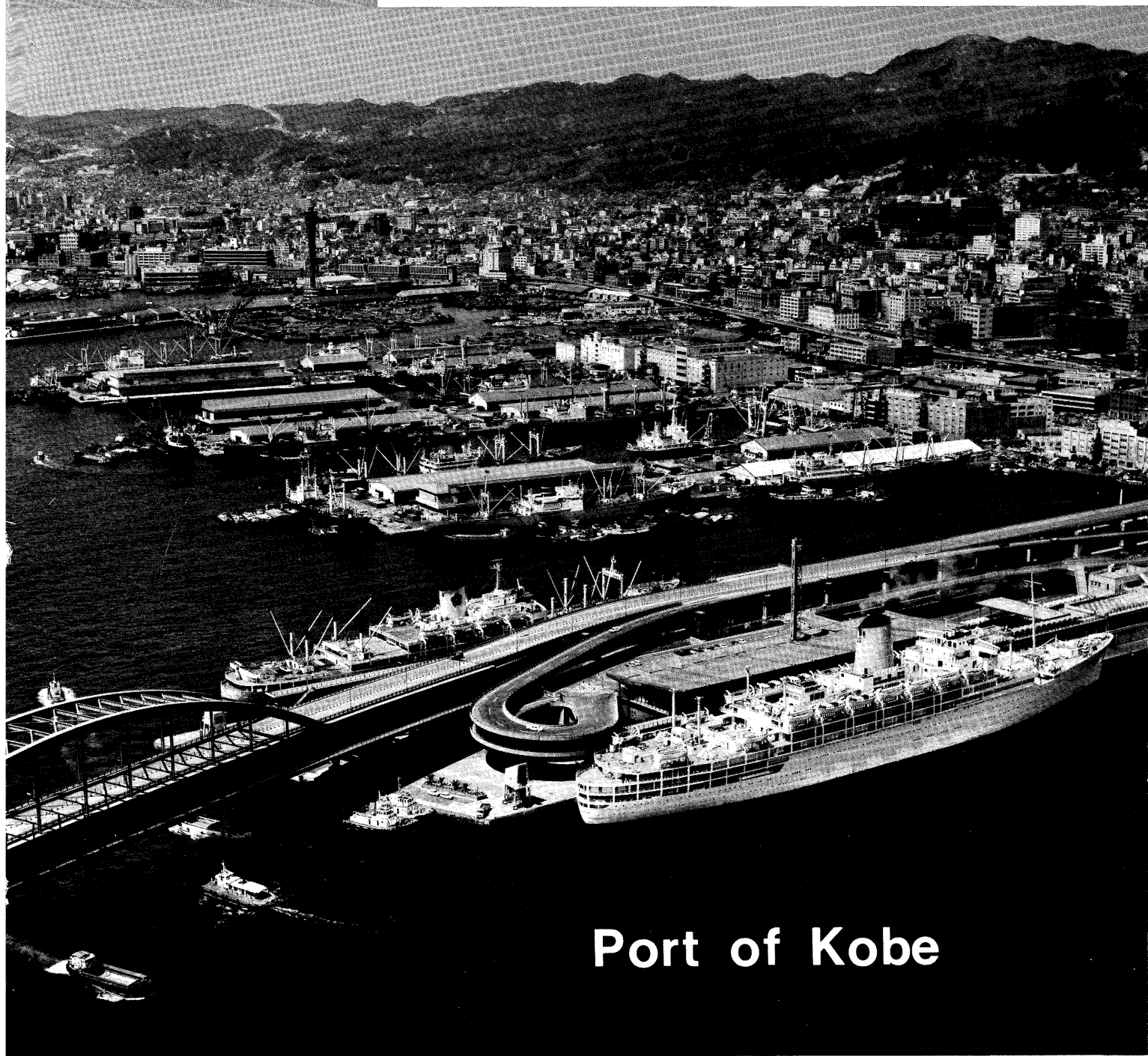


PORTS *and* HARBORS

October, 1973 Vol. 18, No. 10



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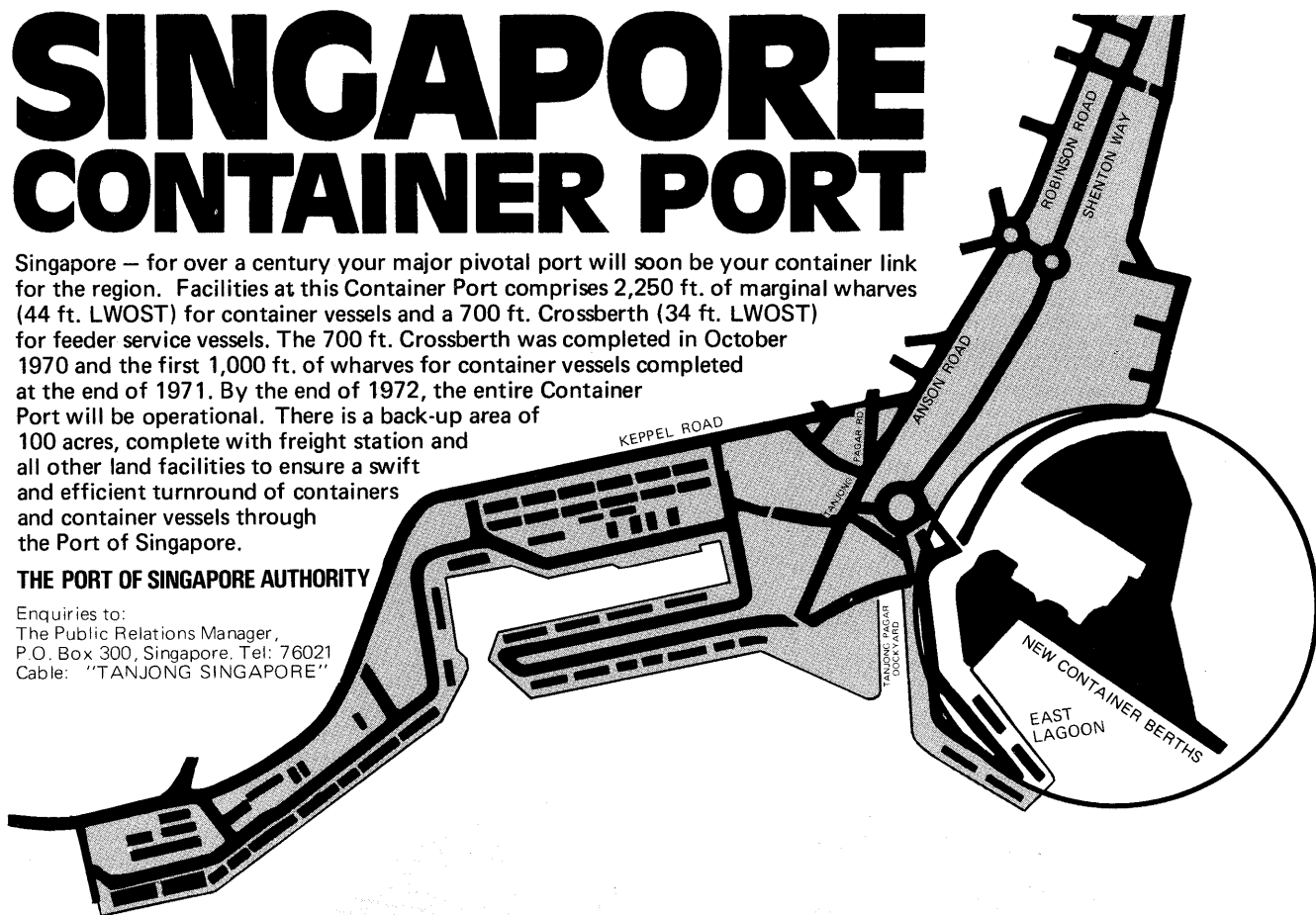
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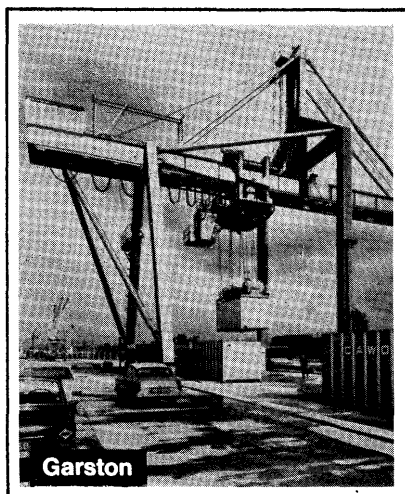
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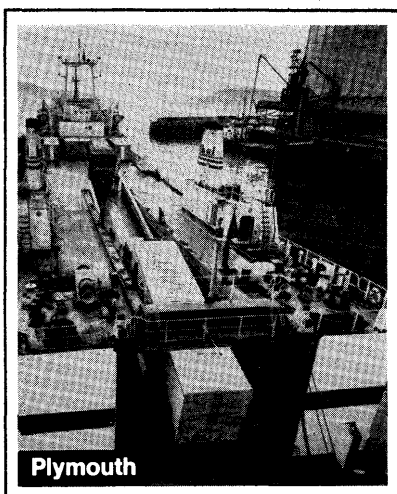
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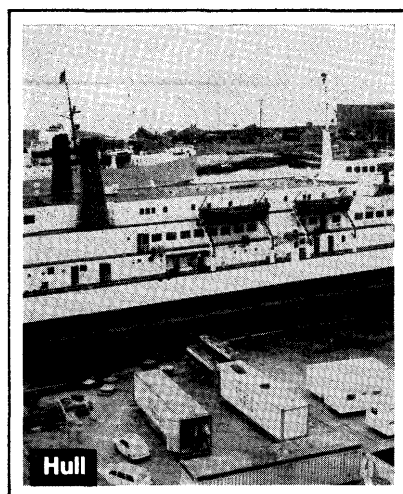
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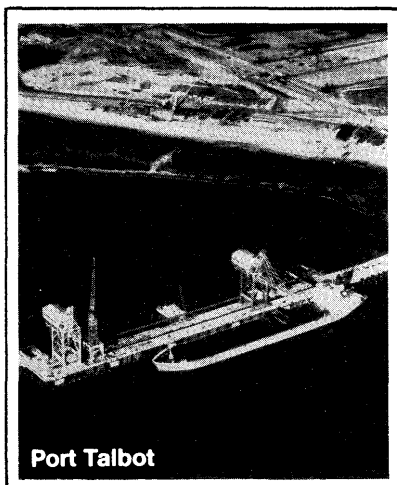
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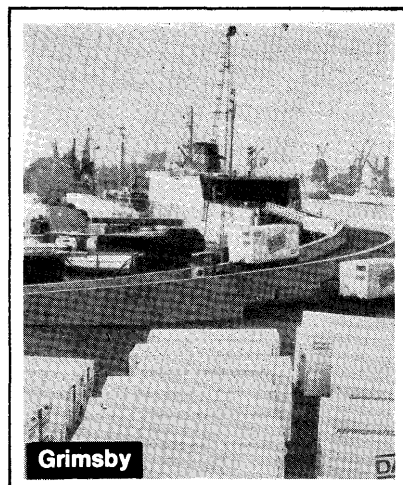
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Editor: Yoshio Hayashi

Published monthly by

The International Association of Ports and Harbors

N.G.O. Consultative Status, United Nations (ECOSOC, UNCTAD, IMCO)

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October, 1973 Vol. 18, No. 10

CONTENTS

| | Page |
|--|-------|
| IAPH Head Office Announcements: | 7~11 |
| Invitation to Special Committees | 7 |
| UNCTAD Meeting Postponed | 7 |
| IAPH Approved by UNCTAD As NGO with Consultatives Status | 7 |
| IAPH's Amsterdam Resolutions No. 7 and 8..... | 8 |
| International Convention on Pollutionby K. Yokoyama, IAPH D.S.G. | 9 |
| Topics: | |
| Pollution Prevention in Ports and Harbours by R. J. Ligtermoet | 12 |
| Public Health Measures Altered Public Health Service, U.S.A. | 17 |
| Facelift for Britain's Front Doors..... by Ray Dafer | 19 |
| Final Report of the Port Management Conference Eastern Africa | 22 |
| Deepwater Offshore Petroleum Terminalsby John Mascenik..... | 25 |
| Immingham Coal Terminal—New Transport System for British Coal Exportsby Paul Soros..... | 37 |
| Have a Question? Try InterfileThe Port Authority of N.Y. & N.J. | 42 |
| N.P.C. Book: Oil Rig Servicing Facilities at Scottish Ports | 45 |
| First All-Container Soviet Ship Into the Great LakesToronto Harbour Commission | 47 |
| Federal Failures Hit By California Harbors | 52 |
| Ports: | |
| Remarks By Harry R. Hughes Maryland Secretary of Transportation | 36 |
| Record Foreign Trade in 1972 at the Port of New York-New Jersey | 43 |
| Weekly Ship Service Will Capture Trade with U.S.S.R. Port of N.Y.-N.J. | 51 |
| Waterfront Redevelopment Will Begin in 1974 Auckland Harbour Board | 63 |
| Orbiter Probe (International News): | 45~64 |

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to every point in Europe. (Not surprisingly, half Rhine shipping is Dutch-owned. And 40% of Common Market road haulage is Dutch.)

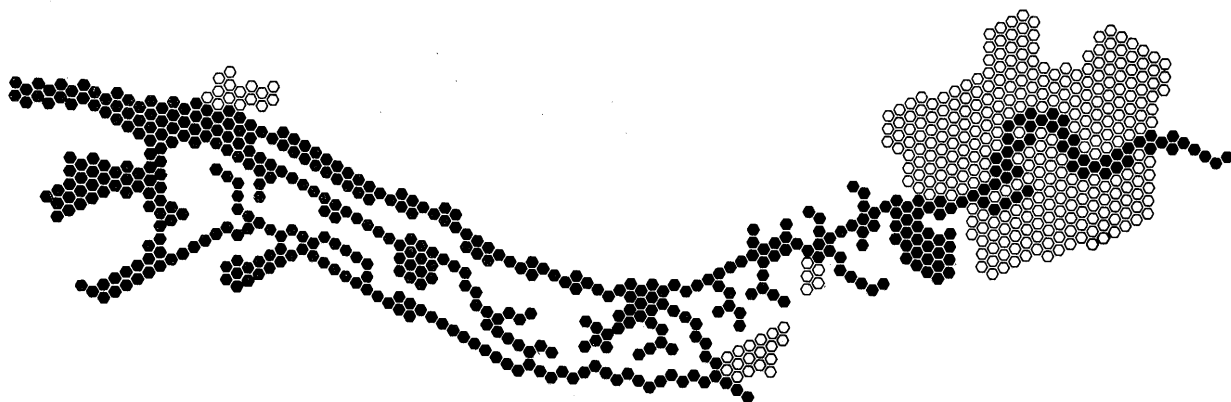
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PORTS *and* HARBORS

IAPH Head Office Announcements: Pages 7~11

Invitation to Special Committees

"Members interested to serve on any of the following four Special Committees of IAPH are invited to introduce their candidature by the end of this year," announced Mr. Robert L. M. Vleugels, President of the Association, recently in his letter to this Head Office.

The four Special Committees referred to above and the Chairman of each Committees are;

1. Committee on International Port Development: Chairman, Mr. John Lunch, V. R. D., Director General, The Port of London Authority (Address: World Trade Centre, London, E.1, England)
2. Committee on Large Ships: Chairman, Mr. Paul Bastard, General Manager, Port Autonome du Havre (Address: Terre-plein de la Barre, 76-Le Havre, France)
3. Committee on Containerization and Barge Carriers: Chairman, Mr. Ben E. Nutter, Executive Director, Port of Oakland (Address: 66 Jack London Square, Oakland, California 94607, U.S.A.)
4. Committee on Legal Protection of Navigable Waterways: Chairman; Mr. Andre Pages, Inspection General, Ministry of Equipment, France (Address: 32me, Circonscription, Palais de la Bourse—2, Place Gabriel 33075, Bordeaux-Cadex, France)

President Vleugels suggested that the principle of each-man-for-one-committee-only must be maintained in order to keep all the Special Committees adequately strengthened and activated, and further requested that each applicant, Regular Members of Associate Members only, write to the

Chairman of the particular committee on which he wishes to serve, with its copies to the office of the President and the Secretary General, not later than December 31, 1973.

It must also be noted, he stated, that there could occur such a case wherein a candidate wishing to serve on a particular committee may not be able to do so, if and when there are too many applicants. (Secretary General)

IAPH Approved By UNCTAD As NGO With Consultative Status

According to the September 3, 1973 letter from Mr. Manuel Perez-Guerrero, Secretary-General of UNCTAD, to Dr. Hajime Sato, Secretary-General of IAPH, the Trade and Development Board, at its 375th plenary meeting on 31 August 1973 considered and approved the report by the secretariat on the designation of non-governmental organizations (including IAPH) under rule 79 of the Board's rules of procedure and their classification. As a result, IAPH has been classified in the "Special" category.

Details will be reported in the November issue of "Ports and Harbors". (Deputy Secretary General)

UNCTAD Shipping Committee Meeting Postponed Till March 1974

IAPH Members and readers are requested to note the announcement made on page 13 of July-August 1973 issue of this journal about the date of the Sixth Session of the Shipping of UNCTAD.

This date, however, according to a letter from Mr. W. R. Malinowski, Director of Division for Invisibles, UNCTAD, of August 22nd, has been changed—

from: between 16 and 26 October 1973
to : between 11 and 22 March 1974

All members who are interested in the agenda of the above meeting and want to participate therein as IAPH delegate are kindly requested to contact Mr. Vleugels, President and the Head Office in Tokyo prior to the end of this year. (Katsuya Yokoyama, Deputy Secretary General)

IAPH's Amsterdam Resolutions

No. 7 and 8

IAPH's Amsterdam Resolutions No. 7 (Water Pollution in Port Areas) and No. 8 (Legal Protection of Navigable Waterways), adopted at the 8th Conference were forwarded to each of Secretary General of IMCO and UNCTAD from the office of the Secretary General of the Association on July 20, 1973.

In response to the above, Mr.

Savelieve, Secretary, on behalf of the Secretary General of IMCO, wrote a letter to Dr. Sato, Secretary General of this Association, on August 10th informing that the two resolutions shall be brought up to the attention of appropriate bodies of IMCO as in the following, as an initial step:

1) Resolution No. 7 will be con-

sidered by the Maritime Safety Committee at its twenty-eighth session (17-21 September, 1973) and;

2) Resolution No. 8 will be considered by the Legal Committee at its twentieth session (3-7 September, 1973).

Mr. W. R. Malinowski, Director of Division of Invisibles, UNCTAD, also, on behalf of UNCTAD Secretary General, Mr. Perez-Guerrero, informed Dr. Sato, in his letter of August 14th, that the two resolutions will be studied by the Legal Section of UNCTAD for their taking necessary steps in the future. (Rinnosuke Kondoh, Under Secretary)

(Message of condolence upon death of Mr. John P. Davis, received after printing of the last issue)

My Memories of Davis-San

Chujiro Haraguchi

IAPH President 1967-69

You were the President of the International Association of Ports and Harbors two terms ahead of mine.

We first met in 1952, more than 20 years ago, at the preparatory committee meeting convened for the establishment of IAPH at Kobe Chamber of Commerce and Industry. You were there representing the

Pacific Coast Region of USA.

Later in 1955 we met again in Los Angeles at the first conference of the Association and I remember you showed me around in and out of the great city, extensively.

The splendid and smiling figure of your good self presiding over the London Conference of IAPH in 1955

still remains vividly in my memory.

You were a man of sincerity and kindness, a man of straight-forwardness who makes anyone feel at the first meeting like an acquaintance for a hundred years. You devoted a good part of your time and energy to IAPH, contributing a great deal to the growth of the international body.

My old friends in the Association are gradually decreasing in number. Mr. W. J. Amoss of New Orleans is one and Mr. V. G. Swanson of Melbourne, who after my term served the Association as the President, is another. Either one of the two, I am sure, was far younger than I.

On one occasion I recommended to you, Mr. Davis, my way of keeping fit and presented at your request a copy of the book I wrote on the subject. You thanked me for the book and said then you would endeavor to practice the drills.

It is heart-breaking for me to hear this sad news about you who took the trouble of reading my book.

International Convention for the Prevention of Pollution from Ships, 1973

K. Yokoyama, IAPH Deputy Secretary General

The following notes presented by Mr. A. J. Smith (Secretary of British Ports Association and IAPH Liaison Officer to IMCO) and reproduced from IMCO Documents (Maritime Safety Committee-27 Session Agenda Item 5) will furnish the IAPH members with the high-lights of most up-to-date information as to what the world ports are being required to do in the long run for the prevention of water pollution.

The topics of the three notes are:

1. **Note on the International Conference on Marine Pollution to be held in London U.K., from October 8th to November 2nd, 1973 (presented by BPA)**
2. **1973 International Conference on Marine Pollution (presented by BPA)**
3. **Preparations for the International Conference on Marine Pollution, 1973—Shore Reception Facilities—Note by The International Chamber of Shipping (reproduced from IMCO documents)**

In this context the IAPH Resolution relating to Water Pollution in Port Areas adopted at the 8th Conference was submitted before IMCO and it is believed that appropriate steps will be taken by IMCO. (See page 8 of this journal)

For the IAPH members wishing to participate in meetings of IMCO, worthy of special attention will be following subjects in regards to the Provisional Rules of Procedure of the Conference and the Fourth Draft of the Convention;

Rules 31 of the Provisional Rules of Procedure of the Conference

...as well as observers of non-governmental organizations invited to the Conference may participate,

without the right to vote, in the deliberations of the Conference and its subsidiary bodies.

Regulations in relation to Shore Reception Facilities

ANNEX-1—Regulation No. 20, 21, 22 (Oil)

ANNEX-2—Regulation No. 10, 16 (Noxious Liquid Substances Other Than Oil)

ANNEX-4—Regulation No. 5, 6 (Ships Generated Sewage)

ANNEX-5—Regulation No. 4, 5 (Ships Generated Garbage)

Note: Those interested are required to make direct contact with Mr. R. L. M. Vleugels (President) or Mr. A. J. Smith (BPA) or Head Office in Tokyo.

1. Note on the International Conference on Marine Pollution to be held in London, U.K., from October 8th to November 2nd, 1973

The Conference will deal with three main subjects; consideration of a draft international convention for the prevention of pollution from ships; consideration of the minimization of accidental spillages of oil and noxious substances other than oil from ships; consideration of a draft protocol relating to intervention on the high seas in cases of marine pollution by substances other than oil.

Of particular importance will be the adoption of the convention on marine pollution, the proposals in which are the results of intensive consideration by the technical and legal departments of I.M.C.O. and culminating in the finalisation of a draft in March, this year.

Port authorities will be specifically interested in the proposal to obligate contracting governments to ensure

the provision of adequate facilities, particularly at oil loading terminals and repair ports for the reception of oil residues. These facilities may include pumps and piping fitted with standard shore connections.

The Conference will also propose the control of chemical discharge in confined or open waters so as to prevent, or limit pollution from noxious substances other than oil. This wish to limit the pollution threat will also be emphasised when the Conference discusses the rights of coastal countries to take action in international waters in certain circumstances.

The I.A.P.H. Conference of May, 1973 selected a particularly opportune moment to pass Resolution No. 7 relating to water pollution in port areas. Representatives of I.A.P.H. at the Conference will, therefore, have that Resolution in mind when taking part in discussions.

2. 1973 International Conference on Marine Pollution

During 1972-1973, high priority has been given by the Inter-governmental Maritime Consultative Organization to the preparations for the International Conference on Marine Pollution which is scheduled to be convened by this Organization from 8 October to 2 November 1973 in London. The main objective of this Conference is, as decided by the Seventh IMCO Assembly in October 1971, to "achieve by 1975, if possible, but certainly by the end of the decade, the complete elimination of the wilful and intentional pollution of the seas by oil and noxious substances other than oil, and the minimization of accidental spills."

Pursuant to the above objectives, the Conference will consider the following three main subjects:

(a) Consideration and adoption of an International Convention for the Prevention of Pollution from Ships;

(b) Consideration and adoption of a Protocol Relating to Intervention on the High Seas in Cases of Marine Pollution Damage by Substances Other than Oil;

(c) Consideration of Activities of the Inter-Governmental Maritime Consultative Organization which would contribute to the minimization

of accidental spillages of oil and noxious substances other than oil from ships.

The first item relating to the Marine Pollution Convention is undoubtedly the main subject for the Conference. After intensive work carried out by the technical and legal bodies of the Organization in the past two years a draft Convention has been finalized. This draft Convention covers all the technical aspects of the prevention of marine pollution emanating from ships, with the exception of disposal of shore-generated waste by dumping and the pollution directly arising out of the exploration and exploitation of sea-bed mineral resources. It consists of Articles providing general principles and a series of technical annexes relating to:

- the prevention of pollution by oil from ships
- the prevention of pollution by noxious substances other than oil carried in bulk or in packages
- the prevention of pollution by ship-generated sewage and garbage.

As regards the prevention of pollution by oil from ships, the draft 1973 Convention contains provisions relating to all the aspects presently covered by the Oil Pollution Convention of 1954 and in amendments adopted in 1962, 1969 and 1971. The new provisions against deliberate pollution are, in many ways, more stringent than the existing requirements, in particular with respect to the limitation to be placed on the total quantity of oil which large tankers may discharge. The draft Convention also includes many new provisions relating to the construction requirements and operational procedures, such as segregated ballast tankers, survival capabilities of oil tankers, special operational requirements within special areas, e.g. the Mediterranean Sea, etc.

Apart from oil pollution, the draft Convention includes regulations for preventing or limiting pollution, either deliberate or accidental, from noxious substances other than oil. The adoption of these, together with other Annexes relating to sewage and garbage, will therefore extend the scope of the 1973 Convention far beyond that of the existing Oil

Pollution Convention and into fields which have hitherto been uncontrolled. As regards the administrative aspect of the Convention, the draft includes various improved systems of enforcement, such as the inspection of ships at foreign ports, detection of offences and penalties in respect of unlawful discharges of oil and other harmful substances, procedures for reporting incidents involving harmful substances, etc.

One novel feature of the draft Convention is the incorporation of different procedures for amending Articles, technical Annexes and Appendices to technical Annexes to enable technical provisions to be amended and brought into force expeditiously by simplified procedures, in order to keep abreast of technological developments. It will also permit the addition of any new Annex, which may be developed in the future, without revising the basic Convention.

The second instrument the Conference is expected to adopt would extend the International Convention relating to Intervention on the High Seas in Cases of Oil Pollution Casualties (adopted by a conference convened by IMCO in Brussels in 1969) to cover substances other than oil. The instrument is intended to regulate the measures which a State—which is directly threatened or affected by a casualty to ships carrying noxious substances other than oil which takes place outside its territorial sea—may take to protect its coastline, harbours, territorial sea or amenities, when such measures may affect the interests of ship-owners, salvage companies or even a flag government.

The texts of the Marine Pollution Convention and Intervention Protocol have been circulated to governments and organizations invited to the Conference.

The third subject is to assess the work which IMCO has so far accomplished or has in progress or planned which would contribute to the prevention, mitigation or minimization of marine pollution as a result of maritime accidents, and to establish guidelines under which the work in this field should proceed on a priority basis.

In preparing for its Conference in 1973, IMCO is taking full account

of related activities in other organizations of the United Nations system, particularly those concerning the preparatory work for the UN Law of the Sea Conference, the recommendations of the UN Conference on the Human Environment and the Intergovernmental Conference on the Convention on the Dumping of Wastes at Sea held in London from 30 October to 13 November 1972.

It is hoped that the outcome of the Conference will constitute a significant part of a concerted plan for preventing and combating pollution of the environment as a whole which all the organizations of the United Nations system endeavours to achieve.

3. Preparations for the International Conference on Marine Pollution, 1973

Shore Reception Facilities—Note by the International Chamber of Shipping

1. Whatever the outcome of the Conference on Marine Pollution in October, it is evident that for some time to come control on the operational discharge of oil from ships will be effected by the International Convention for the Prevention of Pollution of the Sea by Oil, 1954, as amended.

2. The 1969 amendments to this Convention introduced certain new concepts of pollution control, particularly from oil tankers. They have, so far, been ratified by only 15 countries, i.e. less than half of the required two-thirds of signatories to the basic Convention.

3. The 15 countries which have ratified the 1969 amendments nevertheless together register around 65% of the total world merchant fleet and over 70% of world tanker tonnage, from which it would seem that there is a desire on the part of the major shipowning nations to see the amendments introduced quickly. Furthermore, a few of these countries have acted in advance of full international agreement by implementing the amendments nationally.

4. ICS, recognising that it would be some time before the amendments came into effect, agreed early in 1972 that its Constituent Associations should recommend their members to anticipate the introduction

of the amendments and comply with them as far as practicable on a voluntary basis. This recommendation has been followed to a considerable extent. In a further endeavour to gain acceptance of and encourage compliance with the amendments, ICS and OCIMF have recently jointly issued the "Clean Seas Guide for Oil Tankers," complimentary copies of which were circulated to the recent Preparatory Meeting for the Conference on Marine Pollution. Voluntary compliance has, however, brought to light certain practical problems which perhaps help to explain why many governments have still to accept the amendments.

5. Experience has shown that, without doubt, one of the major practical problems is lack of shore reception facilities in certain types of port. Almost all vessels generate some form of oil residue, and many have no alternative to disposal either at sea or ashore. The shipping industry is active in efforts to reduce the problem, and equipment is starting to become available which will incinerate limited quantities of certain types of oil residue on board. But this is not, and never can be, a solution for all ships, and some means of disposal ashore is thus essential. ICS respectfully submits that responsibility for ensuring the provision of such facilities was part of the obligation which Governments implicitly undertook to fulfil in adopting Resolution A.175(VI), under which the 1969 amendments were agreed.

6. It must be admitted that in the past the theoretical need for shore facilities has not always been matched by a complementary demand. In practice, where installations have been provided, they have not always been well-patronised. To a large extent this has been due to the availability of "free areas" of the ocean in which disposal of oil residues was permitted. Under the 1969 amendments, these "free areas" disappear, and the requirement for shore facilities is consequently both correspondingly greater and more urgent.

7. There is clearly no universally applicable set of requirements and the necessary capacity of reception facilities will differ from port to port.

As a general rule, however, ICS has identified the following needs:

(a) Repair ports: all repair ports require reception facilities; these must be of substantial capacity if the port undertakes tanker repairs.

(b) OBO dry bulk loading ports: OBOs changing from oil to dry cargo have a particular need for facilities for discharging tank cleaning residues at dry bulk loading ports.

(c) General cargo ports: facilities in the great majority of dry cargo ports throughout the world are very inadequate. Residues from purification of bunker fuel oil have to be disposed of, as do the contents of bilges when vessels are in port or coastal waters for any length of time.

(d) Tanker loading and discharge ports: although most tanker ports at which reception facilities are required (loading ports after short-haul runs, coastal-trade ports, refinery ports from which there is back-loading, etc.) are already adequately equipped, facilities are still needed in certain cases.

8. On the basis of the above, ICS submits that Governments, in consultation with port authorities and terminal owners, should identify the type and capacity of installation which is thought necessary to enable ships trading to that port or terminal to comply with the 1969 amendments. Thereafter, it is submitted that positive and early steps should be taken to ensure the provision of these facilities, whose installation is an essential part of the 1969 amendments (as it will no doubt also be of the 1973 Convention). Such action would accord with the terms of Resolution A.235(VII).

