

# PORTS *and* HARBORS

November, 1971 Vol. 16, No. 11

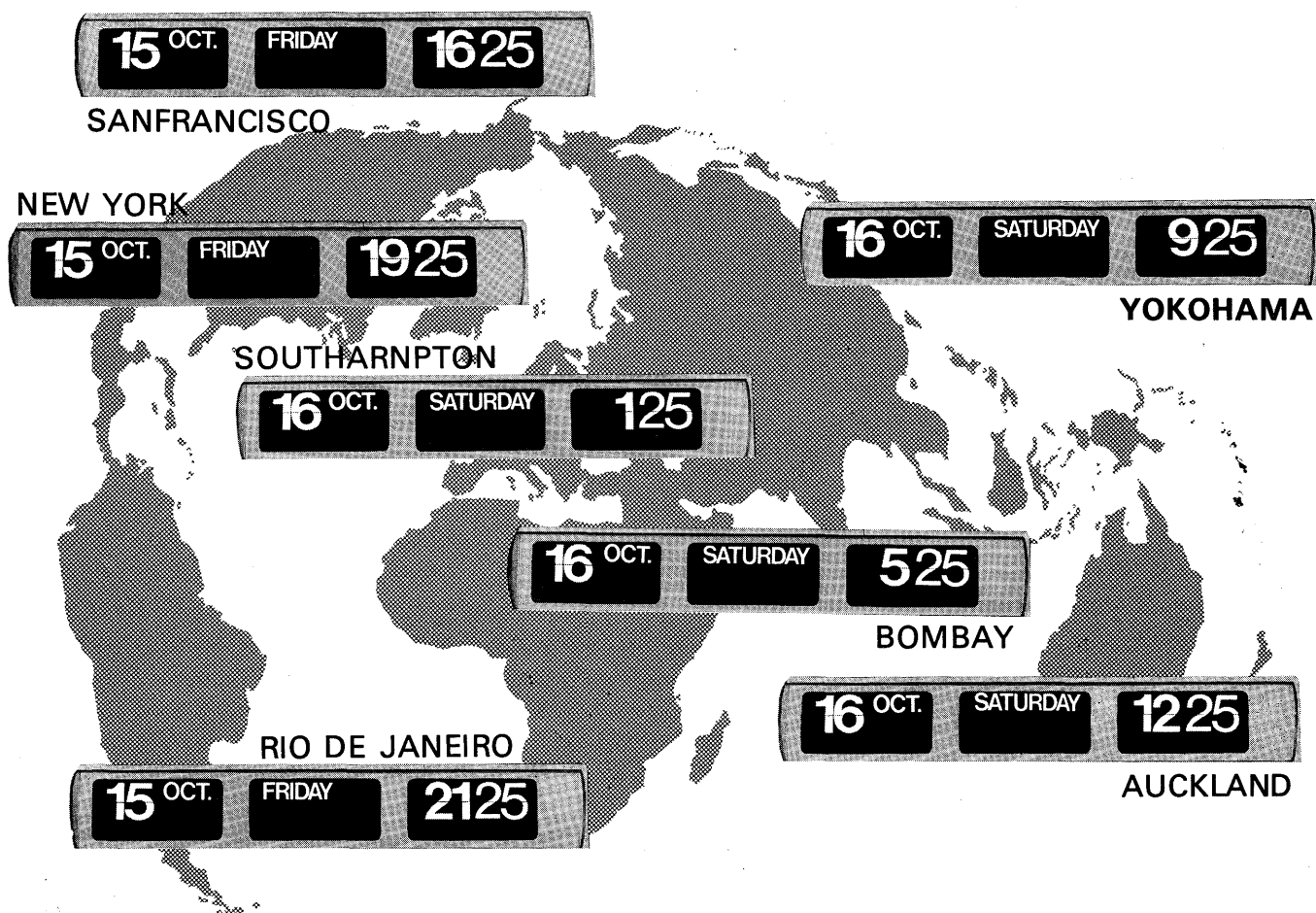
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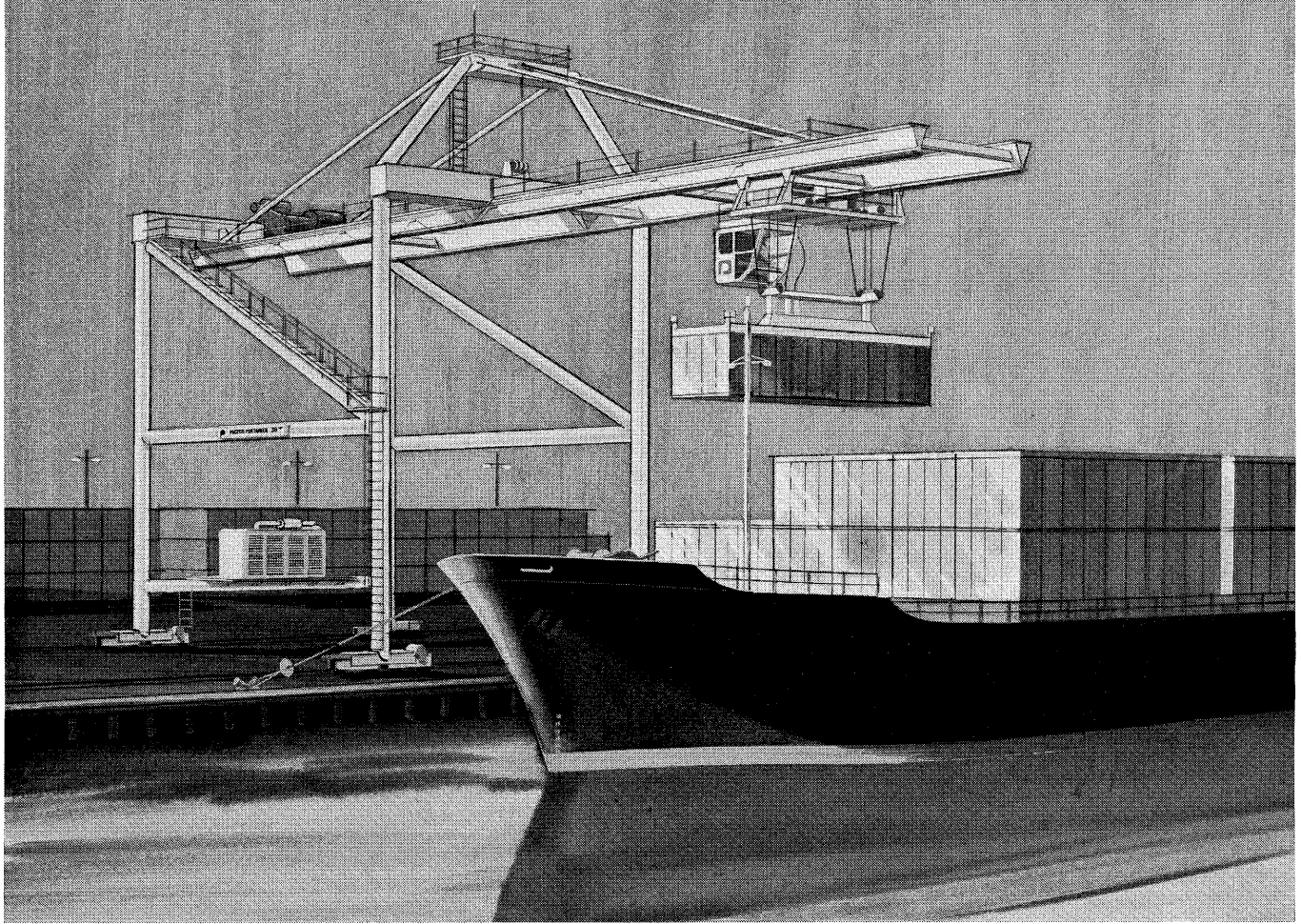
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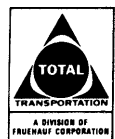
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**November, 1971 Vol. 16, No. 11**

