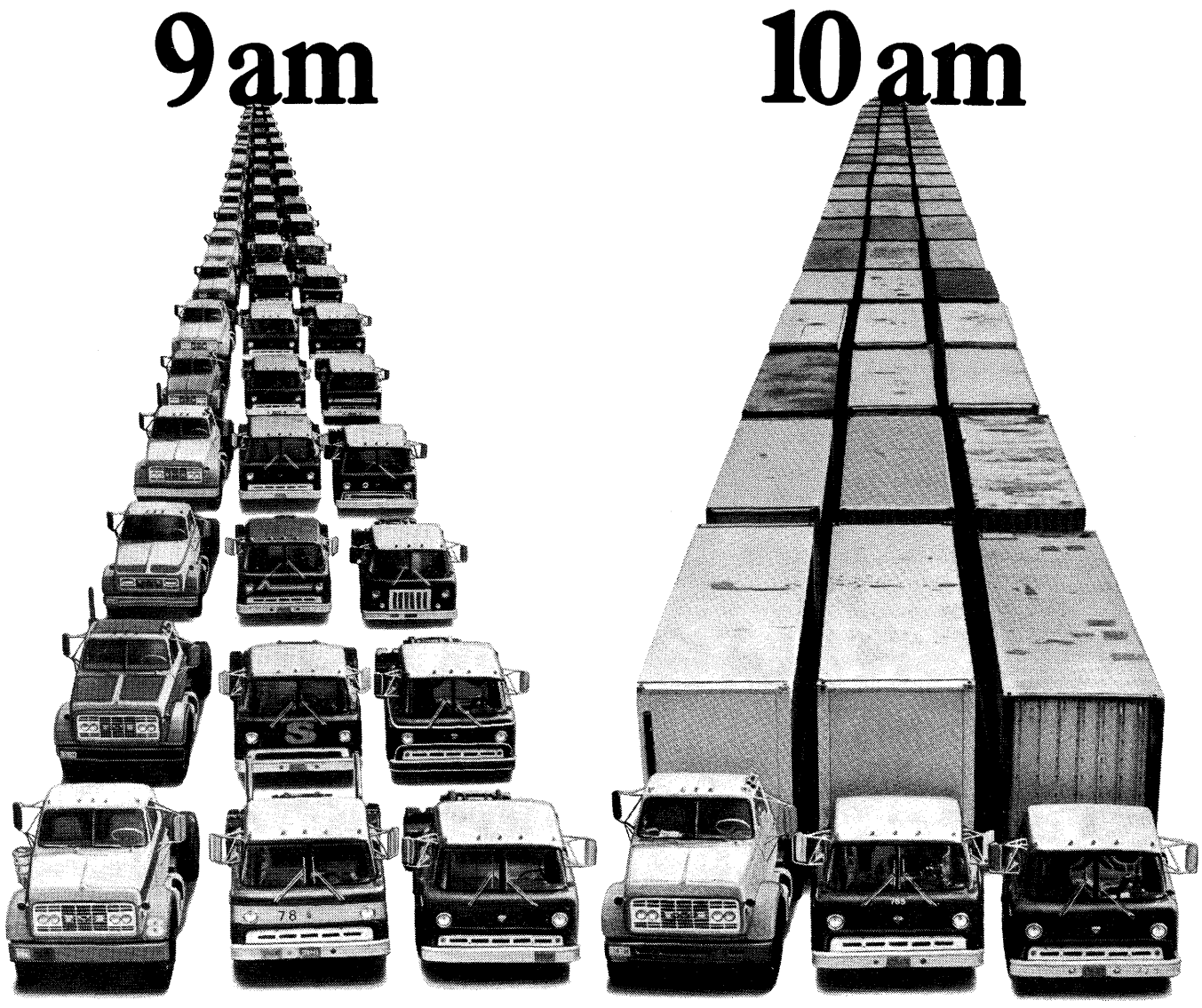
The overwhelming success of the inaugural event last May leads conference planners to expect a sell-out crowd of 500 next year.

The 1974 sessions drew 426 participants out of 453 advance registrations, although early predictions had set the maximum at 250 to 300.

General chairman of the 1975 trade conference is Charles A. Marsh of Charleston, trade development director of the S.C. State Ports Authority. He was elected by the executive committee under its rotation policy to succeed Capt. Sam Fox, vice president of Southeastern Maritime Co.

Continued as feature attractions are the popular ocean-side buffet, prominent panelists and moderators, and the Maritime Day banquet directly on the waterfront. Included on the program are two keynote addresses, four receptions, and a harbor tour, walking historic tour, and 18-hole golf tournament.

(Continued on page 34)



This demonstration is brought to you by two of the container cranes in the Port of Boston.

Rather than show you the world's largest capacity container crane and its companion crane, we thought a more impressive sight would be a show of what they can do.

What do you think? The 70-ton capacity Hitachi and the 45-ton capacity Paceco at our new Boston-Mystic Container Terminal can handle on and off loading, simultaneously, at the rate of 60 containers an hour. Two ships at once.

That's ten times faster than conventional handling methods.

We even have a third crane at our Castle Island Terminal, but that isn't the only additional way we take a load off your mind.

Take security. No container has ever been stolen from a Massport terminal, because Boston has the best security system on the East Coast.

Take cost. Boston's rates are generally lower than other ports. We don't spend a lot of time so you don't spend a lot of money.

Take convenience. Boston is closer to Europe than any other American port. And all terminals are adjacent to major railroads and super highways.

While all these are distinct advantages, our two biggest ones carry the most weight: 60 containers an hour.

massport

Write for more information about the new Port of Boston to: Thomas A. Ries, Director-General, Europe-Africa, Department P. & H. Massport, 29 Passage, International Center Rogier, Brussels. Tel. 218-04-51, Telex 25858. Container companies calling at the Port of Boston include ACT/PACE American Export Lines, Atlantic Container Line, Atlantica Line, CNCA Line, Columbus Line, Dart Line, Finnlines, Japan Lines, Maritime Coastal Containers Limited, Mitsui OSK Lines, New England Express Line, N.Y.K. Line, Sea Land, Y-S Line, Zim Line.

(Continued from page 32)

Conference headquarters again will be the Mills Hyatt House Hotel, which has 200 rooms available exclusively for delegates and their wives. Those planning to attend should make their own room reservations and travel arrangements.

New York manager

Charleston, S.C., November 19 (Trade News, South Carolina State Ports Authority):—Anthony P. Ricardi has been named assistant regional manager of the New York Regional Office of the South Carolina State Ports Authority (SPA) Trade Development Division.

Ricardi will assist New York Regional Manager Carl M. Staggs in the Authority's trade development efforts in the New York and northeastern states area. Both men report to SPA Trade Development Director Charles A. Marsh.

Ricardi, a 17-year veteran in the domestic and international trade field, most recently was a sales representative for Furness Withy Agencies in New York.

A native of Newburgh, N.Y., the new SPA executive attended East New York Vocational High School and New York Community College. He is a graduate of the New York Academy of Advanced Traffic.

Ricardi, his wife and two children reside in Oakdale, N.Y.

The New York office, at 3345 One World Trade Center, is one of six maintained for the State of South Carolina by the Ports Authority's Trade Development Division, headquartered at the Port of Charleston.

Other SPA regional offices are located in Greer, S.C. (at Greenville/Spartanburg Airport); Chicago, Ill.; Brussels, Belgium, and Tokyo, Japan.

86-acre channel-front tract purchased

Galveston, Texas, September 24 (News from The Port of Galveston):—In a move to capitalize on the Island's potential as a dry and liquid bulk cargo port, the Port of Galveston today announced a significant move toward completing its future planned port development by signing a contract calling for acquisition of strategic acreage on Pelican Island.

A contract was signed today with Mitchell Development Corporation of the Southwest to purchase an 86-acre channel-front tract across the Galveston Channel from Piers 10 through 18. The tract offers a frontage of 2,600 linear feet on the channel. Included in the contract is the acquisition of up to 50 acres of land for a major rail marshalling yard north of Todd Shipyards, and rights-of-way and access to both the marshalling yard and the shipside tract.

The agreement also provides a six-year option for the Wharves to purchase 50 acres of land across from the U.S. Coast Guard and Corps of Engineers bases, with a frontage of 1,300 linear feet on the channel.

The proposed purchase will be funded from Wharves revenues and the cost is expected to exceed $2 million when rights-of-way have been established.

Acquiring the Pelican Island property partially fulfills requirements demanded by dry and liquid bulk cargo shipment, according to port officials. The Port of Galveston's long range plan now being developed by the firm of Horace. J. DePodwin & Associates of New York and outlined to the Wharves' Board of Trustees in August, indicates the need for large acreages of prime shipside land, a deep channel, and superior rail service.

According to Wharves' Board Chairman, Harry H. Levy, Jr., substantial interests have contacted the Wharves expressing requirements for deepwater terminals for import and export bulk cargoes. Pointing out the Port's plans for bringing a 67-foot draft channel to Pelican Island from 38 miles offshore, Levy stated that the property acquisition was another positive step in Galveston's emerging role as the major port in the U.S. Gulf with the capability to handle, in port, the largest vessels now sailing or currently planned.

Port Executive Director C.S. Devoy stated that along with the 250 acres the Wharves already owns on Pelican Island, the new contract now gives the Port control of over 385 acres of prime waterfront land with 5,300 linear feet on the Galveston Channel and 3,000 feet on the Texas City Channel.

Ports working for better environment

Houston, Texas (Port of Houston Magazine, October, 1974):—Impressive strides in improving the environment have been made by Western Hemisphere ports that handle thousands of ships and billions of tons of cargo each year, according to a report by the American Association of Port Authorities. Throughout the United States, Canada and Latin America, the port industry has taken the lead in environmental protection by developing and using new technology to improve the quality of harbors. The encouraging news is the improved step-by-step progress in coordinating local, state and federal efforts, the dramatic increase in funding, the wide range of administrative actions that have been taken, and the attention to strict enforcement of pollution control laws.

Already this emphasis has led to revision of some projects, improvements in others, and overall a far more thoughtful and comprehensive planning process. The important news is that the industry is involved and has hopes for mastering the many difficult problems that still persist.

Commercial harbors from all over the Western Hemisphere have entered a contest in competition for an environmental improvement award sponsored by The American Association of Port Authorities (AAPA). Numerous ports have submitted entries in the annual contest and winners will be announced at the Association's Convention October 20-24 in San Juan, Puerto Rico.

Double awards scored

Long Beach, Calif., November 4 (Port of Long Beach News):—For the third successive year, the Port of Long Beach has won special recognition in annual competition conducted by the American Association of Port Authorities, it was announced at the recent AAPA convention in San Juan, Puerto Rico.

Judges in the Communications Competition selected Long Beach's "Harbor Highlights 1973" as first place winner in the Annual Reports in Full Color category. The Port also received a first place trophy in the Full Color Periodicals classification to score the only double win among ports throughout North, Central and South America. Both awards are miniature ship's bells in brass,

mounted on a wall plaque.

Last year, Long Beach became the first recipient of the newly-established environmental award program recognizing exceptional efforts in the field of ecology.

The year previous, Long Beach was awarded AAPA's highest honor—the Admiral Byrd Trophy—for general excellence in both advertising and promotional literature.

Llewellyn Bixby, Jr., president of the Long Beach Board of Harbor Commissioners, accepted the twin awards on behalf of the Port of Long Beach.

Consultant appointed by CAPA

Los Angeles, Calif., November 18 (Port of Los Angeles): —Los Angeles and Long Beach harbor officials have announced locally the appointment by California Association of Port Authorities President Edward J. Millan of James L. Lammie as Planning and Environmental Consultant for the 11-port association.

Local port managers Thomas J. Thorley of the Port of Long Beach and Fred B. Crawford of the Port of Los Angeles said the position, filled after interviews with a number of candidates, was created to provide strong, unified expertise and representation on the economic and developmental needs of California ports in appearances before the California Coastal Zone Conservation Commission.