9. ICS would also like to invite the attention of Member Governments of IMCO to certain problems associated with enforcement of the amendments. Even where facilities exist, there will still in certain cases be a temptation to discharge oil residues illegally at sea, on the grounds that the cost in time and money of using the facilities is a greater hardship than the risk of being apprehended. In the opinion of ICS the only sure means of overcoming this problem is to establish adequate inspection arrangements in ports. Yet strict enforcement is still

only practicable if shore facilities exist to give the shipowner a means of complying with the amendments. 10. Finally, ICS would like to quote from its paper (PCMP/4/13) submitted to the Preparatory Meeting for the International Conference on Marine Pollution, as follows:

"ICS suggests that, with the agreement of the Maritime Safety Committee, the Member Governments of IMCO be invited to inform the Secretariat, no later than two months before the opening of the Conference, of their target dates for the provision of these facilities on the assumption that the relevant regulations are adopted. ICS suggests that the provision of such information will enable the Conference to adopt a realistic attitude on this matter."

ICS submits that this information would be valuable not only in respect of the 1973 Convention, but also in respect of the more immediate requirements of the 1969 amendments.

Pollution Prevention in Ports and Harbours

by **R. J. Ligtermoet**
Assistant Port Manager, Operation
Port of Montreal, Canada

Paper presented at the panel discussion of the Eighth
Conference of the International Association of Ports
and Harbors held in Amsterdam on May 8, 1973.

Introduction

Pollution of waters is a world-wide concern, and the problems created by pollution are related to the areas of bodies of water, oceans, rivers and lakes, surrounding us. Canada, stretching from the Atlantic to the Pacific Ocean and between the Arctic and the Great Lakes, is blessed with worlds' largest fresh water supplies; it stands to reason that Canada is, therefore, perhaps a little more anxious to prevent pollution of its tremendous water resources than others.

The environment must be protected, will we survive. There is no doubt that the costs are tremendous, that capital spending for sewage treatment plants alone around the world will take billions of dollars a year. Even then we may only achieve a minimum level of water quality if no cooperative effort is being made to voluntarily prevent pollution, since legislation alone obviously is insufficient. Public opinion has already done much to spur municipalities and ports into taking action in this respect.

I—Legislation

For generations man has polluted the waters unchecked. The population growth, combined with increased industrial activity made it clear that considerable effective legislation was needed to curtail water pollution. Especially, in heavily populated areas, human wastes and industrial wastes combined to eliminate plant and fish life in rivers such as the Rhine and Thames rivers.

In North America, Lake Erie is dying, poisoned by many toxic efflu-

ents. Since the whole concept of pollution is a first generation one there is no doubt about it that legislators in many countries find themselves faced with numerous problems.

Jurisdiction over territorial waters lies usually with Federal Governments, while facilities built within harbours usually are under provincial or municipal jurisdiction. The problem is often further compounded by the fact that many states and provinces have instituted provincial Water Boards which have jurisdiction over water quality within their boundaries.

National and provincial legislation could clash as was demonstrated recently in the U.S. where a Florida Pollution Act, passed in August of 1970, was declared unconstitutional by the U.S. District Court. It was contended that the State of Florida sought to legislate substantive maritime law, which, under the United States Constitution, lies exclusively within the Federal domain.

As a matter of interest, the United States Water Quality Improvement Act, 1970, became law a few months prior to the effective date of the Florida Pollution Act.

Similar clashes have occurred elsewhere in the world over off-shore mineral rights, where, (notably in North America) provinces or states are disputing Federal jurisdiction over off-shore areas and their resources. In Canada, as in most other countries bordering the Oceans, the Federal Government owns all Crown rights to resources lying outside provincial boundaries, in Northern territories and beneath Canada's territorial waters at both the Pacific and Atlantic Coasts. Although the Federal Government is playing a

leading role in the combating of pollution of the waters, legal responsibility for the preservation and enhancement of our environment is shared in varying degrees by governments at the federal, provincial and municipal levels.

Both federal and provincial Governments have legislative powers that go beyond ownership rights. These allow them to establish laws relating to environmental management; thus it may occur that a federal government, under the above mentioned powers at times creates a law which affects resources owned by other (provincial) governments.

In order to achieve effective response to the challenge of pollution one cannot simply rely on a jurisdictional structure but has to depend largely on feasible cooperation between the various governments, working together in programs of areas of joint interest and concern.

Environment Canada was created in June 1971 as a federal government department, to ensure the proper management and development of Canada's natural resources and to spearhead the attack on pollution. To illustrate the wide area of jurisdiction, listed hereunder are the various Acts concerning pollution control which are directly administered by Environment Canada:

- Canada Water Act
- Clean Air Act
- Fisheries Act
- International River Improvements Act
- Migratory Birds Convention Act
- Legislation concerned primarily with natural resources administered by Environment Canada includes:
- Coastal Fisheries Protection Act
- Eastern Rocky Mountain Forest Conservation Act
- Fish Inspection Act
- Fisheries Research Board Act
- Forestry Development and Research Act
- Great Lakes Fisheries Convention Act
- North Pacific Fisheries Convention Act
- Northern Pacific Halibut Fishery Convention Act
- Northwest Atlantic Fisheries Convention Act
- Pacific Fur Seals Convention

Act

—Pacific Salmon Fisheries Convention Act

—Whaling Convention Act

II—Acts and Regulations

As mentioned, many countries are passing Acts to prevent pollution. Under these Acts, regulations are issued and it may well be remembered that here again the drawing up of Regulations must be done with utmost care. Pollution prevention Officers can only be as efficient as the Regulations will allow them to be. They can only commence proceedings on the strength of evidence obtained which is contrary to a specific section of existing Regulations. Therefore, Regulations must be very specific, concise and complete in every detail in order to eliminate all possible loop-holes.

Specific regulations governing the disposition of oil and gas rights in the vast off-shore areas of Canada are the "Canada Oil and Gas Land Regulations," promulgated under the Public Lands Act and the Territorial Lands Act. The Public Lands Act gives statutory authority over the sea-bottom areas lying off-shore. Similarly there exists another Act applicable to the Northern Territories, in addition to off-shore sea-coast areas, this act is called the "Oil and Gas Production and Conservation Act." The Act provides for comprehensive control over all off-shore oil and gas operations and the safety of personnel involved in such operations, as well, and this is very important, the prevention of waste and pollution. Administration of the Federal interests in Canada's off-shore resources, East and West Coasts and Hudson Bay area is the responsibility of the Department of Energy, Mines and Resources, while in the Arctic and in the Northern Territories it lies with the Department of Indian Affairs and Northern Development. The Oil and Gas production and Conservation Act has broad authority and covers exploration, measurement, drilling, conservation, production, storage, distribution, processing, transportation and generally all handling of oil and gas.

The Canada Shipping Act, Part XX, (originally introduced as Bill C-2), deals extensively with pollution and contains provisions to

protect against pollution of water by discharges from vessels. This bill covers 4 areas:

I—It gives increased regulatory powers, applicable both to Canadian ships wherever they are and to foreign ships in waters subject to Canadian jurisdiction, to govern intentional acts of pollution, e.g. the discharge of tank washings, dirty ballast and dirty bilge-water. The Oil Pollution Prevention Regulations, promulgated in September of 1971 gave effect to the 1969 Amendments to the IMCO Convention on the subject.

These regulations apply more stringent rules than those of the convention (in Canadian waters). Canada thus was among the first countries to give effect to the Convention Amendment.

II—It gives increased regulatory powers respecting safety standards and allows the Government to apply foreign ships in Canadian waters, standards higher than those of the Safety of Life at Sea Convention (SOLAS).

A draft amendment to Canada's Navigating Appliance Regulations is in progress. The new regulations cover requirements for radar, depth sounders and gyro compasses, charts, tide tables, etc. as well as manning. They will be in line with an Amendment to the SOLAS Convention as approved by the IMCO Assembly, but not yet in force. They apply to tankers in waters subject to Canadian jurisdiction.

III—The amended C.S.A. gives new powers respecting traffic regulation. An essential feature of traffic regulation in an effective communication system. Canada initially proposed and steered through IMCO the amendment to the 1960 SOLAS Convention that gives her the internationally recognized powers to require the fitting on board ship of appropriate communication apparatus.

IV—The Act increases ship owners' liability, regulates filing of proof of financial responsibility

and created a Pollution Claims Fund.

The initiatives taken under Bill C-2 made Canada a leader in the fight against marine pollution.

As a matter of interest it is anticipated that the new "Maritime Code," replacing the Canada Shipping Act, will be promulgated in 1975. It will contain 6 parts, one of these dealing exclusively with pollution by vessels.

The new (September 1971) Oil Pollution Prevention Regulations gave effect to the 1969 Amendment to the I.M.C.O. Convention on the subject and tend to be somewhat more stringent than those of the Convention.

Also issued were the Garbage Pollution Prevention Regulations (December 1971) which prohibit the discharge of garbage by any vessel in Canadian territorial waters and fishing lanes, including the Arctic Waters.

Regulations are also anticipated to deal with sewage disposal by vessels—however no draft form was available at time of publication of this paper.

Canada continues to support those international organizations trying to achieve the elimination of marine pollution; in particular the Intergovernmental Maritime Consultative Organization (IMCO), and the Committee for the Challenges to Modern Society of NATO (CCMS). The general objective being to reach an international convention providing a uniformity of maritime regulations, backed up by internationally agreed rules and regulations enforced by coastal states under the aegis of IMCO or some other international institution.

III—Investigation

To be able to investigate procedures against violators of any anti-pollution Act, a thorough investigation is required. Most countries today have the necessary vehicle to expedite such investigation. In North America this is mainly done

by the Coast Guard in the U.S., and in Canada by Officers of the Ministry of Transport, Steamship Inspection Branch. I say "mainly" because other federal officers such as Harbour Masters, Members of federal police forces, etc. . . . may also be appointed as pollution prevention officers.

Investigating Officers should take particular care when collecting samples of pollutants and/or polluted water, as well as in obtaining and presenting analysis of pollutant samples. In many a case defending lawyers have been successful in proving "discontinuity of possession." Continuity of possession, e.g. the custody of the sample from the time of collection, through analysis at a Laboratory and until such time as it is produced in Court as evidence, must be accounted for, and testified to, in order to be admitted as evidence. In most cases of pollution by oil the sample is the prime evidence.

Finally, the nationality of a vessel suspected of being the cause of a pollution incident will influence the decision in regard to legal action to be taken. It is recommended that all cases involving pollution by naval vessels be reported to the nearest National Defence Authority and to the Department of External Affairs for transmission to the Country of registry of the ship.

The use of light aircraft and helicopters has been credited with the detection of many offenders. Pilots of commercial aircraft and Navy planes also report incidents of pollution they spot from the air. Air photographs are often produced as evidence in Court.

IV—Penalties

With respect to marine pollution imminent control is feasible, at least in a theoretical way. If Regulations provide for severe penalties, violators will be more careful. Accidents will happen and no amount of legislation nor penalty will eliminate "Acts of God;" however, stiff penalties will deter negligent Operators and minimize dangers from neglect.

Canada has provided for severe fines under the Canada Shipping Act.

- a) a fine of not more than \$100,000.00 against a ship or a person,

who is found guilty by a Court of Summary Conviction of having polluted Canadian Waters or fishing lanes.

- b) in addition to the above fine, the Canada Shipping Act provides for fines as follows:

1. Up to \$100,000.00 for failure of reporting a pollution incident;
2. Up to \$100,000.00 for failure to comply with reasonable instructions of a pollution prevention Officer;
3. Up to \$500.00 and/or 6 months in prison for a person obstructing a pollution prevention Officer in the performance of his duties;
4. Up to \$500.00 and/or 6 months imprisonment for anyone who knowingly makes a false statement to a pollution prevention Officer; ;
5. Up to \$100,000.00 for a ship failing to have on board a certificate as required by Regulations;
6. Up to \$100,000.00 for a person or ship failing to comply with requirements of any relevant regulations.

Amendments to the act also provide for a maximum liability of \$14,000,000.00 by the owner of a vessel carrying pollutants in bulk in Canadian Waters.

Of special interest is Clause (B) 2., which provides for \$100,000.00 maximum fine for failure to report a pollution incident. In fact it requires an offender to report an offence committed by him.

V—Maritime Pollution Claims Fund

The enormous costs involving clean-up of beaches and waters after a major oil spill such as the "Torrey Canyon" and "Arrow" spills have prompted the Canadian Government to establish a so-called Maritime Pollution Claims Fund. This Fund was established, effective February of 1972, under the new Chapter 27, Part XX, of the Canada Shipping Act.

The Fund is mainly created to safeguard reimbursement for loss and damages as a result of a major oil spill, and will pay for damages where those liable have no assets in Canada or where the legal claims exceed the amount to which their

liability is limited. In short, the Fund provides for fair compensation to innocent victims as a result of oil pollution damages.

Contributions to the Fund are obligatory and amount to 15 cents a ton in respect of each ton of oil imported by ship into Canada in bulk as cargo, and in respect of each ton of oil shipped from Canada, in bulk as cargo of a ship.

Payments out of the Fund comprise:

- a) Remuneration and expenses of assessors;
- b) Amounts in respect of claims by fishermen for loss of income;
- c) Amount in respect of actual loss or damage incurred by the Crown or a province or any person;
- d) Amounts in respect of costs and expenses incidental to the taking of Court action.

Following the "Arrow" disaster the Canadian Government filed claim for approximately \$3,850,000.00 to cover the cost of clean-up operations.

This claim was advanced to TOVALOP (Tanker Owners Voluntary Agreement concerning liability for Oil Pollution), a voluntary organization of tanker owners, who by agreement insure member owners in respect of a certain portion of their liability for damages arising from an oil pollution incident. Under TOVALOP reimbursement is made at the rate of \$100.00 per ton of the vessel's tonnage. Under the 1969 Civil Liability Convention victims will receive \$134.00 per ton if and when it comes into effect.

The Canadian Government thus, under TOVALOP, was only reimbursed \$945,000.00 U.S. towards its "Arrow" claim.

The Maritime Pollution Claims Fund does reinforce existing liability provisions for pollution damages. The Canadian Government is convinced that the enactment and enforcement of effective preventive and remedial regulations are Government's chief weapons against pollution.

An International Convention has been opened to governments with a view to provide a potential fund of \$30,000,000.00, available to damaged third parties in circumstances

where they have not been able to recover their loss under the provisions of the 1969 Civil Liability Convention. (See IMCO "Private Law" Convention of 1969).

While the Canadian Maritime Pollution Claims Fund contributions are set at 15 cents a ton, it is the Government's intention to keep a close watch on the fund with a view of lowering the rate as the accumulated assets grow.

VI—Governmental and Private Organizations are being created all over the world, all of them dealing in one way or another, directly or indirectly, with pollution, be it water—, air—or noise pollution.

Pollution of the water by oil is usually the one pollution problem everybody is most concerned with; I presume because it is the most visible one. The Petroleum Industry recognized this fact and in many countries have taken the lead in research and in establishment of groups to prevent and combat oil spills.

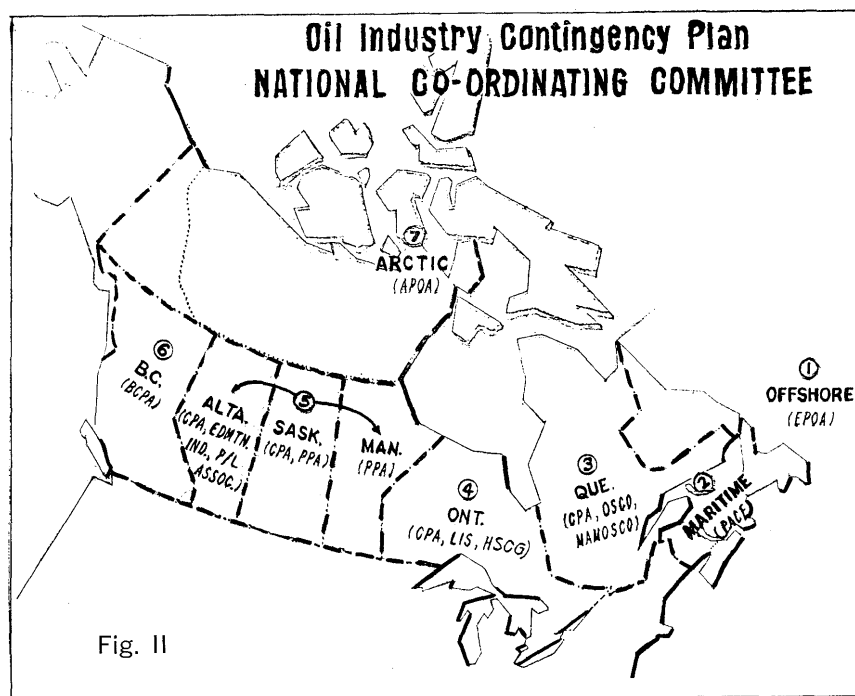
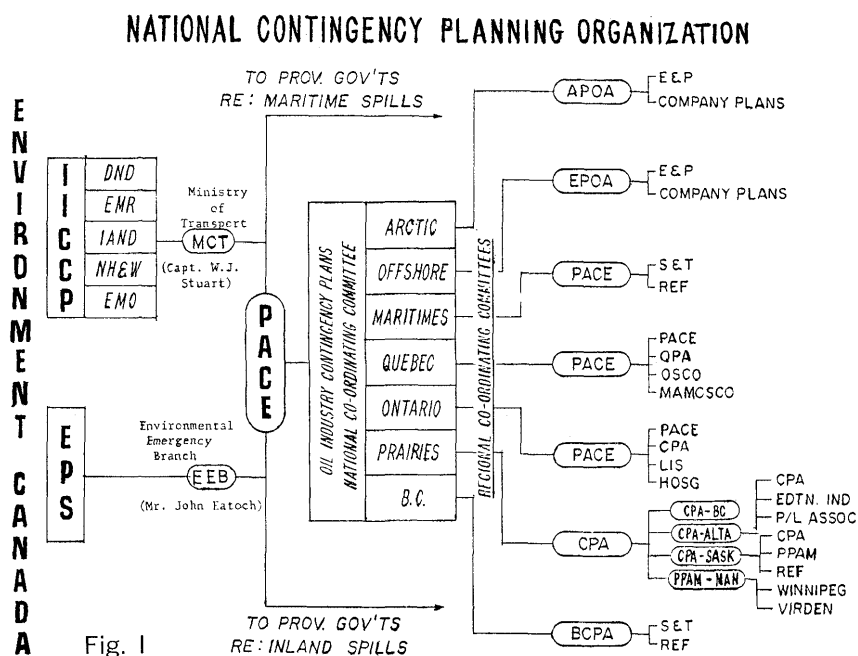
Their integrated efforts have contributed substantially to the establishment of contingency plans, nationally and regionally. A National Committee composed of a Chairman and Representatives of seven regional committees has been formed in Canada. The industry approach has been one of full cooperation with the Federal Government.

Canada has established a new Department of the Environment which plays an important role in coordinating such plans and in maintaining liaison with the provinces and municipalities. Under its auspices rests the Federal Contingency Plan. Some provinces also have formed regional committee which are operating in close cooperation with the regional committees of the Petroleum Industry.

Municipalities, Harbour Commissions, and Ports under the jurisdiction of the National Harbours Board have all joined the bandwagon and are actively involved in pollution prevention and control. To top off the list, there exist many action groups, all over the world occupying themselves with the pollution threat.

VII—Contingency Plans

The prime objective of a contingency plan is the removal of pol-



lutants from the water environment and the clean-up of any residue remaining. The objectives is accomplished through four stages:

1. discovery and reporting of a spill;
2. containment of pollutant;
3. removal of pollutant;
4. clean-up.

A workable plan therefore must contain two essential elements:

- a) preparedness;
- b) authority to implement the plan.

A)—Preparedness

Includes the understanding of the

problem, the listing of contacts of local—, regional—and national representatives of organizations which may be of assistance, the availability of competent personnel, the availability of resources such as oil-booms, detergents, skimmers, etc., up-to-date knowledge of best methods of clean-up, local resources for fast action.

B)—Authority by a responsible person to act immediately must be clearly defined to avoid misunderstandings, duplication of actions or, worse, no action at all. From

this authority stems the coordination and deployment of available resources, requests for outside help (Provincial, National) and requisitioning of necessary manpower.

The Federal Plan deals with a response mechanism for large spills while recurring pollution from any source normally is the responsibility for local authorities. The effectiveness of a response depends entirely upon the extent to which advance preparations and working arrangements have been made by the various governments and private interests concerned.

It is not enough to have a plan however. Constant updating of equipment, contacts, etc., is required and it is of great importance to test the response action from time to time with "dry-runs" to evaluate shortcomings in the plan.

Figure 1 shows National Contingency Planning Organization Chart developed by Environment Canada, the Department responsible for the environment; it lists in abbreviated form most governmental and private organizations in existence in Canada today working together towards one common goal—the conservation of the environment. Figure 2 shows Oil Industry Contingency Plan regional areas under PACE (Petroleum Association for the Conservation of the Canadian Environment.)

VIII — Equipment to combat water pollution is also suffering from first generation experience. Although considerable effort and millions of dollars have been spent and are being devoted annually towards research and development of suitable equipment to contain, treat and remove pollutants from the water, the results are somewhat less than satisfactory.

The best way to combat is, of course, prevention and many larger cities and factories now have existing water treatment plants treating all effluents before they are allowed to flow into rivers, lakes of oceans. Other municipalities are in progress of developing such plants. I shall deal in this paper with pollution by oil and the equipment for same.

As outlined previously clean-up starts with containment. How we contain an oil spill will depend largely on the volume of the spill, the

type of oil spilled and environmental conditions such as wind velocity, wave structure and current velocity. In still waters, basins and lakes where no current or tidal action are experienced any oil-boom will do the trick usually. Many different types of booms have been developed and are available all over the world. Booms may also be used to divert an oil slick such as on a river.

Another method is the provision of an underwater air curtain. A pipe or hose lying on the river-bottom, or lake bottom releasing tiny air bubbles through perforations, provides a barrier which has proven very adequate in many locations, provided water current does not exceed 0.5 feet per second. A third method is the use of absorbents. Here again one can only use absorbents where no currents or tidal action will displace them, nor strong winds. Polyurethane and urea formaldehyde foam have proved to be very good oil absorbents since they absorb oil much better than water. The oil can be squeezed out after harvesting and the material re-used.

In areas where considerable wave action is experienced containment becomes a problem; booms presently available are good for wave action of maximum four feet only. Where currents of over 1½ knots are experienced, no suitable booms have yet been developed that will contain all the oil spilled. Of course some are better than others but weir action increases with the speed of the current and to overcome this, experiments have shown that a secondary boom is usually needed to contain the oil the first boom lost through weir action. In flows over 1.2 ft./sec. (0.7 knot) present booms are ineffective; the critical velocity is 1 ft./sec.

In areas of high winds one may experience so-called "splash-over," similar as to what happens due to high wave action.

Once we have contained a spill it is necessary to remove the pollutant from the water surface. Where no absorbents have been used the many different types of skimmers and suction pumps on the market today to a more or less efficient job. Oil recovery efficiency in calm water ranges from very good (70% oil) to

very poor (1% oil), depending on the type of skimmers used, the type of oil spilled, the temperature of the water and other weather conditions. So-called slick-lickers where oil is removed by method of an endless belt or revolving drum are also on the market in a variety of models. The drum or belt will absorb a thin film of oil, lift it from the water to a point where it can be squeezed from the drum or belt and deposited in a tank.

Where strong winds and currents make it impossible to contain a spill for removal, very good results have been obtained in spraying the oil slicks with non-toxic emulsifiers or detergents. All major Oil Companies now have products available which are generally very effective. Caution must be used however since not all products are non-toxic—they remove the oil but in the process still kill fish life.

Dispersal fluids have successfully been used in many spills. Some very good products are now available which break down the oil slicks into small patches and the patches into smaller particles until the particles completely disappear through biochemical action. Bio-degradable products are admissible in combating pollution by oil, but generally speaking, physical removal of the oil is preferred by most environmental experts, since the degrading of the chemical and the oil uses up oxygen in the water and consequently, fish may die from lack of oxygen rather than from toxicity.

Therefore dispersals should mainly be used in areas where containment is impractical or impossible. The problem often is, of course, what to do with the pollutant when recovered. This problem is even greater if one has used absorbents—burning it will cause air-pollution, burying it will result in eventual return to the waters through seepage. In many cases recovered oil is being returned to a refinery for re-processing.

Many ports in North America have purchased pollution control boats equipped with chemical spray equipment, oil booms and some type of skimmer or other recovery apparatus. Most of these are also

(Continued on Next Page Bottom)

Public Health Measures Altered For Incoming Vessels and Aircraft

News Release June 27, 1973 from
Center for Disease Control, Atlanta, Ga., U.S.A.
Department of Health, Education, and Welfare
Public Health Service
Health Services and Mental Health Administration

Modifications in the public health measures for vessels and aircraft arriving at ports under the control of the United States, were announced by the Department of Health, Edu-

cation, and Welfare.

equipped with fire-fighting apparatus thus offering multiple protection.

Conclusions

- Oil booms are not effective in currents over 0.7 knot;
- Oil booms are not effective where wave heights are greater than four feet;
- Air barriers fail in currents over 0.4 knot;
- Weir and suction type skimmers fail in disturbed waters, as well as in waves;
- Oleophilic (absorbent) belt type skimmers operate with high efficiency in still water and operate reasonably well in disturbed water;
- Sorbents offer a reasonable method for successful containment of oil on water by decreasing the mobility and spread of the oil;
- Most efficient sorbent for large spills is polyurethane foam which picks up 56 times its own weight of oil;
- Power driven spreaders are effective in quickly and evenly spreading absorbents such as polyurethane foam and hay over large areas;
- Detergents, dispersants, emulsifiers and other chemicals, although many of them effective, must be used with caution and only in areas where other means of containment fail due to their toxic properties and/or chemical action which uses up the oxygen in the water.

cation, and Welfare.

The modifications, to become effective July 1, HEW Secretary Caspar W. Weinberger said, are improvements made in response to altered patterns of international travel as well as changes which have occurred in the prevalence, transmission, and therapy of almost all communicable diseases.

Secretary Weinberger said the modifications, published in today's Federal Register, are expected to result in substantial savings in time and money both to the maritime industry and to the government. The modifications combine efficiency and safety at no hazard to the health of the nation. They are in keeping with modern epidemiologic concepts and with other efforts of the Public Health Service to prevent the introduction and spread of disease in the United States.

Before 1969, Public Health Service inspectors boarded all vessels for inspection, and in 1968 this totaled 38,000 vessels. Following the establishment of radio pratique (advance radio clearance based on health and other information supplied by ships' masters) in 1969, the number boarded dropped to 5000 per year. This included a 5 per cent random sample boarding of all vessels, as a means of quality control.

After July 1, vessels will be required to report ahead by radio only when certain signs and symptoms of quarantinable or other communicable diseases are observed on board, or when they have a death on board or are arriving from smallpox or plague infected countries. Quarantinable diseases are smallpox, cholera, plague, and yellow fever.

Officials at the Public Health Service's Center for Disease Control (CDC) headquartered in Atlanta, Georgia, estimate that the modified measures will reduce boarding of vessels for inspection to approximately 1000 per year. This will include a 2 per cent random sample boarding of all vessels. Formerly, all ships' masters were required to complete a maritime public health declaration for submission to PHS quarantine stations. Effective July 1, such declarations will be required only of vessels boarded, and they will be completed by the inspectors.

Aircraft commanders will be required to use the same criteria as ships' masters in reporting signs and symptoms of illness before arrival at airports under the control of the United States.

Two letters to the maritime industry dated June 1, 1973 issued by Joseph F. Giordano, Chief, Quarantine Branch, Epidemiology Program are introduced below.

Shipping Agents at All United States Ports

In the near future, the Officer in Charge of the Quarantine Station in your area will contact you to provide information and discuss changes in regulations, policies, and procedures concerning maritime public health clearance which will become effective July 1, 1973. Briefly, the changes are as follows:

- A. Radio pratique procedures will be discontinued at all U.S. ports.
- B. Only the following vessels will be subject to on board public health inspection:
 - 1. Vessels which, in the 15 days prior to arrival in the U.S. or since the last U.S. port (whichever period is shorter) have or have had any passengers or crew on board with the following conditions or illness:
 - a. Temperature of 100°F (38°C) or greater (1) which persisted for two days or more; or (2) which was accompanied or followed by any one or all of the following: rash, jaundice, glandular swelling; OR

- b. Diarrhea severe enough to interfere with work or normal activity; OR
- c. Death, regardless of cause.
- 2. Vessels which have been in a smallpox infected country within 15 days prior to arrival in the U.S.
- 3. Vessels which have been in a plague infected country within 60 days of arrival in the U.S.
- C. Vessels will be selected randomly for quality control inspection. Approximately 2% of arriving vessels will be inspected; there will be no cost to industry for such inspection.

ARRIVING VESSELS WILL NO LONGER BE REQUIRED TO COMPLETE A MARITIME PUBLIC HEALTH DECLARATION UNLESS BOARDED UNDER B OR C ABOVE. THE BOARDING INSPECTOR WILL FURNISH THE DECLARATION.

Enclosed are letters to masters of vessels which specify the changes discussed above. Your assistance in distributing the letters to masters of vessels you handle will be greatly appreciated. Quarantine Branch Circular 154 (Revised) is also enclosed for your information.

Since 1967, when the Center for Disease Control assumed administrative responsibility for the Foreign Quarantine Program, regulatory changes and modifications of our maritime inspection practices have been directed toward increasing facilitation and reducing inspectional costs consistent with maintaining the public protection. It is anticipated that in Fiscal Year 1974, using 1968 as base year, vessel boardings for public health purposes will have been decreased by 97% and overtime inspection costs reduced by 90%. These changes reflect our confidence that you will inform us of every vessel arriving from foreign areas which reports the on board occurrence of death or illness or has a smallpox country or plague country itinerary as discussed above.

We look forward to continuing and strengthening this relationship.

Masters of Vessels Arriving at United States Ports

Dear Captain:

Effective July 1, 1973, radio pratique as a method of quarantine clearance will be discontinued at all ports under control of the United States. Changes in regulations, policies, and procedures concerning maritime public health clearance have been promulgated.

VESSELS SUBJECT TO ROUTINE INSPECTION

Only vessels in the following categories will be subject to on board public health inspection upon arrival at ports under control of the United States:

- A. Vessels which, during the 15 days prior to arrival in the United States, or since the last U.S. port (whichever period is shorter) have or have had on board among passengers or crew any of the following conditions or illness signs or symptoms:
 - 1. Temperature of 100°F (38°C) or greater (a) which persisted for two days or more; or (b) which was accompanied or followed by any one or all of the following: rash, jaundice, glandular swelling; OR
 - 2. Diarrhea severe enough to interfere with work or normal activity; OR
 - 3. On board occurrence of death, regardless of the signs and symptoms above.
- B. Vessels which have been in a smallpox infected country during the 15 days prior to arrival in the United States.
- C. Vessels which have been in a plague infected country in the 60 days prior to arrival in the United States.

PROCEDURES

Vessels in any of the categories A, B, or C above will be granted Provisional Pratique and boarded upon arrival for inspection. In addition, vessels boarded for quality control may be boarded upon or subsequent to arrival. **IN ACCORDANCE WITH REGULATIONS YOU MUST INFORM THE QUARANTINE STATION, THROUGH YOUR VESSEL AGENT, AT OR NEAREST THE INTENDED PORT OF YOUR VESSEL'S**

FIRST ARRIVAL IN THE UNITED STATES OF THE OCCURRENCE OF ILLNESS AS SPECIFIED IN A ABOVE. Based on information you provide your agent, or information your agent already possesses regarding your vessel's itinerary, your agent will notify the quarantine station if your itinerary included a smallpox or plague infected country.