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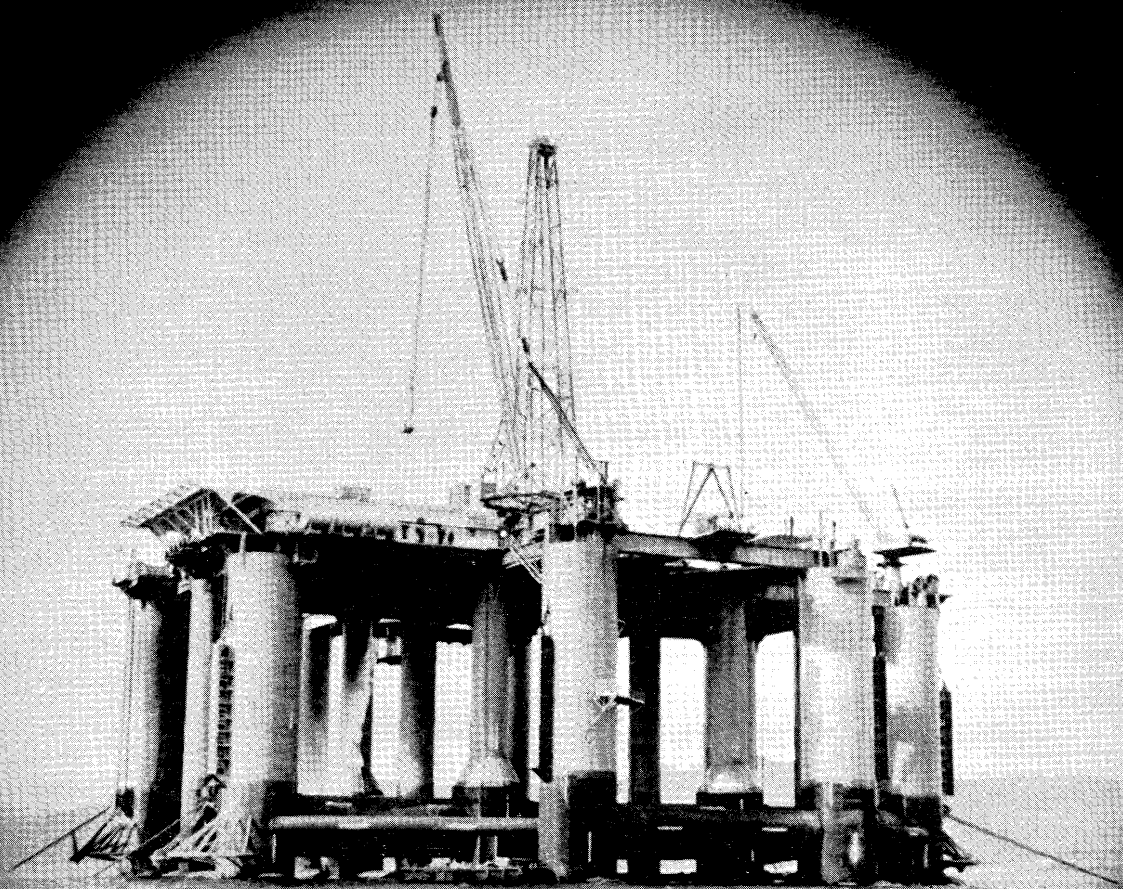
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# PORTS *and* HARBORS

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## *Minor Papers of the 7th Conference*

All the 21 articles as listed below will be reproduced in this magazine (from the books distributed in Montreal) over some months to come. These articles will not be included in the forthcoming book "Proceedings of the Montreal Conference."

### *Minor papers presented at the Conference.*

#### 1. UNCTAD RESEARCH IN THE FIELD OF PORTS

S.G. Sturme, Deputy Director, Division for Invisibles and Chief, Shipping Branch, United Nations Conference on Trade and Development.

#### 2. TRENDS AND IMPLICATIONS OF CONTAINER SHIPPING

Dr. Eric Schenker, Professor of Economics and Associate Director, Center for Great Lakes Studies, the University of Wisconsin-Milwaukee, in collaboration with Michael Bunamo, Project Associate.

#### 3. A FEW PRINCIPLES TO APPLY AND MISTAKES TO AVOID IN PREPARATION OF PORT TARIFFS

F.K. Devos, Chief Economist, Marine Works Branch, Ministry of Transport, Canada.

#### 4. WORLD PORTS – WHAT PRIORITY?

Joseph L. Stanton, Executive Director, Maryland Port Authority.

#### 5. THE SIMPLIFICATION OF PORT CHARGES

J.R. Sainsbury, Director of Marine and Harbors, South Australia.

#### 6. IS COOPERATION BETWEEN PORTS POSSIBLE?

R. Vleugels, General Manager, Port of Antwerp.

#### 7. THE MODERN CHALLENGE TO PORT MANAGEMENT

Harry C. Brockel, Former Director of the Port of Milwaukee.

#### 8. METHODOLOGY OF CARGO HANDLING IN PORTS

Jacques Gruot, Chief Engineer, Roads and Bridges, BCEOM (Paris)

#### 9. INTERNATIONAL COOPERATION IN PORT POLICING

D.N. Cassidy, Director General, Police and Security, National Harbours Board.

*Additional papers distributed to delegates at the Conference.*

**10. Construction of an Oil Terminal in the Seine Bay.**

Paul Bastard, Director General, Port of Le Havre Authority

**11. Methodology for Port Site Selection.**

Dr. S. K. Bhattacharya, Chief Hydraulic Engineer,  
Calcutta Port Commissioners

**12. How Large City Ports should be in the Age of Transportation Revolution.**

Kiyoshi Kano, General Manager, Port and Harbor Bureau,  
City of Osaka

**13. Improvement in Port Operations and Related Installations. Optimization and Simulation Methods.**

Georges Maffait, Engineer, 77 Vaires-sur-Marne, France

**14. The Project of New Kobe Island as a Terminal of Sea-Land-Air Compound Transportation in Kobe Port.**

Tatsuo Miyazaki, Mayor of Kobe

**15. Current Aspect of Cathodic Protection for Harbor Structures in Japan.**

Dr. Masao Nakagawa, President Nakagawa Corrosion Protecting Company Limited

**16. The Port of Tokyo Under Development and Long Distance Car Ferry.**

Takemasa Okumura, Director, Bureau of Port and Harbor,  
Tokyo Metropolitan Government

**17. Performance of Structures founded on Reclaimed Soil underlain by Marine Clays in Visakhapatnam Port.**

G. S. Ramaiah, Chief Engineer,  
Visakhapatnam Port Trust

**18. Automated Container Handling — A Step into the Future.**

C. D. Ramsden, President and General Manager of Paceco,  
A Division of Fruehauf Corporation

**19. An Important Court Case.**

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Northland Harbour Board

**20. A Major Oil Spill in Tampa Bay and the Resulting Legislation.**

Guy N. Verger, Port Director, Tampa Port Authority

**21. Problems Faced by Ports in Connection with Maritime Wrecks, with Particular Reference to the Limited Liability of Shipowners**

A Pagès, Director, Port Autonome de Bordeaux

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# UNCTAD RESEARCH IN THE FIELD OF PORTS

BY

**S. G. STURMEY**

DEPUTY DIRECTOR

DIVISION FOR INVISIBLES AND CHIEF, SHIPPING BRANCH,  
UNITED NATIONS CONFERENCE ON TRADE AND DEVELOPMENT

1. From the inception of UNCTAD the importance of ports as the interchange point between ocean shipping and either inland transport or coastal shipping has been recognized and the development of ports has always been an important element of the UNCTAD work programme. In the earliest days when the clash of interest between the developing countries and the developed maritime countries was most marked one of the few areas of common ground was found in the recognition of the need to develop ports.
2. There have been many studies dealing with the proportion of shipping costs which are generated in ports. While the precise proportion of total costs which are port generated varies from one shipping route to another, the importance of the paid out costs in port and of the time spent by ships in handling break-bulk cargo has long been fully recognized. The studies on this are too well known for it to be necessary to repeat their conclusions here.
3. While the most attention has been paid to ports in the context of break bulk cargo, it is not the only area in which their performance is critical. Where bulk cargoes such as iron ore and oil are handled, questions of turnaround time may not be important but questions of depth of water, for example, are critical. A port which is apparently highly efficient in handling the ships which use it, may nevertheless be hindering the development of the economy if limitations on the size of ships which can be handled causes uneconomically small ships to be used.
4. It seems to us in UNCTAD that there are three important questions to be covered by port research. We do not claim any originality for having discovered these questions which are well known. The questions are:
  - (a) How can the turn-around of all ships be speeded up?
  - (b) How can the costs incurred in ports be reduced?
  - (c) How can it be ensured that ports are designed to handle the most economical type of ships for the trade?
5. At no time have we ever attempted to directly answer any of these questions by undertaking research projects on these as specific topics. Rather these have been the implicit questions inherent in our overall research programme. It needs to be noted also that the UNCTAD port research is still at a relatively early stage and, while significant work has been carried out, we are the first to recognize how much more there is to be done. This means that, while we are working towards a solution of these questions, we have not yet reached the point where we can provide answers.
6. For many people port research in UNCTAD means sophisticated systems analysis. Several years ago, when it was necessary to consider how future work might be carried out, the bold decision was taken to see if an overall general model of the operations of a port could be formulated and could successfully simulate these ports. This decision has determined the course of much of the work of the secretariat over the last three or four years.
7. In doing this, the work was not started from scratch. An urban transport model was found which could be adapted to reflect the special conditions which exist in ports. As the model, or the overall system, is worked out each of the functions which are performed to a ship and to cargo within the port forms a sub-system of the overall