Lammie's duties will include maintaining full communications with the Association's government liaison committee in the writing of statements of policy; reporting on meetings and hearings related to port development and environmental controls; liaison with port directors to obtain data needed for presentations on behalf of the Association; interpretation of California ports needs to all agencies involved with port development.

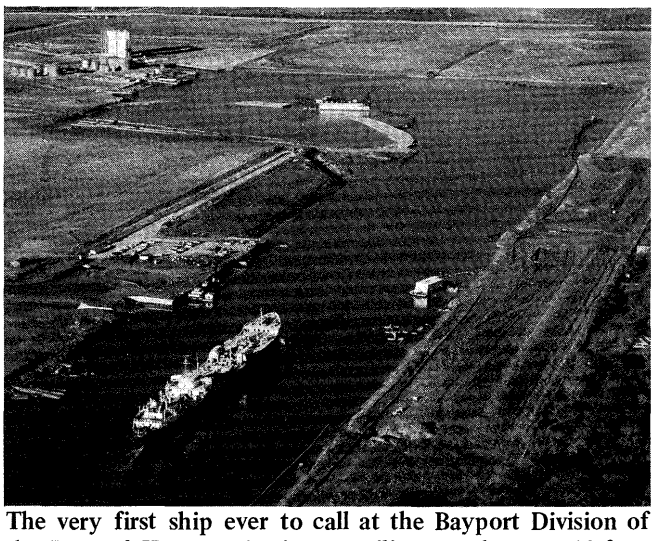
Lammie, a West Pointer and career U.S. Army engineering officer, is currently director of systems development for Harding-Lawson Associates, a consulting firm in San Rafael, California, and for the two years previous was District Engineer of the San Francisco Bay Area. During that period he served as a commissioner of the Bay Conservation and Development Commission and a subcommittee chairman of the Bay Area Council Maritime Development Task Force. He received the Bay Area Council Award of Merit for Environmental Contributions to the San Francisco Bay Area in 1973.

Local port officials point out that the Association consultant's role does not preclude appearances by representatives of individual ports on specific projects of permit applications made to the Coastal Zone Commission or other agencies.

Huge lease renegotiated

Los Angeles, Calif., November 12 (Port of Los Angeles): —A multimillion dollar lease agreement involving the City of Los Angeles was given tentative approval during a Tokyo conference last week, Fred A. Heim, president of the Los Angeles Harbor Commission announced today. The overseas meeting between the Los Angeles Harbor Department and three large Japanese shipping companies had been held to discuss renewal of a lease for one of the Harbor's largest container terminals.

At stake in the discussions was a $10 million, 10-year lease covering 41.2 acres of prime wharf and backland area at Berths 129–131 in the Harbor's West Basin.



The very first ship ever to call at the Bayport Division of the Port of Houston is shown sailing up the new 42-foot deep channel at Bayport. The new Channel and turning basin were formally dedicated in ceremonies on November 11. The channel is an offshoot of the Houston Ship Channel and is about two and one half hours from the Gulf of Mexico. (Port of Houston Photo)

Fred B. Crawford, Harbor Department general manager and George Izumi, Harbor Commission member, joined Heim in talks with representatives of the Japan Line, Mistui OSK Line and Y-S Steamship Company.

Heim reported that provisions of the flat lease for the Los Angeles Container Terminal, Inc., provide for a $3.8 million expansion and improvement program to accommodate increased container shipping. In return for its investment, the Harbor Department will receive approximately $1,030,000 a year in rental revenue, based on an eight percent capital recovery rate (equal to the return from other forms of investments), plus administrative and overhead costs and a nine percent return based on the market value of the land.

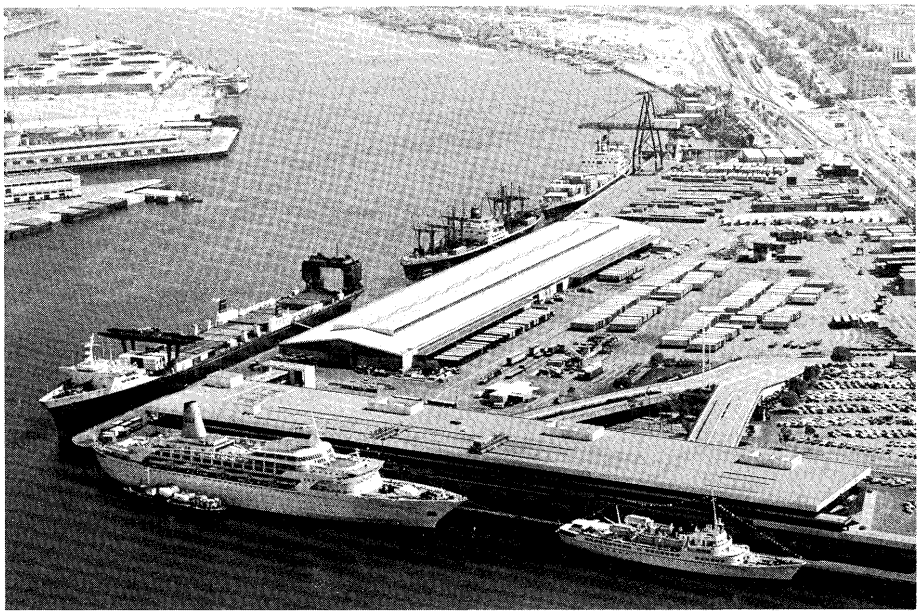
The renegotiated lease also includes an option for three 5-year extensions, partial adjustments at the end of the fourth and seventh years for property re-evaluation, a complete re-evaluation of the whole facility, including land and water areas at the end of the tenth year, and a special reimbursement clause. This last provision guarantees the City compensation for the special facilities it has provided, should the three shipping firms leave before conclusion of a 25-year period.

Improvement of the Los Angeles Container Terminal area will involve construction of buildings totaling 36,850 sq. feet. These include a shop building and wash pad for maintenance and repairs on the containers and related equipment; two-story gate office building with customs inspection station; three-story wharf control tower. Also called for in the agreement are installation of storm drains; flood lights; a dual water system for both drinking and fire fighting purposes; paving; sewers; fencing and railroad siding.

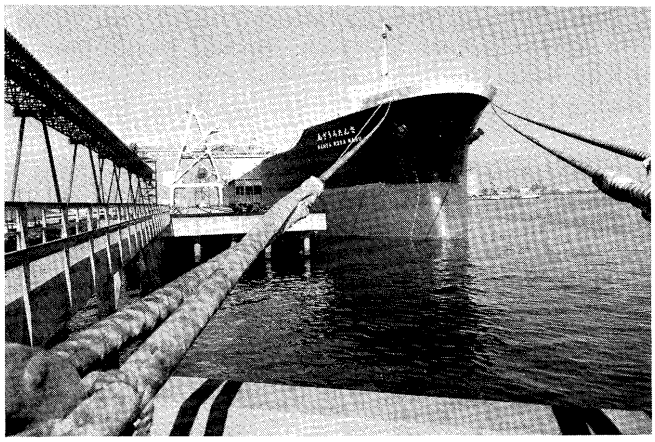
When completed, the expanded area will accommodate 12,000 to 14,000 20- and 40-foot cargo containers, stacked

(Continued on page 37)

Scenes of Port of Los Angeles (See front cover also.)

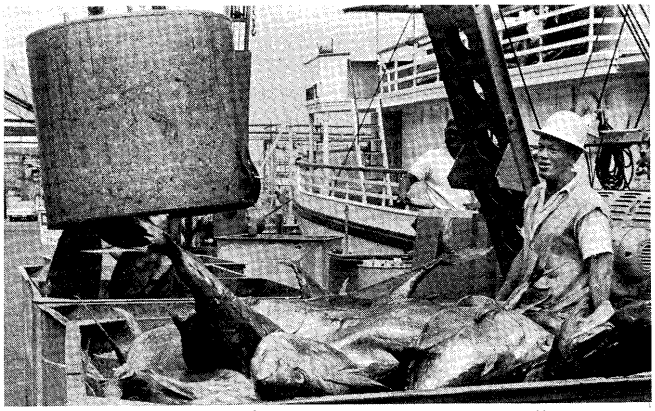


One of the busiest places at the Port of Los Angeles is the Consolidated Marine Inc., terminal along the Main Channel near the Vincent Thomas bridge. Both large and small passenger ships are accommodated at this modern combination facility as well as all the methods of cargo handling. Under the crane at the rear of the facility a container ship is being quickly unloaded. Just ahead a traditional break bulk ship is efficiently having her cargo transferred to the giant transit shed, while the LASH (Lighter Aboard Ship) vessel is ready to lift with its 510-ton crane another barge with almost any cargo imaginable from the water onto its deck.



Through the Port of Los Angeles' bulk loading facility more than 2,000,000 tons of iron ore and iron ore pellets are shipped to Japan annually. The $5,000,000 complex is located in the Outer Harbor of the Port, near the huge Supertanker Terminal.

Pipes and tubes are among the top ten imports from Japan arriving almost daily at the Port of Los Angeles. The same ships might load iron and scrap, borax and borates, or cotton, feeds and meals for Japan.



Millions of pounds of tuna are canned annually at Los Angeles Harbor's fish canning center, where one of eleven canneries packs more than a million cans a day.

(Continued from page 35)

two high and five across. Total area for the containers, chasis storage and circulation access ways, or aisles, will be 1,404,750 sq. feet.

Completion date for the expansion project is scheduled for November 1, 1975. This will correspond with the October 30, 1975 expiration of the present lease. Enactment of the new agreement depends upon acceptance of its provisions by the Los Angeles Board of Harbor Commissioners, Los Angeles City Council, Japanese Ministry of Transport and the Federal Maritime Commission.

$2.50 passenger tariff

Los Angeles, Calif., November 20 (Port of Los Angeles):—A $2.50 passenger tariff, designed to help defray rising costs of improvements and expansion at the Port of Los Angeles, was approved today by the Los Angeles Board of Harbor Commissioners.

The boarding and debarking charge, explained Harbor Commission President Fred Heim, would add an estimated $237,000 to annual Harbor revenue, or about half the amount required to upgrade and refurbish its major passenger terminals.

Among the projects to be financed by the added revenue will be a consolidation of ocean liner docking facilities at the modern CMI Terminal and East Basin Berths 195–198.

Applying only to the approximately 94,800 passengers boarding or debarking at the Harbor annually, the fee would not be levied against individuals "in transit" from one port to another whose ships dock at Los Angeles. Also exempted from the charge will be passengers on vessels accommodating 12 or fewer passengers; persons sightseeing or traveling between points with a radius of 100 miles of the Port, and sport fishing vessel passengers.

Tied in with the new passenger fee will be the deletion of tariff charges for use of passenger facilities. These fees had been based on square footage of such facilities as passenger waiting or rest rooms, and on the time the facility was actually in use. Although the fees had originally been imposed on all Harbor facilities utilized by the passenger ship companies, under the new tariff ordinance adopted by the Harbor Board, monthly and daily passenger facility charges will be dropped.

If the Council approves the order previously submitted to it for approval, the new fee will go into effect February 1, 1975. However, if the Council improves instead the order adopted by the Board of Harbor Commissioners today, the fee will go into effect July 1, 1975.

Port film "Impact"

New Orleans, La. (New Orleans Port Record, October, 1974):—"Impact," a 26-minute film about the Port of New Orleans and its economic impact on the State of Louisiana, has just been produced by the Board of Commissioners of the Port of New Orleans.

The film is 16 mm, sound and color. It was filmed by Louisiana Studies Inc., of Shreveport, La., both in the port and in other parts of Louisiana where imports and exports—both agricultural and manufacturing—are involved.