ARRIVING VESSELS NO LONGER NEED TO COMPLETE A MARITIME PUBLIC HEALTH DECLARATION UNLESS BOARDED FOR INSPECTION AS DESCRIBED ABOVE. THE BOARDING INSPECTOR WILL PROVIDE THE DECLARATION.

These changes reflect our confidence that you will continue to report, in advance of arrival in the United States, the on board occurrence of illness compatible with the signs and symptoms specified above.

The following news release of June 14, 1973 from Marine Exchange of The San Francisco Bay Region explains what the foregoing is all about in plain language.

"Sea of Red Tape" Reduced

San Francisco, Calif:—A mid-year action by the Public Health Service to reduce "red tape" affecting ship traffic at U.S. ports has been applauded by the maritime industry.

Commencing July 1, vessels arriving at American harbors will no longer be required to secure "radio pratique" advance clearance from health inspection, according to Joseph F. Giordano, Quarantine Branch chief in Atlanta. Only ships with illness aboard, on which a death has occurred, or which have recently been in a smallpox infected country or plague area, will be boarded for medical clearance, he said.

The latest action also eliminates for virtually all ships the need to complete and submit a maritime public health declaration—reducing still further the "sea of red tape" that prompted concerted industry action in the late 1950's to seek relief from excessive documentation.

Formerly, all ships arriving from foreign ports had to await official inspection. Until the Public Health

"Q" flag was lowered, vessels could not commence unloading cargo or other activities. Crews and passengers waited on board, often in anchorages away from docks. Additional expenses, added to lost time, resulted—such as extra pilotage.

Improvements came when 24-hour quarantine service formally became available in 1957. Another breakthrough—prompted by industry pressure from San Francisco—allowed dockside inspection, eliminating in most instances quarantine inspection at anchor.

Finally, through the aegis of the American Institute of Merchant Shipping and the San Francisco Marine Exchange, Public Health Service officials in Atlanta offered first U.S. use of "radio pratique" in 1969. This allowed ship masters, while still a day or more from port, to radio request for non-inspectional clearance—by declaring their vessel free from illness, and without recent call at a known smallpox or plague area.

About 2% of arriving ships will still be inspected—even if otherwise "clean"—as a quality control measure. But with its latest action, USPHS estimates that in the coming fiscal year, compared to 1968, inspection boardings will be reduced by 97% and overtime charges against the vessel cut by 90%.

John Greene, chairman of the Marine Exchange task force in San Francisco which spearheaded much of the easing of regulations, praised the Federal authorities for their latest action. "It is further evidence of growing awareness of—and response to—the costs that unnecessary procedures and 'red tape' impose on our international commerce."

Greene emphasized, however, that industry cooperation is essential to realize the benefits afforded by the latest government action. "We must all continue to cooperate fully with the Public Health Service, to assure complete compliance with these newest, relaxed regulations. The system shifts major responsibility from the inspectional agency to ship masters, operators and agents. If we get careless, or slipups occur, compulsory quarantine boardings will be back with us."

Facelift for Britain's Front Doors

by Ray Dafter

Specialist Writer on Transport Affairs
London, England

The ports of Britain have undergone a great transformation in the past decade. This is demonstrated not only in new berths and modern equipment but in a now attitude to finance and management.

To a nation so dependent on trade the ports are both the front and back doors, handling more than 350 million tons of freight annually. Naturally they have seldom been out of the limelight.

Quite often that light has been harsh, but seldom are the ports shown in a true light.

Products Of History

One possible reason is that Britain has no individual Europort. While other European countries concentrate their imports and exports on a few, fully developed maritime industrial complexes, Britain has a veritable string of them around her coastline.

From the Clyde in the west of Scotland, down that coast, including Merseyside and South Wales, past Southampton and London in the south and up the east coast past the Humber and the Tees to the Forth on the east side of Scotland, Britain can boast large port complexes capable of handling the most modern vessels.

The annual report of the National Ports Council lists more than 300 ports and harbours, though a good many of these have opted out of the freight handling field. This leaves less than 100 actively engaged in freight operation and about 20—fairly well spaced—assuming the role of major undertaking.

The large number of harbours for such a small island is a throwback to Britain's industrial development. The ports were designed to feed their immediate hinterlands with imports and to handle the local fac-

tories exports. Ships were smaller then and inland transport still fairly primitive.

Gradual Change

Although the pattern has been gradually changing for the past century it is only in the last 10 years that ports have thrown off this local identity. Containerization was the main reason.

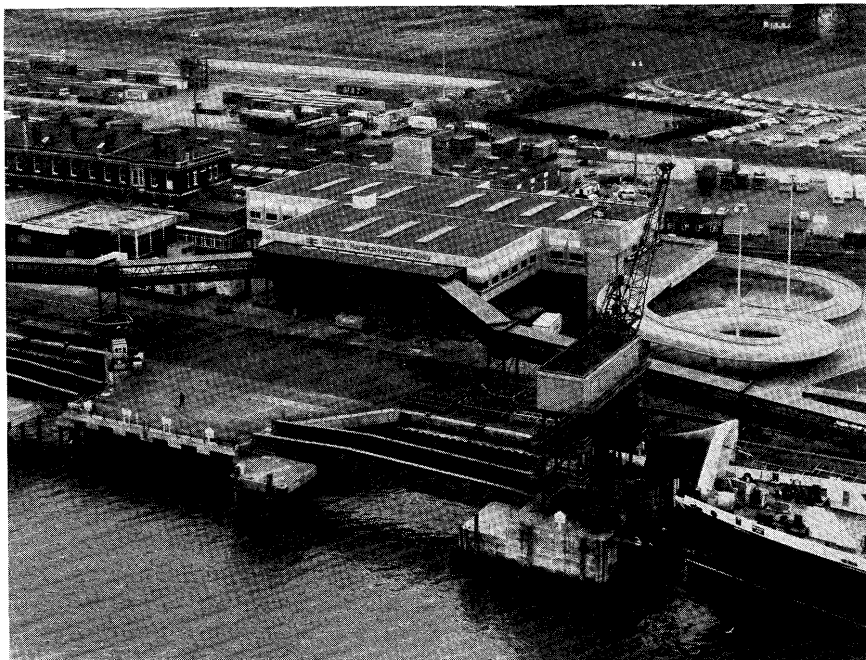
Liner trades became condensed; goods began to be carried by giant container consortia. Trades, now containerized, such as UK-Australia and UK-Far East which had been spread around a number of ports are now handled by just one undertaking (London in the case of Australia; Southampton for the Far East). The boxes are distributed nationwide by the railborne Freightliner system—one of the most advanced systems of its kind in the world—and by the improving road network.

Even the North Atlantic container trade, which still remains in the hands of individual companies to a large extent, has found itself concentrated on a handful of ports, such as Liverpool, Felixstowe and Southampton.

Britain's ports now handle more than 20 million tons of containerized and roll-on goods traffic annually. At the last count they had 106 container and roll-on berths in operation. It is reckoned that Britain handles as many containers as the rest of northern Europe put together.

Two Reasons

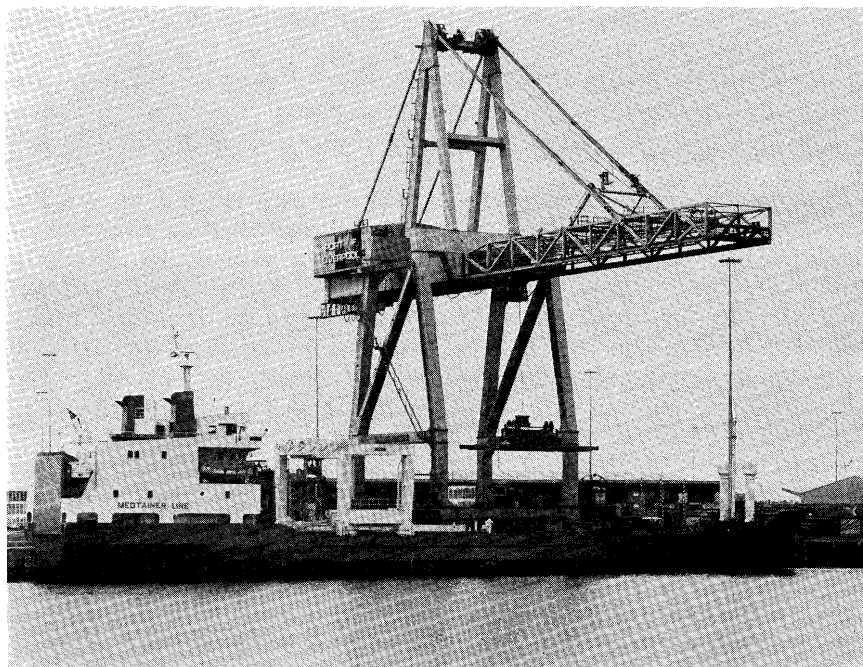
There are two main reasons why the UK has become so heavily dependent on the container trade. First it handles a high volume of goods suitable for carriage in boxes. Second, the ports have worked hand in hand with British shipping lines



The port of Harwich, in eastern England.



Produce from Denmark leaves the ferry at Great Yarmouth, eastern England, after an overnight crossing from Esbjerg—a regular thrice-weekly service.



One of the latest services to use the port of Liverpool's £50 million Seaforth dock system is a monthly container service between the north west England city and Beirut, Lebanon.

which were themselves at the forefront of containerization.

British lines have so far invested well over £350 million in container-ships, boxes, port handling equipment and inland facilities. Sir Andrew Crichton, chairman of Overseas Containers (OCL), once commented that containerization was essential if shippers and shipping lines were to attempt to peg the cost

of general cargo handling.

To change over from a labour intensive to a capital intensive method of cargo handling takes courage and a high level of investment. Ports, which in the 1950s still retained much of their Victorian characteristics, embarked on bold modernization and expansion plans, helped at first by government investment grants. Over the past six or seven

years the undertakings have been spending on average some, £44 million per annum between them.

Such a level of expenditure, coming at a time when ports were forced to borrow money on a short term basis because of the possibility of nationalization, was one reason for something of a financial crisis in the industry in 1970.

Insufficient Revenue

Handling charges were bringing in insufficient revenue to repay the ports debt commitments. There was a strong feeling that some of the authorities were handling on in the hope that nationalization would provide the answers to their financial troubles. It didn't. A change of government saw the end of nationalization prospects—at least for the time being—and the ports were left to sort out their own salvation.

Mersey Docks and Harbour Board, one of the worst hit, took the most drastic action. It reconstituted into a statutory company and opted for a big capital write down.

Other authorities were able to escape by increasing port charges to a more realistic level, closing down redundant conventional berths and selling off unwanted land for redevelopment. The measures worked and the ports, taken as a whole, are now trading profitably. Modernization and expansion has also left

them with a fresher, healthier complexion.

As already mentioned, containerization was probably the main feature of all this redevelopment. At present there seems to be some overcapacity of deepsea container facilities, although it is argued that this slack will soon be taken up by the fast growing traffic.

More Terminals

Certainly the Port of London and the British Transport Docks Board at Southampton are confident of the growing need for more international container facilities. Both have big plans for new terminals. (The London scheme could well be part of the new Maplin seaport and airport complex planned for the Thames estuary.)

The biggest growth in containerization is coming in shortsea roll-on services, however. With the prospect of increased intra-European trade created by the enlargement of the EEC on 1 January, ports along the east and south coasts have been sprouting new roll-on terminals at a prodigious rate.

But it is not only containerization which has brought about changes. The increasing use of packaged timber, for instance, has initiated new terminal facilities such as those found in London and South Wales. Larger bulk carriers have meant new deepwater facilities like the £20 million Port Talbot harbour in Wales. Bigger tankers have called for deeper berths and offshore mooring facilities.

In essence, then, British ports have been slowly moving down river, from their traditional conventional cargo handling berths in town and city centres to the deep waters of the river estuaries. This can be clearly seen at London (now developed at Tilbury and shortly to go further to Maplin); Liverpool (its Seaforth dock is now coming on full stream); and Bristol (where the West Dock is now under construction).

New Image

The image of the British port industry is thus changing. It is both modern and profitable and to some extent it has improved its manage-



The pilot station and new railway terminal at Folkstone, on the south coast of England.



New container berths at the British Transport Docks Board's Southampton Docks, southern England.

(Continued on Next Page Bottom)

Final Report of The Port Management Conference Eastern Africa

held at Mombasa, Kenya, 16–19 April 1973

(United Nations Economic and Social Council
Economic Commission for Africa)

(Document E/CN. 14/ TRANS/98, 23 May 1973)

Introduction

1. In accordance with the Programme of Work and Priorities adopted by the Conference of Ministers in Tunis in 1971, ECA, in consultation with member countries decided to convene a Port Management Conference on the West African Coast in October 1972.

ment. At the moment some authorities are run by private companies, a large proportion are state owned; a few are run by municipal authorities; several—some of the major ones—are run by what are known as public trust authorities.

While the first three categories have clearly defined bodies to which they are answerable, the fourth may find its responsibilities somewhat vague. The trust port boards comprise a large proportion of outside representatives—people such as shippers, shipowners and unions. There are clearly many vested interests represented, whether the representatives take their primary functions with them into the port board rooms or not.

In order to reduce the dangers which always arise when dual responsibilities are involved the government and its agency the National Ports Council have urged these trust ports to reconstitute their boards with fewer members, more executive representatives and outsiders who are not chosen because they happen to be influential members of some port user body.

It is another important step with which the industry hopes to improve its performance and image. Certainly one could not now accuse the port authorities of standing still.

2. The Conference in Western Africa recommended *inter alia*, the setting up of permanent machinery, in the form of a "Port Management Association of West and Central Africa."

3. On a motion by a representative of a country in Eastern Africa, who expressed interest in, and support for, the action taken to form such a body, the Conference also RECOMMENDED that ECA be requested to take the appropriate action to arrange a Conference in Eastern Africa for the purpose of considering the formation of a similar port management association in that area.

4. In response to that request the Conference held in Mombasa was convened by ECA after consultation with member States concerned.

Opening of the Conference

5. On Monday, 16th April 1973, the Provincial Commissioner, Mr. E. H. Mahihu welcomed the delegates to Mombasa on behalf of H. E. President Mzee Jomo Kenyatta and referred to the importance of ports in Eastern Africa and the need to improve their efficiency. He hoped the deliberations of the Conference would lead to beneficial results.

6. The Provincial Commissioner introduced the Hon. Minister for Power and Communications of Kenya, Mr. I. Omolo-Okero, who formally opened the Conference.

7. Before doing so the Hon. Minister welcomed the participants on behalf of the Government and people of Kenya and expressed his gratitude to ECA for its initiative and support.

8. In the course of his address he stated that the increase in the volume

of cargo would put pressure on the ports in developing countries. He thought that the Conference provided a forum for port managers and administrators in Eastern Africa to discuss common problems relating to the operational and financial efficiency of the ports under their control, and to encourage joint action, where appropriate, in solving these problems. It also provided an opportunity to consider whether common interests could be better served by the establishment of a more permanent forum. The creation of such a body seemed justified—given the number and geographical range of ports on the Eastern seaboard, and the traffic involved.

9. He further stated that the policies decided upon in this forum would have economic implications for both the maritime and landlocked states and that the challenge facing policy-makers was how to promote efficiency and speed and reduce costs, and to determine what facilities would be needed to handle the increase in trade.

10. The Senior Regional Transport Adviser, ECA, Mr. Geo. Downie read a message from Mr. R. K. A. Gardiner, Executive Secretary of the Economic Commission for Africa in which he mentioned his appreciation of the willingness of the countries of Eastern Africa to collaborate. He also drew attention to the importance of the Conference by stressing the economic potential of improved port performance. He pointed out that this was of national and international significance to both the maritime States of the Eastern Coast and the adjoining landlocked States.

11. ECA was encouraged by the fact that at the time Governments of Eastern Africa were studying multinational shipping matters for ocean and coastal shipping, port managers of the same geographical area were meeting in Conference to consider multinational co-operation and the setting up of permanent machinery for the discussion and improvement of port management techniques. He stated that ECA would support the proposed Port Management Association of Eastern Africa.

12. He stressed the need to keep pace with change and quoted examples: the increased calls on the

management of certain ports in East Africa and the recent "Landbridge" development between Alexandria and Suez for moving dry-cargo between the Mediterranean and the Red Sea, both of which reflected this need. The answer, he believed, lay in the willingness of members to work together, and he promised the full support of ECA in the development and strengthening of such co-operation.

Attendance

13. The Conference was attended by participants from Ethiopia, Kenya, Uganda, Zambia and the East African Harbours Corporation. Observers from the following organizations were present: East African Community Secretariat, ILO, IMCO, UNCTAD and UNDP.

Election of officers

14. The Conference elected the following officers:

Chairman

Mr. S. B. Ogembo (Kenya)

Vice-Chairman

Mr. M. K. Tembo (Zambia)

Rapporteur

Mr. Seyoum Tegagne Work (Ethiopia)

Adoption of the agenda

15. The following agenda was adopted by the Conference:

1. Opening of the Conference by the Hon. Minister of Power and Communications of Kenya, Mr. I. Omolo Okero
2. Election of officers
3. Adoption of the agenda
4. Organization of work
5. Discussion of port management problems
6. Multinational co-operation—Draft Constitution of Port Management Association
7. Technical visit to Port of Mombasa, Tuesday, 17 April 1973 at 2 p.m.
8. Nominations to Council in accordance with Art III(1) of the Constitution
9. Election of a Chairman, two Vice-Chairmen and a Treasurer of the Association
10. Appointment of an Honorary Secretary *ad interim*
11. Convening the first meeting of Council of Port Management Association of Eastern Africa
12. Adoption of the report of the

Conference

Organization of the work

16. The Conference decided to work from 8.30 a.m. to 12 noon and from 2 p.m. to 4.30 p.m. each day.

Discussion of agenda items

Item 5—Port Management problems

17. A representative of ECA, in introducing a paper (Doc.E/CN.14/TRANS WP3) on the problems which arose in the multinational context, indicated that they could in most cases be resolved by discussions between port and harbour executives responsible for port operations, administration, planning etc. In the discussion which followed, reference was made to a wide range of problems including those faced by ports which handle the traffic of land-locked countries. A representative of ECA provided a list containing a selection of problems suitable for multinational action.

18. Mr. P. K. Kinyanjui, Chairman of the East African Harbours Corporation expressed the conviction that the Conference was an important forum for the exchange of ideas and experiences. The participating countries faced similar problems. It might therefore become increasingly necessary to communicate by means of conferences like this one. The establishment of the Port Management Association was a matter of common interest to all the participants as it would eventually seek to harmonise policies in relation to port development in terms of facilities and human and financial resources.

Item 6—Multinational co-operation—Draft Constitution of Port Management Association

19. The Conference reviewed the draft Constitution for a Port Management Association in Eastern Africa and ACCEPTED it as an INTERIM Constitution subject to the following amendments viz:

- i. The inclusion of the words "and/or undertakings" wherever the term ports and harbours authorities occurs;
- ii. Throughout Article III of the draft Constitution the word "Chairman" to be substituted for the word "President";
- iii. In Article XI it was decided

the Constitution would come into force when signed on behalf of at least "three port or harbour authorities and/or undertakings" in the Eastern Sub-Region of ECA.

20. The Conference noted that in the absence of a number of maritime States in Eastern Africa it was not wholly representative of the range of ports in those countries from the Sudan to Tanzania inclusive. Nevertheless it was strongly felt that machinery such as that outlined in the draft Constitution would be of considerable benefit to port managers in Eastern Africa and the following decisions were taken concerning bringing the Constitution into effect:

- i. The port authorities and/or undertakings present and voting would initial the Constitution on the understanding that it was termed an Interim Constitution and therefore all decisions therefrom would be regarded as interim decisions until such time as a representative meeting of the Association could be held to elect officers and take the necessary decisions regarding the setting up of the headquarters and the funding of the secretariat of the Association;
- ii. The Interim Constitution would be operated by an Interim Council whose elected officers would consist of the following: Chairman, Honorary Secretary/Treasurer; the centre of communication would be the office of the Honorary Secretary/Treasurer.
- iii. ECA was requested to circulate to all concerned for comment the decisions taken by the members present and voting in the Conference regarding interim arrangements and to collate and circulate the views of all members and potential members of the Association not later than 31 August 1973, after which a further decision would be taken by the Interim Council regarding the next full meeting of the Association;
- iv. The Conference decided that under the interim arrangements no Vice-Chairmen would be appointed and that in the future one of the Vice-

Chairmanships would be offered to a French-speaking country should the French-speaking countries decide to apply for membership.

21. A fair text of the approved Interim Constitution as amended was initialled on behalf of the three port and harbour authorities and undertakings eligible for membership of the Association, thus bringing it into force and the Association into being.

22. Subsequently the election of the following officers of the Association *ad interim* were confirmed by the Conference:

Chairman

Mr. P. K. Kinyanjui, Chairman
East African Harbours Corporation,
Dar-es-Salaam

Honorary Secretary/Treasurer

Mr. Seyoum Tegagne Work,
Manager, Port of Massawa,
Ethiopian Ports Undertaking

Technical visit to the Port of Mombasa

23. A visit was paid to the Port of Mombasa on the afternoon of 17 April 1973 when members of the Conference had the opportunity to review the installations at the Oil Terminal and Cement Wharf and Silos. New construction work on berths Nos. 16 and 17 was noted with interest as well as the modern construction and shed layout in Sheds 7 and 8. The tour concluded with a visit to the Lighterage Quay and the Zambian Copper Yard.

First Meeting of the Interim Council

24. The first meeting of the Interim Council of the new Port Management Association of Eastern Africa was held in Mombasa on 19 April 1973 under the Chairmanship of Mr. P. K. Kinyanjui. The Draft Agenda was adopted without amendment and after discussing the various items the following decisions were made:

- i. the list of problems selected as suitable for multinational action by the Association would be circulated to all members and potential members for comment and selection of priorities. Thereafter the programme of work would be developed. Subsequently it would be possible to deal with the question of funding the As-

sociation and selecting a suitable location for the headquarters of the Secretariat;

- ii. the Secretary/Treasurer was requested to convene, in conjunction with the Chairman and ECA, the next meeting as soon as convenient after ECA had collated the views of all members regarding the interim arrangements for the meeting. It was suggested that this meeting should take place not later than October in order that a full working programme for 1974 could be considered and put into effect.

- iii. the Council decided to postpone the consideration of the following items of the Agenda (Part II)

—to consider appointment of Secretariat Staff and costs involved;

—to receive and consider offers from members to host the Association's headquarters;

—to discuss the Secretariat headquarters and decide its functions (Art. IV 9e)

—Finance: (Art. III 5.1 c)

a) to approve a Budget and to establish the rate of subscription of members;

b) operation of the Association's Bank Account

—Rules of Procedure (Art III. 4)

—to consider necessary rules of procedure.

Suggestions for the future programme of work were discussed and amendments and additions made to the list of important items from which a selection of priorities could be made. It was decided to circulate the amended document to members and potential members for consideration and comment. The programme of work when complete would form a basis for assessing future costs of running the Association.

Before the closure of the meeting helpful submissions were made by members of UN specialized agencies—ILO, IMCO, UNCTAD, UNDP—each in turn indicating the nature and scope of assistance which their respective organizations could offer to the new Port Management Association. These submissions are recorded in some detail in the Minutes of the First

Council Meeting.

RECOMMENDATIONS

Recommendation 1

25. Having regard to the limited number of East African maritime States present and voting at the Conference, it was recommended that an Interim Council consisting of a Chairman and Secretary/Treasurer be appointed in lieu of a fully representative Council of the Association to take all necessary action to complete the formation of the Port Management Association of Eastern Africa, in conjunction with ECA.

Recommendation 2

26. The Conference unanimously agreed for the purpose of developing port management techniques on a multinational basis in Eastern Africa, and having regard to the wider interests of African unity, to recommend that all eligible port authorities/undertakings in the range Port Sudan to Mtwara be encouraged to join the Association and that landlocked countries which qualified for membership be advised of their eligibility to join the new Association and be encouraged to apply to the Secretary for membership.

Vote of thanks

27. Delegates from Eastern Africa, observers and the ECA secretariat members present at the Port Management Conference in Mombasa, 16–19 April 1973 respectfully thanked His Excellency the President of the Republic of Kenya for his message of welcome conveyed by the Provincial Commissioner at the opening of the Conference.

HAVING RECALLED the excellent arrangements made for the Conference by the Government of Kenya and the East African Harbours Corporation in Mombasa,

The Conference expressed its deep appreciation and warmest thanks for the successful organization of the Conference and the friendly atmosphere which characterized the entire proceedings.

The hospitality of the Hon. Minister of Power and Communications Mr. I. Omolo Okero was greatly appreciated by all concerned.

All delegates warmly thanked the

Economic Commission for Africa and UN specialized agencies and the East African Community Secretariat for their helpful contributions which added a further dimension to the Conference.

HAVING NOTED with gratitude the initiative of ECA in calling the Conference and the untiring and purposeful contribution of secretariat members during the meeting, the Conference recorded its special thanks for this further expression of ECA's desire to continue promoting harmony and unity within the African Continent.

The excellent efforts of the Rapporteur in producing and presenting his report earned the unanimous appreciation of the Conference.

Closure of Conference

28. Mr. Tambwe, Assistant Minister of Communications, Research and Social Services apologized for the absence of Mr. W. W. Rwetsiba, Minister of Communication, Research and Social Services of the East African Community who was in Europe on business.

On behalf of the Minister, Mr. Tambwe addressed the Conference. In the course of his address he pointed out that it was indeed very fitting that East African Countries with the help of the United Nations Economic Commission for Africa had managed to come together to decide on a common forum where similar port management problems could be discussed, with a view to finding solutions through a healthy exchange of ideas and experiences. Ships of different nationalities and diverse character had increasingly been calling at Eastern Africa ports. Such concepts as "through transport", "combined transport operators", "aligned series documentation" had become fashionable elsewhere and it would not be long before such questions and the problems they posed knocked at their doors. Such a situation required the harmonization of a multitude of different interests and therefore meant that no one port or port organization could put on blinkers and look at its own problems and interests in isolation. Ports of Eastern Africa were very important parts of their countries infrastructure and thus economic independence of these countries to a large extent depended on

Deepwater Offshore Petroleum Terminals

by John Mascenik¹

Presented at the ASCE² National Transportation
Engineering Meeting, July 17-21, 1972
Milwaukee, Wisconsin, U. S. A.

INTRODUCTION

"Terminalling plays an extremely important function in the immense ocean transportation system that is vital to the global distribution of petroleum. Reliability is a 'must'." (Ref. 3)

The importance of ocean transportation of oil and, hence, terminalling, is demonstrated by the growth in both volume carried and ship size over the past 20 years. Free World oil consumption in 1950 was 10 MM B/D and doubled each

decade until it reached the 40 MM B/D figure in 1970. Some forecasts indicate a further doubling to 80 MM B/D by the early 1980's.

A prediction by The National Petroleum Council of future U.S. petroleum requirements is given on Figure 1. This shows that the U.S. will require nearly 28 MM B/D in 1985 and that roughly 17.5 MM BPD will be imported.

If importation is limited to 75 M dwt tankers (the size tanker that can be handled at existing ports), the number of calls could increase from about 3,000 in 1972 to well over 11,000 in 1985. Using only 250,000 dwt tankers in 1985 would result in only 3,400 calls being made. In 1950 the largest commercial

1. Engineering Associate—Esso Research and Engineering Company, Florham Park, New Jersey.
2. American Society of Civil Engineers.

the efficiency of ports.

Despite the difficulty of delegates attendance, the Conference had been able to resolve the formation of an association which was going to provide permanent machinery for consultation on common problems that face port managers in Eastern Africa collectively.

It was hoped that the Conference had made fruitful contributions which would strengthen African unity. Practical experience showed the value and necessity of regional co-operation and East African Countries should, therefore, take this opportunity to share their experience with their neighbours.

Mr. Tambwe then declared the Port Management Conference of Eastern Africa officially closed.

LIST OF DOCUMENTS

Conference

- E/CN.14/TRANS/WP.1 — Draft Provisional Agenda
- E/CN.14/TRANS/WP.2 — Draft Annotated Agenda
- E/CN.14/TRANS/WP.3 — Agenda Items—Multinational

co-operation

E/CN.14/TRANS/93 —

Draft Constitution of Port Management Association of Eastern Africa (enclosed with the ECA letter of invitation)

First Meeting of the Council

CWP/1

Agenda

CWP/2/Rev.1

Suggestions for the Programme of Work (Part II, item 1 of the Agenda)

CWP/2/Rev.1

Draft rules of procedure

Background information

TD/B/C.4/79/Rev.1

Port Statistics (UNCTAD) (English only)

E/CN.14/TRANS/69

Port management structure

E/CN.14/TRANS/70

Port Manpower problems

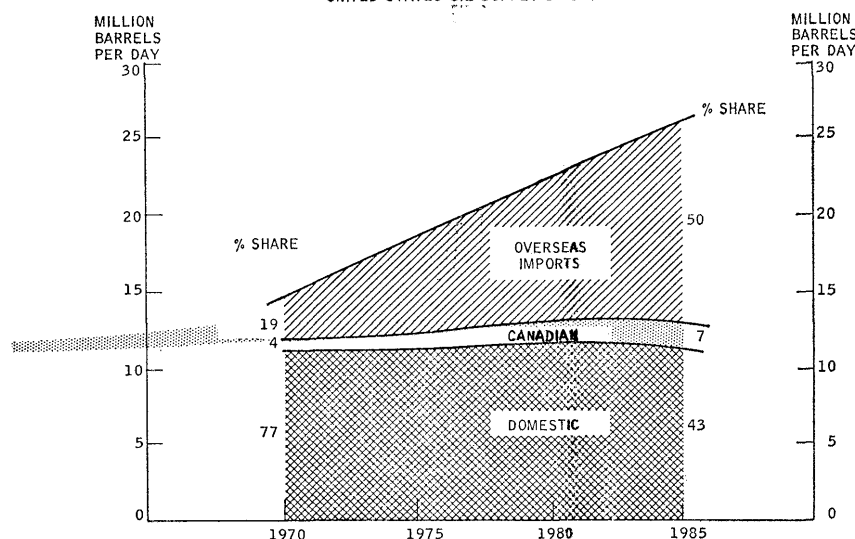
E/CN.14/TRANS/71

Training arrangements and requirements

TRANS/INF/7/Add.1

Providing berthing accommodation for deep Laden Tankers in Bonny Port: Nigeria

Figure 1
UNITED STATES OIL SUPPLY BY SOURCE



tanker afloat was 30,000 dwt. Today it is 370,000 dwt and by next year, 1973, it will have increased to 477,000 dwt.

The principal incentive for this growth was transportation cost reduction. Other considerations were the lower demand for trained sea going manpower, for fewer berthing facilities, and for lesser shipyard capacity because of fewer ships. An important benefit derived from the larger ship was the reduced traffic congestion and the associated reduction in the risk of collision and stranding in ports and restricted waterways due to fewer ships.

However, the Very Large Crude Carrier (VLCC), 140,000 dwt and larger in size, has resulted in the need for and the development of offshore terminaling facilities. This was caused by water depth requirements that could not be satisfied by conventional piers in protected and already congested natural or man-made harbors. Thus, the concept of "bringing the mooring facilities to the ship" was implemented.