system. Thus, the first call of a ship on a port may be the provision of a pilot and so pilotage is a sub-system. Various activities of the port are then used by the ship until she is at a berth, when cargo handling starts and cargo related sub-systems come into operation. By going in detail through all of these processes used by a ship in the course of its entry, stay and departure from a port and by expressing each in mathematical form, a model of a port can be built up. In building the original model great reliance was placed on the structure of the port of Casablanca, partly because one member of the secretariat team had extensive knowledge of this port, partly because of the availability of excellent data. However, the fact that the model was geared to a particular port did not mean that it applied only to that port. Every attempt was made to introduce into the model all the sub-systems likely to be found in practice in ports, setting to zero those not in practice found in Casablanca to prevent them having improper influence on the results, so that the model which was developed was certainly in intention an absolutely generalized model.

8. Run in a simulation programme, the model was successful in simulating the operations of the port of Casablanca. The details of the model, the logic of the systems analysis and the computer programmes are given in the secretariat document, "The Development of Ports – Improvement of Port Operations and Connected Facilities", TD/B/C.4/42/Rev.1.

9. The success of this operation represented a major achievement since it was the first occasion that we were aware of in which a model, covering all the complexities of a port, had been successfully developed and tested. Despite the success of the model, there inevitably remain a number of difficulties to which further attention needs to be paid. It is appropriate at this point to mention that the future work in this has been greatly expedited by the generosity of the governments of certain developed countries which have provided resources additional to those otherwise available to the secretariat to carry on this work.

10. One limitation of the general model is that in order to accommodate the vast number of sub-systems which are entailed when the operations of a port are simulated, it was necessary to reduce the detail in each of these sub-systems. The consequence of this is that the model is not yet developed as a fully operational tool which can be used for port planning. The approach which has been adopted for further work is to select certain critical areas of the operations of a port and to investigate and programme these in much more detail. In this way we hope to be able to take out from the present model the blocks representing activities of critical importance to the efficiency of a port, but which are lacking sufficient detail in the model, and to replace them by much more detailed blocks which will nevertheless be compatible with the remainder of the model. There is, of course, the risk that this addition of detail could make the overall port model over-complex and therefore uneconomical to run. If this proves to be the case it will be necessary to turn to a hierarchical approach under which the output of a detailed model is simplified to feed into a broader, less detailed model. We have both these possibilities in mind.

11. The second limitation is that the validation of the model has been carried out only with respect to the port of Casablanca on the basis of which the model was designed. This means that further validation is required. While we believe that further validation exercises will not show the approach to be defective, we nevertheless recognize that changes in the general model will inevitably be entailed and that these may be substantial. Work in this direction still lies in the future, although discussions are currently going with two countries concerning the possibility of applying our model to ports in these countries. Doing this would possibly enable the performances of these ports to be improved at the same time as our need for further validation is met.

12. There are a number of other points regarding further improvements to the model which could be made. Many of these are of a highly technical nature, and their discussion is out of place here. One further point which may be made, however, is that the model at present is a single port model dealing with given ship types and cargo flow. Clearly, the restriction implied here will need to be removed before the model can form the basis on which the development plans of ports can be based.

13. The question which inevitably arises in this is whether the systems analysis approach is the best one for UNCTAD to adopt, taking into account that our primary aim is to assist developing countries in the improvement of their ports in order to cut the costs of cargo handling and improve the turn-around of ships in those ports. It has occurred to us that results which are operationally as good as those produced by detailed systems analysis might be obtained by much more simple methods. This is particularly likely to be the case when the basic data required is deficient either in coverage or in accuracy. The less reliance that can be placed on the available data, the smaller the advantage sophisticated techniques have over unsophisticated techniques of analysis. Indeed, when data is somewhat scanty the use of sophisticated techniques might give to the results a spurious impression of validity, so that the user fails to remain aware that the results are no better than the rather ropery data on which they were based. In such a case less sophisticated methods are not merely cheaper to use, but they avoid the very real risk of creating misplaced trust in the results.

14. With this in mind, in one of our current studies we are using both a sophisticated and unsophisticated technique. While this may appear to be a duplication of work, it will nevertheless show us the extent to which it is worthwhile using sophisticated techniques. It will also serve as a highly useful guideline to the type of problem which can only satisfactorily be solved in a sophisticated fashion and the other problem where a sufficient degree of accuracy can be obtained by simple methods. Thus, while we have perhaps gone farther than any other researchers in

the use of systems analysis for port operations, we are by no means committed to this as the only method of analysis. In particular, we are very much aware of the need to be able to give immediate assistance to ports and that this cannot wait on the outcome of another several years' research to ensure that the general model is both sufficiently comprehensive and fully validated to be used as a basis for advising countries what to do.

15. How does this area of our research relate to the three basic questions? The operational rules, which form the basis of the mathematical formulation of most of the sub-systems, are among the determinants of the efficiency of a port. It is possible to experiment with the model and find the effects on cost and turnaround of changing the operational rules. Simulation of the operations of a port calls vivid attention to those areas where the efficiency of the port can be increased. This applies again both to cost of handling cargo and to questions related to turnaround of ships. When the model is adapted to take account of changing ship types, then it will be possible not merely to see what needs to be done to a port to enable it to handle new ship types or larger ships, but it will also be possible to see whether it is economically worthwhile to make these changes for the sake of the reductions in shipping costs which will occur. For example, it may be found in a particular port that although the use of 150,000 DWT ore carriers may yield lower shipping costs, once costs of the necessary improvements to the port are made it would overall be more economical to use 100,000 DWT ore carriers in the trade.

16. Within the secretariat a considerable amount of work has been devoted to the question of port statistics. This we think of as being important because up-to-date and accurate statistics are essential for the proper planning and operation of a port. Good management requires efficient indicators, that is, a series of measures, changes in which can indicate at a glance how the various aspects of the port are going. These efficiency indicators can only be established if the necessary information is available. Unless management has such continuous checks on the various parts of the operations of the port it has to rely on subjective impressions. For experienced port managers subjective impressions may be extremely valuable. However, where port management is less experienced, reliance on rule of thumb methods is less likely to produce results and the need for adequate statistics is then greater if the objectives given above are to be met.

17. Final mention needs to be made of the role of the pricing system in the port. Ports charge ships for a number of services such as pilotage, towage, use of quays and so on. Charges are also levied for stevedoring and for sale of things such as water and bunkers which may be carried out by organisations other than the port authority. The manner in which the prices for these various services are set clearly is a determinant of the revenue of the port authority. More important than this, however, the pricing system which is adopted performs two functions.