The film has been in production for almost a year and represents the first production of its type by the board in more than ten years. The production lays heavy emphasis on the efficiencies of the port, which result from the board's business-type management. It stresses also the port's role as Louisiana's largest producer of employment opportunities.

California selects navigation leaders:
Anaheim, Calif., 10/30/74 (News release from MANC= Marine Affairs and Navigation Conference):—New officers and directors have been selected to lead the California Marine Affairs and Navigation Conference (C-MANC).
The 18-year-old organization represents all Golden State commercial ports, most recreational harbors and related navigation interests before the Congress, Office of Management and Budget, and in federal and state activities involving maintenance and improvements of coastal and other projects.
Participants in a two-day meeting of Golden State port and boating leaders included Frank Boerger (left), a new director of the sponsoring California Marine Affairs and Navigation Conference and chairman of its special dredging task force; Harry N. Cook, executive vice president of the National Waterways Conference, Washington, D.C.; new South Pacific Division Army Engineer, BG Richard M. Connell, and M.J. Richardson, executive secretary of the World Dredging Association.

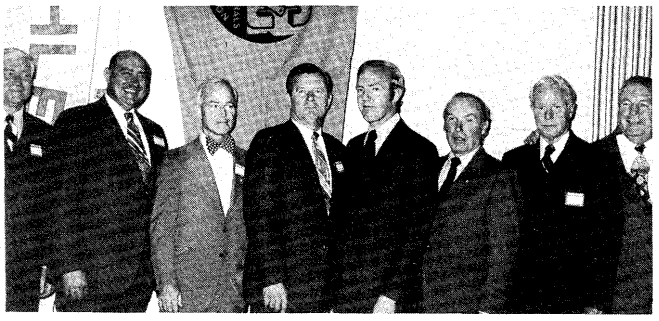
38-foot minimum draft now year-round reality

Cristobal, Panama Canal Zone (The Panama Canal Spillway, August 16, 1974):—The Panama Canal recorded another major achievement yesterday with the formal completion of a massive Dredging Division project that now guarantees all transiting ships a 38-foot minimum draft allowance on a year-round basis except during abnormal dry years.

Gov. David S. Parker and other dignitaries were on hand aboard the dredge *Cascadas* at Gamboa to cut the symbolic ribbon marking the completion of the program, which was designated PLD+40, or a dredged channel bottom of 40 feet above sea level (Precise Level Datum=PLD). Others present for the ceremony were: Col. A. L. Romaneski, Engineering and Construction Director; Paul L. Whitlock, Chief of the Dredging Division; and Capt. Donald A. Franz, the Deputy Marine Director.

The conclusion of PLD+40 coincided with the 60th anniversary of the opening of the Canal. And it was just 4 years since the completion of another formidable task, the widening of Gaillard Cut from 300 feet to 500 feet.

Both the widening and the deepening represent a



San Francisco, Calif., 10/31/74 (Propeller Club of the United States, Port of the Golden Gate):—The US maritime industry was recently urged to increase its supply of skilled labor and to increase safety standards in shipyards. These were two main points in a message recently delivered to the members of the Propeller Club of the United States, Port of the Golden Gate, by Thomas Phelan, acting executive assistant to the Secretary of Labor. Phelan also noted that the US maritime fleet can look forward to a "promising future in world trade" because of military contracts, better cooperation between management and labor, and proposed legislation designed to open new markets to US goods. Among those welcoming Phelan to the first Propeller Club meeting of the season were (left to right) Thomas J. Patterson, Jr. (Maritime Administration); Charles Black (Marine Engineers Beneficial Association); Ed Flynn (Pacific Maritime Association); club president Bill Reich (Prudential Lines); Thomas Phelan; George Smith (Department of Labor, Region 9), program chairman Ed Ransom (Lillick, McHose, Wheat, Adams & Charles) and Ed Turner (Marine Cooks & Stewards Union). The Propeller Club sponsors monthly meetings to help promote, further and support an American merchant marine.

continuation of the Canal's policy of serving world shipping with the greatest efficiency possible, particularly in view of the growing number and size of ships using the waterway.

The deepening project was begun 52 years ago but the work was greatly accelerated upon the completion of the Cut widening. Before the work could move into high gear, it was necessary to obtain a complete set of hydrographic charts of the entire Gaillard Cut-Gatun Lake sections and highlight all areas above elevation 40. Next, cross-sections of regions requiring extensive dredging were plotted for the calculation of the volume of material to be removed and a schedule for work developed.

The labor that followed required the combined effort of all Dredging Division's subaqueous drilling and blasting, and excavating equipment including the dredges *Mindi, Goliath* and *Cascadas* and the drillboat *Thor.*

The *Mindi* hydraulically excavated 2,932,000 cubic yards of material from the Cut and Gatun Lake; the *Cascadas* removed a total of 1,119,150 cubic yards from Gaillard Cut; towboats supporting dredging activities disposed of 1,120 scow loads of material; and the drillboat *Thor* drilled 10,262 holes, which represented 154,481 lineal feet; and 711,603 pounds of dynamite was detonated to blast 416,986 cubic yards of rock loose for excavating.

No recession for AMERIPORT

Tokyo, November 5 (Delaware River Port Authority News Release by Charles H. Dickey):—There has been no recession for the Delaware Valley region's single greatest economic asset.

AMERIPORT—the ports of the Delaware River—which is responsible for one out of five jobs in the area, appears on its way to its second, successive record-breaking year.

Forecasts, based on volumes experienced during the first six months, indicate that international tonnages of cargo moving both in and out of ports on both sides of the Delaware River may exceed 83 million tons by the end of this year.

This would surpass the 79 million tons posted in 1973 by 4.6 per cent.

Last year's total represented more than three billion dollars in economic benefits for the region.

Statistics compiled by the Port Authority's World Trade Division show that 39,266,519 tons of international waterborne cargo have been handled by Ameriport during the first six months of this year.

Imports gains, compared with the same period last year were registered in iron ore, up 19.9 per cent and non-electrical machinery, up 33.1 per cent, while steel movements declined 28.8 per cent.

The total of foreign imports for six months, compared to last year, was up 3.6 per cent.

Export gains during the first half included iron and steel, up 45.1 per cent; soybeans, up 24.2 per cent, and coal, up 37.2 per cent. Losses were recorded in grains, off 14.6 per cent, and iron and steel scrap, off 25.8 per cent.

Total foreign exports from Ameriport for the period gained 4.6 per cent.

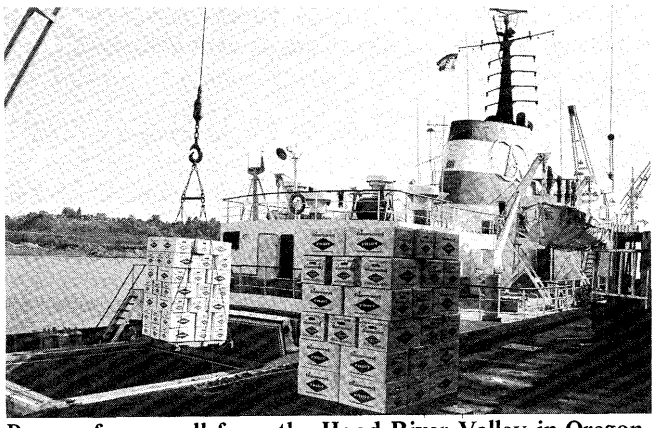
Pears for Brazil, in time for Christmas

Portland, Oregon, October 28 (Port of Portland News Release):—The largest shipment of fresh pears ever shipped from the Pacific Northwest, 142,000 boxes, will be on its way to Rio de Janeiro this week, arriving in time for Christmas in the South American country.

Diamond Fruit Growers and Duckwall-Pooley, Hood River, made up the shipment of D'Anjou pears for Fischer S.A. and Heide Ltd. prominent import-export firms in Rio and Sao Paulo.

The first truckloads of over 65,000 boxes began arriving October 10 at the Port of Portland's Terminal 2 and were placed into the Port's cold storage facility awaiting arrival of the chartered refrigerator ship, RAFAEL LOTITO.

Meetings to determine the logistics for the remainder of the shipment to the Port were held with freight forwarder Mark Beach of Seaport Shipping; Emmett D. Whitaker of Balfour-Guthrie, ship's agent; Richard O. Applegate, traffic manager for Diamond Fruit Growers; Reinhold L. Mestwerdt, assistant director of Fischer, S.A., and Willie Bowles, Port superintendent of Terminal 2. This last half of the pear shipment from Hood River began arriving in refrigerated trucks Thursday and were handled as direct transfer cargo, being loaded directly from trailer to ship. More than 23 trucks per day were scheduled to bring in the fruit, while four "gangs" of longshoremen prepared loads for transfer through the ship's four hatches. They will be working seven day-and-night-shift combinations over three and one half to four days to load the cargo.



Boxes of pears, all from the Hood River Valley in Oregon, were lowered into the hold of chartered refrigerator ship RAFAEL LOTITO at Port of Portland's Terminal 2 Saturday, making up part of 142,000 carton shipment, largest ever from the Pacific Northwest and bound for Rio de Janeiro and Sao Paulo, Brasil markets in time for Christmas in the South American country. (October 29, 1974)

Grower, packer and shipper representatives James A. Webb, fresh fruit sales manager for Diamond Fruit Growers, Richard Duckwall, president of Duckwall-Pooley and Richard O. Applegate, Diamond Fruit traffic manager (left to right), and all from Hood River, hold dockside conference at Port of Portland's Terminal 2 with buyer representative Reinhold L. Mestwerdt, Assistant Director of Fischer S.A., Rio de Janeiro, as largest shipment of fresh pears, 142,000 boxes, ever shipped out of Pacific Northwest is loaded aboard vessel bound for Rio and Sao Paulo, Brasil. (October 29, 1974)

New Fulton Terminal Open House plans set

Portland, Oregon, October 25 (Port of Portland News Release):—Public open house has been set for the Port of Portland's new John M. Fulton Terminal 6 for Saturday, November 2 from 12 noon to 4 p.m. The new container facility is located in north Portland, in the Rivergate Industrial District, adjacent to Kelley Point Park, at 7201 North Marine Drive.

Named in honor of the late John M. Fulton, former Port of Portland Commission president and community leader, the new terminal is the most modern container facility on the Pacific Coast, covers 66 acres, and was built at a cost of nearly $17 million.

The Port of Portland's newly-dedicated John M. Fulton Terminal 6 on the banks of the Columbia River in north Portland's Rivergate Industrial District and Japanese Consortium's GOLDEN ARROW (Japan Line) at Berth 605. The GOLDEN ARROW was one of the first ships at the Port's $17 million facility. (October 31, 1974)

Visitors will be guided through the administration building, and will be able to see the entire facility and equipment from the building's third floor observation tower. Port representatives will be on hand to answer questions and explain operations.

Designed from the ground up as a modern, well-equipped container handling facility, the terminal provides efficient, fast, low-cost ship turnaround.

The new facility allows the Port to expand its container handling capability and offers the shipper fast transfer of cargo between rail cars, trucks, barges and ships with complete, on-site container freight station services. Two ships can be worked simultaneously at the two 900-foot berths.

First ship to berth at Fulton Terminal was American Mail Lines' OREGON MAIL, which sailed within 10 hours with cargo for Yokohama, Nagoya and Kobe, Japan.

Workhorses of the cargo-handling equipment include three 50-ton capacity Hitachi container cranes at dockside, valued at $1.26 million each, equipped with anti-sway devices and telescoping beams which permit handling of any size container up to 40 feet; four, 45-ton Paceco Transtainers, valued at $325,000 each, each with a span of 75 feet and height of 40 feet and diesel-electric powered to move containers within the yard. Movement of containers from yard to ship, ship to yard, or to and from container freight station to yard is handled by a fleet of 16 tractors and chassis, with each chassis capable of handling two 20-foot or one 40-foot container.