REQUIREMENTS FOR A RELIABLE OFFSHORE OIL FACILITY

A safe, reliable offshore oil handling facility requires a knowledge of tankers, their handling characteristics, and their equipment. The facility should be kept as simple as possible. Handling other than normal liquid cargo or slurry, installing offshore storage or

using shuttle ships complicates design and operations and can result in high initial investments and operating costs without increasing reliability or reducing the possibility of pollution.

To select and design a system that would be optimum for the environment existing at a specific site and minimize the risk of accidental pollution requires a knowledge of (1) the ship/shore system, (2) the operational requirements for the various types of berths, (3) the forces exerted by the environment on a moored ship, (4) the reactions of the ship to these forces, and (5) the design requirements for the system.

While various types of offshore berths have been found suitable for mooring tankers of certain sizes for specific environmental conditions, the oil industry's experience has shown the Single Point Mooring (SPM) to be a safe, reliable means for mooring VLCC's and for transferring cargo in moderate to severe wind, waves, and currents. To improve the systems' reliabilities the oil industry has taken measures to develop and specify better equipment for SPM's.

While proper submarine pipeline design and installation are essential to the success of an offshore oil facility, the subject is beyond the scope of this paper and is not discussed. (Ref. 5 and other published documents cover this area quite fully.) Instead, the paper will confine itself to discussing types of

facilities, berthing and cargo transfer operations, requirements for and limits on operations, design requirements, a novel multi-SPM cluster, and measures taken to improve reliability.

TYPES OF OFFSHORE FACILITIES

Offshore terminals are classified as sea islands, multi-buoy moorings, and single point moorings. Each type has three major components in the system. They are: (1) a means for holding the tanker in position, (2) a means for transferring the cargo from the tanker's manifold to a manifold on the loading platform or on the sea bottom, and (3) an underwater pipeline to the tanker's cargo between shore and manifold.

The location of the source of crude and the population centers do not coincide. And in many instances, deep water harbors are not available, nor can the construction of man-made harbors be economically justified. Thus, offshore terminals are found in all areas of the world. Sea Islands have been installed in Kuwait, Iraq and Saudi Arabia in the Persian Gulf for crude loading and at Bantry Bay, Okinawa and a number of ports in Japan for crude discharge and at many locations in the world for product loading. Multi-Buoy Moorings (MBM) are used at marketing, refining, and crude loading terminals throughout the free world. Single Point Moorings (SPM) are being used to an increasing extent throughout the world at crude loading and receiving terminals especially since the advent of the VLCC.

Figure 2 is a schematic of a sea island. A sea island is similar to a conventional pier except that it is connected to shore by a submarine pipeline in lieu of having a pipe trestle connection. Its main components are breasting dolphins, mooring dolphins, and a loading platform. The breasting dolphins take the impact load during berthing and the loads imposed while moored. The mooring dolphins contain bollards or quick release hooks to which the ship's wires are attached. The wires hold the ship in a fairly fixed envelope

in space and permit the use of loading arms mounted on the loading platform to connect the ship's manifold with the manifold on the platform. Other devices such as meters, fire fighting equipment, control room, etc. are contained on the loading platform.

Figure 3 is a schematic of a multiple buoy mooring. Five to seven moored buoys are installed, generally in a semi-circular pattern around the desired position of the stern of a tanker. Generally, ships' anchors are used to provide the mooring points forward. While the mooring arrangement permits greater ship movement than at a sea island, the ship is held more rigidly than at an SPM. The connection to the ship's manifold is made by the use of submerged hoses that are lifted from the sea bottom once the vessel is moored. Submarine pipelines connect the pipeline end manifold (PLEM) to shore.

Single Point Moorings (SPM) are very common for the mooring of VLCC's. The types in use are the Catenary Anchor Leg Mooring (CALM), the Single Anchor Leg Mooring (SALM), SPM tower with rotating trussed arm (Brega, Libya) and SPM tower with floating hose (Fiumicino, Italy). The most common is the CALM; the newest is the SALM. These will be described briefly. Almost 100 SPM's have been installed worldwide since 1959.

A schematic of the CALM is shown on Figure 4. Essentially, a CALM is composed of a moored buoy to which a tanker is connected by a mooring line. Cargo transfer takes place through a floating hose that is connected to the ship's manifold and to a fluid swivel on the buoy. The connection to PLEM is made by using underbuoy hose. While the buoy is relatively fixed in space, a turntable on top of the buoy to which the mooring line is connected permits the tanker to weathervane about the buoy in response to changes in wind, waves, and current. (Ref. 4 provides a very full description and design basis.)

The SALM is a recent development which was installed at Brega, Libya in 1969 for mooring 300,000 dwt tankers. (Ref. 2 provides a detailed coverage of the SALM.)

Figure 2
SCHEMATIC SEA ISLAND MARINE FACILITY

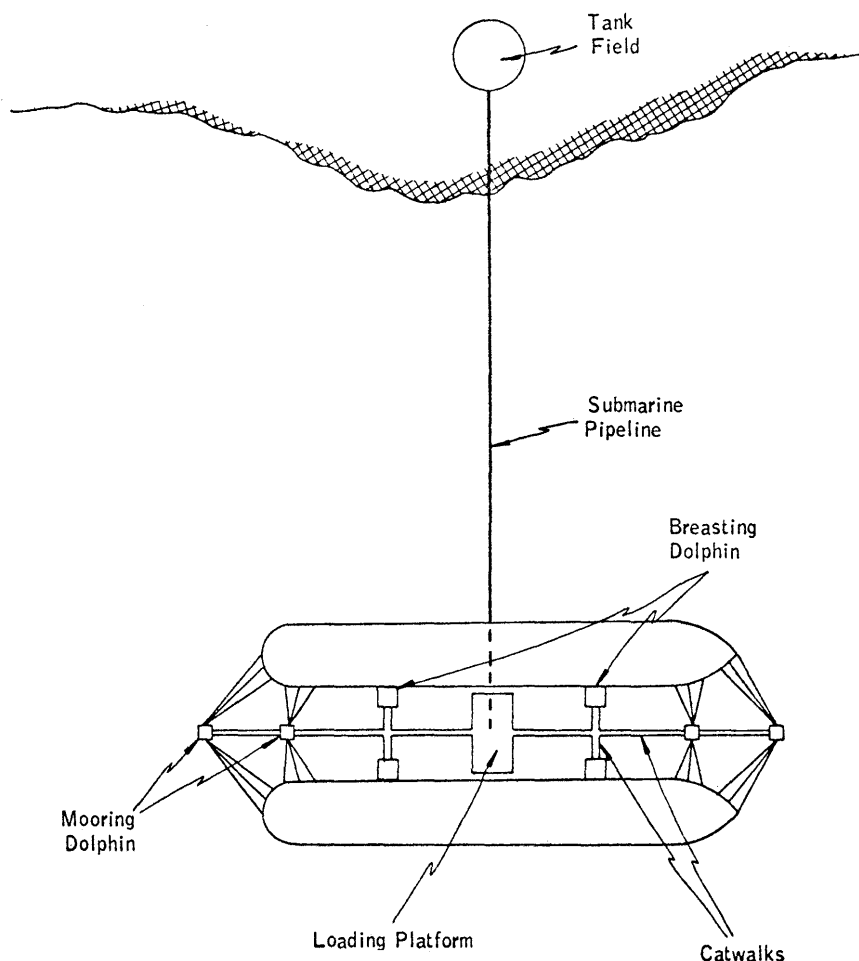


Figure 3
CONVENTIONAL BUOY MOORING

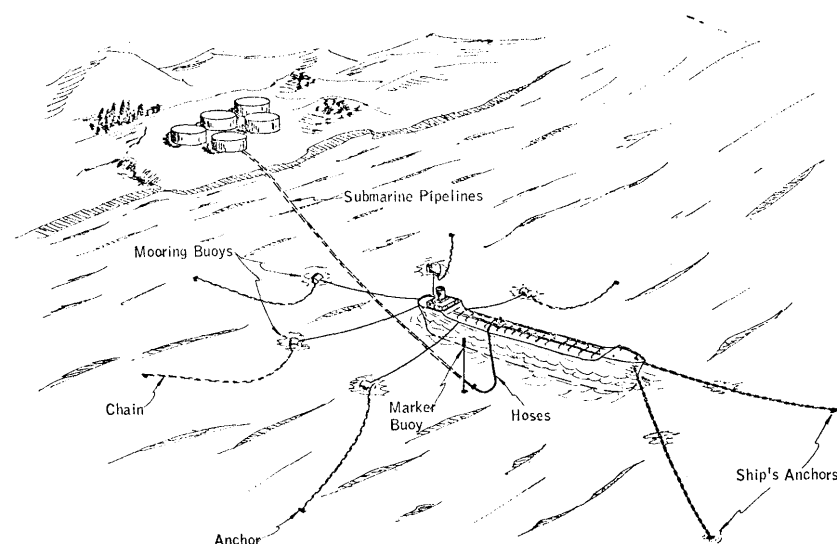


Figure 4
SCHEMATIC SINGLE BUOY MOORING FACILITY

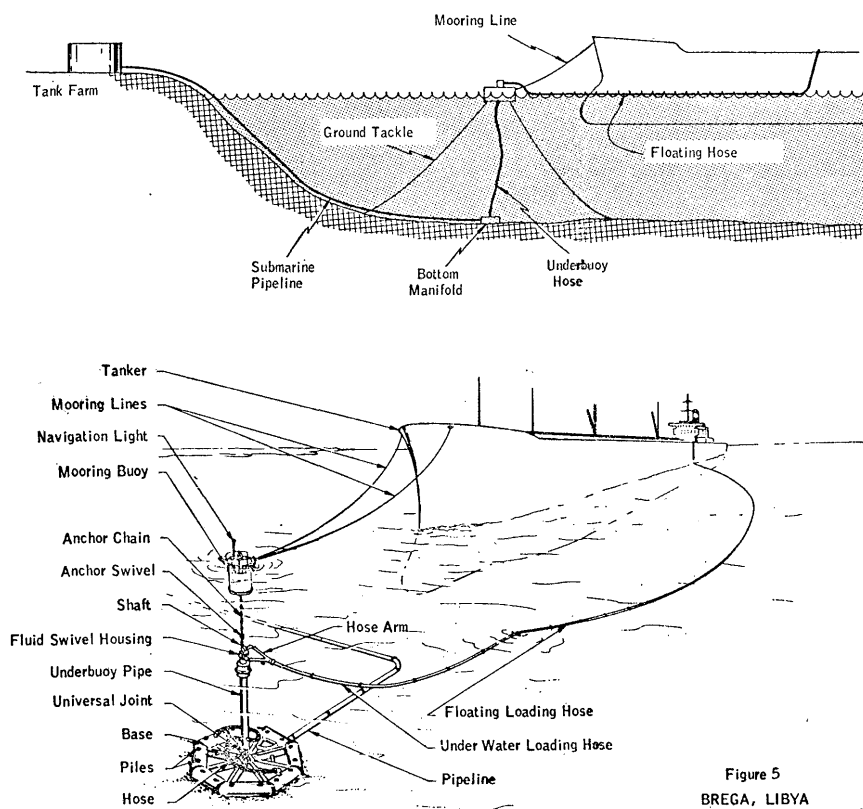


Figure 5
BREGA, LIBYA
SINGLE ANCHOR LEG MOORING

Figure 5 is a schematic of the Brega mooring. The major differences between the two systems are:

(1) The CALM utilizes four to eight anchored catenary chain legs whereas the SALM utilizes a base which is piled to hold against mooring line loads.

(2) The floating hose is connected to the buoy in the CALM system whereas the connection is made below the active wave zone for the SALM system.

(3) The buoy turns with the weathervaning ship in the SALM system but remains stationary in the CALM system (the turntable revolves).

(4) The buoy in the CALM system always remains on the surface. In the SALM system it is designed to submerge with increasing hawser loads.

Other types of SPM's have been studied and patented; however, none have been installed. Also, with regard to SPM towers, comments made herein with regard to berthing procedures, operations, etc. are generally applicable.

DESIGN CONSIDERATIONS

To determine the optimum type of berth to install and the criteria for design requires a detailed knowledge of site conditions and the marine environment at the proposed location. Site conditions are instrumental in determining investment costs whereas a knowledge of the marine environment is necessary to determine port closure time and hence a major portion of the operating costs for the various types of berths.

The main site and marine environmental data required are:

- Wind, wave, and current conditions
- Water depths and maneuvering areas
- Soil and sea bottom conditions

The differences in operation for each type of berth, the effects of the environment on marine ancillary craft requirements for berthing and unberthing, and the loads induced in the restraining elements of the berth limit the environmental conditions in which a berth can safely operate.

In addition, the procedure for

berthing and the effects of the elements on the vertical motions of a vessel profoundly influence the minimum underkeel clearance for a loaded tanker and the maneuvering area requirements. The mode of operation and the limitations on each type of berth will be covered in detail later.

However, knowledge of the environment is insufficient. A means of translating this environment into forces acting on the tanker and subsequently into loads induced in the restraining elements of the berth is necessary. Due to the complex interaction of wind, current, and waves at the various types of berths, and the present state-of-the art in analytically determining induced loads, model test data are usually necessary. Tests have been conducted for several oil companies at the Netherlands Ship Model Basin, The British Hydraulics Research Station, and other model test facilities for a wide range of tanker sizes and environmental conditions. Without these data or prototype measurements, the determination of load criteria would be difficult, if not impossible.

It is also essential for design purposes to know the soil and sea bottom conditions. For example, poor soil may preclude using ship's anchors at an MBM; thus, the berth would have to be an all buoy berth or, because of poor soil conditions stake piles would be required for anchoring the buoys at an MBM or CALM. Bearing and uplift capacity of piles are also affected by soils. Thus, good soils data are essential to the success of the facility.

The design must also consider the characteristics of the tanker fleet to be handled, loading or discharge rates, the viscosity, and other pertinent characteristics of the material to be handled, etc. Tanker characteristics such as draft, length overall, maneuvering capabilities, and tanker swell, pitch, and heave responses to the waves must be known. These are required to determine necessary underkeel clearance to prevent damage to the tanker and to provide sufficient maneuvering area for safe berthing. The possibility of dredging, berthing on high slack water in tidal areas, or lightening the tanker before entering

must be considered if water depths are inadequate. General maneuvering area guidelines are discussed later.

Provisions for maintaining the facility should be provided; i.e., small boat harbors, onshore areas, etc. There are other design considerations that affect the number of berths and the cargo transfer operation such as number and size of pipelines and pumping rates. These are fairly straight forward and do not usually affect the safety or reliability of offshore moorings.

BERTH OPERATIONS AND ENVIRONMENTAL LIMITATIONS

To demonstrate the need for a systems approach in design and for establishing environmental limitations for each type of berth, the berthing procedure and cargo transfer operation for each type berth are discussed below. In addition, empirical limitations on the use of each for various environmental conditions are outlined and special maneuvering area requirements highlighted.

Berthing procedure and connection for cargo transfer operations are dissimilar for the various types of offshore oil facilities. However, once the cargo conduit is connected to the ship's manifold, the procedures for initiating cargo transfer are similar.

Cargo Transfer—General

A prudent operator, at all offshore berths, will take precautions aboard ship such as placing drip pans under ship's manifolds, plugging scuppers, and setting valves. Agreements between the ship and terminal will be set regarding transfer rates, signals to be used, and emergency procedures. Once this has been done, the cargo transfer operation, directed by the ship's Cargo Officer, commences. Cargo transfer is at a reduced rate until all connections are checked before flow rate is increased to capacity.

During cargo transfer frequent inspections are made of the operations. Records are made at regular intervals of pressure onboard the ship and of the quantity transferred. Any discrepancies in quantities and sudden changes in pressure are im-

mediately investigated.

When loading, care is exercised in topping-off to avoid spills. This operation is done at reduced flow rates. When disconnecting the loading arms or hoses, the pressure is first removed. The manifold connection is then broken and drained, and the blind flange is connected.

Sea Islands

Berthing, mooring, and cargo transfer operations at sea islands are similar to those at conventional piers. The principal difference is the more exposed location and its effect on berthing and mooring operations. Both require the use of tugs in berthing; both use the ships' hawsers to moor; and both require loading arms or hoses for the transfer of cargo.

Normally, at a sea island the pilot will use the tugs and ship's power to approach the berth. The tanker is stopped 100 to 300 feet away from and parallel to the berth. The ship is then either pushed, pulled, or warped in. Appropriate corrections must be made in the procedure for wind, wave, and current conditions.

At VLCC berths berthing velocity sensors are usually installed to assist the pilot in his maneuvers to come alongside safely. Similarly, the installation of wind, wave, and current measurement equipment is becoming commonplace to assist the pilot, the ship's captain, and the terminal operator in determining whether and how a ship should be berthed and when it should be removed from the berth. This equipment could be considered a necessity at all exposed locations.

Disconnecting arms and getting underway are similar to the procedures at a conventional pier.

Sea Islands require an area more sheltered from waves than SPM's or MBM's. Any waves that prevent the tugs from maintaining complete control of the berthing operation will cause a closing of the berth. Normally this is a significant wave height of three to four feet. Similarly, the height and direction of waves will affect the vessel when moored. The tanker can remain moored in higher waves from the bow or stern than it can from the quarter or abeam. Ten foot significant waves

from ahead or astern and three to four foot significant waves from abeam are usually considered to be limiting.

Also, beam and quartering currents, along with or apart from beam and quartering winds, will have an effect on a berthing tanker. Currents other than from ahead or astern can affect a moored tanker especially when this current is one knot or greater. If currents are severe, but are due to tidal action, berthing can take place on slack water. In many locations, berthing is precluded when the wind exceeds 25 knots, particularly at loading ports with light, ballasted tankers.

Sufficient water depth and sea bed requirements to permit safe approaches to the berth and to permit the berthing to be aborted are necessary. Tanker motions caused by waves must be assessed to determine if adequate underkeel clearances are provided in the approaches and in the berth to guard the tanker against bottom damage. These criteria will vary depending on the weather and sea conditions.

Multiple Buoy Mooring

The exact procedure used to maneuver a vessel into a multi-buoy mooring, (MBM), Figure 3, will vary with local environmental conditions and berth layout. One procedure is described below:

- A Mooring Master boards the incoming vessel prior to making its approach to the berth. The Mooring Master or his relief remains onboard the tanker as an advisor to the ship's Captain during the entire mooring, loading/unloading, and unmooring operation.
- The vessel makes a "running" moor. While proceeding ahead in line with shore steering ranges, either the starboard or port anchor is dropped. The tanker then continues forward while paying out the appropriate anchor chain into position for properly placing the other anchor.
- After the other anchor has been dropped, some of the first anchor chain is picked up while paying out the other anchor chain.

- The vessel then backs into the berth with the use of its engines, slacking or tensioning both chains as necessary.
- Using the terminal launch, the vessel puts out ropes or wires to the mooring buoys. By heaving on the lines and slacking on the anchor chains, the tanker moves into position to pick up the cargo hoses.
- The launch carries the necessary equipment for connecting the submarine loading hose to the ship's manifold. This equipment is placed aboard the tanker.

Standard techniques are used to handle the hoses at multi-buoy moorings. A launch tows the hose buoy to a position where the tanker's tackle can be attached to the hose lifting line. The tanker then lifts the hose until the end of the hose is the required height above the tanker rail. The hose is then tied off to the ship's rail, bent over the rail, and bolted to the tanker's manifold.

At the conclusion of transfer operations, the hose is released from the rail and lowered by the derrick while the launch pulls the hose away from the tanker side by means of a second line. The launch then tows the hoses away from the tanker before lowering them to the bottom. Each hose is lowered individually to avoid tangling.

When the tanker leaves the berth, the mooring procedure is reversed. The ship's lines are slacked and slipped off the buoy's quick release hooks by the launch. Once the lines are cleared, the ship's anchors are retrieved. If forward breast lines are used, they are usually released before the stern lines. The procedure for berthing and unberthing seem quite simple, but can be difficult under certain wind, wave, and current conditions.

MBM's usually become untenable when seas with a height of four feet or more approach the berth at a small angle off the bow or stern. If the vessel is moored directly into the predominant direction of the waves, the berth may be tenable in ten foot or greater waves. However, mooring operations require the use of a launch. Since launch operations are generally precluded in six to eight foot

seas, berthing operations are halted under these conditions. In an emergency, such as a sudden storm, it is possible to leave the berth without launch assistance by slipping the mooring lines from the ship. However, the retrieval of ship's anchors is a time consuming operation and requires excellent shiphandling to avoid accidents.

MBM's require more moderate wind conditions than other offshore berths. They generally become untenable in beam or quartering winds greater than 25 to 35 mph. Limiting current conditions are normally one knot for beam or quartering currents and two knots or more for head currents.

Minimum required underkeel clearance over the sea bed and pipeline at the berth varies with predicted vessel movement and type of bottom.

Sufficient maneuvering area is provided at an MBM such that a loaded vessel could lose power and swing on either bow anchor with full scope of chain out without being in danger of grounding or contacting the submarine pipeline. The distance which the berth must be located offshore therefore depends upon the length and draft of the largest tanker to be handled, the length of anchor chain used, and the slope of the sea bed. For a particular location it may be possible to modify these criteria.

Single Point Moorings

The procedure used to maneuver a vessel into a single point mooring (SPM) varies between terminals. However, the berthing and mooring procedure usually requires the services of a Mooring Master and a launch.

The Mooring Master assists in mooring the vessel, and he or his relief usually remains onboard during the loading or unloading phase. In addition, he provides guidance in taking the ship out of the mooring.

The launch crew assists the ship's crew in bringing onboard portable items of hose and mooring equipment which are to be rigged by the ship's crew as indicated by the Mooring Master. The launch is also used to move the floating hose to one side if it appears that the

hose is in the way of the mooring operation.

The procedure used, while it varies between terminals for berthing, is essentially as follows:

- The Mooring Master boards the vessel at some distance from the mooring and advises the Captain of the requirements for the berth. This involves setting out the mooring gear, preparing the ship's manifold and planning approach to the buoy, which is consistent with existing wind and sea conditions.
- The tanker will approach the mooring at a speed sufficient to maintain steerage. By the time the vessel is sufficiently close to bring aboard the mooring lines, she should be practically dead in the water (100 to 300 feet from the mooring). The approach is planned to avoid the vessel being carried bodily down on the hoses or the mooring and to permit the ship to pass on the other side of the buoy and to make a second approach should the maneuver be aborted.
- The mooring launch attaches the messenger lines to the mooring hawser pendants. These are then hauled aboard and made fast to complete the mooring.

Connection of the hose is usually done by the ship's crew with the advice of the Mooring Master. The floating hose is lifted with the ship's gear, stopped off by the snublines, and connected to the ship's manifold. Cargo transfer is accomplished as described earlier.

After cargo transfer, the hoses are disconnected, lowered into the water, and towed out of the way. The moorings are then cast off, and the ship departs. The departing maneuver is dependent on the conditions existing at the time and is planned to permit the ship to pass the buoy on the side away from the floating hose.

Single point moorings are suitable for operations at offshore locations where sea and weather conditions may be severe as the tanker can weathervane to minimize the natural forces. A tanker can remain moored at an SPM in over 15 ft significant waves in combination with winds and currents. However, launch operations are, as with

MBM's, precluded in six to eight foot seas and winds of approximately 25 knots. Therefore, although a vessel can remain moored or leave the berth during more severe weather, it can berth only during periods when launch operations are possible.

An SPM requires a swinging circle with a radius of about one and one half ship lengths to allow the vessel to rotate completely around the SPM on its bow hawsers. This area must be kept clear of all other shipping. Minimum clearance under the design vessel's keel in this circle varies depending on the ship's movements and type of sea bottom.

Furthermore, the vessel should approach an SPM heading into the predominant wind, wave, and/or current. To have this maneuvering capability and to allow some leeway for the vessel to fall away from the berth under wave or current action, a maneuvering circle with a radius of three to four shiplengths is generally required. If local weather and sea conditions are fairly constant, it may be possible to always approach and exit the berth from a limited sector or sectors, thus decreasing the required maneuvering circle. Similarly, if tugs are available, they would assist in berthing at an SPM and thus reduce maneuvering circle requirements.

Comparison of Limitations

Figure 6 is a comparison of requirements and limitations for various types of offshore oil facilities that have been previously discussed. This comparison clearly demonstrates that the SPM is vastly superior in ensuring the safety of a tanker under severe environmental conditions and does permit cargo transfer under severe conditions. It does have some drawbacks such as longer pipeline lengths and larger maneuvering and sea bed area requirements. However, it does not require tugs and is generally less susceptible to damage. And, when damaged, it can generally be put back in service much more quickly than a sea island. (Does not apply to SPM towers.)

SINGLE POINT MOORING CLUSTER

A system utilizing SPM's has been developed for the loading and

Figure 6
OFFSHORE MOORING COMPARISON

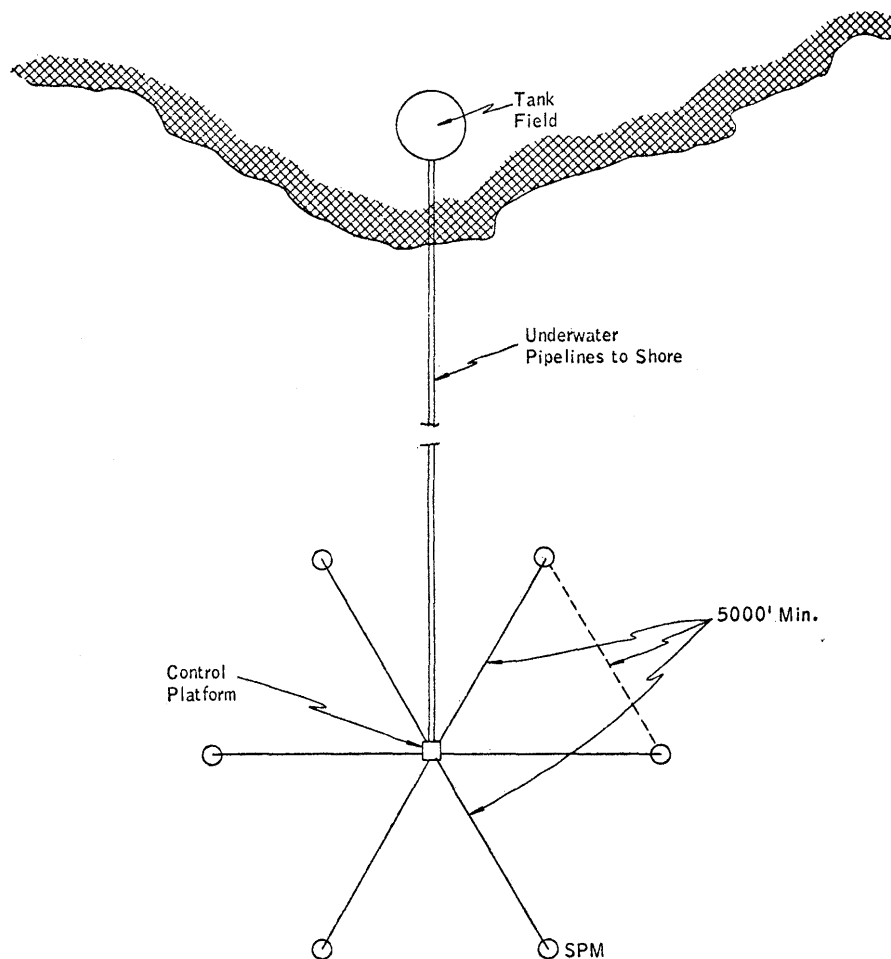
| Limitations on Use | Sea Islands | SPM | | | Multi Buoy Berth |
|---|--------------------------------|----------------------|----------|----------|---------------------------|
| | | Barge Type Tower | CALM | SALM | |
| While Berthing | | | | | |
| Waves | 3-4 | 6-8 ft | | | 6-8 ft |
| Wind | 25 kts | 25 kts | | | 25 kts |
| While Moored | | | | | |
| Waves | 10 from ahead 3-4* ft abeam | Over 15 | | | 10 ft ahead 3 ft abeam |
| Wind | 50 kts | 60 kts | | | 30-50 kts* |
| While Transferring Cargo | | | | | |
| Waves | 3-10 ft** | 10-12 ft | | | 3-10 ft** |
| Wind | 30 kts | 40 kts | | | 25-35 kts* |
| Distance Offshore (Affects Pipeline Length) | Closest | Furthest | | | Medium |
| Maneuvering and Sea Bed Area Requirements | Small | Large | | | Moderate |
| Ease in Getting Underway | Good | Excellent | | | Poor |
| Use of Tugs | Required | Usually Not Required | | | Usually Not Reqd. |
| Use of Launches | Sometimes | Required | | | Required |
| Investment | High | High | Moderate | Moderate | Low |
| Susceptibility to Damage | Moderate to High | Moderate to High | Moderate | Low | Low |

Notes:

* Depends on wind velocity and direction.

** Depends on wave height and direction.
Wave heights are significant.

Figure 7
SPM CLUSTER



We've put a 300-ton container crane into a ten inch container.

We've told you and told you about the amazing P&H® 6250-TC truck crane and what it can do on your dock. But seeing is believing. And now we want to show you.

We've made a ten-minute film. It's called "The Amazing Giant From P&H." And if you're ever going to appreciate the time and money-saving features of this outstanding piece of equipment, you need to see it.

Just fill out the coupon below, and we'll have a salesman call and set up an appointment.

All we need is a little bit of your undivided attention. We're convinced that if we can't sell you on the 6250-TC truck crane in ten minutes, we can't sell you.

Harnischfeger

P&H

For the last word in performance, call P&H first.



Harnischfeger, 4400 W. National Ave.
Milwaukee, Wisconsin 53246

I'll give you ten minutes. Have your salesman call me.

Name _____

Company _____

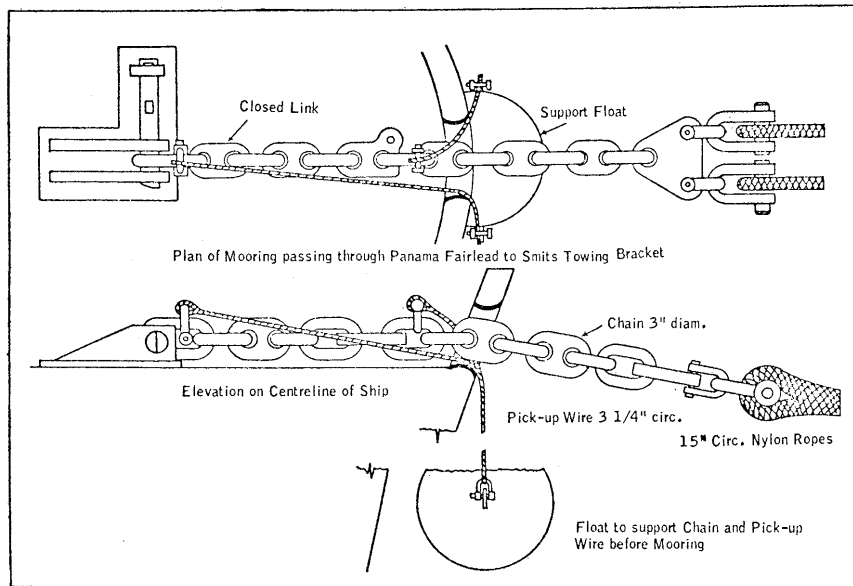
Street _____

City _____

State _____ Zip _____

Phone (Area _____) _____

Figure 8



discharge of crude, which moves control for the tanker traffic and the oil movement to the berthing areas. Figure 7 shows a control platform (C.P.) or platforms many miles offshore located within a six-buoy or tower cluster. The buoys or towers are located 5,000 feet apart. Each buoy or tower is at least 5,000 to an obstacle for a loaded tanker.