18. The first of these functions is the allocation of the benefits arising from improvements to the port, including always the original improvement which converted the open bay or muddy river into an efficient, modern, safe deep-water port. With one type of pricing all of the benefits may accrue to the shipowner through improvements in turnaround. It is conceivable with a different system that all of the benefits may accrue to the cargo owners through reductions in the prices charged for services to cargo. There is no *a priori* reason to think that either of these methods of allocation are wrong, but the question does need to be asked whether the allocation which is achieved is that which is actually desired. If it is not, then the aims of policy makers are not being met in this regard. In particular, if the pricing system allows either the cargo owners or ship owners to obtain most or all of the benefits of improvements, the revenue obtained by the port authority will be too small to enable the financing of future improvements to be carried out, while the cost benefit analysis before the improvement is made, if it concentrates too much on identifiable cash flows will reject as uneconomic projects which are in fact absolutely viable. A proper pricing system which allocates the benefits of port improvements in such a way as to provide a positive incentive to port authorities to maintain and improve their ports may thus be an essential factor in keeping the port abreast of modern technological development in ships and in securing good turnaround of ships by eliminating delays caused through defective functioning of equipment.

19. The second function of a pricing system in a port, and one which may be in conflict with the first, is that of securing a rational use of facilities. It is trite to say that any piece of equipment should be used in a way in which the benefit which will be realized from using it never falls short of the identifiable costs involved in using it. Nevertheless, there are ports where the pricing system secures exactly the wrong results. For example, the price paid to provide stevedores by the port authority may be so much per gang/hour if no port authority cargo handling equipment is used and so much more if cargo handling equipment is used. When charging is done in this way, the stevedore has every incentive either to use no equipment or to use the maximum possible and to make no attempt whatsoever to secure a rational balance between the use of equipment and the use of manpower. At the same time, the system provides no incentive whatsoever for the port authority to maintain the equipment. It should occasion no surprise to anyone that where such a system is used most of the equipment is broken down, and that which is working is used extravagantly and wastefully. The example chosen has deliberately been one where the port authority has not levied a price but has paid a price in order to illustrate the pervasiveness of pricing within the port and the quite unexpected manner in which pricing policy decisions may be affecting the efficiency of the port.

20. One other aspect of rationalization of facilities is that there is usually a choice between longer occupancy of a

berth or working a ship more intensively. Because of the capital tied up in the ships, owners of tankers and ore carriers generally work their ships 24 hours a day, seven days a week when they are in port. Break-bulk ships, however, are normally worked only for one shift, five days per week. Thus, a ship is occupying a berth for 168 hours a week but working for only 40 hours a week. If each ship worked for 80 hours a week, the number of berths required would apparently be halved; clearly, this is an over simplification, but equally clearly the number of berths would be reduced. There are many factors which determine the time for which cargo is worked in a port. At present levels of charges in ports the cost of occupying the quay is not normally one of the factors taken into account. This may indicate that traditionally costs of occupying the quay are far too low and it is interesting to speculate whether, if these costs were raised by several hundred per cent, the willingness of shipowners to pay for overtime working would increase.

21. A whole lecture can be written on the manner in which pricing influences different aspects of a port's operating efficiency. There is, for example, the fascinating question of how the cost of dredging to accommodate larger ships is to be recovered through port charges. These questions form part of our current research programme in recognition of their manifold importance. But perhaps most of all port pricing is important with respect to the generation of costs within a port. Effective port pricing depends on efficient cost accounting and efficient cost accounting in its turn is an indicator of good management of where costs of services are excessive.

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TD/B/C.4/79 Selection, collection and presentation of port information and statistics.

TD/B/C.4/84 General report on dredging.

(2)

# **TRENDS AND IMPLICATIONS OF CONTAINER SHIPPING**

BY

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CENTER FOR GREAT LAKES STUDIES, THE UNIVERSITY  
OF WISCONSIN-MILWAUKEE, IN COLLABORATION WITH  
MICHAEL BUNAMO, PROJECT ASSOCIATE.

## **Introduction**

It is a pleasure and privilege to be invited to participate in this Conference. The Seventh Biennial Conference of the International Association of Ports and Harbors is providing a sorely needed catalyst in a very critical period. In the world of shipping, radical changes are taking place: New mergers are under way, new cargo handling methods are being used, and new types of vessels are using our ports and are on the order books. This paper is about these developments and the issues confronting the international ports in the Seventies. Decisions taken within the next years will affect the future of many ports for at least the remainder of the 20th Century. I do not disguise the fact that some of the things I will say are controversial. If this were not true, all you distinguished gentlemen would not



be here. But anyone who is a student of transportation, and we all are, may as well admit at once that in this field truth is not a little elusive. "There is no Mount Sinai to which one may go to secure once and for all the tablets upon which the final words are written."

## The Container Revolution

Technological improvement of transport modes has tended to reduce the cost of transportation. Greater speed in cargo movement, improved quality of service, and increased flexibility of schedules and routes have made the necessary raw inputs of production more available to a community, have allowed free movement of commodities between communities, have extended the profitable size of a given market and have allowed reductions in cost of transport—thus partially offsetting inflation of the cost of goods to the public.

In 1776 Adam Smith, in his *Wealth of Nations*, made note of the inherent dependence of the process of economic expansion upon water transport.

"As by means of water-carriage a more extensive market is opened to every sort of industry than what land-carriage alone can afford it, so it is upon the sea-coast, and along the banks of navigable rivers, that industry of every kind naturally begins to subdivide and improve itself, and it is frequently not till a long time after that these improvements extend themselves to the inland parts of the country."

Containerization has revolutionized the scope and nature of port cargo-handling operations. Ultimately, as A.A. Evans points out, "In the long run technological changes bring many benefits. These include higher productivity . . . a rising standard of living and stepped up economic growth." [1, p. 5] While the economies inherent in containerization are welcome, the short run pattern of response to container facility development is a valid subject of investigation.

The aim of containerization is to move goods as quickly and cheaply as possible. The container reduces the number of times a piece of general cargo is handled and facilitates intermodal transfers. Ideally it should form the nucleus of "... a total transportation system, which has specially designed terminals and equipment . . . for the loading and unloading of ships and the transporting, sorting and storing . . . of various size containers." [1, p. 7] In this perspective, containers are a new distribution tool rather than a transportation device.

There exist startling advantages of container versus conventional breakbulk operation. The carrier has realized economies of scale by creating pseudo-bulk cargo out of breakbulk cargo, thus facilitating handling and reducing unit costs by substituting capital for labor. For the ports, the container operation is less labor-intensive, faster and more efficient than conventional operations; it is also safer, as accidents are reduced. The shipper witnesses increased speed in handling, a saving in crating costs, more product protection and less pilferage of his merchandise. Through lower delivered costs, consumers should pay lower prices for merchandise. Moreover, lower prices embody elements essential to the stimulation of economic development of all countries, especially the less developed.

## Growth of Container Fleet and Service

Shipping companies were quick to invest in special containerhips. The potential for reducing unit costs is a complex function of ship size and speed. With container size given and for the same slot utilization aboard ship, total per container transport costs decline as ship size increases; the rate of decrease slows with progressively larger ships. Also, costs fall as speed increases up to 22 to 25 knots; above that range costs increase as twin screw propulsion systems are required.

Tables 1 and 2 indicate that the mean dimensions of both the existing registry and new containerhips on order are increasing. [2, p. 331] The projection is that ships cannot get much larger without severely restricting access to many canals and ports. While container ships in service or under construction vary widely in configuration, "New container ships designed for transocean service commonly have a speed of 20 to 25 knots and a capacity of between 1,000 and 1,500 20-foot containers, although . . . new orders are in the 1,500 to 2,000 container range." [3, Vol. I, p. 13] Such a ship represents a \$15.3 million investment and requires a minimum inventory of two or three containers per slot — another \$6 million investment.

## Container and Port Development

Due to the trend toward specialized ships and mammoth tankers, modernization and expansion keynote recent activities at major world and U.S. ports. Large modern terminals, with fast traveling cranes for handling containerized and bulk cargo are replacing antiquated harbor facilities. These new facilities turn around container ships and roll-on/roll-off vessels in short periods of time. The push is on to make one's port the most attractive to operators of these specialized vessels. [4, p. 149]

Solid container operations require large outlays of capital. It has been estimated that minimum requirements include: "One to three cranes, several straddle carriers in the container yard, a fleet of tractors and chassis and twelve to fifteen acres of improved storage surface per ship berth." [3, Vol. I, p. 1] A typical investment for a single

berth handling 250,000 tons a year is approximately \$3.4 million; annual fixed costs are close to \$1 million including depreciation and a 15 per cent return on investment. The ratio of fixed to variable costs is approximately four to one.