In-bound and out-bound freight at the terminal moves through a centralized receipt, truck check-in station with four truck lanes in-bound, three lanes out-bound. Two 50-ton truck scales weigh-in incoming truck-hauled containers. Rail freight movement comes over two lead lines for Transtainer rail service and one line to the 60,000 square-foot container freight station inside terminal property. The container freight station unstuffs container cargo for distribution to Northwest markets, or stuffs containers with goods for ships outbound to other world markets.

Innovative Document handling is accomplished by an innovative pneumatic tube system from the container freight station and truck check-in station to the administra-

San Francisco, Calif., 11/15/74 (Marine Exchange of the San Francisco Bay Region):—WE RUN TUGS THIS WAY, explains Albert D. Elledge, president of Harbor Tug and Barge Co., San Francisco, to a trio of French EDP experts: (left to right) Edouard Fenech, computer manager of the French Government's Office National de Navigation, and Jean-Paul Vasseur and Dominique Plat, engineers of Manergie, S.A., Paris. Lester C. Bedient (right), company vice president, took part in the briefing. The visitors' three-day tour of Golden Gate transportation facilities was arranged by the san Francisco Marine Exchange as part of a U.S. inspection trip to study EDP and VHF applications to a planned French traffic regulation system for barge and ship movements. Among installations viewed were the U.S. Coast Guard's $4 million Vessel Traffic System control center on Yerba Buena Island, the computer/communications headquarters of the new Bay Area Rapid Transit system (BART), Southern Pacific Company's data processing center, and the Marine Exchange's ship reporting/marine intelligence central station at Fisherman's Wharf. At Harbor Tug and Barge Co., dispatching of towing tugs as well as docking equipment, and utilization of the region's cooperative VHF radiotelephone shipping network, were explained by Bedient.

tion building for rapid delivery of paper communications. Inventory control is provided by an on-station IBM Model 3, System 6 computer. Besides housing the computer operation, the three story, 8,000 square-foot administration building houses Port administrative personnel, U.S. Customs officials, and is equipped with two-way radio communications to all operating vehicles from the third floor, full-view control tower.

A two-story, 9,200 square-foot maintenance building is also at the site to provide space for handling of minor customer chassis and container maintenance and electrical repair work.

Growth of containerized cargo method of moving goods, import and export, has grown rapidly within the past five years. The Port of Portland, except for Matson Navigation Company's Hawaiian Service, did not move any significant number of containers in 1969. In 1970, only 393 containers moved through the Port. The total for 1973 had mushroomed to 42,895, and for 1974, container movement is 22% ahead of last year.

Therminal 2, operational in 1970 as a combination container–break-bulk terminal, has carried the brunt of the Port's container business. Originally designed to handle 2,000 containers monthly, it has been handling up to 5,000 containers during high activity months. Now, Terminal 2 will be utilized in its original intent, that of a mixed container and general cargo facility, with Fulton Terminal designated as the Port's primary container terminal for full-container ships.

John M. Fulton, a leader in the promotion of U.S.–Japanese trade relations was president of the Port of Portland Commission at the time of his death early this year. He was Portland's First Citizen in 1967, and accepted Governor Tom McCall's appointment as director of the Oregon State Department of Transportation in 1969. Simultaneously, he was director of the U.S. chamber of Commerce, and chairman of the Commission of Public Docks. Upon merger of the Dock and Port commissions in 1971, Fulton was appointed to the newly formed Port of Portland Commission and was serving, at the time of his death, as president. He was also serving as consultant on foreign trade to Governor McCall, following his earlier appointment as Director of the State Division of Economic Development.

In 1972, Fulton was honored with the Third Order of the Rising Sun, highest award ever accorded an Oregonian by the Japanese government.

During normal daily operation at the new Fulton Terminal, 60 to 65 people will be employed, according to Charles R. Miller, terminal manager. Steamship lines calling there will be American Mail Lines' four vessels, each on a once-per-month basis; the six Japanese Consortium's vessels, from Japan Line, K Line, Mitsui O.S.K. Line, NYK Line, Showa Line, and Yamashita-Shinnihon Line; Orient Overseas Container Line; and the Russian Far Eastern Steamship Company (Fesco-Pacific Line).

Largest container movement to the Mediterranean

Portland, Oregon, October 28 (Port of Portland News Release):—The largest movement of containers bound for Mediterranean markets through the Port of Portland was loaded Friday at the Port's Terminal 1 aboard the chartered ship RENATE JACOB (German flag).

Northwest dried peas, beans and lentils, from eastern Oregon and Washington, grass seed from the Willamette Valley and bean seed from Washington, along with Douglas Fir lumber products will fill 105 containers bound for Barcelona, Spain and Leghorn and Naples, Italy.

The RENATE JACOB, chartered to Ital Pacific Line is out of Monte Carlo and is 508′ in length. She is due in Barcelona November 18, Leghorn, Italy November 25 and Naples on November 26.

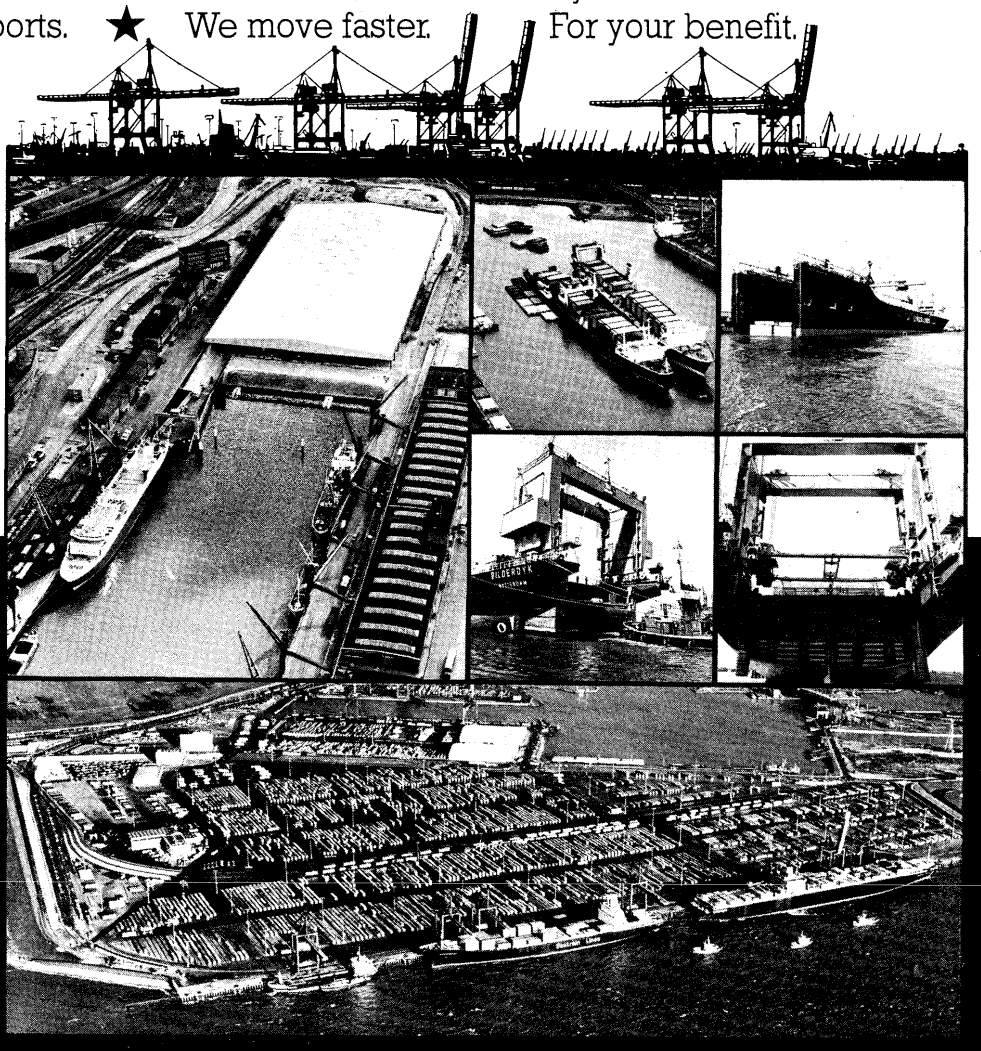
Portland office of Transmarine Navigation Co. is ship's agent, with Capt. Peter Norwood handling details of the shipment.

The RENATE JACOB will also be discharging two containers at Terminal 1, holding 27 tons of wines from Italy for Portland distribution. In addition, 40 empty containers will be left here for stuffing cargo for her sister ship OLGA JACOB, due in Portland on November 18.

Other cargoes discharged at the Port will be break-bulk, general cargo bound by truck for the Seattle market and includes wine, agricultural machinery and marble.

Container Ro/ro·Lash

Intermodal traffic needs speed, efficiency, and flexibility. ★ We've got the facilities and the know-how. ★ That's why more and more lines are calling at our ports. ★ We move faster. For your benefit.



The Ports of Bremen-Bremerhaven

For details write to: Bremer Lagerhaus-Gesellschaft, 28 Bremen, Überseehafen, Phone 3 89 61, Telex 2 44 840
Bremer Lagerhaus-Gessellschaft, 285 Bremerhaven, Steubenstr., Phone 48 41, Telex 02-38722

Award won again

San Diego, Calif., 28 October (Port of San Diego News Release):—For the second straight year the Port of San Diego has won an award in promotional literature competition.

At the annual convention of the American Association of Port Authorities, three ports won major recognition for annual reports reproduced in full color. In addition to the local Port District, the Port of Long Beach and the Port of Puerto Rico were selected for honors in the hemisphere-wide competition held in San Juan, Puerto Rico.

Port Commissioner L.H. Ruehle (National City), delegate to the AAPA's sixty-third convention, accepted the award on behalf of the Board of Port Commissioners. Representatives of nearly 100 port authorities from North, Central and South America were on hand for programs where world-known experts in shipbuilding, port development and environmental protection discussed growing problems within the community of maritime nations.

The Port's annual report cover featured a striking color photograph of the San Diego skyline and illustrative photographs of Port operations.

PLA Havenmaster advises Nigeria on Safety at Sea Procedures

London, 28th October (PLA News):—Port of London Authority marine and navigational expert, Lt. Cdr. R.B. "Dickie" Richardson returns on Friday (November 1) after spending six weeks advising the Nigerian Government on the improvement of navigational procedures and equipment for shipping in Nigerian territorial waters.

During this period, Lt. Cdr. Richardson has been attached to IMCO—the United Nations maritime organisation—who specifically asked for his services when they contacted Placon Ltd., the PLA consultancy subsidiary, through the Ministry of Overseas Development.

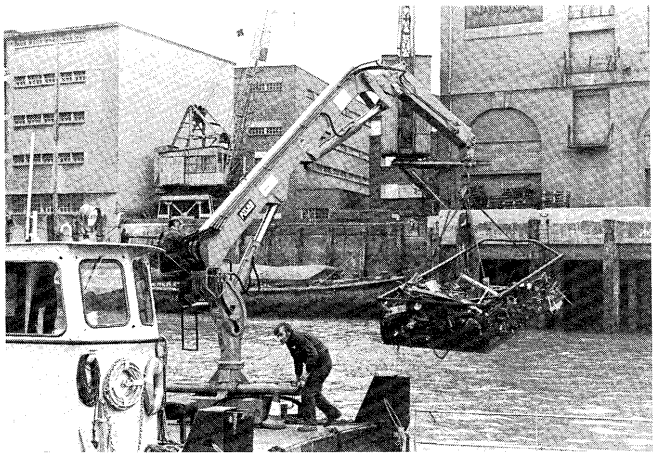
He discussed with the Nigerian authorities the designation of safety lanes, similar to the separation zones now in operation in the busier sections of the English Channel, and the provision of position fixing systems.