Radar, communications equipment, launch landings, and offices would be located on the C.P. From the C.P. berthing masters could be dispatched to the ships at anchor for the purpose of berthing the ship. These mariners would be in constant contact via VHF with the control room. The control room would advise them of wind, wave, and current conditions and with the use of the radar advise them as to distance the ship is from the buoy or tower during the berthing operations.

Once moored, and again via VHF, the berthing master (who remains onboard during the entire loading operation) would advise the C.P. that the ship is rigged for loading and would request loading at reduced rates while valves, connections, etc. are checked to ensure security of loading.

The C.P. would contain turbine meters, turbine meter prover loop, valves, manifolding, control equipment for onshore pumps, and other

miscellaneous equipment (including booster pumps if necessary). The control platform would handle all switching of crude, pumparounds, loading rates, etc. Being in visual and VHF contact with the tanker results in a better control of the entire operation and should result in a safer, more operable terminal which in turn would result in a lower probability of pollution.

RELIABILITY OF SPM'S, PROBLEM AREAS AND INDUSTRY ACTIVITY

Reliability of SPM's

As pointed out by Capt. A. F. Dickson of Shell Marine International, (Ref. 1) the Single Point Mooring has demonstrated its attractiveness where berths have to be provided outside the shelter of harbor works or natural shelter. Captain Dickson also stated that the fear of oil pollution when utilizing SPM's is not borne out by experience. The Royal Dutch Shell Group reports that over 65 million tons of oil are handled through SPM's annually with no serious pollution of the surrounding environment.

Esso's ten years of experience has also been excellent at its SPM tower in Brega, its CALM at Singapore, and its SALM's at Brega and Okinawa. Approximately one billion barrels of oil have been handled, primarily at Brega, with-

out any serious pollution of the environment.

Problems and the SPM Forum

Two problem areas that exist at SPM's are the mooring forces (design of ship attachments and mooring arrangements) and the floating hose. These problems are being worked on actively by the industry through the Single Point Mooring Forum. The Forum has proven to be invaluable in providing a means of coordinating views of those in the industry concerned with either the operation of tankers or the operation of SPM tanker terminals.

The Forum has issued standards for manifolds aboard ship and for mooring line arrangements and attachments. Figure 8 illustrates the arrangements that have been adopted by the Forum. Because of the larger tankers on the drawing boards and under construction, the Forum has appointed a committee to develop further recommendations.

Separate committees have also been appointed to work in areas of common interest. One committee is working with the rope manufacturers in improving rope and in determining the cause of rope failures. Another committee has been established by the Forum to develop hose standards that respond to present day environmental requirements. This committee will study not only criteria for manufacturing but also test procedures at the factory and in the field.

Other Industry Groups

Recently, the Forum, as well as the International Oil Tanker Terminal Safety Group, was placed under the auspices of the Oil Companies International Marine Forum (OCIMF). OCIMF has consultative status with the Intergovernmental Maritime Consultative Organization (IMCO) so that it can contribute and respond to considerations relating to the safety and pollution aspects of tanker and terminal operations.

The Industry has also developed TOVALOP, The International Tanker Owner's Pollution Federation, Ltd. This is a voluntary insurance scheme for encouraging owners to take prompt remedial measures in the event of spill and

for providing funds for reimbursement of clean-up expenses incurred by governments. Other organizations such as the American Institute of Merchant Shipping (AIMS), the International Chamber of Shipping (ICS), and voluntary regional port organizations are working to improve safety, operability, etc.; however, time precludes covering these.

MULTI-USE OFFSHORE FACILITIES

Offshore oil terminals, especially discharge terminals, are relatively simple systems. The mode of operation for each type of facility is the same for every vessel that uses it. Thus, the personnel are trained specifically to berth the vessel, to load/unload it, and to unberth it. Handling other than normal liquids (with the exception of such items as ore delivery to shore storage located many miles away would result in more complicated designs, variations in mooring and unmooring procedures and practices, and greater congestion. It would also require storage at the discharge point necessitating the construction of expensive man-made islands and breakwaters. This would increase the danger of collision and decrease the reliability of designs and operations.

Also, the use of shuttle vessels as suggested in several proposed multi-use facilities does not alleviate the problem of congestion in existing ports. It would only add to it and increase the possibility of catastrophic collisions and groundings. Thus, multi-use facilities should be avoided whenever possible.

SUMMARY AND CONCLUSIONS

In summary, it has been shown that:

- (1) The use of VLCC's is vital in supplying the Free World with its energy requirements at a reasonable cost.
- (2) The use of offshore petroleum terminals, located away from congested ship channels and ports, will minimize the primary cause of accidental pollution, i.e., collisions and groundings.
- (3) The choice of the type of offshore terminal and the reliability of design and operations must be assured by:
 - Having complete knowledge

of the environment and physical site conditions

- Knowing the operating limits for each type of offshore terminal
 - Having model test or prototype data on which to establish design criteria
 - Using sound engineering and suitable construction practices in designing and installing offshore terminals
 - Operating the facilities with properly trained personnel and reliable equipment in a safe, workmanlike manner using time proven operating and maintenance procedures
- (4) A SPM terminal is most suitable for installation in unprotected waters and has demonstrated its usefulness and reliability in severe operating environments.
 - (5) Industry is aware of its responsibilities and will make every effort to design out spills and to contain and collect those that occur.
 - (6) The multi-use of offshore terminals should be avoided whenever possible.

APPENDIX I—REFERENCES

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4. Langeveld, J. M., "Offshore Tanker Terminals"—Presented at Conference on Tanker and Bulk Carrier Terminals, London, U.K., November 13, 1969.
5. Mascenik, John, "Detailed Design and Operations Require-

ments for Oil Transfer, Offshore Terminals"—Appendix to Reference 1.

Travelers

• Mr. BEN E. NUTTER, EXECUTIVE DIRECTOR OF PORT OF OAKLAND, U.S.A., arriving in Tokyo the night before, invited IAPH Secretary General Dr. Hajime Sato, Deputy Secretary General Mr. Katsuya Yokoyama and two under-secretaries to lunch at Hotel Okura, Continental Room, Tokyo on Tuesday, August 21, 1973. Mr. Nutter was with Mr. Charles Seifert, Public Relations Director, and Mr. S. Kuwata, Director, Far East Office in Tokyo. Mr. Nutter, together with several Port Commissioners joining him in Tokyo, was scheduled later in the week to visit the Soviet Far East Port of Nakhodka on board a Soviet ship sailing from Yokohama. Incidentally it was learned that Mrs. Nutter's ankle, accidentally sprained while she was in Amsterdam last May for the 8th IAPH Conference, has long since been completely cured.

Correction

In the July-August 1973 issue of this magazine, on page 52, the name of the Captain of the M.S. "SEA-LAND COMMERCE" was erroneously indicated as Mrs. F. Worthy. The title should have stood "Mr."

Remarks By Harry R. Hughes

Maryland Secretary of Transportation

(Dedication of New Container Facilities at Dundalk Marine Terminal in the Port of Baltimore, Md.
May 18, 1973)



This is the new Berths 11 and 12 areas at Dundalk Marine Terminal, the port of Baltimore's center for container activity. Among the features of the new facilities are two consolidation sheds, totaling 127,500 square feet of storage space (far left), 23.56 acres of paved back-up area (center) and four 40-ton container cranes (far right).



With the addition of the four new cranes in the Berths 11 and 12 areas, Dundalk Marine Terminal now offers a total of seven specialized container cranes, five of which are shown above. The 550-acre terminal also has facilities which include five oversized ship berths, three consolidation buildings and over 120 acres of heavy duty paved open storage.

I am extremely pleased that so many of you could take the time to join us today to officially take yet another step forward in placing this port firmly and irrevocably in the forefront. Governor Mandel asked that I pass on the you his greetings and best wishes. He had hoped to join us but is unable to do so.

The dedication, today, of berths 11 and 12, and the associated facilities, really represents an incremental climax of years of careful planning on the part of the Maryland Port Administration and its predecessor, the Maryland Port Authority. By incremental, I mean that the growth and advancement of our port is the result of some very comprehensive planning and dedication by the staffs, the former Port Commissioners, the political leadership and many, many others. All of you are to be congratulated and urged to keep at it.

But let me not mislead you by saying that this dedication is part of a continuing process. Because, without concern about overstating the case, it is a most significant milestone in the development of container facilities at this magnificent marine terminal. The portion that we are focusing attention on today represents a \$21.7 million investment in international and domestic economic vibrancy by the State of Maryland. But, as I indicated earlier, it is only a portion of the total investment we have made in the port of Baltimore and intend to continue to make in the years ahead.

Some of you might recall a windy, chilly day in October almost four years ago when Governor Mandel mounted a platform similar to this just a few hundred feet away from where I am standing. On that day, he dedicated the first container crane, consolidation shed and berth at Dundalk Marine Terminal. That, too, was an important occasion, but as history reveals, it, too, was an incremental step forward.

As one measure of growth during the intervening years, let us note that, at that time, the terminal was only 365-acres in size; today, it consists of 550 acres—the additional land being created with fill. In fact, the terra firma on which we are all standing right now, was harbor water on that previous dedication four years ago.

The entire port of Baltimore handled only 580,000 tons of container cargo four years ago. Last year, the port handled approximately 1,700,000 tons, of which more than 1.2 million moved across this very terminal. That is a 300 per cent increase. By 1975, conservative estimates predict there will be over two-million tons of container cargo moving through the port of Baltimore and by 1980, almost three-million tons. These statistics explain why we are investing so heavily in facilities like this.

Already the port of Baltimore handles the second largest container tonnage on the East Coast of the United States. However, we think we can do better and do not plan to rest there.

At this time, we have two more berths to complete along the bulkhead behind you and to your right. These will be completed by 1976.

A new highly efficient gate system which will expedite the flow of containers-on-wheels will be in operation by the end of next year.

And a new trailer-on-flat-car, container-on-flat-car, railyard will also be in operation next year.

All of what I have just talked about goes into the concept that we like to call "The Baltimore Era."

It is the era which finds the port of Baltimore in the forefront of port development in this country.

It is the era that sees Baltimore providing the best in services through the best facilities available along the East Coast.

This, combined with Baltimore's convenient accessibility to the heavily populated heartland of the United States, makes it ideal for shippers.

When you put it all together, this terminal epitomizes the advantages that exist in Baltimore—excellent location, modern first-rate facilities and economical operations.

So for these reasons, it is my pleasure to dedicate this section of Dundalk Marine Terminal to the continued perfection and improvement of the port of Baltimore. Ladies and gentlemen, welcome to "The Baltimore Era."

IMMINGHAM COAL TERMINAL— *New Transport System for British Coal Exports*

by Paul Soros, President

Soros Associates International Inc.
New York, N.Y., U.S.A.

Background:

The cost of shipping British coal by water to domestic and export users has been expensive. The traditional transportation system functioned as follows:

Coal in up to 50 different grades was accumulated in railway cars at several loading ports. On the arrival of a vessel, cars were dumped in the desired order to produce the required blend, i.e.: it was a direct railroad-to-water interface.

Railroad freight was high because of the poor utilization of the large number of small (14, 18 or maximum 28 ton capacity) hopper cars required. Ocean freight was high because the ships were small, mostly on the order of 1,500–3,000 DWT and even these took a long time to load. To assemble and load an occasional larger cargo presented a challenge in logistics to the ports, the railways and the coal washeries. The accommodation of larger bulk carriers was hampered by a tidal range of up to 24 feet which led to the development of impounded harbors, with locks that limit the size of vessels.

New Transport System Concept.

Lord Robens, Chairman of the National Coal Board, had a keen personal interest in improving coal transport costs. In 1965 he learned of the major transportation cost break-through achieved in the export of U.S. coal to Canada via the Great Lakes. The new Great Lakes system changed the conventional rail-to-water interface to a rail-to-ground-to-water interface.¹⁾ It was based on studies by Soros Associates who also designed the new type of coal terminal needed to make the new sys-

tem work. This coal terminal at Conneaut, Ohio, owned by the Bessemer & Lake Erie Railroad, a subsidiary of U.S. Steel, is the largest and fastest in the world, with a ship-loading rate of 11,000 tons per hour and a 4 million ton capacity coal stockpile.²⁾

In 1966, Soros Associates was engaged to develop plans for a new transportation system for British coal moving by water to foreign or domestic consumers. The main recommendations were:

- A. Create a single modern, high-capacity rail-to-ground-to-water type coal terminal capable of loading bulk carriers up to 65,000 DWT, centrally located at Immingham to serve the Yorkshire and Midlands coal fields.
- B. A new terminal to handle all grades of coal would be uneconomical. The new system is feasible if limited to less than half the grades representing 90% of the tonnage.

The new system generates railroad freight savings of 10½ shillings per ton, due to immediate train turnaround and elimination of railroad yard operations. This is equal to savings of £3 million per year at the projected initial annual capacity of 6 million tons. In addition, there are substantial ocean freight savings due to the use of larger vessels.

This phase of the work also included the selection of the optimum site, as well as preliminary designs incorporating solutions of the various technical problems involved in realizing the complete terminal project at a low capital cost, estimated at £5½ million.

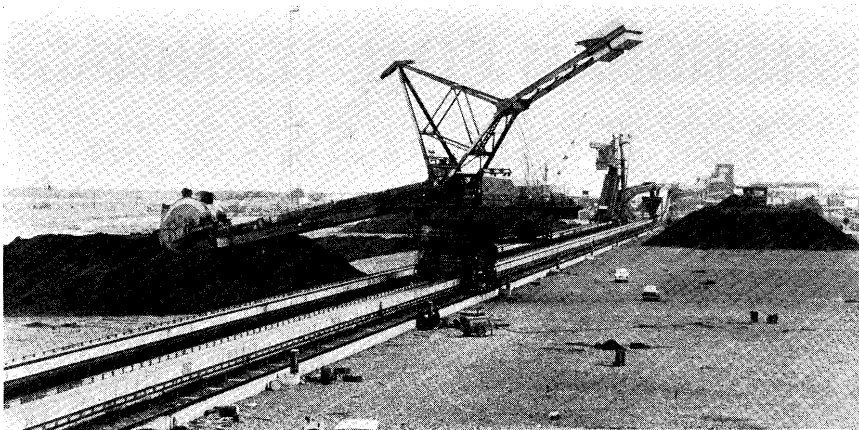


Figure 1: Coal from trains can be stacked or placed directly into vessels, blended with coal from storage.

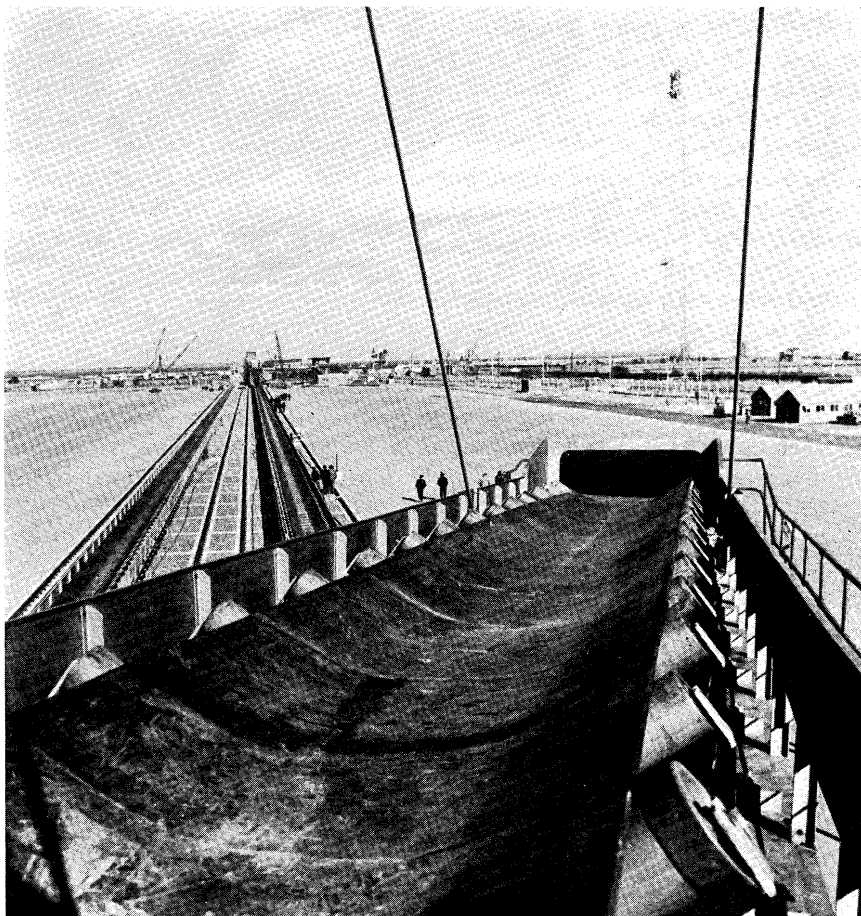


Figure 2: Stacker and bucketwheel tracks permit independent operation.

Master Plan

Subsequently, Soros Associates was authorized to proceed with the engineering of the complete terminal facility. The design was based on a Master Plan for an ultimate capacity of 15 million tons per year. The initial installation, for a capacity of 6 million tons per year, forms part of the Master Plan.

The Master Plan provides for un-

loading two coal trains at the same time, each with different grades of coal. A 3,000 ton per hour unloading rate for each train is achieved by unloading the trains while in motion. The shiploading system has a capacity of 5,000 tons per hour. The coal is weighed and sampled prior to loading.

The shiploading berth is located on the Humber River, subject to high currents and large tidal vari-

ations. The shiploader can load and trim vessels ranging from 1,500 DWT to 65,000 DWT.

Special features of the design permit producing blends in varying ratios. Coal from the trains can be stock-piled or can be loaded directly into vessels, blended with coal from storage (Figure 1). At the completion of shiploading, any material remaining on the belt conveyor system can be recirculated and placed into storage, by reversing the outgoing conveyor system and discharging onto the stockpiling system. The same feature of the system is utilized in the creation of pre-blended coal piles made up of three or more grades and for the reorganization of the coal piles within the storage system.

Railroad Unloading

Trainloads are 1,000 tons, made up of 36 bottom hopper type wagons. These are opened and closed automatically from the side while the train is in motion and dumped into a hopper long enough to assure that wagons are emptied by the time they clear the end of the hopper. Emptying this hopper presented some unusual problems, as the moving cars may continually discharge more coal in either the forward or rear portion of the hopper, depending on the stickiness of the coal. The solution utilizes twin belt feeders, arranged to compensate for uneven loading. The output of the feeder belts is delivered via a speed-up belt onto the high-speed conveyor system.

The unloading pit is 40 feet deep and is covered by a building that houses the door opening and closing equipment, electrical installations, train signal controls and dust suppression system.

Storage and Reclaim

The stacker and reclaimer have 100 foot long booms and operate on independent tracks, each with a travel length of 2,000 feet (Figure 2).

The boom conveyor of the rotating stacker is wider than the long stockpiling conveyors, to compensate for the variable loading angle.

The unloading of a 1,000 ton train load requires only about 20 minutes of operation. To minimize the time required to move the stacker from one pile to the other between trains, the stacker has two

traverse speeds, one for operation and one for high-speed travel.

The bucketwheel reclaimer also has special features to assure uniform feed to the long, high-speed, outgoing conveyor system and to function as a blending machine. It has a 40-ton surge hopper, with two variable speed feeders. The slewing speed is variable and a 10 to 1 variable travel speed ratio provides for inching during reclaiming as well as high-speed travel between piles when two ships have to be loaded at the same time for reasons connected with the design of the loading berth (Figure 3).

To minimize capital costs, the long main conveyors run at speeds up to 1,000 feet per minute, making it the first high-speed installation in Great Britain.

The soil in the stockpile area is of poor quality clay, with considerable water content. Piling was not economically feasible and there was not sufficient time for a surcharge program. Stockpile heights of 50 feet were established on the basis of careful analysis, allowing for differential settlement without slide failures that would endanger the integrity of the stacker and reclaimer runways. The British firm of BMMK & Partners participated under subcontract to Soros Associates in the civil design of the land facilities.

Shiploading

The shiploading berth was designed to overcome, at an economical cost, a combination of difficulties presented by natural conditions and by some unusual operating requirements.

Tidal variations at the berth exceed 20 feet. Currents range from $3\frac{1}{2}$ knots at flood to 4.2 knots at ebbtide. Subsoil conditions are soft clay covered by mud.

From an operating viewpoint, the tonnage moving in 1,500 to 2,500 DWT carriers presented the main problem. It meant that the shiploader must be capable of reaching the outside of the hold opening of a 65,000 DWT bulk carrier at high tide, as well as the inside of the hold of a 1,500 DWT ship at low tide.

The maximum outreach required was not unusual, but the range of adjustment needed was. The only coal loaders with comparable range of adjustments are at Hampton Roads. They have a horizontal load-

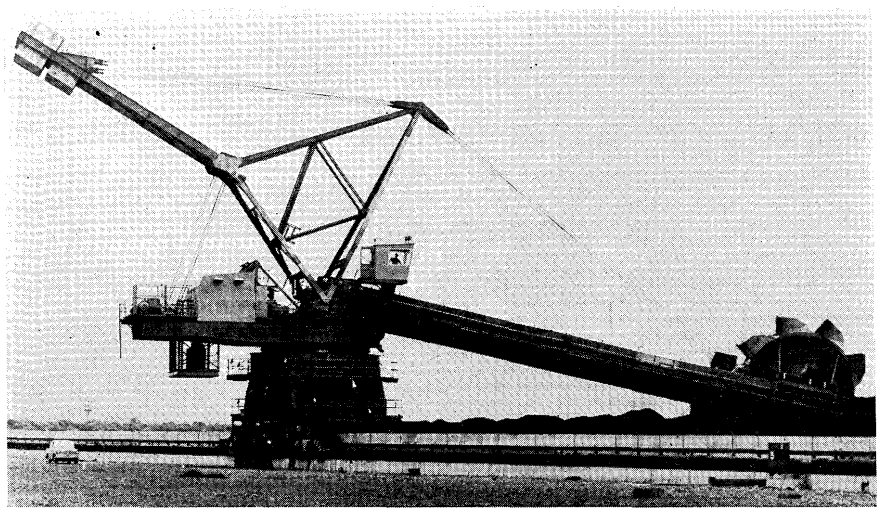


Figure 3: Reclaimer with surge bin and variable speed feeders.

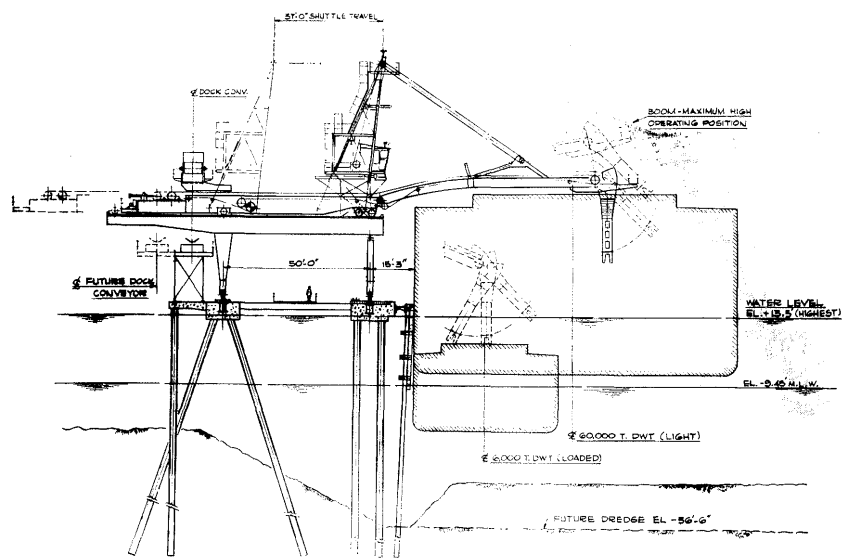


Figure 4: General arrangement of shiploader, dock conveyor and jetty.

ing boom of fixed height and length, supporting a telescopic chute that can be moved horizontally. Such a loader weighs 2,800 tons and is supported on a 90 foot wide runway.

The design approach taken by Soros Associates is illustrated in Figure 4. The vertical and horizontal range of reach is achieved with a tilting, non-telescopic chute at the end of a curved loading boom conveyor which can be raised or lowered as well as moved horizontally. The feed from the dock conveyor is received by a horizontal belt section, with a pivoted connection to the curved boom conveyor. The belt connection between the horizontal portion and the curved boom is through two reverse curves. This solves the problem, in a limited

space, of the belt not lifting when the boom is raised and the edges of the troughed belt not stretching excessively when the boom is lowered.

The shiploader as well as the dock conveyor was conceived for maximum economy in constructing the jetty. The shiploader is carefully balanced between the two extreme load conditions, ie: operating with the boom and chute fully extended with the wind from the back, or the boom latched in raised position, fully retracted with maximum wind from the front.

The benefits of integrating the engineering of the shiploader and the marine structures are indicated by the fact that the Immingham loader weighs 375 tons and is supported on a 50 foot wide runway.

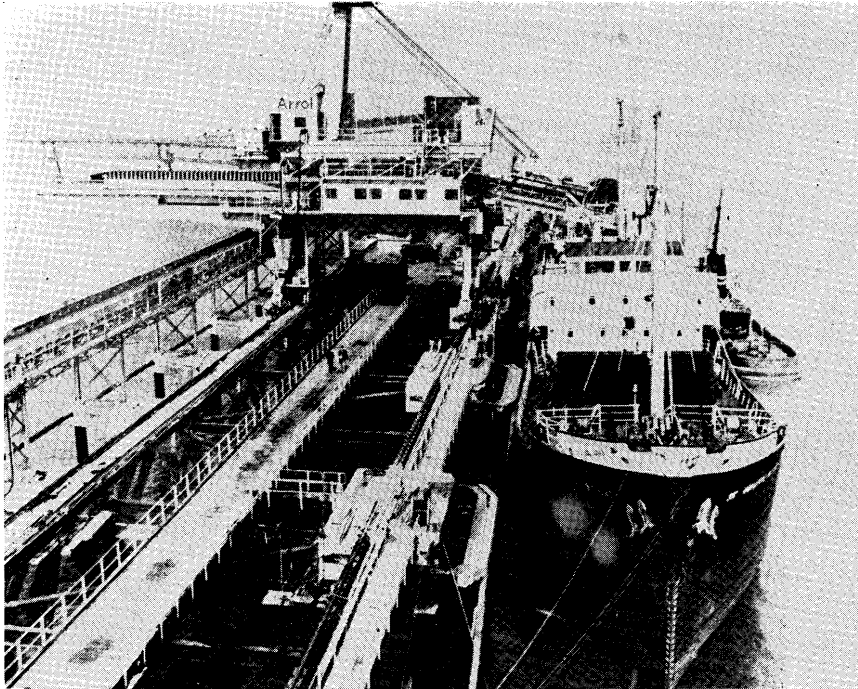


Figure 5: Jetty is designed as horizontal truss with loader runways as chords. Bracing supports roadway. Dock conveyor supported on single piles tied to struts for lateral stability.

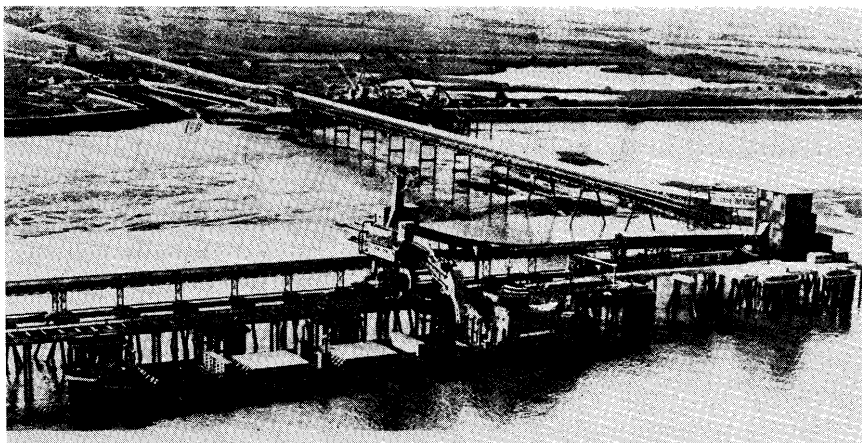


Figure 6: View of loading berth at low tide. Multiple berth permits berthing of a second vessel or the single shiploader to alternate between small vessels with limited de-ballasting capacity.

The structural design concept of the L-shaped jetty is that of a horizontal steel truss, with the girders supporting the shiploader acting as the top and bottom chords. The steel bracing supports a service roadway. The elevated dock conveyor and the trailer of the traveling shiploader are supported by single piles at the extension of each strut and tied to the horizontal chord for lateral stability (See Figure 5).

The jetty is constructed with 24" and 28" diameter openended steel pipe piles, with capacities of 140 and 210 tons respectively in compression

and 60 tons in uplift.

The small vessels also presented an operating problem by their limited de-ballasting capability. This, together with the berthing and unberthing limitations imposed by the high currents was carefully considered in an operation research analysis. A multiple berth served by a single loader was found to be the optimum solution. Further economies were to be achieved in the future by extending the jetty and combining the coal loading with a projected iron ore unloading facility (Figure 6).

Control System

Overall operational control is from a central control panel. The central control room is located to provide a view of the shiploading, as well as the stockpile operations (Figure 7). The central operator is in direct communication with the four operating stations: the railroad unloading, the stacker, the reclaimer and the shiploader. Manual operation of the four stations is blocked until unlocked by coded signals from the central control, utilizing a two-wire tone frequency system. During shiploading, the shiploader operator controls the entire outloading conveyor system, electrically interlocked for both stopping and starting.

An automatic sampling system is incorporated in the surge bin structure at the end of the jetty. A continuous belt weighing system is incorporated at the tail-end of the dock conveyor. Remote indication of total weight, as well as rate of flow, is provided at the sampling station, to the central control and to the shiploader. There is provision for the shiploader operator to pre-set the tonnage of material to be delivered into each hold of the ship.

In view of the large distance between the railroad unloading station and the jetty, the electrical distribution utilizes four sub-stations, one located at each end of the storage system, one at the end of the jetty and one at the railroad unloading station.

Multiple Contracting

The engineering was planned by Soros Associates in line with a multiple contracting plan, for the following reasons:

- A. The project was broken into logical components, each to be contracted directly on a competitive basis, to minimize capital costs.
- B. The material handling system was designed by Soros Associates in sufficient detail to permit completion of the civil designs prior to placing any equipment contracts. This was a key factor in achieving two important benefits:
 1. Faster construction time, because civil work can start immediately and need not await loads, dimensions and other data generated by the equip-



Figure 7: All operations are controlled from a central control room, located to provide a view of the shiploading as well as the stockpile operations.

- ment suppliers at a later date.
2. Competitive bids for the civil works can be obtained at the same time as for the mechanical equipment and electricals. This provides a firm price for the entire project prior to the commitment of construction funds.

The following were the main contracts on the project:

1. shiploader
—Sir William Arrol & Co.
2. Conveyors
—Mavor & Coulson Ltd.
3. Bucketwheel
—Strachan & Henshaw Ltd.

4. Electrics
—GEC-AEI
5. Offshore Civils
—George Wimpey Ltd.
6. Onshore Civils
—A. Monk & Co., Ltd.
7. Managing Contractor
—George Wimpey Ltd.