High capital outlay on specialized equipment and the large fixed cost dictate intensive system utilization in order to realize lowest unit costs. Ports with low volumes cannot afford the investment; yet, no one wants to be left out in the cold. By the end of 1970, U.S. mainland ports will have a capacity of 2.5 million container round trips (turns) per year, with specialized cranes, estimated at a conservative 48 per cent berth utilization. [3, Vol. I, p. 88]

Investment activity has centered in three geographic belts: (1) East Coast complexes occurring at 200-to

**Table I**  
**MEAN DIMENSIONS OF THE EXISTING CONTAINER SHIP REGISTRY**

County	Length	Beam	Depth	D.W.T.
Australia	462.3	74.3	26' 06"	12,440
Belgium	516.9	66.4	30' 01"	12,523
Canada	432.5	59.2	21' 05"	7,378
Denmark	447.4	62.7	22' 06"	8,499
Finland	483.9	63.4	23' 10"	8,436
France	414.7	61.4	19' 03"	4,802
West Germany	278.7	44.1	14' 03"	2,495
Ireland	256.1	43.8	11' 11"	1,350
Italy	255.5	40.7	13' 07"	1,915
Japan	615.7	83.8	31' 01"	15,400
Liberia	345.4	52.4	16' 05"	4,600
Netherlands	364.1	53.3	17' 06"	4,857
Norway	352.5	60.1	18' 08"	7,909
Spain	289.4	47.7	16' 05"	3,200
Sweden	459.6	61.6	22' 08"	8,399
U. Kingdom	388.1	59.8	18' 09"	8,650
United States	548.4	73.3	27' 05"	12,593
New Zealand	408.8	60.7	18' 06"	5,106

Source: A.S. Shipping Consultants, *Container Ship Registry 1969-1970*, Oslo, Norway, 1969.

**Table 2**  
**MEAN DIMENSIONS OF CONTAINER SHIPS ON ORDER**

County	Length	Beam	Depth	D.W.T.
Australia	520.8	77.6	27' 03"	11,000
Belgium	759.0	100.0	30' 00"	23,250
Denmark	900.0	105.7	35' 00"	29,000
Finland	456.9	68.5	20' 00"	5,600
France	562.3	78.7	26' 00"	12,127
West Germany	368.9	55.4	19' 06"	6,401
Ireland	257.3	38.0	n/a	1,340
Italy	348.5	61.7	n/a	4,050
Japan	659.2	94.6	29' 04"	16,461
Liberia	672.0	85.4	29' 06"	18,750
Netherlands	484.8	70.2	27' 07"	12,850
Norway	641.9	85.7	27' 00"	24,316
Spain	300.9	48.9	19' 00"	4,133
Sweden	616.3	84.3	27' 03"	15,000
U. Kindgom	589.9	83.3	26' 00"	16,361
United States	725.9	95.3	31' 06"	25,390

Source: A.S. Shipping Consultants, *Container Ship Registry 1969-1970*, Oslo, Norway, 1969.

300-mile intervals from Boston to Jacksonville, whose focus of concentration is New York; (2) the West Coast facilities, divided among the Los Angeles-Long Beach, San Francisco-Oakland and Portland-Seattle regions; and (3) the Gulf Coast which, while lagging behind at present, has plans for major development, especially at New Orleans and the Houston-Port Arthur areas. Table 3 indicates the number of berths, container cranes and container turns per year at major U.S. ports at the end of 1970. It has been derived from the Matson report that, at a conservative minimum, \$380 million has been spent in the U.S. on the development of container operations. [3, Vol. II, pp. 89-103] There exists at present a trend toward over-investment in container operations.

### Trends in Container Shipping

Statistics have been compiled on the potential container traffic existing in 1968, the actual traffic in 1968 and the required rate of growth in container traffic necessary to match port capacity. These figures are the base for

**Table 3**  
**MAJOR U.S. PORTS LIFT-ON/LIFT-OFF SPECIALIZED CONTAINER FACILITIES**  
(As of December 31, 1970)

Port	Berths	Container Cranes	Capacity Container Turns/Year*
North Atlantic			
Boston	2	2	83,200
New York	22	19	790,400
Philadelphia	1	1	41,600
Baltimore	3	2	83,200
Hampton Roads	4	4	166,400
Total	32	28	1,164,800
South Atlantic			
Charleston	1	0	—
Savannah	2	1	41,600
Jacksonville	3	2	83,200
Miami	—	—	—
Total	6	3	124,800
Gulf			
Port Arthur	1	1	41,600
Houston	2	2	83,200
Galveston	2	—	—
Total	5	3	124,800
Pacific Coast			
Long Beach	4	3	124,800
Los Angeles	11	4	166,400
Oakland	8	8	332,800
San Francisco	2	1	41,600
Portland	3	2	83,200
Seattle	7	5	208,000
Tacoma	1	1	41,600
Total	36	24	998,400

\*10 container turns per hour per crane, 16 hours a day, 260 days per year

Source: Matson Research Corp. *The Impact of Containerization on the U.S. Economy*. A Report to the Maritime Administration, Vol. I, September 1970, p. 90.



**Table 4**  
**U.S. COMMERCIAL EXPORT-IMPORT POTENTIAL BY SEACOAST IN 1968**  
(20-foot Containers and Short Tons of Vehicles)

Seacoast	Reefer	Dry	Total	Vehicles
<i>Exports</i>				
North Atlantic	8,240	379,869	388,109	318,969
South Atlantic	1,289	73,341	74,630	18,966
Pacific	18,083	163,355	181,438	12,457
Great Lakes	1,483	43,278	44,761	26,121
Gulf	2,971	304,801	307,772	17,860
Total	32,066	964,644	996,710	394,373
<i>Imports</i>				
North Atlantic	67,274	704,645	771,919	238,814
South Atlantic	9,820	110,718	120,538	12,051
Pacific	10,415	240,743	251,158	60,862
Great Lakes	312	63,289	63,601	12,403
Gulf	5,898	162,669	168,567	23,674
Total	93,719	1,282,064	1,375,783	347,804

Source: Matson Research Corp. *The Impact of Containerization on the U.S. Economy*. A Report to the Maritime Administration, Vol. I & II, September 1970.

**Table 5**  
**ACTUAL U.S. COMMERCIAL EXPORTS AND IMPORTS BY SEACOAST IN 1968**  
(20-foot container equivalents)

Seacoast	Exports	Imports
North Atlantic	112,930	169,296
South Atlantic	3,520	1,255
Pacific	19,616	33,990
Great Lakes	93	471
Gulf	729	2,317
Total	136,888	207,329

Source: Matson Research Corp. *The Impact of Containerization on the U.S. Economy*. A Report to the Maritime Administration, Vol. I, September 1970, p. 90.

**Table 6**  
**CONTAINER GROWTH TO MATCH PORT CAPACITY**  
(000 Container Round Trips)

	1970 Port Capacity	1968 Trade Potential	% Annual Growth Required
East/Gulf Coasts	1,414	1,305	1.5
West Coast	919	434	15.0
Total	2,413	1,739	5.5

Source: Matson Research Corporation, *The Impact of Containerization on the U.S. Economy*. A Report to the Maritime Administration, Vol. II, September 1970, p. 9.

evaluating the trend of present and proposed investment in container-based distribution systems in light of future potential. The statistics are given in Table 4.

It is seen that potential commercial exports for the U.S. are estimated at 996,710 20-foot container equivalents in 1968. Actually, 136,888 container equivalents were moved in 1968, or only 13.7 per cent of the potential. Similarly, potential imports are estimated to be 1,375,783 20-foot container equivalents but 207,329 equivalents, or 15.1 per cent of the potential traffic, fully moved in 1968. It is estimated that, in total, container traffic must be at a 5.5 percent annual rate in order to match present port capacity. It is apparent that all seaboard have more than adequate specialized container abilities to handle the demands that may be placed on them over the next decade.

It is instructive to examine the situation in further detail. The container fleet servicing the East Coast trades has an estimated capacity of 1,450,000 slots per year by 1974; the assumed total potential demand, if all of the 1968 containerizable cargo were in fact containerized, is 1,275,000 containers in the heavy direction. The West Coast fleet capacity would be 800,000 slots per year in 1974 compared to a potential demand of 460,000 containers in the heavy direction. These are signs of over-tonnaging.