Lt. Cdr. Richardson has a very wide experience in this field and was largely responsible for the formation and development of the PLA's Thames Navigation Service, which is accepted as one of the finest harbour navigation services in the world. He is based at Gravesend and, as Havenmaster East, his responsibilities extend from Dartford to the seaward limit of the Port of London.

Placon Ltd., formed just over a year ago to make PLA experience and expertise available throughout the world, has already aided the Nigerian ports authority through consultancy and a training scheme for its security services.

Reducing driftwood on the Thames

London, 31st October (PLA News):—In its constant fight to keep the Thames free of driftwood and other litter, the Port of London Authority has committed itself to considerable expenditure both in the provision of manpower and specialised equipment. However, PLA cannot win this battle alone, and if the Thames is to continue to be the pride of Britain's capital city, then a greater contribution must be made by other organisations whose administrative responsibilities extend along its banks.



Photograph shows the "Multi-Cat" craft used by the Port of London Authority with a typical haul of debris being lifted from the water by the craft's own hydraulic crane for deposit in a PLA driftwood barge.

This was the message given by the Port of London Authority River Superintendent Lt. Cmdr. P F C Satow when he spoke at the Plenary Meeting of the "Keep Britain Beautiful" International Conference at Lancaster House today.

Currently, the PLA are using a "Multi-Cat" multi-purpose craft on the River Thames equipped with its own hydraulic crane and a "disfloater", a device pushed ahead by the craft which acts as a trap for driftwood and other floating litter. When a substantial quantity has accumulated in the trap it is lifted out of the water by the crane and placed into one of the driftwood barges, a particularly efficient means of collecting debris.

"These measures require a considerable financial expenditure on the part of the PLA which must be recovered in port charges, but the very people who benefit from a cleaner river, all too often are those who pay nothing towards its upkeep," said Lt. Cmdr. Satow.

"For this reason we would greatly appreciate the continued efforts of local authorities, associations of river users and voluntary organisations to mitigate the problem. Any assistance given to the PLA, whether it be financial or in the form of volunteer labour, would be most welcome."

The PLA's River Superintendent, who is Secretary of the Thames Marine Consultative Committee, which includes representatives from all concerned with the use of the river and the safety of navigation, said that local authorities administering the districts bordering the Thames are aware of the problems associated with driftwood but so far have been unable, for various reasons, to make the commitment necessary to clear away the debris and to keep their foreshores clear of driftwood.

The PLA, local authorities and other interested organisations must continue to alert the general public and all river users to the navigational and environmental problems created by driftwood and other litter so that the efforts being made by PLA and others will not be wasted.

Rotterdam_Europoort International sea-borne goods traffic

1973 AS COMPARED WITH 1972

x 1.000 T (1.000 KG)

		* DISCHARGED	* LOADED	* DISCHARGED + LOADED
TOTAL	**1973**	**224.503**	**69.621**	309.820
	1972	**198.853**	**85.317**	268.474
SOLID FUEL	1973	1.556	4.156	5.712
	1972	1.941	3.809	5.750
MINERAL OILS	1973	156.175	59.185	215.360
	1972	139.156	48.762	187.918
OF WHICH CRUDE OIL	1973	142.222	27.082	169.304
	1972	128.954	19.726	148.680
CHEMICAL PRODUCTS N.O.S.	1973	4.883	5.201	10.084
	1972	4.182	4.664	8.846
ORE	1973	29.133	536	29.669
	1972	24.569	562	25.131
OF WHICH IRON-ORE	1973	25.914	345	26.259
	1972	21.130	321	21.451
CEREALS, INCL. FODDER-CEREALS	1973	5.542	1.957	7.499
	1972	4.246	1.961	6.207
CATTLE-FODDER, EXCL. FODDER-CEREALS	1973	5.199	506	5.705
	1972	4.879	215	5.094
OIL-SEEDS AND OIL-FRUITS	1973	3.549	615	4.164
	1972	3.291	356	3.647
ANIMAL AND VEGETABLE OILS AND FATS	1973	832	563	1.395
	1972	843	455	1.298
FERTILIZERS (RAW AND MANUFACTURED)	1973	3.413	2.051	5.464
	1972	3.412	1.607	5.019
RAW MINERALS (A.O. SULPHUR)	1973	3.838	618	4.456
	1972	3.984	511	4.495
METALS AND METALWARE	1973	2.275	3.758	6.033
	1972	1.897	2.200	4.097
MACHINERY, APPARATUS	1973	497	692	1.189
	1972	355	534	889
TIMBER, WOOD AND WOODWARE	1973	1.148	150	1.298
	1972	918	90	1.008
CELLULOSE AND PAPER	1973	1.340	252	1.592
	1972	1.129	241	1.370
FRUITS AND PRODUCTS	1973	802	121	923
	1972	801	89	890
TEXTILES AND PRODUCTS	1973	487	370	857
	1972	350	285	635
MILK AND OTHER DAIRY PRODUCTS	1973	109	603	712
	1972	39	390	429
OTHER GOODS	1973	3.725	3.983	7.708
	1972	2.861	2.890	5.751

* INCLUDING DIRECT IMPORTS FROM, RESP. EXPORTS TO BELGIUM/LUXEMBURG.

SOURCE: C.B.S.

[Reprinted from "Rotterdam Europoort Delta", 74/3/(e)]

More South America trade

London, 14th November (PLA News):—Lloyd Brasileiro, the Brazilian national line, is to open a new direct London/Brazil liner service from the Port of London Authority's Tilbury Docks. The first ship, the "Itapage" will leave Tilbury on 10th December and is due in South America before Christmas.

The news comes only weeks after another Brazilian shipping group, "Alianca SA" launched their new London/Brazil service from the PLA's Royal group of docks.

A spokesman for Kersten, Hunik & Co. Ltd., U.K. general agents for Lloyd Brasileiro, said "We are confident that this new express service to Brazil will attract a great deal of interest from shippers. Tilbury is strategically placed and highly efficient and is already used by Lloyd Brasileiro ships in their existing inward liner service to their complete satisfaction. The owners could also have a further interest in Tilbury in the future in view of new ships currently under construction."

The new service is the result of extensive negotiations between PLA and Kersten Hunik which culminated in the recent visit to London of Lloyd Brasileiro President, Admiral Jonas Correia de Costa, together with the company's commercial director and its European representative.

The service, which will serve the ports of Rio de Janeiro, Santos and Paranagua, will initially be operated monthly. Both PLA and Kersten Hunik are highly optimistic about the potential of the new service though exact forecasts are not possible at this stage. However, the latest "Ita" class ships will be used, including "Itaimbe", "Itape", "Itaite" and "Itapage". These ships, which have a deadweight capacity of 11,900 tons, are also designed to carry, in addition to conventional cargo, up to 134 20ft containers.

Centralising import ledger offices in the Royal Docks

London, 14th November (PLA News):—The Port of London Authority is reorganising its office accommodation in the Royal Docks and centralising all import ledger office functions in one central Import Ledger Office on the North side of Royal Victoria Dock. This will give benefits of increased efficiency in a unified and comprehensive office at a single location.

On and from Monday, December 2nd, the new office will handle all import documentation for the Royal Group of Docks processing delivery orders, transfer orders, documents of title etc., for all import cargo handled there by PLA. It will provide one central point for report and speedy processing of business by agents and hauliers.

Access to the central Import Ledger Office is by way of either No: 6 gate off the Silvertown Way at the Western end of the main internal road on the North side of Royal Victoria Dock, or by way of No: 8 gate off the Connaught Road at the Eastern end.

The address and telephone numbers of the centralised facilities will be:

The Royal Victoria Dock Ledger Office
North Side,
Royal Victoria Dock,
London E16 3RB
Telephones: 01-476 6900
Extensions: 95/441, 95/212 and 95/305

The offices being closed from December 2nd are the King George V Dock Ledger Office by No: 19 gate which formerly served that dock and the South side of Royal Albert Dock, and the No: 4 Berth Ledger office on the South side of Royal Victoria Dock.

"Development and Management of Modern Ports"

London, 14th November (PLA News):—The fact that a port benefits from considerable subsidies—derived from either local or national government—does not relieve its management of its responsibility to achieve the highest standards of business performance, Port of London Authority Director-General, John Lunch, said today.

Addressing the Europoort '74 Congress in Amsterdam on "Development and Management of Modern Ports" Mr. Lunch said that it would be quite wrong to succumb to inefficiency by allowing the benefit of subsidies to lead to excessive investment without adequate return on capital.

This Europoort '74 International Maritime Congress is being addressed by top managers from some of Europe's major ports.

Said Mr. Lunch: "The demands on management in the ports industry are no different from those on any other section of industry. This means that the same business methods and the same disciplines must apply regardless of ownership—public or private."

"The standards and criteria of good management must apply to all our ports regardless of the source or system of finance and financial control."

"There are currently lots of discussions taking place aimed at achieving an EEC harmonisation of ports policy and which are concerned very largely with the question of subsidies. I see no immediate political solution to this problem, so while we are seeking a common solution we must get on with our job".

Mr. Lunch said that he was a firm believer in devolvement of management responsibility. This must increase business efficiency and bring about an improvement in industrial relations by an intensive management approach to communicate with, consult with and involve people at all levels. He pointed to the much improved climate in the Port of London as evidence of the success of these policies. He also pointed to the progress of the Port of London in improving service to customers through PLA's development in stevedoring and in widening their business base.

Looking to the future, Mr. Lunch saw an increasing trend in all nations towards national self-sufficiency particularly in fuel, food and transport. The implications of this had not yet been fully grasped, in his view, by all governments and businessmen.

"Feather-bedding futile" says Docks Board Chairman

London, 20 November (British Transport Docks Board):—Outright opposition to any suggestion of giving Britain's port industry financial aid of the type received by its Continental counterparts in the EEC was voiced by Sir Humphrey Browne, chairman of the British Transport Docks Board, today (Wednesday 20 November).

Speaking to journalists in London, Sir Humphrey said: "I am unequivocally opposed to subsidies of this kind. In

the long run they can only enfeeble the industry—and indeed, in the wider context, the nation as a whole.

"In my opinion this type of feather-bedding is a futile waste of taxpayers' money," he said. "Subsidies would be very damaging—they introduce distorting factors, they bedevil assessment of performance, they breed inefficiency. The Docks Board policy is service not subsidies."

Sir Humphrey explained that the situation on the Continent was quite different to that in Britain. To a large extent any one of several countries could serve the vast European hinterland through its ports. The competition between countries was very real and if one country subsidised its ports the others doubtless must follow or lose out. For Britain this was not so: all goods destined for or originating from the British market must ultimately pass through a British port, and subsidisation could not alter this fact, nor the total volume of trade handled.

"If there could be an adverse effect on British port traffics arising from competition with subsidised Continental ports, it could only relate to transhipment," Sir Humphrey continued. "But I do not believe that even with heavy subsidies UK ports could compete for transhipment of a significant part of European traffics, and for UK traffics there are practical factors which greatly limit the scope for transhipment through Continental ports".

Le Havre Flashes

Le Havre (Port of Le Havre Flashes, August and September, 1974):

To sea by ari?

On May 10th Le Havre's sea pilots were invited by Heli-Union to watch a demonstration at the airport of a twin-turbine Sikorsky S 58 helicopter capable of carrying 12 to 16 passengers. It had arrived from the United States only that morning on the containership *Atlantic Champagne* and was the first of its kind to be seen in France. The pilots were particularly interested in the winching gear that allows passengers to be lowered onto the decks of ships far out at sea, and it is possible that they may one day adopt this novel method of getting aboard supertankers coming up the Channel to the Havre-Antifer Terminal.