The technical evaluation of the bids was completed by Soros Associates. The total of the bids was within the 5% contingency range indicated in the original £5½ million estimate.

The Immingham Coal Terminal has been in successful operation for some time and, according to the National Coal Board, it represents

a high level of achievement, strengthening British coal's competitive position.

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1. Soros, Paul: "First Rail To Ground To Water Coal Terminal In The U.S.", **XXIIInd International Navigational Congress, Paris, 1969.**
2. Soros, Paul: "Conneaut Coal Terminal Expansion", **1969 Annual Meeting, American Institute of Mining, Metallurgical and Petroleum Engineers, Washington, D.C., February 1969.**

Have a Question? Try Interfile

The Port Authority of N.Y. & N.J., June 12, 1973

Where can I get marketing information on surgical equipment in Europe? How can I find out about importing porcelain from China? Who can supply me with investment regulations in Columbia? Is there a publication concerned with worldwide trends in toy manufacturing?

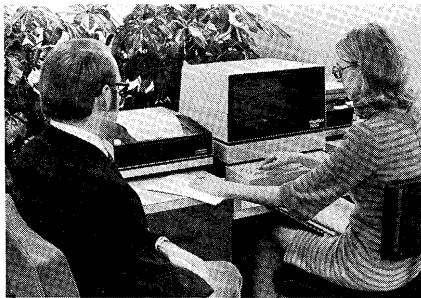
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A question may be posed to Interfile by writing, telephoning or coming in person to the Information Center on the 33rd Floor of One World Trade Center in New York City. There, a Trade Information Specialist translates the request into a three-part computer readable code covering trade function—such as exporting or advertising—country or region, and commodity.

After receiving a specific code command, the computer responds in seconds with summaries of the information sources that can best answer the question. Then the inquirer can obtain the data he needs in the Information Center's specialized library and be on his way. The whole process takes only a few minutes. All publications and materials cited in Interfile may be purchased if desired through the Information Center.



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A metal engineering manufacturer from Finland, also a World Trade Center tenant, comes to the Information Center on the 33rd Floor of One World Trade Center for assistance in broadening his knowledge about American agricultural machinery manufacturers.

tric International Time-Sharing Computer Network which extends to many parts of the world. In any city the network reaches, a world trade center can tie-in directly to Interfile by subscribing to the GE Time-Sharing system and renting a computer terminal. Other world trade centers are expected to join the Interfile system this year, beginning with The World Trade Center of Japan, World Trade Center Brussels and World Trade Center London. These trade centers and others around the world, members of the World Trade Centers Association, have already contributed data on several thousand information sources available in their regions. As a result, specialized information on individual areas of the globe is available to anyone who uses the system.

Interfile's three-part code is based on a system developed by International Marketing Institute of Cambridge, Massachusetts. Its computer programs have been developed by The Advanced Computer Techniques Corporation of New York.

Charges for Interfile service are nominal and most inquiries can be processed for less than \$10. Although anyone can use Interfile on a single question basis, some companies elect to subscribe to Interfile.

During the short time Interfile has
(Continued on Next Page Bottom)

Record Foreign Trade in 1972 at the Port of New York-New Jersey

News from
The Port Authority of N.Y. & N.J.

New York, July 9:—The Port of New York-New Jersey handled a record volume of 60,956,049 long tons of oceanborne and airborne foreign trade during 1972. Oceanborne trade totaled 60,534,779 tons of general and bulk cargo, a 14.3% increase over the previous year. Airborne shipments amounted to 421,271 tons, 21.7% more than in 1971.

The value of the bi-state Port's foreign trade also climbed a record level last year. The Port District's oceanborne and airborne foreign trade was valued at \$22.9 billion in 1972, a gain of 16.8% over 1971.

The Port's 1972 tonnage figures were made public today by James C. Kellogg, 3rd, Chairman of the Port Authority of New York and New Jersey. The figures are derived from data obtained from the Bureau of the Census, U.S. Department of Commerce, and analyzed by the Port Authority.

General Cargo

The Port's recovery from the depressed level caused by the two-month longshoremen's strike in the fall of 1971 was an important factor in its total volume of 14,883,430 tons of oceanborne general cargo during 1972, up 2.9% over the previous year's total of 14,459,313 tons. Gains were registered by both exports and imports. Outbound shipments increased 3.2% over 1971 to 4,810,117 tons. The largest gains were registered by machinery, textile waste and steel; exports of hydrocarbons, paper, paperboard,

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inedible tallow and plastic materials showed a decline. Imports handled through the Port rose 2.8% over 1971 to 10,073,313 tons. Most of the Port's principal general cargo imports posted gains with consumer goods being the strongest performers.

Bulk Cargo

Last year, the Port handled 45,651,349 tons of bulk cargo, an 18.6% gain over the 1971 total of 38,483,115 tons.

This advance reflected increased imports of petroleum during the last half of 1972 after oil import quotas were increased to help close the gap between expanding domestic energy requirements and declining U.S. energy output.

Airborne Trade

The worldwide growth of business strongly influenced airborne foreign commerce during 1972. Exports through the Port District's international airports posted sharp gains last year, totaling 222,976 long tons, a 31% increase over the 1971 total. Airborne commodities showing greatest gains were electric machinery, electric motors and generators, general machinery and office machinery. Also advancing were exports of telecommunications apparatus, science instruments, sound and video records, plastic materials and aircraft and parts.

Airborne imports continued their uptrend last year, rising 12.7% to 198,295 tons. Machinery imports were the strongest performers, stimulated by an upturn in U.S. plant and equipment expenditures. Consumer goods also posted gains, although higher foreign prices, because of the dollar's devaluation, helped to restrain strong U.S. demand. Clothing rose 19.4%, printed matter climbed 17.4% and miscellaneous manufactured goods in-

creased 6%.

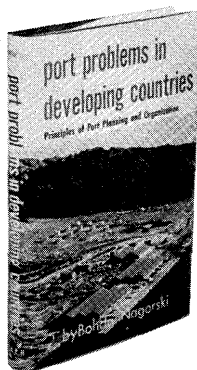
Europe Top Trading Partner

Europe strengthened its position as the New York-New Jersey Port's top general cargo trading partner in 1972. The Port's oceanborne general cargo trade with Europe last year totaled 6,101,758 long tons, up 6.9% from 1971. This compared with an overall increase of 2.9% in the Port's oceanborne general cargo trade for last year. Europe's trade climbed to 41% of the Port's overall foreign commerce. Both exports and imports rose in 1972. Exports increased 5.6% while imports advanced 9.7%. Imports from Europe exceeded exports by a two-to-one margin. In 1972, three countries—the United Kingdom, West Germany, and Italy—accounted for 42.9% of the Port's seaborne trade with Europe.

The Far East is the New York-New Jersey Port's second ranking trading partner with 3,929,102 tons last year, down 1.2% from 1971. The decline occurred on the export side, down 4.9%, while imports rose a modest 0.7%. Reduced shipments of manufactured products to Japan accounted for much of the decline. The Far East's share of the Port's total oceanborne volume of general cargo foreign trade was 26.4% last year, down from 27.5% the previous year. Japan dominates the Port's trade with the Far East, accounting for 28.4% of the total volume last year.

Latin America ranks third among the Port's seaborne general cargo trading partners, accounting for 2,830,838 tons last year, up 2.2% from 1971. Exports climbed 4% while imports advanced 1.3%. Latin America's share of the Port's trade in 1972 was 19%, down slightly from the 19.2% of the previous year. Latin American shares have been in a downtrend in recent years, falling from 23% in 1969 to 19% last year. Brazil, Venezuela, Ecuador and Chile accounted for 40.4% of the Port's trade with Latin America.

Europe, the Far East and Latin America accounted for 86.4% of the New York-New Jersey Port's oceanborne general cargo trade in 1972. Of the remaining areas, North America accounted for 5%, Africa 2.5%, Australasia 2.7% and the Middle East 2.4%.



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NPC Book :

Oil Rig Servicing Facilities at Scottish Ports

Survey in Latest N.P.C. Bulletin

National Ports Council
London

Between the beginning of 1973 and 1976 a fivefold increase is expected in the number of berths at Scottish ports suitable for vessels servicing North Sea oil rigs, according to estimates published in the

latest issue of the National Ports Council's *Bulletin*.*

The estimates are contained in a paper by the Council's Director of Engineering and Senior Civil Engineer, Messrs. J. T. Williams and C. J. Conway, presented to the Standing Conference on North Sea oil. It suggests that by 1976 there will be 59 such berths, compared with 12 in 1972. Of the total, 39 will be at mainland ports, 19 in the Shet-

lands, and one at Stromness in the Orkneys.

Aberdeen is seen as the main centre of activity, with at least 18 berths by 1976, of which 11 will be operational by the end of this year. Other mainland ports active in the traffic are Dundee, Montrose and Peterhead. Shetland activity will be concentrated at Lerwick, with facilities also at Sandwick and Scalloway.

The paper does sound a note of caution to port authorities contemplating investment in new facilities for oil rig traffic, because the volume of traffic generated by drilling operations has been found to be lower than expected. The authors write:

"The extent of the traffic generated by the drilling process is limited and will not, of itself, satisfy a proliferation of port facilities particularly on the mainland of Scotland", and the paper recommends:

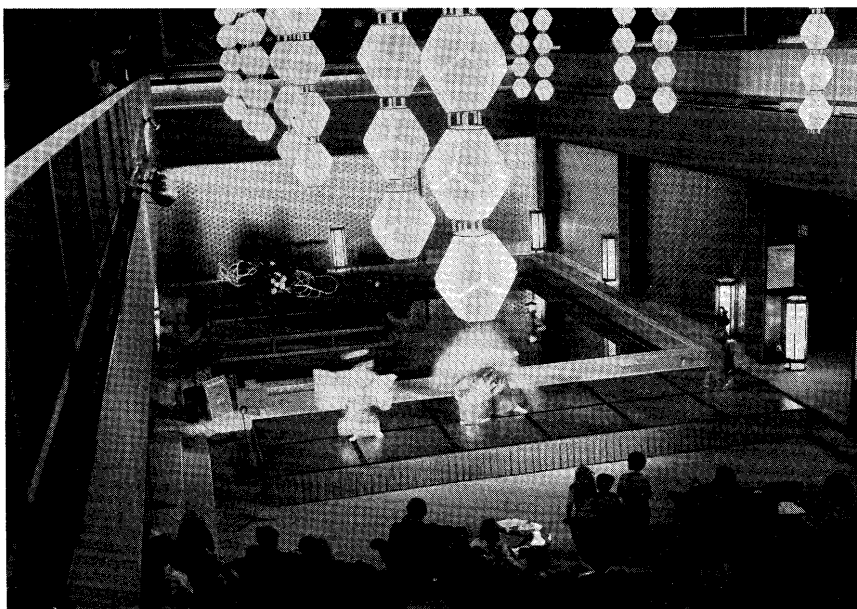
"Any port authority, in view of the uncertainty surrounding the revenue which it might expect as a result of normal harbour charges

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generated by this trade, should endeavour to reduce and preferably eliminate completely the risk involved, by obtaining financial guarantees from the operator or user. If annual expenditures are likely, particularly with regard to maintenance dredging, guarantees for these should be obtained".

The new Bulletin

In addition to reprinting the above paper in full, the new issue of the *Bulletin* also includes an article by the Council's Chief Economist, Mr. R. E. Baxter, on the effect on U.K. ports of Britain's membership of the E.E.C.; an article by Mr. M. J. Younger, Senior Operational Research Officer, on the allocation of labour to ships in port; a summary of a report by the National Materials Handling Centre on the use of fork-lift trucks in ports; a note by Mr. H. K. Dally, Principal Mechanical Engineer, on container berth throughput and terminal handling; a summary of a report on Clark Van Carriers; and an abstract of a research study into the attitudes of port workers to shift work.

Welland By-Pass Officially Inaugurated

Ottawa, Canada (The St. Lawrence Seaway Authority, Monthly Traffic Review, July):—The Welland By-Pass is the latest achievement of major scale in canal development which has taken place in the Niagara Peninsula. Officially inaugurated on July 14 by Federal Labour Minister John Munro on behalf of the Honourable Jean Marchand, Minister of Transport, the ceremonies were attended by the three members of The St. Lawrence Seaway Authority, Dr. Pierre Camu, President, P. E. R. Malcolm, Vice-President, H. G. Barrett, Member, along with J. W. Barnum, Under Secretary for the U.S. Department of Transportation, D. W. Oberlin, Administrator for the Saint Lawrence Seaway Development Corporation, Major General J. W. Morris, Director of Civil Works for The U.S. Army Corps of Engineers, and by delegates of the Permanent International Association of Navigation Congresses (P.I.A.N.C.).

Four canals were built in an effort to overcome the problems caused by the Niagara escarpment. The new 8.3-mile alignment replaces the hazardous section between Port Robinson and Ramey's Bend which, until last December, carried navigation through the City of Welland. It was opened to navigation on March 28, at the start of the 1973 season.

Built at a cost of \$188 million, the By-Pass channel has a navigable width of 350 feet (almost double that of the old section) and was designed to ensure speed and efficiency to both land and water transportation. Because the canal now runs in a practically straight line in the Welland area, vessels can save approximately one hour on round-trip transit times. Six bridges have been eliminated. These bridges, which cross the old section, were the cause of serious traffic jams at various points and a bottleneck to the 730-foot ships who are now using the canal in increasing numbers.

Work on the new channel began in June 1967 and required, over 5½ years, the expropriation of about 6,500 acres of land and the excavation of over 65 million cubic yards of earth. Two tunnels had to be built under the channel in order to ease traffic conditions in and around Welland. The project also entailed the relocation of some 100 miles of railway track and about 50 miles of roads. Other contracts included the displacement of public utilities and the diversion of the Welland River through a four-tube syphon culvert at Port Robinson.

The construction of the Welland By-Pass comes in response to the evolution of water traffic which, since the opening of the Seaway in 1959, has attracted vessels in consistently larger amounts from all over the world. By early 1960's it was apparent that the canal would soon grow into a giant bottleneck. Ships, whose queue reached up to fifty in Lakes Ontario and Erie awaiting entry, would take as much as 48 hours to transit the canal. These factors, along with the many hazards inherent to the old section and the heavy congestion at the bridge crossings, necessitated the construction of

an alternate route which would circumvent Welland, eliminate six bridges and provide relief to both land and water circulation.

Now a reality, the new channel is a modern, fast and efficient waterway which necessitated great engineering skill and millions of man-hours. The project boasted a fatality-free record over the construction period with no interruption whatsoever to both land and water circulation. Its opening underlines the beginning of a new stage in transportation for the Niagara Peninsula which could have only been achieved through the cooperative endeavor of the men who planned and constructed it.

Lakes Ports Plan Trade Trip in '74

Toronto Ontario, Canada, August 1973, Toronto Harbour Commissioners:—South America, Africa, Europe and the Mediterranean are being considered for a trade mission next year by the International Association of Great Lakes Ports.

"Africa and South America are critical areas as far as new trade is concerned," said IAGLP president E. B. Griffith of the Port of Toronto.

"Europe is important to all of us," explained Tom Burke, of Duluth, chairman of the association's U.S. section. "A brisk trade already exists between the Great Lakes, Europe and the Mediterranean which should be strengthened and expanded," he added.

The association intends to foster good relations with established trading partners but it is also looking to the future and the developing nations of the world.

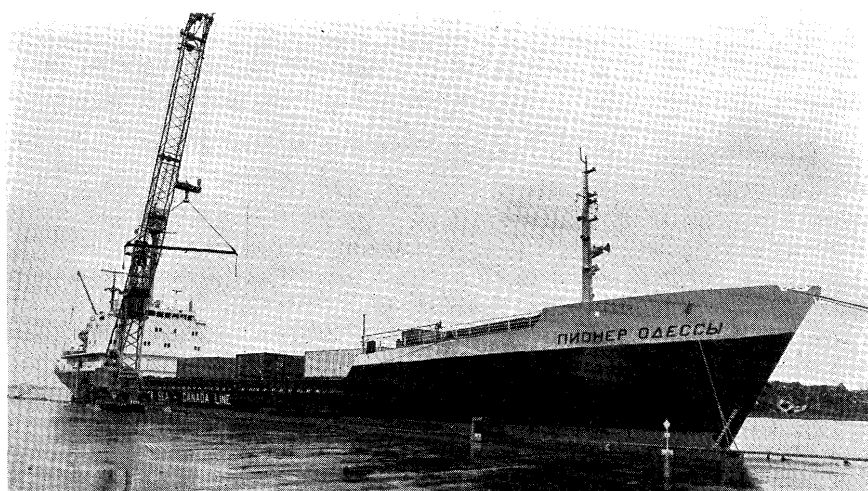
"Southeast Asia, Eastern Europe, South America and Africa represent much new trade potential and if we are aggressive enough in selling the benefits of ports on the Great Lakes, I am certain that a thriving two-way business can be established," said Griffith.

"And let's not overlook the People's Republic of China," he added.

Several mission itineraries are being planned. Association members are expected to decide in September, during their quarterly meeting in Chicago, which areas will be visited.

First All-Container Soviet Ship Into the Great Lakes

The Toronto Harbour Commission
Toronto, Ontario, Canada



The 427-foot-long Soviet cellular ship, Pioneer Odessa, ... at the Port of Toronto. The Black Sea Canada Line vessel became the first Russian container ship to enter the Great Lakes when she docked in Toronto on April 27, 1973.

Toronto, Canada, May, 1973:—A sleek Soviet-flag carrier which left the shipyards at Vyborg in the Baltic just four months ago, became the first Russian container ship into the Great Lakes when she docked in Toronto Harbour April 27.

The 427-foot-long Pioneer Odessa of Black Sea Canada Line brought goods from three Italian ports on her first run into the lakes. The trip also meant that she became the first fully containerized Soviet-flag ship to transit the Seaway.

The fully-cellular vessel has a capacity of 218 containers in her holds and can carry another 40 of the larger 40 foot boxes on deck according to March Shipping Limited, the Canadian agent for the Soviet Line.

With a Gross Registered Tonnage of 4,786, the Soviet ship has a cruising speed of 15½ knots and also has bridge operated engines, which means that only one engineer is necessary in the engine room.

The vessel carries a crew of 34 including, on this voyage, two women.

Captain Yurkevich, master of the Pioneer Odessa, previously served on the Canada-Black Sea route on the P. Komsomolets and the Donetsk Khimik. The youthful 36-year old captain explained how the vessel returns, usually after two transatlantic crossings to pick up supplies at its port of registration, Ilychevsk on the Black Sea.

"We made our maiden transatlantic voyage several weeks ago," he said, "arriving in Montreal on March 7 before the Seaway was open."

The Pioneer Odessa will normally call at the Italian ports of Leghorn, Genoa and Naples although cargoes can also be picked up on incentive in Black Sea ports as well as Valencia, Barcelona and Marseilles.

Containers of peeled plum tomatoes, glass ware, marble pieces and cherries in brine were just some of the commodities unloaded by the

Port of Toronto's container crane. A total of 97 containers were discharged in Toronto.

Most of the crew had visited Toronto before although First Officer Kamenchuk had only just joined the transatlantic run, serving previously on a run into the Far East.

"We shall be coming back to Toronto about once a month," he said, "so my English should improve a lot."

The clean and spacious officers' and crew's quarters have large recreation rooms equipped with televisions.

"They are turned into Russian frequency," said the first officer, "so we can only get either the picture or the sound, but not both." Modern hi-fi equipment provides the background if necessary.

Russian-flag service on the Canadian side of the Great Lakes is nothing new, but the recent trip of the Pioneer Odessa to Toronto marks the first call by an all-container Soviet ship.

Transatlantic Cruise Booked to Near Capacity

Baltimore, Md., July 22, News from Maryland Port Administration:—The port of Baltimore's first summer transatlantic cruise in more than three decades will depart August 4, 1973 with a near cruise-capacity total of about 800 passengers.

Chandris America Lines' R.H.M. S. Ellinis will leave the port's Dundalk Marine Terminal on that date for a one-way crossing to the ports of Cherbourg, France and Southampton, England, according to the Maryland Port Administration, an agency of the Maryland Department of Transportation.

The transatlantic cruise will be the only such sailing from Baltimore this year and the first of its type from the port since German Atlantic Line's T.S. Hamburg made a similar trip in the Spring of 1971. Previous to that time, there had not been a transatlantic sailing from Baltimore since the late 1930s.

Of the overall total of 800 passengers scheduled to board the Ellinis, approximately 25 per cent are from the immediate Maryland-District of Columbia area while the remaining 75 per cent are from other

parts of the U.S., particularly the important Mid-Atlantic cruise region.

In the New York City area alone, response to the *Ellinis*' sailing has been so great that Chandris America Lines has scheduled five chartered buses to accommodate passengers traveling to Baltimore for the cruise.

A factor considered important in the overwhelming acceptance of the transatlantic cruise is the scheduling of the trip during the summer months, providing extra convenience for vacationers. With the addition of autumn and summer cruises to the schedule over the past two cruise seasons, Baltimore has become one of the major cruise ports on the U.S. East Coast, offering a full year-around program.

The departure of the 26,000-ton *Ellinis* will be the 12th out of a record high total of 20 luxury liner sailings from Baltimore in 1973, with all other trips being Caribbean cruises. Participating in the port's cruise schedule, in addition to Chandris, is Norwegian Caribbean Lines, Holland America Line and Greek Line.

All sailings from Baltimore operate out of temporarily converted cargo facilities at the MPA's Dundalk terminal. These facilities are converted to passenger use the day before the scheduled sailing and converted back to cargo use the day after.

Construction of a long-awaited passenger terminal building, designed expressly to fulfill the needs of passengers and visitors, is slated to begin in the near future at Dundalk, with an expected cost of about \$2 million. Completion of the project is planned for sometime in 1974.

Port Teams Making Trade Tours to East Asia, Soviet Union and Europe

Baltimore, Md., July 31, News from Maryland Port Administration:—An intensive trade development program in major trade centers in Europe and eastern Asia will be carried out in September and October, it was announced today by the Maryland Port Administration, a unit of the Maryland Department of Transportation.

The tours, part of the MPA's continuing effort to obtain additional

cargoes for the Port of Baltimore, will include the first visit of Port of Baltimore solicitors to Moscow and Leningrad, said Joseph L. Stanton, port administrator.

The East Asia tour will include calls in Japan, Hong Kong, Bangkok, Singapore, Djakarta, Manila, Taiwan and South Korea. Business executives from the Baltimore maritime community are expected to participate in the Asian tour.

A program formally dedicating the new MPA trade development office in Hong Kong is now being prepared. Robin E. Routley, the new manager of the Hong Kong office, will be in Baltimore this month to assist in the preparation of the dedicatory program and the overall planning of the East Asian trip.

Governor Marvin Mandel and Transportation Secretary Harry R. Hughes have been invited to participate in the East Asian trade development program.

The port delegation to Europe will depart Baltimore September 10 and make calls in the United Kingdom, France, Italy and the Soviet Union. The delegation will also represent the Port of Baltimore at the annual FIATA (Federation Internationale des Transitaires et Assimiles) Congress to be held in Cannes on September 18–19. This Congress is made up of international freight forwarders who are influential in the routing of overseas shipments.

Mr. Kenneth Newton, who has served as assistant manager in the London office for six years, will replace Mr. Austin G. Tofield as United Kingdom manager and will participate in the tour. Mr. Tofield will retire, having reached the mandatory retirement age of 70 years. Prior to his retirement, Mr. Tofield will visit Baltimore early in September to assist in the planning of the European tour.

The European trade development team will be headed by W. Gregory Halpin, deputy administrator, who will be assisted by Mr. Joseph J. Giancola, director of trade development; Mr. Newton; Mr. David Tosic and Mr. Frank Vonderach of the Brussels office of MPA. An invitation has been extended to the Department of Transportation to assign a top executive to assist in this trip.

The group is expected to return to Baltimore on September 27.

The East Asian tour will be headed by Mr. Stanton, assisted by Mr. Giancola, Mr. Tadanobu Watanabe and Mr. Kentaro Kaku of the MPA's Tokyo office, and Mr. Routley of the Hong Kong office. This tour will be segmented so as to permit the business representatives and the State officers to participate in such portions of the tour as their schedules will permit. The tentative dates for the East Asian trade development mission call for departure on October 12 and return early in November.

Growth is the Word for Charleston

Charleston, South Carolina; South Carolina State Ports Authority, August 17, Special to "Ports and Harbors":—S.C. State Ports Authority statistics for the 1973 fiscal year which ended June 30 show cargo tonnage at Charleston increased by 14 per cent. Containerized shipments jumped 64 per cent to a total of 820,000 tons.

Major expansion projects are underway at each of the three major SPA terminals at the Port of Charleston.

At the North Charleston facility a second container berth is nearing completion. A new 40-long ton Starporter container crane—the second at the terminal—and 57 acres of paved backup area will be part of the \$12 million improvement.

At the Ports Authority's Columbus Street Terminal, expansion projects include general improvements and construction of a new container berth. A Paceco container crane will serve the new \$5.8 million facility, and there will be additional paved parking areas for 1,000 containers and chassis.

Seatrains and Sea-Land generate the largest volume of container activity at Charleston. Other pure container lines with regular service and substantial tonnage are Orient Overseas, Farrell and Combi. The 224 Sea-Land and Seatrain vessels calling at Charleston during fiscal 1973 moved an average of 3,058 tons per call across SPA docks.

Although the South Carolina port system pegs its dramatic growth on the advent of the containerized ship-



With a second container crane (left) on line at S.C. State Ports Authority's North Charleston Terminal, two containerships recently were serviced simultaneously for the first time. The new Starporter 40-long ton crane handled boxed cargo for the M/V Taeping of Orient Overseas Container Line, while the original Starporter worked Seatrain Lines' Transhawaii. Just hours earlier, the equipment teamed up to off-load and load the Seatrain's 800-foot Eurofreighter at greatly accelerated turn-around time. The light-colored area at right center, 21 acres, is being paved and lighted to bring container storage space at the terminal to 57 acres. The total includes the area from dockside at left to the water tower in the center from which all buildings are being removed. The 150-foot wide concrete container berth itself extends almost 2,000 feet to a point at left beyond the picture. The building at far left with refrigeration tower on top is a modern 600,000-cubic-foot cold storage plant. The SPA has already expended or committed almost \$12 million to container service at this terminal facility. A third full container facility, including a third container crane, is nearing completion at the SCPA's Columbus Street Terminal in downtown Charleston.

ment concept, it also has shown consistent increases in its conventional break-bulk cargoes.

"By committing to equipping the Port of Charleston as a major container port, we have by no means forsaken the conventional-type cargoes," W. Don Welch, the Ports Authority's executive director, explained. He said an \$8.5 million expansion of Union Pier Terminal will begin in September.

Improvements will include a new 700-foot berth and 330,000 square feet of warehousing and transit areas. A 75-ton gantry crane and a 90-ton mobile crane also will be installed.

"This new facility will dramatic-

ally increase our capability to handle break-bulk cargoes and will certainly provide us with a significant diversification of services," Mr. Welch said.

Reacting to professional projections which show that the growth trend for the Port of Charleston will continue for many years, the S.C. Ports Authority recently purchased a 561-acre tract at the mouth of the Wando River, directly east of its present facilities on the Charleston peninsula.

"This property is an integral part of Charleston Harbor and certainly lends itself to development as an efficient port terminal that will offer a variety of sophisticated services," Mr. Welch said.

He announced that current schedules call for actual construction on the new facility, which could accommodate 11 new berths, to begin in early 1975.

The S.C. Ports Authority also operates public port terminals at Georgetown and Port Royal, and an air freight terminal at the Greenville-Spartanburg International Airport.

Record Tonnage Again

Houston, Texas, Port of Houston News Release (Special):—Tonnage figures continue to soar at the Port of Houston with the first six months of the year showing a 29.6 per cent increase over the same period a year ago, with more than 41.5 million tons moved through June.

At the same time, figures just released by the U.S. Army Corps of Engineers give Houston credit for nearly 71.5 million tons handled in 1972 which is two million tons more than the official figures of 69.5 million tons based on earlier Port Authority calculations.

The 1972 figure is a record for the Port of Houston and 4.4 per cent above the previous record high of 68.4 million tons set in 1971. At the same time, if 1973 tonnages continue to hold up, Houston should set another record by the end of 1973.

A good part of the 1973 bulge is due to the heavy bulk exports, principally grain to Russia, which are running more than double the first six months of last year with better than 10 million tons already shipped through June. Import bulk of 2.5 million tons, principally petroleum, is more than double the 1.1 million tons of the first half of 1973, also.

Foreign general cargo is a healthy 47 per cent ahead of the first half of 1972 at better than 3.8 million tons and for the month of June, alone, jumped 80 per cent over June a year ago with 639,000 tons handled.

Particularly encouraging is that exports are running well ahead of imports in the general cargo category with a half-year increase of 87 per cent over 1972 and a tremendous 162 per cent increase in June over the same month a year ago.

This, along with the overwhelming predominance of exports over imports in the foreign bulk field augurs well insofar as Houston is concerned

in the Nation's acute foreign exchange situation.

Coastwise deepsea bulk and general cargo shipments were also up for the first half of 1973, but not so dramatically as the foreign trade, while internal and local barge traffic of 13.2 million tons was only slightly under the 13.6 million tons for the same period a year ago.

\$40 Million Worth of Port Authority Bonds Being Sold

Houston, Texas, July 16, Port of Houston News Release (Special):—The Port Commission has sold \$15 million worth of Port Authority bonds to a syndicate managed by the First National Bank in Dallas, the Texas Commerce Bank of Houston and Russ & Co. of San Antonio for improvements to the Port's facilities.

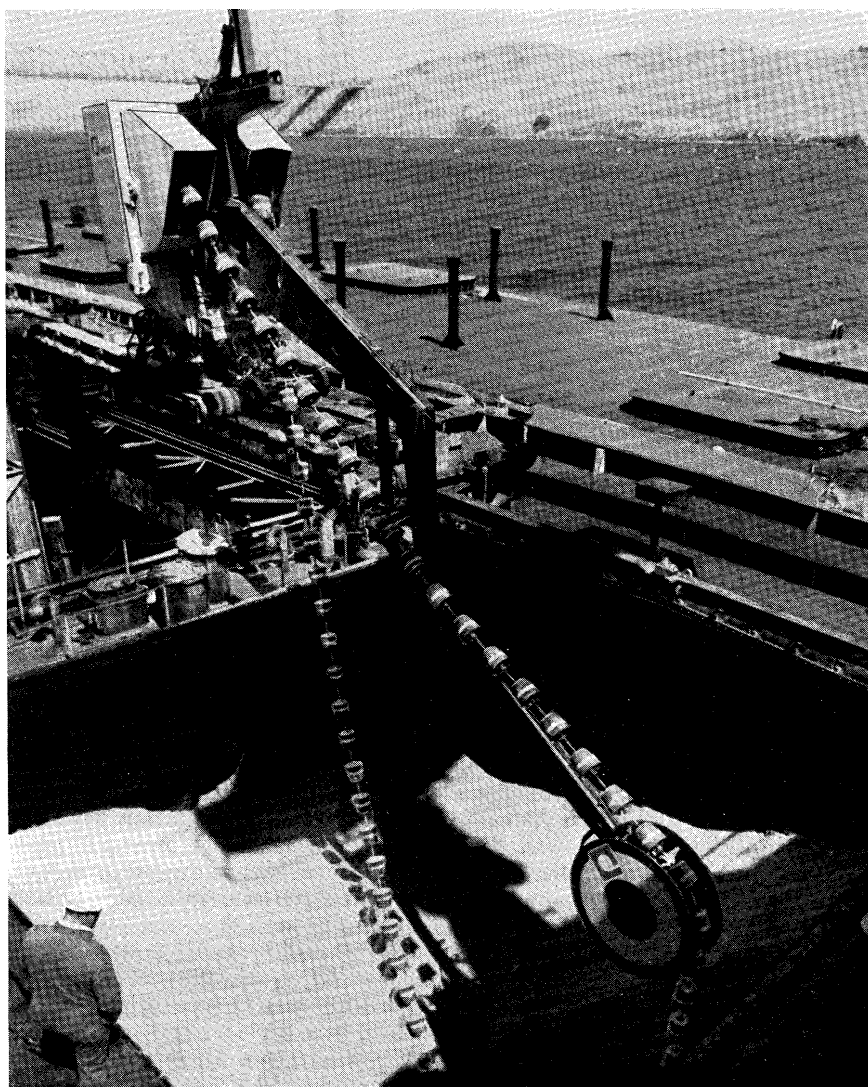
The bonds are the first segment of \$40 million worth of Port Authority bonds which were approved overwhelmingly by voters of Harris County in a bond election on April 14th. The remaining bonds are to be sold over the next three years in issues of \$10 million each for two years and \$5 million the last year.