## Problems of Container Development

Moreover, while the above estimates were developed with sophisticated modeling and programming techniques, they may show an upward bias. A shipper must decide if his cargo is suitable for containerization by taking into account such factors as: Cargo dimensions, density, perishability, vulnerability to pilferage, value, transit time, alternative distribution systems and carrier rates on other modes. If the cargo is found suitable for containers, is it practicable? As Evan's article points out: "Suitability is not necessarily synonymous with practicability for the following reasons: imbalance of exports and imports on particular trade routes; lack of sufficient flow of cargo on certain routes to make a service viable; impact of other forms of unitization; and unsuitable inland communications." [1, p. 17] In fact, there could well exist disguised over-tonnaging in the potential cargo estimates.

Over-tonnaging reduces ship utilization below profitable levels and can have disastrous consequences. The pressure to achieve higher capacity levels might cause conference supported rates to be broken by individual carriers seeking greater market penetration. Chaos in the shipping industry will act as a drag on developing the potential cargo tonnage requisite for profitable operations. Secondly, there might result a concentrated allocation of ships on heavily tonnaged routes that can provide the cargo necessary for efficient operations. While this may be an alternative in the short run, it may ultimately cause significant dislocations of port preferences and cargo flows, with many ports heavily invested in unprofitable equipment and changed transportation industry relationships. In fact, one can conclude: "Further uncoordinated growth of containerization might prove detrimental to ship and port profitability, non-containerizable shipper convenience and inland carrier efficiency." [3, Vol. II, p. 2]

The coordination of container facilities development is the most serious problem facing the port sector. Yet this is not the only obstacle to the development of a container-based transportation system. Inland container movement does not match the quality of that available on the ocean segment. Inland container movements are handled as part of the existing domestic business. Railroads have not used the most efficient cost savings technology available for container handling, nor have they introduced all-container train service in the U.S. Consequently, lucrative landward rate savings do not exist for potential container movement. While shippers have little difficulty in obtaining local specialized pickup and delivery service by truckers, long-haul highway movements are limited and handled on a selective basis by common carriers. In total there exists enough rail and truck capacity to move the import-export container trade; however, it is inferior in quality and not sufficiently lucrative to the shipper. Hence there is a drag on potential cargo tonnage and the full benefit of containerization will not be available to all U.S. shippers in the future.

Other serious problems include: (1) The majority of freight moving about the world is consigned in small lots. There is a need for inland depots where LCL loads can be assembled and packed for economical through shipment; (2) customs procedures must be revised. A complete customs check of all containers in port negates the economies of the whole system; (3) concomitantly, new procedures in regard to freight rates, documentation and insurance must be developed. There exists no generally agreed upon basis for establishing freight rates for handling full containers. Commercial practices regarding bills of lading need revision to expedite intermodal exchange and facilitate international transfers. Insurance arrangements covering both the land and marine sections of movement of container cargo must be worked out; (4) the absence of standardized container sizes causes delay in getting international movements of containers developed.

All of these problems are being tackled, but institutional and procedural measures often take longer to effect than technical ones. There will be some resistance to change among those with vested interests in conventional cargo-handling methods. A considerable promotional effort must be started to generate enough international container traffic to realize the full potential benefits of the system. It would appear that the growth of container traffic will be considerable, balancing out all the factors cited.

## Barging in Marine Container Operations

Late in 1969 came the first sailing of the world's first LASH ship, from New Orleans to European ports. Owned in Norway, built in Japan, operating in the U.S.-European trade, the ACADIA FOREST exemplifies the global character of international shipping.

LASH means "lighter aboard ship," a system under patent by LASH systems of New Orleans. Conceived 17 years ago, and a reality in 1969, it is an adaptation of the container ship idea. Instead of discharging containers to a wharf, the LASH ship carries huge cranes and instead of carrying 40-foot boxes, is the mother ship for a fleet of lighters or cargo barges which when discharged float alongside the mother ship and can then be moved to wharves, other ports, or into river or bay systems. The ACADIA FOREST carries 73 such lighters, each 61.5 feet long, or equal to three 20-foot boxes, but — at 31 feet — very much wider. Each has nearly 20,000 bale feet of cargo capacity. They can be nested 4-high in the holds of the mother ship.

This dramatic new ship, and others to come, present a new challenge to established shipping patterns. ACADIA FOREST is 860 feet long, nearly 107 feet wide, and nearly 37 feet at operating draft. Her deadweight tonnage is 43,500. It is estimated that this ship could discharge an unprecedented 10,000 tons of cargo, in lighters, in as little as six hours.

Another and more recent concept is the barge-carrying ship, of which the SEABEE is one type. The SEABEE system combines two basic components. One is the SEABEE ship itself, employed solely as a huge transocean carrier, transporting pre-loaded barges. The other component is the barge unit, which is in itself a small non-self-propelled vessel performing as the actual cargo carrier. Three SEABEE class ships are under construction and will cost approximately \$33 million each, to which must be added approximately \$4 million each for the SEABEE units. The ships will operate between the Gulf and Europe and service is scheduled to start in 1971-72. No one so far as we know has accurately predicted exactly how these ships will affect traffic patterns as they exist today, but they hold theoretical capability for dramatic change. [2, pp. 334-36]

## Conclusion

In conclusion, while academic economists are not the best technically qualified to investigate what government policy should be toward the shipping and port industry, if they do not investigate the trends, no one else will. The impact of containerization, if left unchecked, will reduce the number of ports served by modern cargo ships. Containerization is concentrating general cargo flows through relatively few, large specialized ports. Smaller ports will handle non-containerizable cargo and bulk, and will be feeder points for the major container ports.

In this light, and particularly in the face of over-tonnaging, it is time for the port sector to begin coordinating its activities. Large capital outlays on specialized container-handling facilities should be concentrated at major ports. Otherwise there exists the prospect of expensive, under-utilized container complexes dotting the seacoast, making little contribution to efficiency in transport handling and imposing a significant cost to society at large that could be avoided. Coordination and cooperation could well keynote the future for port development.

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# *LASH/Container Terminals Await Voters' Approval*

(Special to IAPH)

## **The Port of San Francisco**

Port of San Francisco officials in August were eyeing a continued truckers' union strike which had halted construction of the port's new LASH (Lighter Aboard Ship) terminal, scheduled to open in January 1972.

Work on this facility, the world's first, has been proceeding briskly, and port engineers still hope to "bring it in" close to its planned completion.

The major new goal of the world-famed 108-year-old port now is a 100-acre, four-berth, \$34 million container terminal to rank with the finest.

If San Francisco voters approve a general obligation bond issue on

November 2, the new facility (Pier 94) will be completed before the end of 1974.

Its northern line will rest on Islais Creek. On the south it will immediately adjoin and continue the fenderline of LASH (Pier 96).

The proposed Pier 94 is an integral part of the port's master plan for the Islais Creek-India Basin area of the southern waterfront that includes:

1—Pier 80, a 68-acre container and break-bulk terminal completed in 1967 at a cost of \$27 million.

2—Piers 92 and 90, foreign-auto import and 2 million bushel grain terminal, respectively.