Havre-Antifer: a home for giants

With the energy crisis now several months old, there is no sign of shipowners having changed their minds about supertankers holding the key to the future. At the end of June 1973 there were 22 tankers of over 400,000 tons on order; by June 15th 1974 the number had risen to 64. On the same date there were 113 vessels of over 250,000 dwt in service and a further 413 on order. Though none could be accommodated in the present port of Le Havre, they will all be able to enter the new Havre-Antifer Terminal.

Pollution warning system (September)

Next month an atmospheric pollution detection and warning system is to be established in the Havre area. It will comprise 44 sensors and a computer which will warn local industry, in the light of prevailing weather conditions, when

the permitted pollution level is about to be exceeded, so that factories can switch over in time to a fuel with a low sulphur content. The system will also include a mobile laboratory with extremely accurate measuring devices that can be dispatched quickly to any part of the zone covered.

Oil for export (September)

In 1973 the port of Le Havre received 63 million tons of crude, 80% from the Middle East. But we did not keep it all for ourselves. Reshipment of crude oil in 1973 amounted to 8,369,000 tons, against 4,250,000 tons in 1972. Another sign of Le Havre's increasing importance as a dispersal port is that it served not only a number of French seaboard refineries but sent 2,400,000 tons to a dozen different ports in other European countries (against one million tons in 1972).

Rouen port news (15 November)

HIGH VALUE CARGO: On October 22, the Bulgarian vessel DURRESI discharged in the port a cargo of . . . only 31 tons, but of a considerable value: $14,175,575. This cargo consisted of a set of art objects intended for an exhibition in Paris. The port of Rouen was chosen for the transit of this special cargo because of his proximity from the French capital.

NEW PORTUGAL LINK: On October 22, the Russian vessel ENGURE inaugurated a new regular line from Rouen to Portugal. This new link is operated by the PORTO-BALTICA LINE, a joint-service of the Baltic Steamship Co. (Leningrad) and the Latvian Steamship Co. (Riga). The Portobaltica Line is a bi-monthly service calling at Leixoes and Lisbon; the agent in Rouen is Agence Maritime Nordique. The first cargo of the ENGURE amounted to 425 tons of general cargo.

A MIDDLE-EAST LINE: The GULF MEDLINE, operated by the Ipswich-based Gulf Maritime Co. Ltd., inaugurated a new service between Rouen and Beyrouth-Lattaquié. The first sailing was made on October 25 by the Greek chartered vessel SINED who left for the Middle East with about 200 t general cargo. Represented in Rouen by Jolasry (France), the Gulf Medline is a bi-montly service.

FERTILIZER CARGOES: With big factories (Rhône-Progil, Azote et Produits Chimiques, Générale des Engrais, Azolacq), Rouen is the leader in France for the fertilizer industry, but not still a big exporter. However four vessels came during the recent days in order to load big cargoes: the Cyprus ATHENIAN and the Indian APJ-PRIYA loaded 4,000 t and 6,000 t for India, the Singapore-registered GRIFFIN, 10,000 t for Mombasa, and the Panamanian JALTIPAN left for Brownsville (U.S.A.) with 10,000 t.

NEWCOMER ON WEST AFRICA: Following her sisters COTES-DU-NORD, CREUSE and CORREZE, the new French liner CANTAL called for the first time in Rouen on October 28. She loaded exceptionally only cereals at the M.R.M. silo: 1,200 t wheat for Abidjan and 200 t for Duala. The CANTAL is a multi-purpose vessel of 15,600 tdw belonging to the Societe Navale Chargeurs Delmas-Vieljeux, fourth in a series of five built by Marine Industries Ltd., Sorel (Canada).

Mina Zayed

Abu Dhabi (The Gray Mackenzie Monthly Bulletin, July 1974):—Abu Dhabi's port, Mina Zayed, is to be doubled in size and discussions have already started on possibly quadrupling the number of available berths.

At present, the port has six deep-water berths and three shallow ones. However, a further six deep-water berths and four shallow ones are scheduled to be built within the next 24 months.

Talks are now centreing round the possibility of adding a third arm to the port's development, providing another twelve berths in an enclosed sheltered area which would also house a marina.

Although no details of the talks are available, it is understood that full container facilities are to be provided.

At present the maximum draft accepted in the six deep-water berths (numbers four to nine) is, number four berth—32 feet plus allowance for tides and numbers five to nine—30 feet, again with an allowance for tides.

The approach channel is dredged to 31 feet.

However, despite six berths being operational, the daily discharge of cargo in the port is still low, averaging 200 tons for general cargo. This is mainly due to the shortage of equipment.

According to informed sources, however, the port authorities have indicated their willingness to hire outside transport to supplement their own fleet of trailers.

Another problem is the free storage facilities provided by the port authorities which has tended to build up a back-log of goods in warehouses. It is expected that this situation might be reviewed very shortly and a system of storage charges instituted.

Despite all this, only a maximum of two days delay on berthing was experienced during the month and this position is expected to continue into August.

Thirty-four vessels docked at Mina Zayed during the month, carrying 37,196 deadweight tons for discharge. Imports consisted of 24,188 tons of general cargo, 1,694 tons of oil company material, 3,914 tons of cement, 2,289 tons of steel, 1,877 tons of rice, 1,882 tons of pipes, 1,190 tons of flour and 162 tons of timber.

Only two vessels called at the port for loading, taking on 350 tons of steel for Bahrain and 50 tons of acid tanks for Kuwait.

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The 24th Biennial Conference of The Association of Australian Port and Marine Authorities

Press Statement by the Association Secretary R. Brokenshire

(November 1974)

Following the announcement by Mr. Brotherson, the President of the Maritime Services Board of New South Wales that he did not wish to stand for re-election as President of the Association of Australian Port and Marine Authorities, Mr. A.J. Peel, Director, Department of Harbours & Marine Queensland was elected unopposed to that office at the 24th Biennial Conference of the Association which concluded in Perth on the 24th October 1974. Mr. Brotherson has been President of the Association since he was elected to that position in 1972. Mr. Peel was formerly the Vice-President of the Association. The new Vice-President is Mr. A.S. Mayne, Chairman Melbourne Harbor Trust Commissioners, who was elected unopposed.

At the conclusion of the 24th Conference, which was hosted by the Fremantle Port Authority the retiring President Mr. Brotherson summarised activities. He said that "a significant feature of the Conference, at which there were over 100 delegates, has been the papers delivered by three well qualified guest speakers. Mr. Howe Yoon Chong, Chairman and General Manager of the Port of Singapore Authority, spoke on the close relationship which has developed over a number of years between Singapore and ports in Australia, particularly Fremantle, which is the closest to Singapore of the Australian capital city ports".

Mr. C.H. Fitzgibbon, the General Secretary of the Waterside Workers Federation of Australia addressed the Conference on the subject of "The Port Work-Force". Mr. Brotherson said "this address was a highlight of the proceedings. The Association has become concerned in recent times that the Port facilities owned by the member-authorities should be fully utilised, and as the port labour force is an essential element of port operations, the address by Mr. Fitzgibbon was timely and of particular interest to the delegates".

The third address, by Mr. L.C. Brodie-Hall Executive Director–W.A., Western Mining Corporation Ltd. and Chairman of the Western Australian Chamber of Mines, was a very topical one entitled "Mineral Development and Port Requirements". Mr. Brotherson added "more than 30 items were included in the agenda for the Conference, covering a wide range, which included consideration of subjects such as, methods of ensuring that responsibility both financial and physical, for removal of wrecks from port areas is met by the owners of the wreck; a recently developed Code covering the handling of dangerous goods and oils in ports; and a standard set of rules for the storage and handling of flammable and combustible liquids in port areas.

Another important matter discussed, related to the presentation by the Association to the International Association of Ports and Harbors of a request that an international approach be made to the control of discharge of sewage from ships in port.

Mr. Brotherson said "this request was taken up by the International Association of Ports and Harbors at its Conference held in Amsterdam last year and the matter has now been referred to the International Maritime Consultative Organisation with a view to producing an international convention".

"In terms of the normal time lag in the implementation of International Conventions, this convention if adopted by Australia, consequently, will not be effective for some years." Mr. Brotherson said.

He pointed out that being international it will be necessary for the convention to be adopted by a number of subscribing countries, but in the meantime ship owners are anticipating the convention by installing holding tanks or treatment plant on all new vessels.

Mr. Brotherson said "standard types of fitting will also be installed in new wharfage facilities in order that ships' holding tanks may be dicharged into shore based sewerage facilities."

The next biennial Conference (25th) of the Association of Australian Port and Marine Authorities is to be held in Melbourne, hosted by the Melbourne Harbor Trust Commissioners.

Trade continues at high level

Sydney, 10th October (The Maritime Services Board of N.S.W.):–The high level of trade passing through the Ports of New South Wales was maintained during the first two months of this financial year.

This was revealed in figures released in Sydney to-day by Mr. W.H. Brotherson, President of the Maritime Services Board.

Mr. Brotherson said, "industrial disputes in the oil industry had an adverse effect on the state and intrastate trades of all four of the major ports of the State but despite this, the total trades of the ports of Sydney and Newcastle for July and August, 1974, have shown substantial increases compared with the same two months last year".

He said "there are no signs of any decline in the volume of oversea imports".

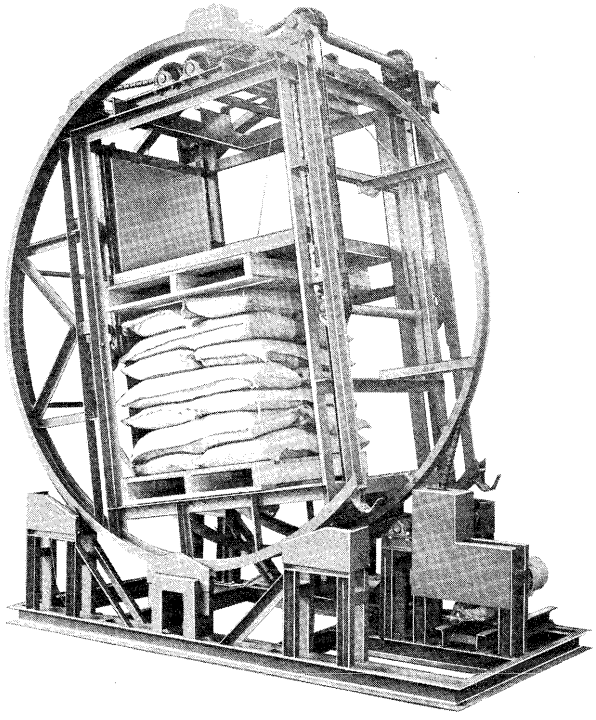
"In fact", Mr. Brotherson said, "there has been a 13% increase for July and August this year and imports of motor vehicles, machinery and paper have continued to boom".

Commenting on the trade of the Port of Newcastle, Mr. Brotherson said "there has been a 40% increase for the first two months of this financial year, due in part to an increase of more than half a million tonnes in coal exports, and if the trend continues, last year's record trade figures seem certain to topple".

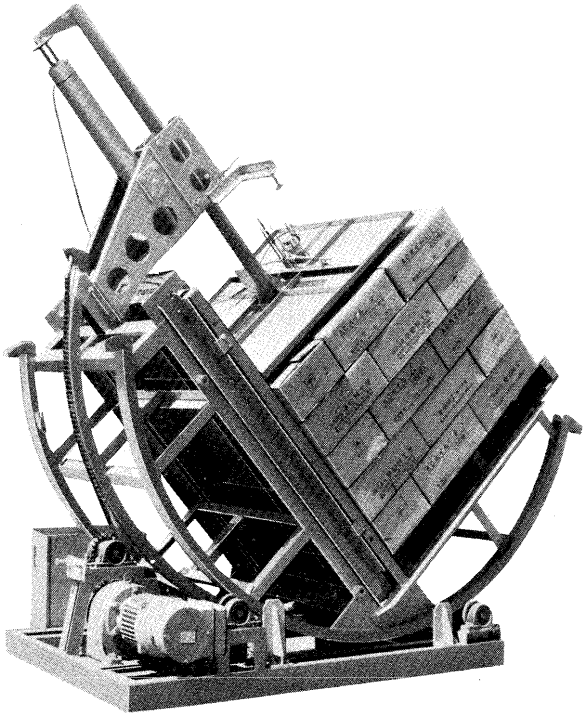
Advent of Our "Re-Palleter" Solves All Troubles of Pallet Exchanging!!