The Dallas-Houston-San Antonio group, which included three leading New York banks and two Chicago banking groups, was low among six bidders. The net interest cost will be 4.90044 per cent and the bonds will be sold at the rate of \$750,000 per year in denominations of \$5,000.

Expenditures for Phase II of Barbours Cut will take up approximately three fourths of the \$15 million, or \$11,214,000, with the remainder going for environmental and other improvements at the Port, principally in the Turning Basin area.

Allocations of \$4,238,000 for two huge containership wharves and \$2,300,000 for wharf bulkheads are the principal items at Barbours Cut. Site Development at more than \$1.6 million and land acquisition and access roads at about \$1 million each are other principal expenditure planned there, with the remainder for utility adjustments (\$320,000), electrical works (\$651,000) and contingencies (\$71,000).

Aside from the Barbours Cut expenditures, \$1 million will go for soil disposal areas and another \$1.5 million for sanitary sewers on both



PACECO Catenary Unloader unloading sugar near San Francisco

sides of the Turning Basin. The remainder will be for landward improvements behind Wharves 8 and 9 at the head of the Turning Basin (\$800,000), and for dust control in the area (\$300,000).

New Type Unloader

Alameda, California, July 24 (PACECO News):—A new concept for faster bulk unloading will be put into operation later this year upon delivery of a Catenary Unloader to Goodpasture, Inc., Brownfield, Texas.

Built by Paceco, A Division of Fruehauf Corporation, the Catenary Unloader consists of an endless line of buckets connected by wire

rope and suspended from a hinged boom with special sprockets. The suspended line of buckets form a catenary loop which affords unusual unloading versatility. As the bucket line moves it digs and fills at a steady rate regardless of depth of material. Maneuvered by the hinged boom, buckets reach into the remote areas of a ship's hold and clean up with practically no residual.

The new unloader will be operated by Shippers Stevedoring Company at Galena Park on the Houston Ship Channel, Texas. Material to be handled will be clinker cement, barytes, titanium sand, fertilizer, and phosphate rock.

Dedication of Milan Street Wharf

New Orleans, La., August 21, Port of New Orleans:—Secretary of Labor Peter J. Brennan will be principal speaker at the dedication of the Port of New Orleans' new Milan Street Wharf on August 31 at 10:30 a.m. Louisiana Governor Edwin W. Edwards will formally dedicate the wharf, and Eads Poitevent, President of the Board of Commissioners of the Port of New Orleans, will be Master of Ceremonies.

The Milan Street Wharf, just downstream from the Napoleon Avenue Wharf on the Mississippi River, is one of the first terminals in the United States built specifically to accommodate barge-carrying vessels and their barges. The 1,265-foot wharf, with its shed and railroad approaches, costs \$6 million and is the first step in the port's rebuilding of a major waterfront area formerly owned by Illinois Central Gulf Railroad and known as Stuyvesant Docks.

"This magnificent wharf has the capacity to handle 650,000 tons of cargo a year, which would generate 120,000 man-days of employment and \$12 million in economic impact on the community," said E. S. Reed, Port Director. Delta Steamship Lines will be the assignee of the new wharf.

Secretary of Labor Brennan was sworn into office last February. A longtime trade unionist, Brennan was formerly president of the New York City and New York State Building and Construction Trades Councils. He has also served as vice-president of the New York States AFL-CIO. As a union official, he played an active role in efforts to bring minority group workers into apprenticeship programs of the building and construction trades in New York.

The New Orleans Dock Board expects several hundred guests from the shipping and business community to attend the dedication.

Weekly Ship Service Will Capture Trade with U.S.S.R.

News from
The Port Authority of N.Y. & N.J.

New York, July 25:—As much as 75 per cent of the export-import cargo between North Atlantic ports and the U.S.S.R. will be handled in the Port of New York-New Jersey when regularly scheduled weekly steamship service is inaugurated this fall. The outlook for expanded trade potential and increased port activity here resulted from an intensive series of meetings with Soviet officials in Moscow and Leningrad this month by Commissioner Andrew C. Axtell of The Port Authority of New York and New Jersey and A. Lyle King, Director of Marine Terminals for the bi-state agency. The trade mission was made possible by the signing of the Trade Agreement with the Soviet Union last fall.

Commissioner Axtell reported that "This was not just another goodwill mission. We had a definite product to sell—our port. We went prepared to detail the advantages of using the port, and to answer any question about our unmatched facilities and services. As a result of what we had to say and of the port's superior record of performance in handling Soviet vessels, the Soviet Government indicated that about three-quarters of the foreign trade moving to and from the Eastern part of the United States would be handled here." He noted that the Soviet foreign trade and shipping officials were most cordial in their reception and attentive to the port representatives' presentation.

Commissioner Axtell and Mr. King held lengthy meetings with those executives in the Ministry of Foreign Trade responsible for coordinating the purchase and importation of U.S. goods and services to the Soviet Union. Among them were the department director and his deputy in charge of importing

plants that produce chemicals and fertilizers, and officials in charge of importing a truck assembly plant. The Port Authority trade mission delegation also discussed with appropriate officials the facilitation of routing Soviet exports, such as glass and vodka, to the United States, and recommended better methods for the purchase of goods here, including changes in the Terms of Sale that should help simplify the Minister of Foreign Trade's purchase programs.

Scheduled weekly cargo service by ships of the Baltic Steamship Company will begin in September, using Pier 7 of the Brooklyn-Port Authority Marine Terminal. The line had four sailings to New York earlier this year, and also Scheduled four visits to New York this summer, by the passenger vessel **Mikhail Lermontov**.

The past Soviet practice of routing goods to and from the United States via Montreal is no longer necessary because the International Longshoremen's Association has lifted its ban on the handling of Soviet ships at North Atlantic Ports. The Port of New York-New Jersey will thus be able to benefit from the new trade, and wherever possible, the Soviets will amend past contracts which specify Montreal routing to include henceforth the bi-state port.

The Port Authority's trade mission held talks in Moscow from July 9 to 11, and in Leningrad from July 11 to 13. In addition to Commissioner Axtell and Mr. King, the group included Louis F. Zwartverwer, Manager of the Port of New York-New Jersey Trade Development Office for Continental Europe in Zurich, and Jorgen E. Agger, Foreign Commerce Representative at the Zurich office.

Federal Failures Hit By California Harbors

News Release on May 21, 1973 from CMANC
(California Marine Affairs and Navigational Conference)

WASHINGTON, D.C. — More than twenty California Congressman and navigation witnesses told two Congressional Committees today that without renewed leadership and direction, the United States will continue to falter in meeting essential national response to growing dependence on waterborne commerce.

Using a West Coast example, members of the California Marine Affairs and Navigation Conference—appearing for the fifteenth consecutive year before both House and Senate Public Works Appropriations Subcommittees—cited confusing and overlapping Federal reactions as failing to provide “a common basis for evaluating port projects and establishing priorities”.

Conference executive director Robert Langner told the Congressional public works experts that this critical comment—endorsed by California commercial ports and recreational harbors alike—was prompted in part by the Federal “crash approach” to overall national navigational needs, which continue to lack direction for local and state responsibility.

The three current coastal “superport” studies were called cases-in-point by the West Coast witnesses—“single-purpose reactions to the belatedly-realized energy crisis”, as Langner termed them. He contrasted these short-term searches for immediate solutions to specific problems with the San Francisco Bay “In-Depth” Study which his conference initiated in 1967—as an overall prototype for a Federal-Local search for all the elements involved in comprehensive port planning for future needs. The \$5 million undertaking to require 4 to 5 years has been short-circuited, Langner said, by the popularity of a search for “simple answers”. The newer Pacific Coast

superport study is set for a February-to-June 1973 schedule, which includes fact-finding, public hearings and recommendations, he noted critically.

Other California witnesses urged Congressional consideration of adequate funding of Golden State harbor studies, construction projects and maintenance work, suffering from both reduced Federal attention as well as “super-inflationary” cost additions resulting from over-restrictive Environmental Protection Agency “guidelines” applied by the states to virtually close down many undertakings.

Langner cited one example: next fiscal year dredging to keep open channels in San Pablo Bay, for access to the Mare Island Naval Shipyard. Even under normal rising dredging costs, the Corps of Engineers could budget this work next year—undertaken regularly for more than half a century—at \$890,000, except that State of California application of EPA restrictions will boost the cost now to almost \$6 million. He questioned if Congress is prepared to face such escalation in appropriations, on a national basis.

While critical of such piecemeal reactions at the Federal level, the California witnesses also questioned efforts to find longterm solutions—as exemplified by earlier recommendations of the Water Resources Council, and more recently by the National Water Commission. Acknowledging obvious expertise of such efforts, Langner still faulted the results as “failing to encompass all of the considerations that must be taken into account”.

Without adequate harbors to handle national needs, the California statement prophesized that the U.S. could anticipate a growing failure to be internationally competitive, as

transportation costs are added to the soaring volume of import needs, and to American export prices. Overly-responsive concern with protection of the environment—and with undefined “quality of life”—can just as readily “assure perpetuation of the ghetto”. Migration of industry, in this multinational age, is assured. Port of Rotterdam’s rise to handle twice the volume of the world’s former number one port, New York (now fourth), was cited as an example of response lacking here.

Yet another inadequacy of U.S. policy was questioned: the previously inviolate “benefit-cost” ratio as applied to navigation. Langner noted that Federal policy ignores some national benefits, such as collection in the San Francisco Bay Region of \$760 million in Customs duty revenue in the last five years, as compared with a total Federal investment in Bay and access channels in over a century of only \$44 million.

Loss of life, and the growing inadequacy of coastal harbors-of-refuge, were cited by Lachlan Richards, representing the California Marine Parks and Harbors Association, as also ignored in Federal record-keeping. While destruction of property (boats) is computed in the “benefits” realized by creation of refuge harbors, no economic significance is attached to those who are injured or lose their lives as a result of the failure to create even half of the minimally-needed number of havens for small craft on the long Golden State coastline. Importance of pleasure boat facilities to local government—in tax revenues—was similarly cited as overlooked in current emphasis on “cut the Federal budget”.

Noting that the California group was unanimous in asking for an increase of less than \$1 million in study funds for some 15 projects, and for less than \$1 million for five construction efforts, Langner said the veteran Golden State delegation was “modest in its request”, but “critical in its philosophy” in questioning still-lacking Federal (and Congressional) leadership.

“Only with a framework based on facts—stating what we need as a

nation to meet domestic goals of energy, materials, living standards, and quality-of-life—can we integrate Federal responsibility and capacity with regional needs and responses,” Langner concluded. “When we admit our present failures—to assure information input on an overall, rational basis—prospects for consensus become possible. Only then will the type of approach contained in the San Francisco regional “in-depth” study become again viable. We ask merely for agreement that the problem exists, and must be commonly faced.

Trade Office Moving to WTC

New York, June 29, News from The Port Authority of NY & NJ:—On July 2, the Port of New York and New Jersey’s Trade Development Office for Latin America will shift its base of operation from San Juan, Puerto Rico to The World Trade Center in New York to take advantage of the wide variety of communications and travel facilities available at that location.

The vast territory served by the Latin America Office comprises Mexico, Central America, all of South America and the Caribbean. When the office was opened by the Port Authority in San Juan in 1959, it covered only Venezuela and Colombia.

From his new base in New York, Hendryk S. Weeks, Regional Manager for the Caribbean and Latin America, will continue to assist shippers throughout his entire territory using the unparalleled facilities of The World Trade Center.

Mr. Week’s is part of a team of trade and transportation specialists who staff the nine Port of New York Trade Development offices in the United States, Europe and the Far East. The work of these “port salesmen” is a vital asset to the Port of New York-New Jersey, foremost handler of general cargo oceanborne freight in the United States. They assist shippers in their export-import operations by providing accurate, up-to-the minute information on the myriad services available at the bi-state port. This includes advice on routes and packing, rate information on water, rail, truck and air transportation and



SAN FRANCISCO (8/10/73)—Yet another gathering of shipping “red tape cutters” at the Golden Gate marked recent discussions in San Francisco of an industry-government task force. Setting plans to try to replace the official—and cumbersome—Inward Foreign Manifest by use of commercial bills of lading, to clear import cargos through Customs, were (left to right) John J. Greene, Marine Exchange facilitation chairman and General Steamship Corp., Ltd. vice president—who chaired the three-day sessions—and U.S. Customs Service’s Albert J. Francis, Cargo Security and Control Branch chief, Department of Transportation’s Murray A. Haber, assistant chief of the Documentation and Procedures Division, Office of Facilitation, and Customs’ Edward B. Gable, chief of the Carrier Rulings Branch. Seven steamship companies and agencies—members of the Exchange and American Institute of Merchant Shipping which cosponsored the meetings—are cooperating in the experiment, starting in September. If successful—and later applied at all U.S. ports—the alternative use of commercial documents, and elimination of preparation of piles of special government forms on every item imported, is estimated to produce substantial savings in expense and manhours.

customs and inspection services, and a host of other related details connected with international trade.

These trade development offices are operated by the Port Authority as part of its vigorous worldwide program to attract more cargo to the New Jersey-New York port. Cargo is literally the port’s lifeblood, for jobs and income directly connected with maritime commerce through the bi-state harbor provide economic support for one out of every four persons in the Port District.

AID Selects World Trade Institute to be Official Educational Service

New York, July 12, News from The Port Authority of NY & NJ:—The United States Agency for International Development (AID) has selected the Port Authority’s World Trade Institute to be its official educational service for the development of export expansion

and promotion programs for emerging nations over the next 18 months.

Port Authority Chairman James C. Kellogg, 3rd, announced that at their monthly Board meeting this afternoon, the Commissioners of the Port Authority authorized agreements with the Federal Government providing for grants of \$349,000 to be used by the Institute in developing the AID programs.

Since its opening in the fall of 1971, the World Trade Institute at The World Trade Center, has conducted an outstanding series of export development and promotion courses for a cross-section of students from emerging nations under the auspices of AID. These courses are designed to increase the capacity of the developing countries to participate more effectively in international trade.

Among the projects recently carried out by the Institute was a two-week Consultation Meeting on



SAN FRANCISCO (8/23/73)
Golden Gate Shipping Leaders Named — Team of officers named to lead the Marine Exchange of the San Francisco Bay Region for the year started July first has been selected by the board of directors of the 124-year-old organization. Pictured above, John R. Page, president of the Pacific Coast's largest shipping agency, General Steamship Corp., Ltd., has been elected president. The Golden Gate service and promotional agency's board of directors also elected Miriam Wolff, San Francisco port director, as first vice president; Lloyd O. Haefner, vice presi-

dent, Johnson & Higgins of California, second vice president; and Werner Lewald, president, Transpacific Transportation Co., third vice president. Kenderton S. Lynch, Pacific Far East Line vice president was reelected treasurer, and Robert H. Langner, 15-year Exchange staff head, was reelected executive director. Page succeeds Edward D. Ransom, partner of Lillick, McHose, Wheat, Adams and Charles, as chief elected Exchange officer. Established in 1849 to herald the arrival of Gold Rush sailing ships, the Marine Exchange has since diversified its services and programs, while retaining the key role as the Bay Region's shipping intelligence agency. Serving as secretariat for 11 other maritime and trade organizations, it launched in 1959 a campaign which developed into a national program to cut "red tape" afflicting commerce. Its harbor safety program resulted in establishment of the first Coast Guard radar and computer port traffic regulation system—a \$4 million installation which became operational earlier this year. A variety of development and promotional programs are also maintained, including publication of references.

Product Adaptation, co-sponsored by the Institute, the United Nations Industrial Development Organization (UNIDO) and AID. The meeting, first show of its kind, brought together some 100 manufacturers from 15 developing countries in a unique technical assistance clinic.

The Institute also has conducted special area seminars on Southeast Asia and Japan. Late in 1972, opportunities for increased business between the United States and seven eastern bloc nations were explored in a major East-West Trade Consultation Conference.

The new AID grant will enable the Institute to provide increased assistance to developing countries in expanding their export potential, with services in the fields of education and training; research super-

vising and development planning; and technical assistance and advisory services.

The Institute will emphasize practical training in those fields in which a country's export programs need upgrading. These include practical market studies; promotion programs; the operation of trade centers; participation in trade fairs; and product modification or adaptation in response to external demand.

The Institute also will conduct a training effort, consisting of curriculum development and the training of local personnel, to enable individual countries to take over much of the future training responsibility through their own institutions.

In providing export development assistance services under the grant

agreement, the Institute will maintain a Training Center for short-term programs, and also redesign the on-going export development training course previously established in cooperation with AID and UNIDO.

Tonnage Gains Continue

Philadelphia, Pa., July 31, Philadelphia Port Corporation News:—The Port of Philadelphia continued to register tonnage gains in the handling of general cargo for the first three months of 1973. At the same time, Philadelphia increased its share of the Eastern Seaboard market while both Baltimore and New York suffered declines.

Philadelphia remained the second busiest United States general cargo port.

Figures issued by the Bureau of Census of the United States Department of Commerce credited the Port of Philadelphia with handling 1,709,700 tons of cargo compared with 1,652,959 tons for the comparable three months of 1972. This 56,741 ton increase (or +3.4%) compared favorably with Baltimore and New York which showed declines of 70,994 (−4.2%) and 125,032 (−2.9%) tons respectively. (See attached table.)

In share of market—the important barometer used to measure activity in competing ports — Philadelphia enhanced its position over the comparable period in 1972 by 1.1% while Baltimore slipped .5% and New York declined .6%.

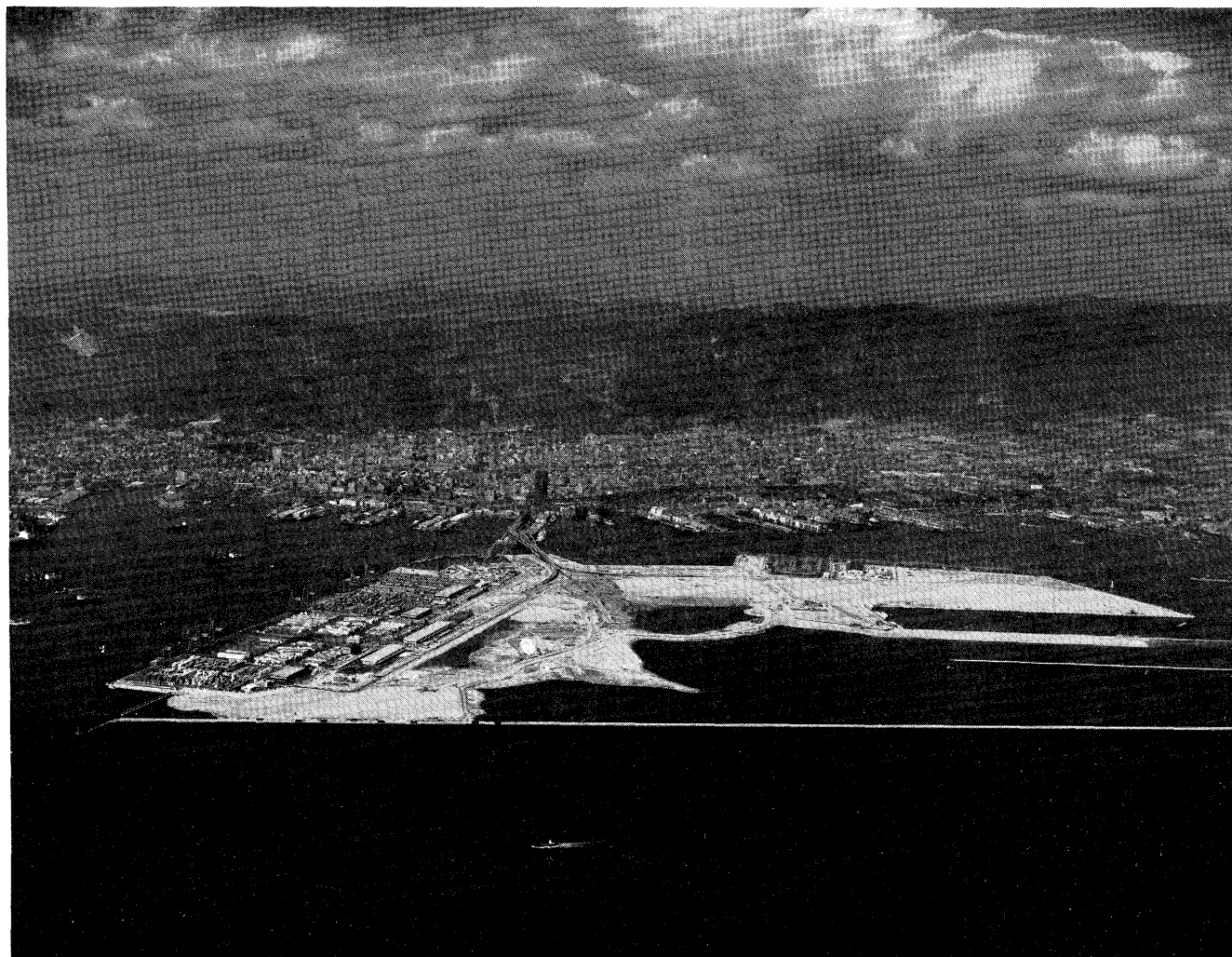
Frederic A. Potts, President and Chairman of the Board of the Philadelphia Port Corporation, explained that studies show that each ton of cargo processed by the Port of Philadelphia generates at least \$25 in direct benefits to Philadelphia's economy and assists in assuring a healthy business climate in the port community.

Mr. Potts said that among the wide variety of imports and exports are iron and steel, paper, transportation equipment, meats, fruit, vegetables, tobacco, chemicals, plywood, news print and machinery. He stated further that the port's continued growth is attribut-

(Continued on Page 56)

Port of

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Port and Harbor Bureau, Kobe City Government

(Continued from Page 54)

able—in large measure—to the construction of two modern major marine terminals which now service 12 international containership lines on a regular basis.

Mr. Potts noted that this increase has created a need for two new additional container cranes which are presently being constructed. Both, he said, will be operational by next spring.

San Diego Newsletter—August

Tonnage Figures Up for 1972-73:—It was a good year for the Trade and Development Department . . . tonnage is up for the fiscal year 1972-73 (despite loss of the bulk-loader for several months because of repairs required to meet air pollution requirements . . .)

Container Crane Near Completion:—Work on the container crane at the National City Marine Terminal is 80% complete. With over 100 feet of the crane assembled, the crane height is now 165 feet. Workmen are now bolting and painting the gantry legs and preparing for assembly of the boom and operating cab.

More Containership Service with Japan

Savannah, Ga., July 30, Georgia Ports Authority News Release: —Mitsui O.S.K., Lines have announced that they will commence full containership service between Savannah and Japan with the first vessel, containership NEW JERSEY MARU, scheduled for a September 4th arrival at the Georgia Ports Authority's Container Central.

The NEW JERSEY MARU will be the largest containership to serve the port. The vessel weighs in at 40,500 gross tons with an overall length of 863 feet with a beam of 105 feet. The ship can carry approximately 1,850 20-foot containers.

At present, two Japanese container liners, the 35,000 g/t TOHBEI MARU of Yamashita-Shinn'hon Steamship and the 35,000 g/t JAPAN AMBROSE of Japan Line, are calling at Savannah regularly.

The NEW JERSEY MARU's call at Savannah will originate from Kobe, Japan on August 6th.

Gohsuke Shibayama, General Manager of Mitsui O.S.K. Lines, Ltd., New York, was recently in Savannah completing the final arrangements for the new service.

Eller & Co. Expanding Operation

Tampa, Florida, News From The Port of Tampa:—Capt. Arthur E. Erb, President of Eller & Company, Inc., one of Florida's largest steamship agents and stevedoring firms, has announced that Eller & Company, Inc. has leased and will operate the 14-acre marine terminal at 13th & York Streets, Tampa, Florida, presently known as Gulf Florida Terminal. Eller's operation of this facility will begin September 1, 1973.

The facility has a 1200-foot dock and warehouse space of 146,000 square feet. Nine acres of paved area are also included and will be used for open storage of lumber, steel and containers.

Edward E. Sheffield, local manager, advises that their office will be relocated from 412 Madison Street to these premises on September 15th.

Gulf Florida Terminal Company will continue to operate the 2,000,000 cubic foot cold storage warehouse adjacent to this marine terminal.

Eller and Company has been a licensed stevedore and terminal operator in the Port of Tampa for several years, operating at Kreher Terminal, a public dock, and this will be a major expansion of their operation in the port.

Harbour Exhibition in Antwerp

Antwerp:—The 3rd International Harbour Exhibition will be held from 12th to 19th May 1974 at Antwerp, simultaneously with and at the same venue of the 6th International Harbour Congress.

The purpose of the 3rd International Harbour Exhibition is to inform the participants of the 6th International Harbour Conference and the delegates of harbours and interested firms over the whole world of the recent developments and evolution in the field of harbour management, harbour con-

struction, equipment, exploitation, handling, carriage and storage of goods.

For further information write to: 3rd Internationale Havententoonstelling, Jan van Rijswijklaan 58, B-2000 Antwerpen, Belgium.

INTER OCEAN '73

Inter Ocean '73 will be held in Duesseldorf, Germany, 13th-18th November 1973.

It is claimed that it is 1) the only European event during 1973 that covers ocean utilization and research; 2) an international forum of discussion between industry, government and scientific institutions dealing with the utilization of the oceans; 3) the opportunity to display the newest technological developments, installations and systems for the utilization of the oceans; 4) the trend indicator for all branches of engineering and science dealing with the utilization of the oceans; etc.

For further information write to: An die

Duesseldorfer Messgesellschaft mbH -NOWEA-
Zentralbereich Inland 1
4 Duesseldorf 30
Postfach 10203
Germany/Allemagne

Important Dredging Work

Antwerp (Port of Antwerp):—Since April dredging works are carried out in the pass off the Belgian coast, along which ships reach the river Scheldt and Antwerp.

The aim consists in working up the lowermost low water from 33'9" to 36'01" over a width of nearly 1,000 feet of the navigable channel. The average high tide adds 10'5" of water depth.

As a result of the dredging, larger vessels will be less tide-bound, which is especially of interest for the larger containerships.

It is now examined to extend the dredging to a width of 2,000 feet and it is planned to continue the deepening to a depth of 49'2" below the lowermost low water.

New Terminal for Dry Bulk Cargo

Antwerp (Port of Antwerp): — A Belgian - Russian company

acquired a site of 43,500 square meters with 250 meters quaylength, to set up a new terminal for dry bulk cargo (potash, sulphur, urea which will be imported from the USSR and chemical fertilizer which is to be exported to the USSR).

The company will build warehouses with a total storage capacity of 60,000 and install two heavy duty cranes, and set up the necessary installations to handle 800,000 tons per year. Investments for this first phase are estimated to U.S. \$2 million. The terminal will be operational in January 1975.

New Record in Annual Traffic

Felixstowe, Suffolk, August 16, News from Port of Felixstowe:—Cargo handled through the Port of Felixstowe during the 12 months ended June 30 1973 set a new record at over three million tonnes (3,015,259), a 16% increase on the equivalent period in 1971/2.

This throughput is in line with the forecast that the current development scheme will boost the Port's traffic to 5 to 6 million tonnes by 1975.

The number of containers handled increased by 21% to 118,234—although the 700 ft extension to the Container Terminal has only recently become available for full utilization and the third Portainer crane was not commissioned until last month.

The total of 118,234 represents boxes of all sizes—expressed in terms of 20 ft equivalents it amounts to some 160,000 containers.

Work is proceeding rapidly on the major task of reclaiming 60 acres for the provision of new general cargo and roll-on/roll-off berths and the first berth becomes operational in October of this year, considerably increasing the port's cargo capacity.

New Appointments in Docks Directorate

London, 27th July (News from PLA):—The Port of London Authority has created a new senior position in the Docks Directorate to co-ordinate the activities of marketing and docks operating. Mr. William Caunter, at present Docks Manager, Tilbury, has been pro-



WORK STUDY SCHOLARSHIP, Felixstowe, July 27:—In October 1972 it was announced that, in association with the Institute of Work Study Practitioners, the Felixstowe Dock & Railway Company had agreed to offer an annual scholarship for the most meritorious productivity improvement project in shipping and ports submitted for adjudication each year.

The first winner of this scholarship (which is worth £100) is Mr. J. N. O'Donnell, Work Study Adviser to the Port Director, South Wales Docks, British Transport Docks Board. Mr. O'Donnell will use the award to undertake a study visit to the Port of Rotterdam.

Picture shows Mr. J. N. O'Donnell winner of the first Felixstowe Work Study Scholarship receiving his cheque from Mr. Stanley Turner, group managing director, Felixstowe Dock & Railway Company. Also in the picture are (left) Mr. J. C. Telfer and (right) Mr. R. C. Bridges, Chairman and Secretary respectively of the Shipping and Port Operations Specialist Group, Institute of Work Study Practitioners.

moted to the new post as Co-ordinator of Marketing and Operations with effect from August 1st.

Mr. Caunter will take up his new appointment in the Dock Director's Central Office in the Royal Docks where he will be directly responsible to Mr. R. H. Butler, PLA Director of Docks. His field of responsibility will include the maintenance and improvement of customer relations; the effective liaison with and between shipowners and other PLA customers; the development of business opportunities for the enclosed docks, and the correlation of PLA marketing aims and operational requirements. He will also have responsibility to PLA Assistant Director-General, Mr. William Bowey, for harmonising PLA marketing and port promotional activities.

The Authority has appointed Mr. R. F. White to succeed Mr. Caunter as Docks Manager, Tilbury. Mr. White, one of the most senior PLA Operating Managers, joined the PLA in 1945 and has had wide management experience in the Authority. For the last five

years he has been in operational line management and since 1972 has been Operating Manager at India & Millwall Docks from which he moves to take up his new post.

For Greater Pallet Incentives

London, 31st July (News from PLA):—The P.L.A. Board today approved with effect from August 27th a seven per cent increase in charges for export services coupled with substantially greater discounts for palletised export and import goods. The net result is that charges for Scale 1 palletised export goods are reduced by 10 pence per tonne even after taking the increase into account, and that charges for most import goods on through-pallets are reduced by £1.29 per tonne.

It is hoped that the enhanced discount will encourage greater use of through-pallets to the benefit of customers, and will lead to a better utilization of resources and a capacity to handle additional traffic.