3—Pier 94, container and roll-on,

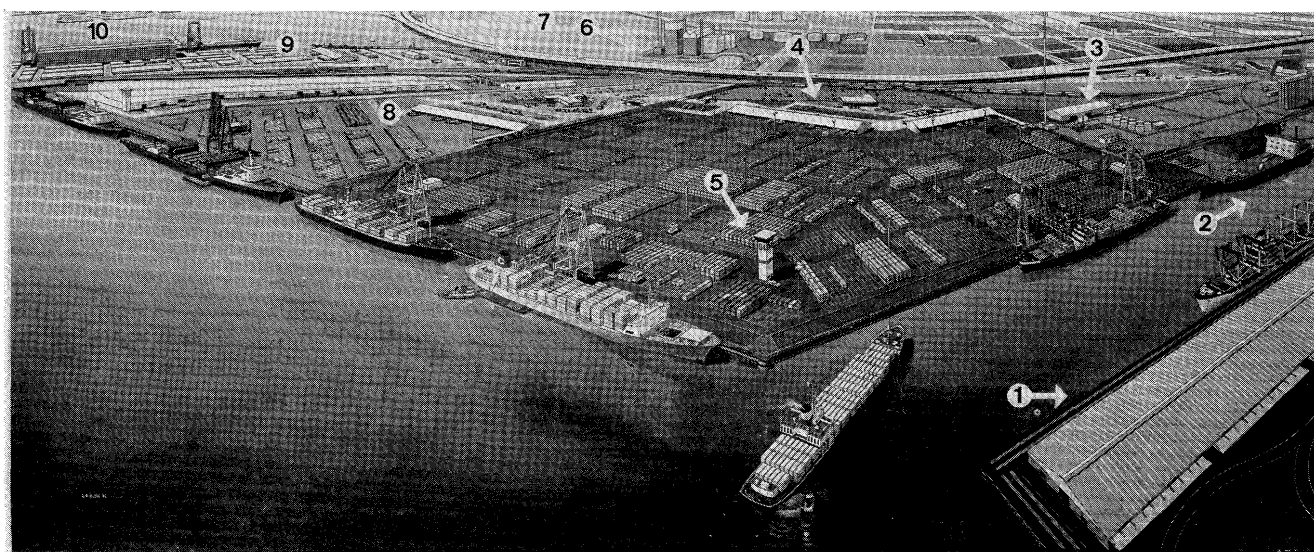


**Miss Miriam E. Wolff, Port Director, San Francisco Port Commission.**

roll-off terminal.

4—Pier 96, a two-berth LASH terminal, which also will accommodate the loading and unloading of conventional containers.

5—Pier 98, a two-berth, 50-acre container terminal south of LASH. The port hopes to build Pier 98 be-



**Pier 94 Container Terminal Concept  
Port of San Francisco**

A four-berth intermodal cargo terminal to serve "third generation" container vessels will be built starting in 1972 on a 100-acre site in the Port of San Francisco's India Basin area. The \$34,000,000 Pier 94 facility will be financed by a City of San Francisco bond issue to be voted on in November, 1971. A 50-acre LASH terminal will go into operation on an adjacent India Basin site in January, 1972. The \$21,000,000 development is leased to Pacific Far East Line as home terminal for its trans-pacific fleet of LASH freighters, the first of which is now operating out of San Francisco.

fore 1978.

Specially designed by consulting structural engineers N. J. Degenkolb Associates of San Francisco, the initial building will stretch 855 feet long and 192 feet deep at its narrowest dimension. An additional 75-foot cantilevered canopy over the water will permit all-weather loading of the 31 × 61 × 13-foot barges. Additional foundation work for five more 65-foot bays has been laid for the future 325-foot extension.

The barges will be loaded with five 5-ton P. & H. (Harnischfeger) telescoping-mast stacker cranes suspended from trolleys attached to the canopy. Each crane, dubbed the "Flying Fork," will pick up palletized cargo from the deck, trolley out over the barges, and lower the load into the barge.

Special sensors will help prevent damage from sudden surges as the cargo is being brought to rest in the barge.

Other principal features of the LASH/Container Terminal will be the container freight station, a 15-acre container yard, a "one-stop" gatehouse, administration building, maintenance and repair shed, and a 30-ton dockside gantry container crane capable of rotating the container 180 degrees.

Cargo mix of the LASH vessels is flexible, but PFEL initially plans to load 49 of the 500-ton lighters and 356 standard 20-foot containers on the three LASH vessels that will be in service by the end of this year, and three more for a six-ship fleet total by the end of 1972.

A special feature of the gatehouse is the three-lane truck entry. The truck on the inner lane will drive up to a "teller window" and hand over his papers without leaving the cab. Drivers of trucks in the two outer lanes will also stay in their cabs, popping their papers into a pneumatic tube capsule and communicating with the clerk by loudspeaker.

Each driver will receive a color-coded card, directing him to follow a colored stripe corresponding to the card color, which will take him direct to either the container freight station or the barge loading station.

The facility will also be served by rail connections to both freight stations and the container yard.

## ***BLG Shows Flexibility In Investment Policy***

### **Via Bremen Bremerhaven**

One of the decisive factors influencing the competitive situation of a seaport is the ability to remain flexible in investments. Bearing this in mind, the Bremer Lagerhaus-Gesellschaft, Bremen/Bremerhaven, have made over the past years new and replacement investments for specialized and conventional modes of transportation. Among the latest measures we can find the completed programme of investments carried out in the Port of Bremen (City), which the Bremer Lagerhaus Gesellschaft have now shown to the public.

Within this investment programme Shed No. 17 in Bremen's Überseehafen was reconstructed; Shed No. 20 in the Neustädter Hafen was extended by one section; the capacity of the consolidated export cargoes centre, the "Weserbahnhof",

Also planned west of the barge loading station, is a 100-ton gantry capable of heavy-lift barge loading or unloading as well as removing empty lighters from the water for shifting to the nearby barge maintenance area. This facility also will be served by rail.

The entire operation is designed for maximum efficiency, including one-directional traffic flow of straddle carriers in the container yard to eliminate the possibility of cross traffic.

In connection with the proposed general obligation bond election for Pier 94, Miss Wolff noted that in 106 years as a state-owned port and since February 1969 under city ownership, the Port of San Francisco has been wholly self-supporting.

"Unlike all other West Coast ports, with whom we compete, the Port of San Francisco has never enjoyed the benefit of any sort of taxpayer support or other subsidy," she said.

"We hope to maintain that splendid record," she said.

was increased; and finally two new floating cranes of the "Athlet" class were put into operation. Moreover, by the end of June a new gantry crane between Sheds No. 16 and 18 will be in operation for the handling of pipes.

With these investments, totalling 32 million Marks, the Bremer Lagerhaus-Gesellschaft are continuing their investment policy for specialized and conventional modes of transport alike. The amount of capital invested has thus increased to more than 200 million Marks since 1963, when investments were divided between the City of Bremen Authorities and the Bremer Lagerhaus-Gesellschaft. Since the end of the war a total of nearly one billion Marks has been invested in the ports of Bremen and Bremerhaven.

### **Shed No. 17 (Überseehafen)**

In the construction of Shed No. 17 in Bremen's Überseehafen many years' experience in using sheds without ramps was utilized. It is expected that the result will be a 30% increase in productivity, just as in the sheds in the Neustädter Hafen. Within one year the new building, which is about 17,500 square metres large, was pulled down and rebuilt. 4,000 square metres of marshalling area alongside the quay and an open area of 6,000 square metres are available for the movement as well as for the storage of containers and heavy-lift cargoes. There are also a number of gantry cranes, four of which have a capacity of 8 tons each. Further modernization investments have been taken into consideration in Bremen's Überseehafen, and the new Shed No. 17 will serve as a good model.

### **"Weserbahnhof"**

Only a few days before the 20 years' anniversary of the consolidated export cargoes centre, "Weserbahnhof", the Bremer Lagerhaus-

Gesellschaft have put an extension of this facility into operation. The reason for this increase in capacity is clearly the change in the attitude of the shippers. Owing to the concentration of seven full-container services, four feeder services and 23 semi-container services on Bremen/Bremerhaven, consolidated cargoes for export both by conventional services as well as by container services are packed together in a goods wagon or on a lorry, and are forwarded to Bremen, where they are sorted at the "Weserbahnhof" and then delivered to the respective vessels. This has, without doubt, led to the above-average increase in the number of export and local goods handled at the "Weserbahnhof"; this number reached a total of about 191.000 tons (31.000 tons of which were local goods ) in 1970.