"Re-palleter" is an apparatus long-awaited among all branches of transport business. It enables exchange of the pallet in use without collapsing the "unit" load.
At present, all sized pallets with random enterprises in factories and automated warehouses for their own storage or transport within their premises. But to cut down transport cost, the necessity of circulating pallets beyond the boundaries of enterprises has long been clamored for by experts.

Recently the standardization of sizes for "intergrated transportation pallets" was provided and a pallet-rental company was established. The only remaining hazard to promoting pooled pallet system was the diversity of pallet size at the level of individual enterprise.
Now the advent of our "Re-palleter" solved all of the problem. It can exchange pallets in a matter of seconds by only one man's hand.



Model R-180



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A South Island Containerport

The Case for Lyttelton

(Reprinted from the 28-page brochure titled "A South Island Containerport—Lyttelton Prepares" published by Lyttelton Harbour Board, Christchurch, New Zealand.)

This brochure has been produced to show why Lyttelton must be a containerport.

The Board has a statutory obligation to provide the people of its hinterland with the best and most efficient port facilities possible. It can only meet these obligations by constantly remaining abreast of technology and by reacting to change.

The world is in the throes of a transport revolution called containerisation, and failure by the Board to join this revolution would be a clear denial of its statutory obligations.

Already, some $12 million has been spent on port development, of which $4 million has been on the construction of a heavy-duty berth suitable for cellular containerships. Tenders have been called for the supply and construction of a container crane which will enable the port to be ready for its first containership by 1976. Funds for this crane are available in a reserve account, financed over the years from the depreciation component of crane hire charges. The Board has given an undertaking that it will meet the N.Z. Ports Authority before final acceptance of a tender.

Lyttelton's case is that there is already demand and need for container facilities in its area. It does not deny a need elsewhere and, in fact, the Minister of Transport, Sir Basil Arthur, has stated publicly more than once that he favours a two-port concept.

Projections of container growth by the Ports Authority show that nearly as many containers will be handled in the South Island by 1980 as are handled in the North Island now—and the North Island has two ports.

Shipping companies have always preferred to limit their ports of call and the early philosophy of containerisation was for only one port per country. Congestion, delays and unprecedented growth have, however, fostered new attitudes, particularly among the importers and exporters upon whom the shipping companies depend for their survival. Today's thinking, borne out by a Government with a regional development policy, is that a community's interests are best served by progressive local ports, not by distant monoliths with massive cargo throughputs.

Aggregation of cargo also begs the question: "Who pays for internal carriage to a centralised port? The cost of centralisation through one port of the South Island's export meat has been estimated, for example, at $2½ million a year. This is a high price to pay.

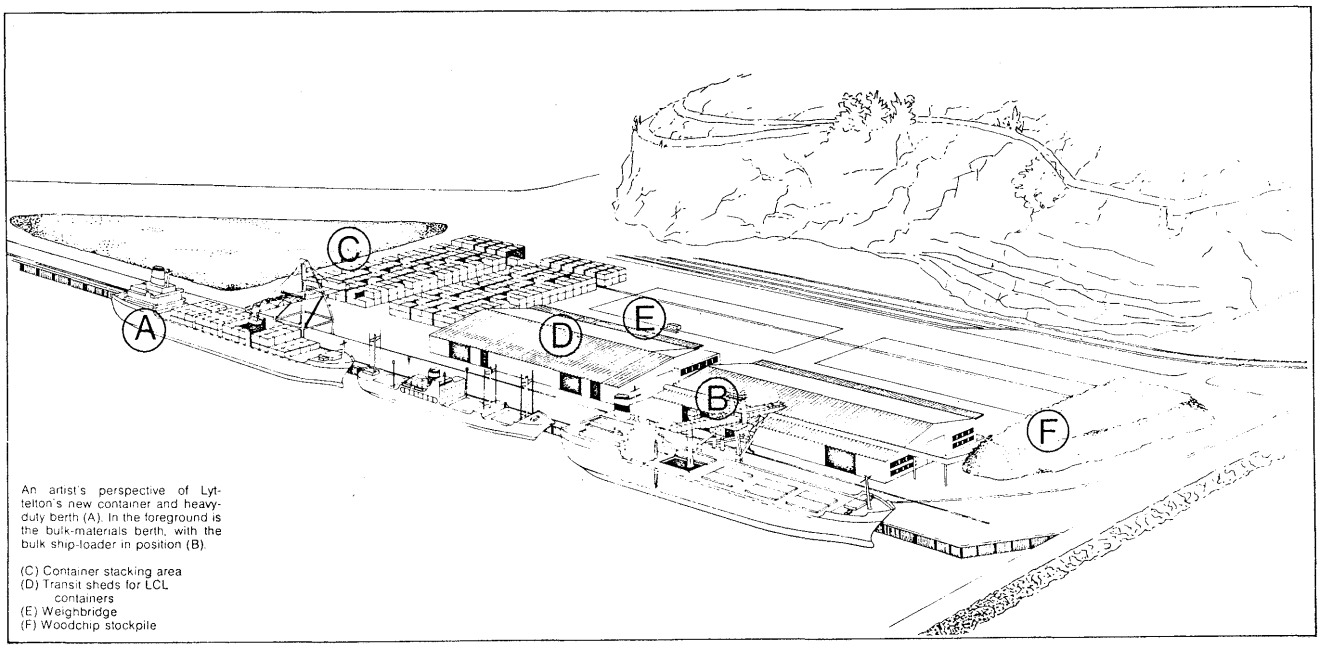
Already, enough containerable cargo is available within easy access of Lyttelton to justify a container service. By 1980 the volume will be increased further.

Lyttelton's claim is that a containerport is already justifiable. And in planning for the future, the case is irrefutable because no South Island centre has such sound prospects for growth.

Signature

J. BRAND
Chairman

☐ Lyttelton is at the growth and production hub of the South Island.
☐ Lyttelton is the only South Island port which can



An artist's perspective of Lyttelton's new container and heavy-duty berth (A). In the foreground is the bulk-materials berth, with the bulk ship-loader in position (B).

(C) Container stacking area
(D) Transit sheds for LCL containers
(E) Weighbridge
(F) Woodchip stockpile

provide a well-balanced inward and outward container trade.

- ☐ Lyttelton will this year finish its container berth, and a container crane is expected to be ready by 1976.
- ☐ Lyttelton is the only South Island port with a channel depth capable of handling today's largest containerships; and it has no navigational problems.
- ☐ Lyttelton's container handling charges will be competitive with other New Zealand ports.
- ☐ Lyttelton has ample room for berth expansion and for expansion of other facilities.
- ☐ Lyttelton is already handling containers on semi-container vessels and its users testify to its suitability.
- ☐ Lyttelton is financially healthy with ample resources to cater for anticipated container growth.

One million tonnes rise

Melbourne (Melbourne Harbor Trust Port Gazette, September, 1974):—The Trust anticipates that it will be able to report a favourable financial result for the year ended 30th June, 1974.

It is expected that net revenue over expenditure will exceed $3.2 million which represents a return of 2.7% on an investment in the Port of $120,000,000.

The significant improvement is due to the increase in tonnes of trade through the Port.

Faced with a pressing need to spend some $18 to $20 million in the current year on capital works, the result is heartening. However, it must be pointed out that even if the present high inflow of imports continued indefinitely (and this is open to question) it is very likely that the Trust will be forced to increase its rates for wharfage and tonnage in the near future if it is to cope with the tremendous cost escalation and at the same time undertake the urgent works needed to accommodate all Port users.

There was a significant rise in the volume of trade through the Port of Melbourne for the financial year ended 30th June, 1974, when more than 16.9 million tonnes of cargo were shipped, compared to 15.9 million for the previous year, an increase of one million tonnes or 6.4%.

The sector which contributed most to the Port's increased volume of trade was undoubtedly that of Overseas Imports, which rose by 23% during the period, the major factors responsible being the relaxing of tariff restrictions and revaluation of the Australian dollar.

Overseas Exports increased slightly despite a sharp decline in the demand for wool and meats.

Imports expressed in metric tonnes in all sections were:—

Overseas, 6,420,480 up 1,200,972 (23%); Interstate, 2,967,281 up 117,085 (4.1%); Intrastate, 68,501 down 342,810 (83.3%).

The fall in Intrastate cargo serves to highlight the damaging effect on the Port as the result of the loss of crude oil shipments between Westernport and the Port of Melbourne due to the opening of the WAG pipeline in 1972.

The breakdown in tonnes in the overall export trade section is:—

Overseas, 4,603,858 up 3,223 (0.7%); Interstate, 2,804,079 up 185,835 (7.1%); Intrastate, 49,559 down 154,083 (7.6%).

In the field of cargo in containers, the adverse gap between the modular concept and conventional method of transportation has not only been bridged but is now very much in favour of the first mentioned method of cargo transportation. A total of 376,175 containers (20' equivalents) were handled during the year.

General cargo in containers for the July/June 73/74 period totalled 7,234,872 tonnes while cargo packed in the conventional method amounted to 4,385,724 tonnes.

Details in 20 ft. modules were:—

Overseas loaded containers:

Imports, 118,496 up 17,503 (17.3%); Exports, 83,948 down 14,445 (14.7%).

Coastal loaded containers:

Imports, 60,650 up 5,512 (10%); Exports, 73,634 up 8,566 (13.2%).

Empty containers:

Imports, 6,408 down 3,880 (37.7%); Export, 33,039 up 20,587 (165.3%).

Major Import items in the Non Bulk trade which recorded gains in tonnes were:—

Cars and Parts, 1,049,193 up 266,970 (34.1%); Iron and Steel, 520,973 up 150,671 (40.7%); Machinery, 423,910 up 114,754 (37.1%); Paper and Paperboard, 534,084 up 28,835 (5.7%); Timber, 490,228 up 114,505 (30.5%); Textiles, Fabrics and Yarns, 378,655 up 61,502 (28.3%).

Cargoes which recorded falls in this sector were:—

Raw Plastics, 101,012 down 4,308 (4.1%); Wood-pulp, 117,569 down 1,844 (1.5%); Empty Returns, 236,789 down 95,092 (28.7%).

Major extensions and upgrading

Whangarei, New Zealand (Points North, July, 1974, published by the Northland Harbour Board):—The Northland Harbour Board is planning a major programme of extensions and improvements to the facilities of Port Whangarei.

Main items are a new $1.2 million lay-up and repair berth to replace the now almost worn out Kioreroa wharf, and a 5,000-ton maximum capacity 20,000 sq. ft. general cargo shed.

The board believes the provision of a general cargo shed, a facility the port does not now have, should encourage shippers and importers in the north to use Port Whangarei rather than Auckland, helping to ease congestion at the latter port.

The lay-up berth proposal has been approved by the N.Z. Ports Authority and is before the Local Authority Loans Board at the moment. If approved, it could be completed by next May.

Although the board has been planning the new lay-up and repair wharf since early last year, impetus was given to the scheme in February of this year when it was learned that the Whangarei Engineering Company was tendering for the contract to convert the ship Moana Roa into a hydrographic research vessel for the New Zealand Government, a contract that would normally go to overseas interests.

The engineering company was unable, because of the short time available, to construct the marine facilities which were a condition of the contract. Because of the advanced stage of the board's planning, it was decided that the new wharf's specifications would be slightly changed to meet the engineering company's requirements.