In addition to considering all the commercial and competitive factors, the P.L.A. has taken full account of the need to exercise restraint in ac-



CREATING NEW LAND AT THE PORT OF FELIXSTOWE (August 16):—Rapid progress is being made at the Port of Felixstowe with the £7 million Northern Development.

All the land beyond the rail lines (at the foot of the picture) has been reclaimed from the water and altogether 60 acres of new berths, storage, and handling areas is being created to meet demand for new services and increased cargo traffic.

cordance with the Government's policy, and the proposed increase, in any event, is below the level to which these charges could be raised under the Price Code.

The proposals will be discussed at next Thursday's meeting of the Port Users Consultative Committee and the P.L.A. will be writing to its 14,000 deposit account customers next Friday giving details.

New Mediterranean Service for Goole

London, 6 July (B.T.D.B.):—Gracechurch Line, established in the U.K.-Mediterranean general cargo trade for 20 years are to begin a new fortnightly conventional general cargo service from the British Transport Docks Board's port of Goole during the first week of August.

Following negotiations with Goole Docks Manager, Mr. E. S. Wilks, arrangements have been made for the Line to be based at Shed No. 43, Ouse Dock. The U.K. agents for Gracechurch Line, Wm. Brown Jenkinson & Co. Ltd., will operate the service which will be

direct to Tripoli N. A., Benghazi, Beirut, Naples and other ports on inducement. Vessels expected to be employed from Goole will be from amongst the m.v.'s 'Brandaris,' 'Embassage,' 'Marmora,' 'Pilurnum,' and 'Westereems,' all in the 1,500 dwt range. Other vessels may be substituted as occasion requires.

Messrs. Wm. Brown Jenkinson are to establish an office in Goole to operate the new venture and have appointed West Riding Stevedores Ltd., Goole, to handle the cargoes. Goole already has a western Mediterranean service to Tunisia and Algeria and the Gracechurch Line now gives the Yorkshire port full coverage by liner services of the entire Mediterranean area. The new service is additional to the present ones operated by the Line from Runcorn and Felixstowe.

Ports Training Appointment

London, 23, July (B.T.D.B.):—The British Transport Docks Board have appointed Mr. Angus Dow as their new Training and Education Officer. He succeeds Mr. L. G. Taylor, who retired recently.

Mr. Dow joins the Docks Board from Wiggins Teape Ltd., where he has been head of the Company's Group Training Centre since November, 1970.

As the Docks Board's Training and Education Officer, Mr. Dow will be responsible for co-ordinating and developing the programme of training and education both at the ports and at the Board's residential Staff College at King's Lynn where he will be based.

Mr. Dow is a graduate of St. Andrew's University and a Member of the Institute of Personnel Management. He began his career as a Flight Lieutenant in the Education Branch of the Royal Air Force, before joining Wiggins Teape Ltd. in 1961.

First 7 Months=+44%

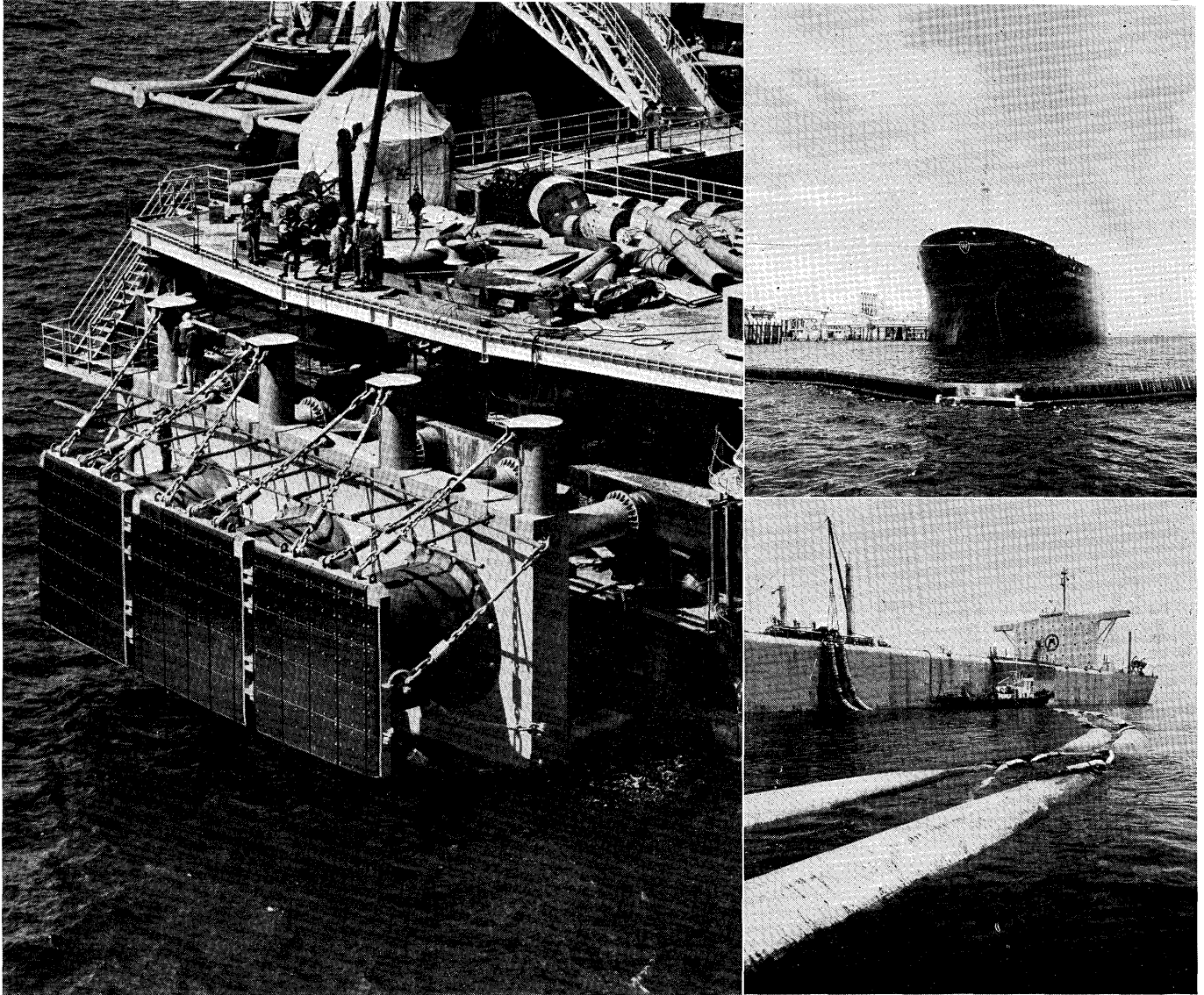
Le Havre, Communiqué de presse, Port Autonome du Havre:—In July the port of Le Havre received and cleared 6,550,000 tons of goods against 4,862,000 tons in July 1972. In terms of these first 7 months the global traffic has risen to 51,574,000 tons (being more than the total of tonnage for the year 1969) against 35,713,000 tons (+44%) at the end of July 1972.

The "general" goods marked a progress of 23% compared to the same period in 1972. The passenger number must also be remarked upon for July; it was over 120,000.

The containers which come to Le Havre are always numerous: 64,000 have been handled in the course of the first 6 months against 47,000 in 6 months in 1972; remember that Le Havre had received 66,000 containers in 1971 and 93,000 in 1972.

The port of Le Havre is without doubt top of the french port expansions.

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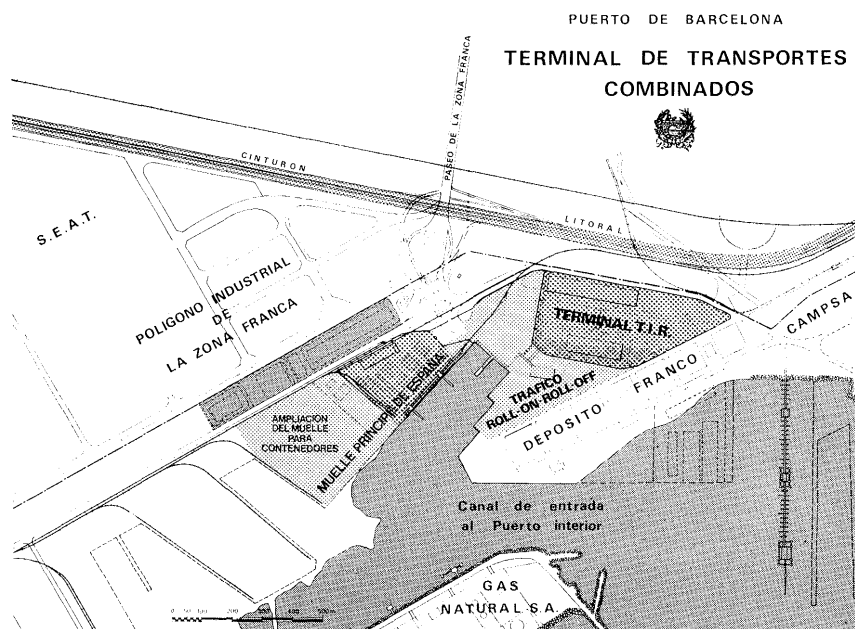
on the sea bed, then inflated to rise to the surface and quickly surround an oil spill, protecting coastlines and making the cleaning job much easier. The fence skirt is pleated to reduce wave spillover and provide flexibility in heavy seas. Easily set up, even in rough weather, this Bridgestone breakthrough is designed for years-long durability in any climate.

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New Container Terminal Inaugurated

Barcelona (Puerto de Barcelona, Boletín Informativo, Nov.-Dec. 1972):—On the 29th November, 1972, accompanied by the Minister of Public Works, Sr. Fernández de la Mora, H.R.H. the Prince of Spain inaugurated the container wharf "Príncipe de España". Principal features of this new wharf are as follows:

237 metres loading length with a draft of 14 metres, total surface area 63,000 square metres, area of the container stacking section 40,000 square metres, container section capacity 1,650 20' containers, and area of shed 3,750 square metres.

This is the first wharf of its kind to come into service in our country, and is the first of the three that will form the Combined Transport Terminal.

The second is the TIR section, which is in an advanced state of construction and should be inaugurated this year. It will have an area of 134,000 square metres, of which 24,000 square metres will be covered. The third will be made up of a complex of six roll-on/roll-off wharfs with complementary installations of maritime stations and warehouses, and this will also be completed this year.

The containers are moved by a giant 50 tonne crane, with a maximum reach of 35 metres from the wharf's side, and by a fleet of six van carriers which are capable of stacking three containers high.

Another crane like the present one is also being constructed and should be brought into service this year.

The shed is at present being used for filling, emptying and inspection of containers, and later on it will be reserved for the latter activity and

the accrediting of cargoes, whilst filling and emptying operations will be transferred to new sheds at the back of the wharf.

It has 25 doorways on the seaward side which are specially designed to give access to the containers, and 12 on the landward side which open up onto a raised platform.

Arrival and departure of goods and containers by land can be effected by road or rail. For the latter there are three branch lines, one for transit goods, another for direct off-loading from the vessel and the third for storage in the warehouse. The road link is effected via the port ring road which will join up with the coastal beltway, now under construction, by a three level interchange.

The operative capacity of this wharf is estimated at around 60,000 containers per annum, equivalent to 400,000 tonnes of goods.

The total installation cost mounted to 250 million pesetas, 165 million of which were for construction work, whilst the rest was for mechanical equipment. The approximate cost of the crane under construction is 65 millions pesetas.

The building adjoining the shed houses the offices of the Board, Customs Authorities, the Company that runs the terminal and also of a number of Container Firms. Work began in April 1969 and included the dredging of the turningdock from the face of the wharf to the general access channel to the inner port.

Demarcation Dispute Resulting in Stoppage of Work at Container Terminals

Sydney, 20th June, The Maritime Services Board of N.S.W.: — *The President of the Maritime Services Board, Mr. W. H. Brotherson, has prepared the following statement in connection with the abovementioned matter and has asked that it be forwarded to you for information so that the factual position may be understood.*

*J. E. BRADSTREET,
Acting Secretary.*

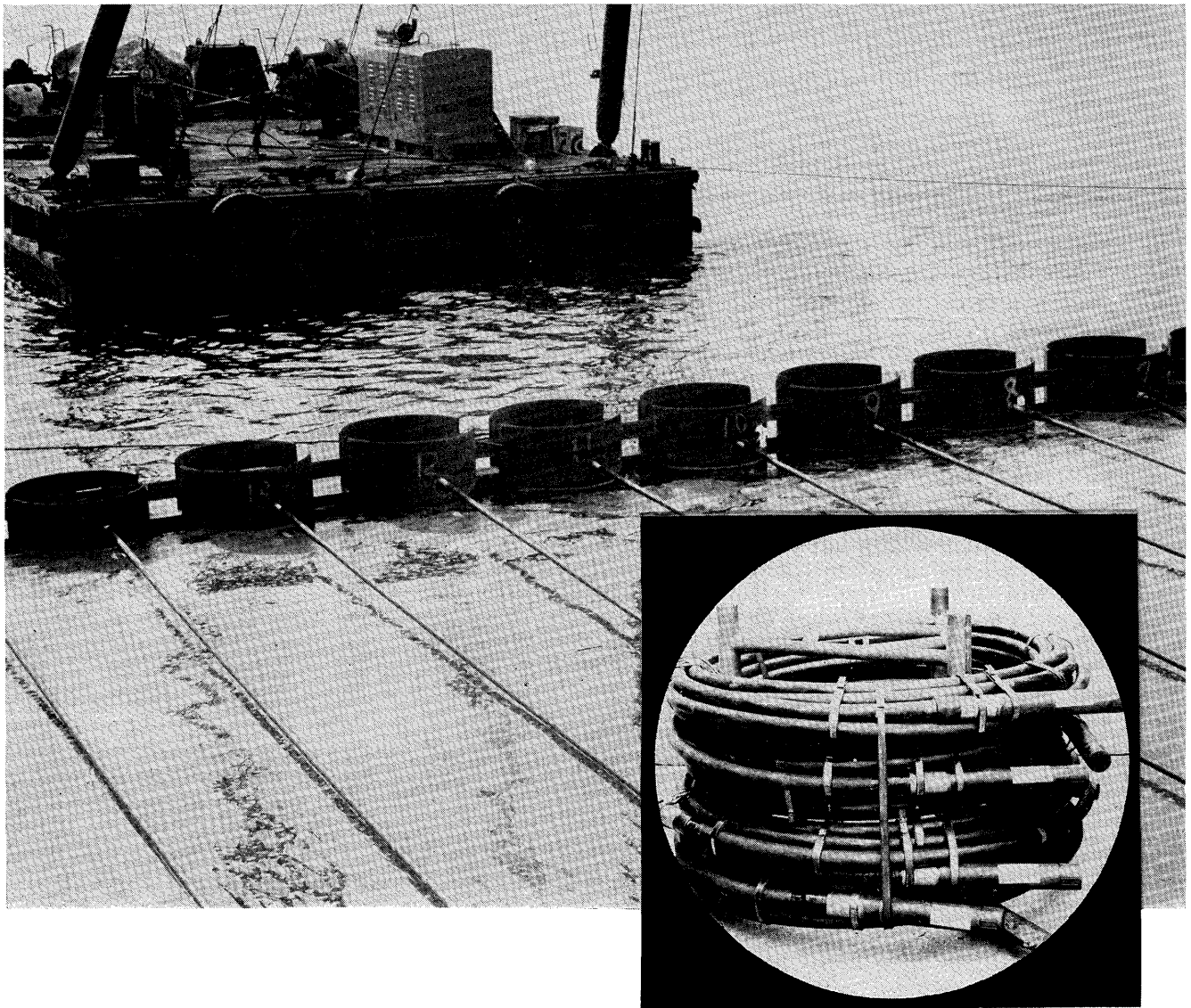
An editorial in one of the daily news papers in Sydney has raised some pertinent features of the back-

(Continued on Page 62)

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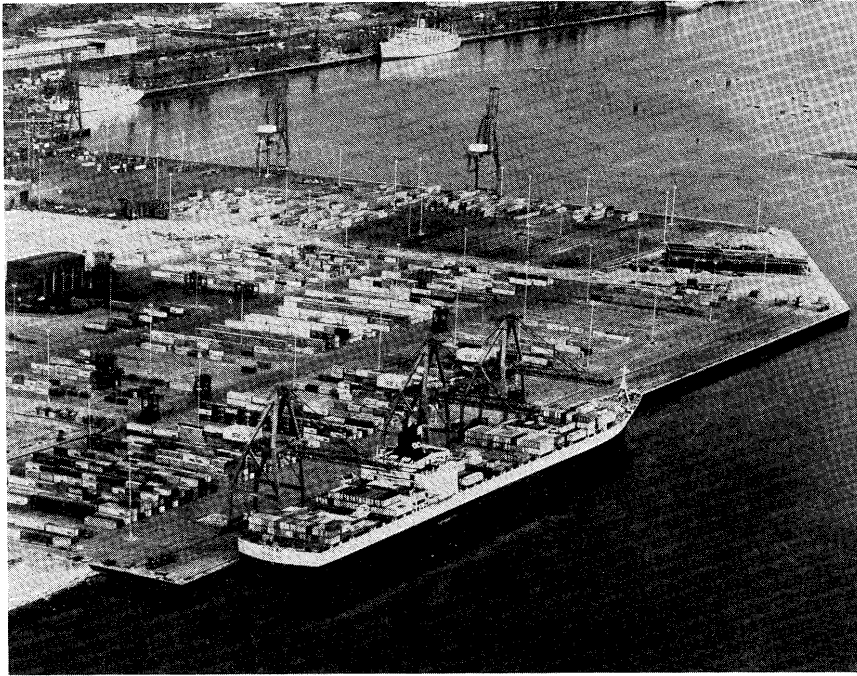
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CONTAINER SERVICE TO PORT KELANG (August 3, OCL Press Release, Tokyo): The arrival of the "Tokyo Bay" at Port Kelang on Sunday, 5th August, will complete yet another major stage of the Trio Group's plans to provide a fast, modern through transport service to shippers and importers in Europe and the Far East.

With the completion of the Port Kelang Container Terminal, it has now become possible to offer the advantages of these facilities to a very important sector of the overall Trio Service, i.e. the trade between West Malaysia and Europe.

Seventeen third-generation containerships—the final being delivered next month—will provide a fast and unparalleled door-to-door service, with three sailings in each direction a month, between West Malaysia and Europe. Transit time will be 19 days to and from Port Kelang and the first port of call in Europe.

"Tokyo Bay" is owned by Overseas Containers Limited who are a member of Trio Group. Swire Mackinnon, the shipping division of Butterfield & Swire (Japan) Ltd., are the Agents for OCL.

Photo Caption: The "Tokyo Bay" loading her containers at Southampton prior to her voyage to inaugurate the Europe/West Malaysia service. The "Tokyo Bay" will be the first Trio ship to arrive at port Kelang on 5th August.

(Continued from Page 60)

ground to the above dispute but, whereas the emphasis has been placed on the demarcation of work between the Storemen and Packers Union and the Waterside Workers Federation so far as the packing and unpacking of containers in depots is concerned, this is not the real issue in the current dispute which has resulted in some 800 containers being locked in the Glebe Island "common user" container berth.

This dispute is based on a demarcation issue between the Transport Workers Union and the Waterside Workers Federation as to who should drive the conveyance moving con-

tainers from the Glebe Island terminal over the short distance (approximately 400 yards) to the Consolidated Cargo Services depot in the Rozelle Bay area.

The Maritime Services Board, which operates the common user terminal, is prepared to load containers on to any appropriate vehicle subject to the operator having the authority to collect the container but the Waterside Workers employed at the terminal refuse to load a container onto a wagon operated by a member of the Transport Workers Union. To press this point, they have therefore refused to load out any containers from the terminal

whether being moved by road or rail irrespective of destination.

Should a vehicle operated by a waterside worker be directed to the terminal to receive a container for the Rozelle Bay depot, the Waterside Workers engaged at the terminal are prepared to load the container on to the vehicle but the Transport Workers Union has made it quite clear that, should this happen the container terminal would be declared black by them.

Having regard to the number of containers which would normally be removed from the terminal to the Rozelle Bay depot each day, a maximum of two employees driving wagons would be involved.

The question as to the class of labour employed in the depots is another issue but is not involved in the demarcation issue which has now caused the movement of containers in and out of the terminal to have been brought to a stand still.

Second Container Crane Approved

Wellington, N.Z., 5th July, Wellington Harbour Board: — The Deputy Chairman of the Wellington Harbour Board, Mr. E. M. Hodder, is pleased to announce that the Board has received the approval of the New Zealand Ports Authority necessary to proceed with the ordering of a second container crane.

The Board is delighted that the Ports Authority, having the responsibility for considering the question in a national context, has accepted the Board's claims that a second container crane is Wellington is a necessity. Immediate steps will be taken to call tenders and a second crane should be operational within less than two years.

The Board has worked unremittingly to ensure that the natural advantages of the Port of Wellington will be equipped to best service the Wellington region and New Zealand with the maximum efficiency and economy and fully able to grasp the advantages of modern shipping methods.

If the momentum of recent years is to be pressed home a second container crane operational at the earliest possible moment is seen as the

(Continued on Next Page Bottom)

Waterfront Redevelopment Will Begin in 1974 to Meet Growing Trade

Auckland Harbour Board
Auckland, N.Z.

Auckland, N.Z., July 2:—Demolition of an older wharf, redesign of an adjoining wharf and a 21-acre reclamation of the basin between them are planned by the Auckland Harbour Board in a \$NZ10.5 million redevelopment in its central waterfront section at present handling conventional ships.

Construction work will begin in January 1974 if procedural, administrative and financial requirements are completed by December.

Announcing the redevelopment, Mr. R. W. Carr, Chairman of the Board, said additional facilities were required as soon as possible to service the growing trans-Tasman trade with Australia and the Pacific Islands trade as well as meet the changing requirements of New Zealand's coastal trade.

He said the Union Steam Ship Co. of N.Z. Ltd. which is the main operator in these trades has been urging an early start on an entirely new roll-on terminal complex ensuring a minimum of two berths by late 1975 with adequate back-up land.

Mr. R. T. Lorimer, General Manager, said the redevelopment will provide some 12 acres of land with berthage to take roll-on, Tarros and bulk-timber quarter-ramp type ships. There would be a further eight acres

for servicing modern unit-load type ships at a common-user general cargo berth.

"The longterm aim is to keep the central waterfront area fronting downtown Auckland free of heavy cargo operations and preserve open-water views as well as provide facilities for the handling of clean cargoes, passengers and other harbour traffic," said Mr. Lorimer.

Mr. R. A. J. Smith, Chief Engineer, said the new scheme involved King's and Bledisloe wharves immediately east of the central downtown waterfront. This scheme had replaced 1970 proposals involving

reclamation of the basin west of King's.

"To ensure as far as possible that the Bledisloe-King's scheme proceeds with the least possible effect on the harbour and city environment generally, recognized experts on such matters as hydraulics and aesthetics are being commissioned to provide guidance reports," said Mr. Smith.

The timetable proposed is to have the east side of Bledisloe ready for roll-on type ships by June 1975 when two to three acres of new land should be available in the inner basin.

By December 1976, the whole scheme should be far enough advanced to enable transfer of the Union Company's roll-on activities from Fergusson Wharf in the container complex. A second berth for container ships will then be completed at Fergusson Wharf.

"Port requirements have been reappraised," Mr. Lorimer explained later. "The redevelopment of Bledisloe-King's is essential if the Port of Auckland is to continue providing efficient up-to-date service for modern ships in the various trades so important economically to New Zealand."

Both daily newspapers in Auckland



Mr. R. W. Carr (left), Chairman of the Auckland Harbour Board, and Mr. R. T. Lorimer (right, with pointer), General Manager, showing the basin between Bledisloe (nearer camera) and King's wharves where a \$NZ10.5 million Auckland waterfront redevelopment is planned to start in January, 1974. The Auckland container complex is in the foreground of the wall photograph.

key to success in meeting the growing demand for container shipping services already approaching 10% of total cargo tonnage.

In expressing satisfaction at the Ports Authority's decision and confidence in its wisdom the Board desires also to thank the many organizations and people who have given their support to its endeavours.

land welcomed announcement of the scheme.

Under the heading "Good Thinking" the afternoon Auckland Star commented: "Top marks to the Auckland Harbour Board for its latest moves to ensure that this city's port both keeps up with new shipping trends and retains its beauty."

The morning New Zealand Herald under the heading "Good Business for the Port" commented:

"Once again the Auckland Harbour Board arouses confidence in its determination and ability to keep the port abreast of modern and fast-changing shipping requirements. And not the least stimulating aspect of its latest development plan is that environmental considerations are being given welcome importance."

Mr. Trimmer's Observations

Whangarei, N.Z., "Points North", July, 1973, published by The Northland Harbour Board:—The Northland Harbour Board's attitude toward marine pollution and the need for effective but realistic protection measures was in keeping with the most advanced thinking in the world, said the Board's Chairman, Mr. R. K. Trimmer.

Mr. Trimmer made this statement on his return to New Zealand last month from a conference of the International Association of Ports and Harbours in Amsterdam.

Marine pollution—both from oil spillages and from effluent discharged by shipping—was the principal subject discussed at the conference by representatives of port authorities from 53 countries.

Staid Mr. Trimmer, an Executive Director of the Association: "The points raised were very valuable to the growing international awareness of this problem.

"I was very pleased to note that many of the pollution control measures discussed have for some time been used by the Northland Harbour Board."

The Board's staff, said Mr. Trimmer, had had considerable experience in oil spillages and had travelled to, and studied the problem at, many of the world's refinery ports.

The Northland Harbour Board won support at the conference for its policy of adopting a realistic atti-

tude to the effects on the environment of oil spillage.

Of prime importance was the protection of rocky foreshores, said Mr. Trimmer.

"Deplorable as it may be, if there is a choice in the matter then it is preferable that oil reach a sandy beach where it can be quickly and effectively dealt with.

"If the spillage should reach broken coastline then only a long period of time will remove it. In the meantime, untold harm will be caused to marine life."

It was through discussions on an international basis in forums such as the I.A.P.H. conference that the Northland Harbour Board was able to keep abreast of matters of such wide concern, said Mr. Trimmer.

He told Points North that the conference passed a number of strong resolutions and directed that they be firmly presented at another inter-governmental conference that will be held in October this year to consider the pollution question.

Also present at the week-long Amsterdam conference were Mr. C. A. Lovell, Member of the Board, and Mr. J. A. Lyall, Director of Planning.

Later, the Northland Harbour Board representatives attended a four-day conference of the International Cargo Handling Co-ordination Association in Hamburg.

Mr. Trimmer reported that in contrast to conferences in the last 10 years, this year's meeting was able to devote considerably more time to subjects other than containerization.

He felt that this reflected an end to the trial and error beginnings of containerization and that there was now a greater degree of co-operation and liaison internationally between the people involved in that particular field of transport.

Life-Boats Toted Overland

Karachi, 23rd August, Karachi Port Press Release:—The Karachi Port Trust to-day rushed another 12 Launches with their crew by Railway wagon to the flood affected areas in Sind. This is the third contingent despatched by K.P.T. for life saving and rescue work. The contingent comprises 40 men crew of the launches, 8 sea-scouts and is headed by an Executive Engineer

of K.P.T. Apart from the Launches, the Party has also with it other life-saving and rescue equipment such as life-buoys, life-jackets, etc.

The K.P.T. has earlier sent two Rescue Parties to the flood-affected areas by Road. The first-one was rushed on 20-8-1973, and the second one on 21-8-1973. The two contingents have-already reached their destination and are carrying-on life-saving and rescue operations in a wide sector of the flood affected area.

So far the K.P.T. has despatched more than 100 skilled men who are deployed in life-saving and rescue work headed by experienced Officers with 22 life-boats and launches, 8 life-rafts, a very large number of life-buoys, life-jackets etc. This is in addition to the Cash Donation of over Rs. 31 Lakhs, highest in the country so far—leading all civil organizations in Flood-relief measures.



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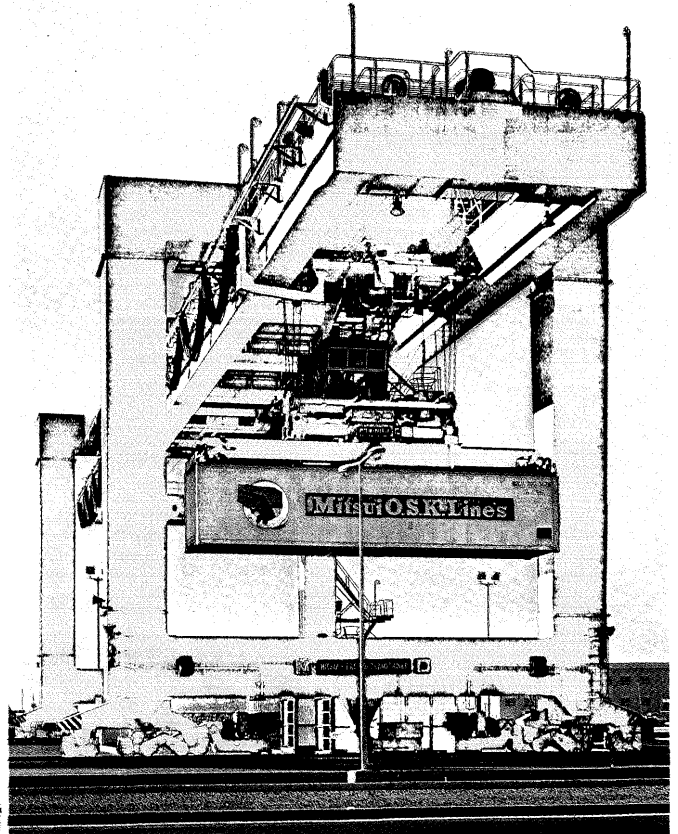
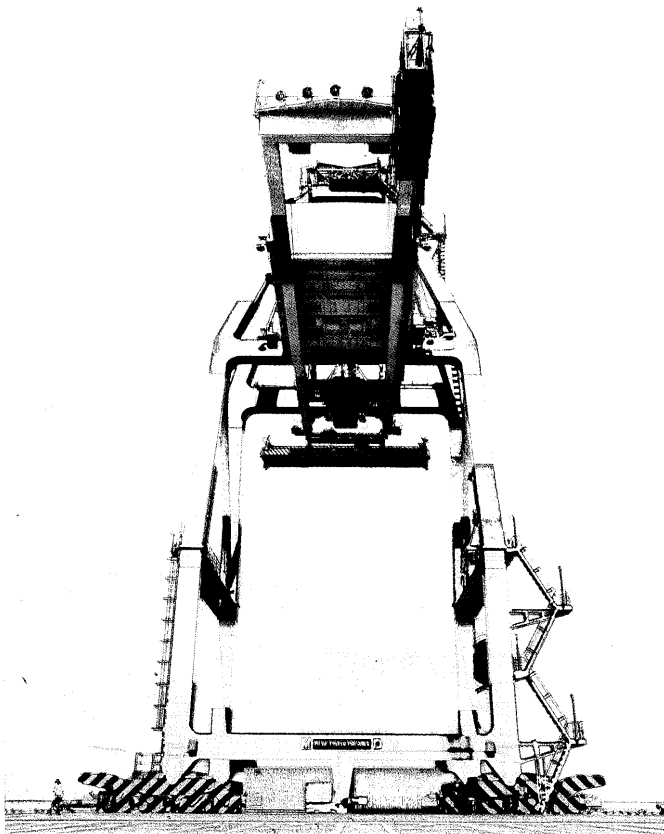


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