If Whangarei Engineering Company is successful in its tender for the Moana Roa conversion, a contract estimated to involve about $6 million, the new berth would need to be completed by the end of May, 1975, and be available to the engineering company for 12 to 18 months.

The main recent use of the Kioreroa wharf has been as a lay-up and repair berth for the board's tugs, tow boats, launches and floating plant. Berthage length is insufficient for many purposes and contracts for the board's 1,500-ton slipway have been lost because of the lack of guaranteed fitting out berthage.

The Kioreroa wharf was built of timber in 1927 as a railway wharf. Ten years ago the rear portion of the wharf was fenced off from vehicles and pedestrians as it was unsafe. The remainder was repaired so that small maintenance vehicles could obtain access to vessels using the wharf.

In January of this year the wharf had reached a stage where it had to be closed completely to maintenance vehicles and a considerable amount of money spent just to keep it open for pedestrians.

Construction of the new wharf will require dredging of an approach channel and upgrading of the reclamation alongside.

The wharf will be 403 ft long with a 150 ft approach bridge. It will be built with prestressed concrete piles, reinforced concrete caps, precast prestressed deck units and will be equipped with services for water, electricity, telephones, fuel compressed air and sewrage.

General Cargo Shed

An initial total of seven possible sites for the general cargo shed was narrowed down to four on which a cost-benefit analysis was undertaken by the board's engineering department. The site finally chosen will be an extension to Port Whangarei wharf.

The board's next loan application will include provision for a $770,000 programme of upgrading and extending the facilities of the port, including the cargo shed and wharf extension.

Included in the proposed schedule of works is extension and improvements to the board's works headquarters building, a new storage building for paint, slipway gear and dangerous goods, an explosives and gas bottle store, an improved sewage treatment plant, upgrading of the fire-fighting facilities in the works area, a new sand-blasting enclosure and improvements to parking and storage yards.

Record Annual Cargo

Karachi, Pakistan (K.P.T. News Bulletin, August 1, 1974):—The Port of Karach handled a record cargo 1,04,86,386 tons during the period from 1st July, 1973 to 30th June, 1974, which is highest tonnage handled so far in the Port of Karachi's History. This is about 1.4 lakh tons higher than the previous record figure which was 1,03,47,535 tons handled during 1st July, 1972 to 30th June, 1973.

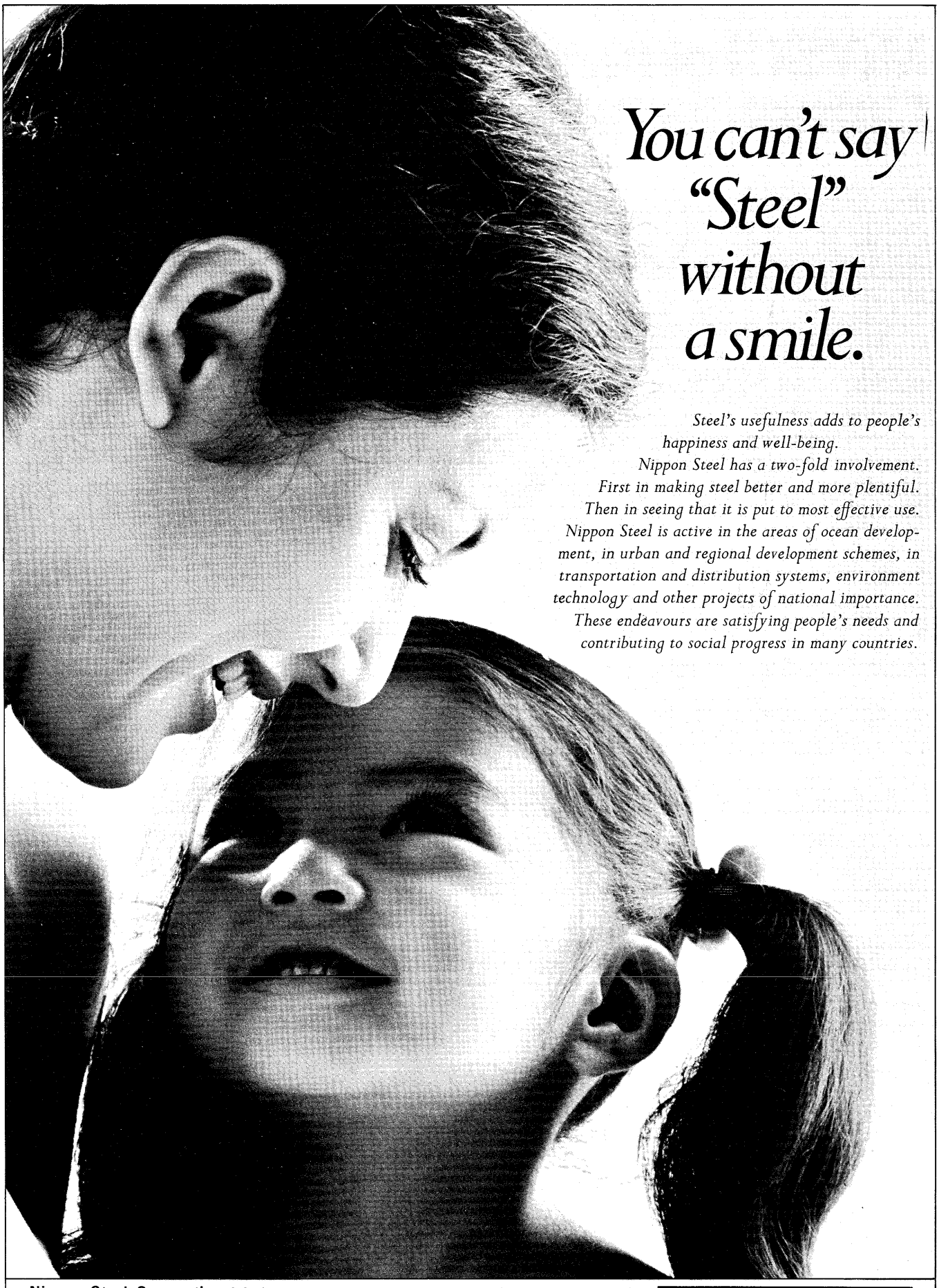
The Imports handled during the year ended on 30th June, 1974, is 74,40,492 tons which includes a total of 34,93,548 tons Dry Cargo and a total of 39,46,944 tons Petroleum and other liquids (excluding edible oils). As compared with the previous import record figures handled during the year ended on 30th June, 1973, which was 71,89,442 tons including 36,04,568 tons Dry Cargo and 35,84,874 tons Petroleum and other liquids.

The Export figures, however, remain lesser than the previous record figures. During the year ended on 30th June. 1974, total exports recorded which is 30,45,894 tons including 24,02,394 tons Dry Cargo and 6,43,500 tons Petroleum and other liquids as compared with the previous record export figures handled during the year ended on 30th June, 1973, was 31,58,093 tons which included 24,50,248 tons of Dry Cargo and 7,07,845 tons of Petroleum and other liquids.

The imports of principal commodities recorded during the year ended on 30th June, 1974, are Wheat 9,52,423 tons, Fertilizers 7,34,446 tons, Coal 13,533 tons. Coke 62,210 tons, Iron & Steel 3,63,671 tons, Papers 42,838 tons, Tea 40,486 tons, Jute 51,456 tons. Oils edible 1,39,261 tons, Tallow 22,399 tons and Motor Cars 9,122 Nos. & Tons.

The Export figures of Rice is 5,07,811 tons and Cement is 6,99,094 tons as principal commodities recorded during the year ended on 30th June, 1974.

The Port of Karachi handled the total cargo for Afghanistan which is 74,227 tons during 1st July, 1973 to 30th June, 1974.



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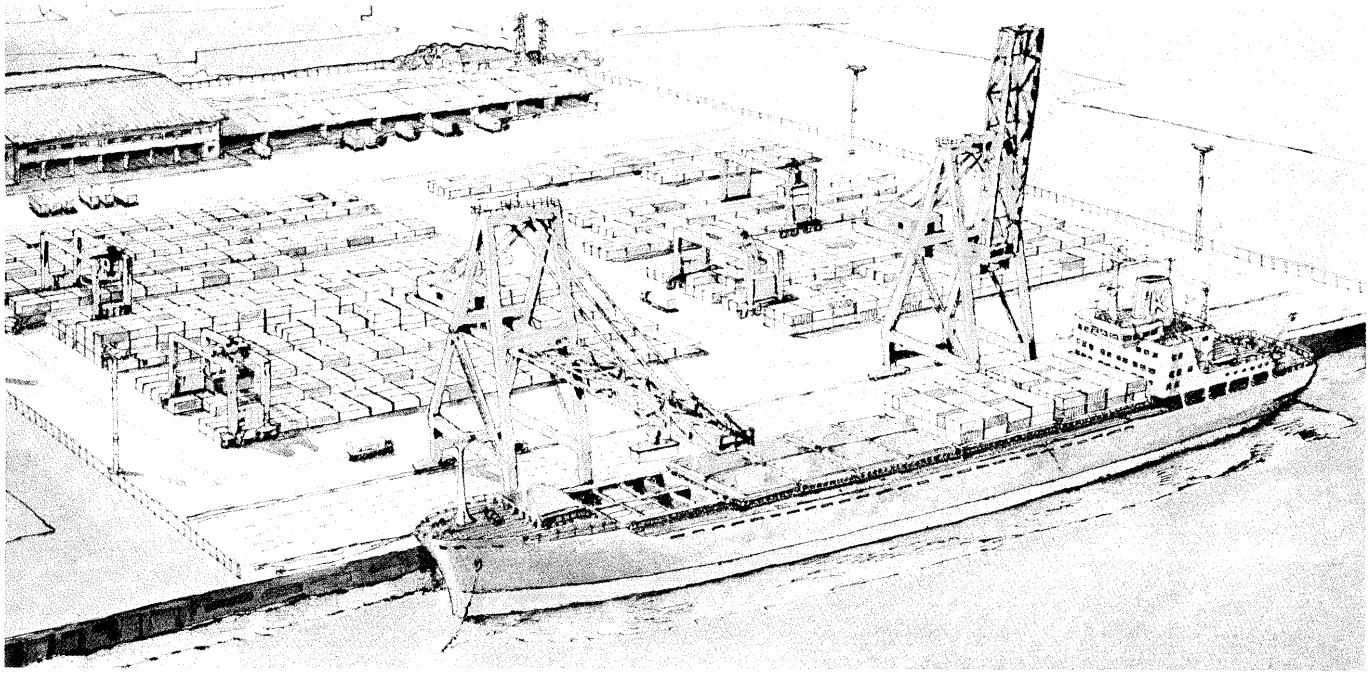
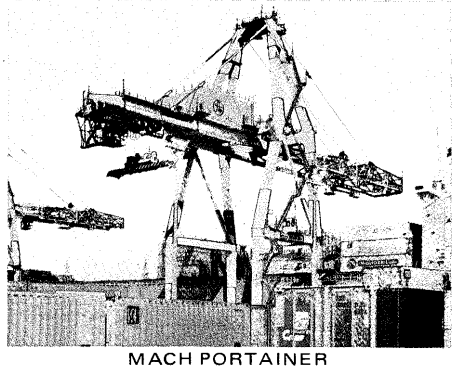


RUBBER-TIRED TRANSTAINER



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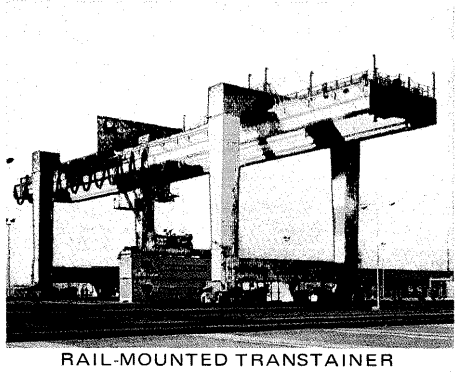

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