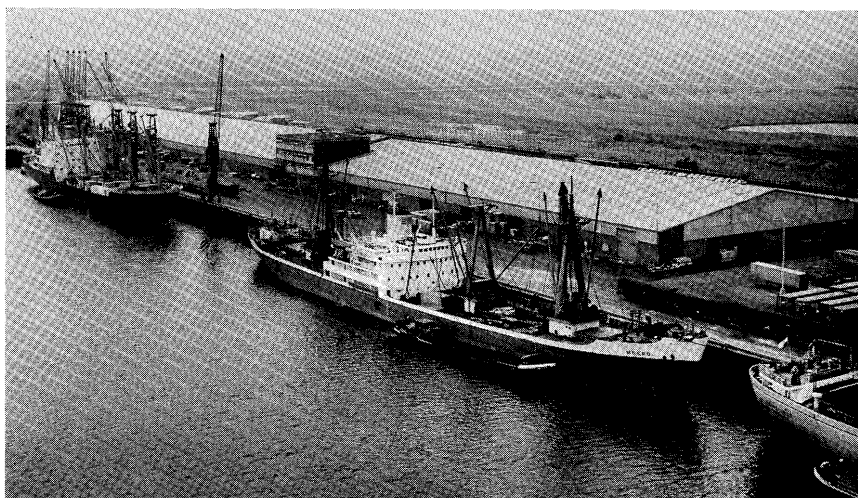
#### **"Athlet" floating cranes**

The fleet of floating equipment of the Bremer Lagerhaus-Gesellschaft was enlarged by 2 floating cranes of the "Athlet" class. "Athlet" II is already in operation in Bremerhaven, and "Athlet" III will be used in Bremen. It has replaced a 60-ton crane, which is no longer in use.

The increases in productivity, which will be achieved by means of these floating cranes, are the result of the considerably greater hoisting and tipping speed, the outreach of 45 metres from the centre as well as the height of lift of 35 metres above the water level. The capacity for handling heavy-lift goods is up to 100 tons for each package, and quicker container handling is also possible. Because of these excellent features the floating cranes can also be very well used as additional equipment for the stationary container gantry cranes and other cranes. These cranes, which can turn 360 degrees, are driven by two propellers with 650 h.p. each, thus guaranteeing a high manoeuvring ability even in rough waters.

#### **A gantry crane for the handling of pipes**

The importance of Bremen in trade with the USSR is largely due to the export of large pipes. In 1970 alone, 165.904 tons of these pipes, which are to be used for pipe-line construction in the Soviet Union, were moved. Considerably more are







expected for 1971. A gantry crane, which is at present being constructed between Sheds Nos. 16 and 18, will be used to handle these goods. This construction with a moving range of 200 metres will further rationalize the handling of the pipes and will make sure that the Soviet vessels are also cleared quickly. A total area of 15,000 square metres will be covered by this crane and it will be able to handle heavy cargoes and containers, owing to its lifting capacity of 35 tons.

After these extensive investment projects have been completed, it is now clear that further measures must be taken in the field of conventional cargo handling. It is planned for the near future to put an efficient roll-on/roll-off facility into operation at the head of the Europa-hafen for the Scandinavian services.

A shed of about 20,000 square metres will also be available. The construction work, which has already been started, should be completed in early 1972. The construction of new shed facilities on the east side of the Neustädter Hafen and in the Überseehafen (Shed No. 15) is now also included in the planned investment projects of the Bremer Lagerhaus-Gesellschaft. Moreover, the grain facility will also get a new transverse pier to replace the old Pier B, and the parking area for the fork-lift trucks will be further modernized and enlarged. Further 80 million Marks will have to be provided for these projects. Bremen, 10th June, 1971

## Seaway Tolls Challenged

St. Paul, Minn.:—The Seaway Port Authority of Duluth plans to take legal action challenging the U.S. Government's right to collect St. Lawrence Seaway tolls.

Duluth Port Director C. Thomas Burke, addressing the annual convention of the National Waterways Conference Wednesday, Sept. 15, in St. Paul, said the port authority will bring suit in federal court against the U.S. Government, the U.S. Secretary of Transportation and the St. Lawrence Seaway Development Corp. to test the constitutionality of the toll system.

Burke quoted sections of the Northwest Ordinance and the Constitution as the bases for the port authority's action. He said tolls on inland waterways are specifically prohibited in both documents.

Since the 1959 Seaway opening, the government—through the Seaway Development Corp.—has collected tolls of 90 cents a ton on general cargo and 40 cents a ton on bulk cargo shipped through the waterway, plus four cents a ton on the gross weight of a ship. The toll system was written into a 1954 law that enabled the United States to join Canada in the Seaway's construction.

"It is no secret that the political price paid for construction of the Seaway was the imposition of tolls," Burke said. "Atlantic and Gulf Coast interests, both political and port competitive, insisted that the Seaway be self-supporting, even though every other federally financed navigation route is toll-free."

He referred to an article of the 1787 Northwest Ordinance which reads:

"The navigable waters leading into the Mississippi and St. Lawrence, and the carrying places between the same, shall be common highways, forever free, as well to the inhabitants of the said territory as to the citizens of the United States, and those of any other states that may be admitted into the confederacy, without any tax, impost, or duty therefor."

Burke also singled out an article

(Continued on Next Page Bottom)

# Barry Looks to Doubling of West Indies Traffic

By Gerald Farmer

British Transport Docks Board

New ships, a new shed, and a newly-introduced system of cargo handling could result in a doubling of the amount of West Indies traffic passing through the South Wales port of Barry over the next years.

This is the opinion of local dock officials following the introduction into service of the motor ship **Geest-tide**, latest addition to the Geest In-

corporated into the Constitution:

"No preference shall be given by any regulation of Congress of revenue to the ports of one state over those of another; nor shall vessels bound to or from one state be obliged to enter, clear, or pay duties in another."

The latter has special significance, Burke said, in view of the Merchant Marine Act of 1970 designating the Great Lakes as the nation's "Fourth Seacoast," thus assuring lakes ports of equal treatment with ports on other coasts.

He criticized government officials who "are lending sympathetic ears to the promoters of inland waterway-user charges" and pointed out that the Canadian Government currently has before it a proposal to increase tolls unilaterally.

"The primary and overriding purpose of the Seaway is the development of commerce," he said. "I believe the imposition of Seaway tolls has acted against the best interests of our people and, in fact, has been self-defeating."

"Were it not for Seaway tolls, the economic expansion in our area would be without comparison in the annals of our history."

Burke called for support of the port authority position from the convention delegates, who represent public and private interests throughout the nation's inland waterway system. (Seaway Port Authority of Duluth)

dustries' fleet and first of four new vessels being built in Scotland for the company at a total cost of around £11 million.

Since it was established at Barry in 1958 Geest's fast liner service to Barbados and the Windward Islands has been an extremely valuable and steadily growing sector of the port's trade. Imports of bananas and other West Indies produce, brought to Barry for distribution throughout the U.K., have risen to about 130,000 tons annually, whilst on the export side traffic has shown a dramatic 300 per cent growth from under 10,000 tons in 1963 to about 40,000 tons in recent years.

The relationship between Geest and Barry has been a good one, which has resulted in the increasing concentration of the company's traffic at the port. But Barry is under no illusions about the need to maintain a high standard of service. Its attitude is underlined by the remarkable speed with which the port reacted to the potentially disastrous fire in June last year which completely destroyed the company's warehouse at No. 2 Dock. Immediate alternative accommodation was provided to enable Geest to maintain its weekly sailing, and within five months the British Transport Docks Board had placed a £102,000 contract with Avonmouth Engineering Services for a brand new 51,000 sq. ft. transit shed. Completion of the contract was equally rapid and on 14 May this year—only eleven months after the fire—the new shed was officially opened by Mrs. John van Geest.

The new building was planned primarily to deal with the export side of Geest's business; the banana imports, which now arrive in cartons and not on the traditional stems, going for immediate delivery or direct into ripening rooms which



have also been re-established on the docks estate.

The outward traffic is extremely varied, covering the thousand-and-one requirements of primary producing island communities—such items as detergents, canned beers, chicken feed, egg boxes and tractor tyres were among the consignments to be seen in the shed during a recent visit.

Since the new shed was completed, Geest Industries have taken the important step of introducing full palletisation to their trade—both for banana imports and general cargo exports—and so far Barry is finding that the system is working extremely well. All suitable export consignments are being shipped in palletised form, and a separate shed—Atlantic Shed—has been provided as a reception and palletisation depot for loose cargo. Here the goods are palletised for shipment, colour-coded according to their island destination and then transferred to the new shed to await loading.

The **Geest-tide** loaded about 900 tons of general cargo for her maiden voyage to Barbados and the Windward Islands and according to one Docks Board spokesman the operation went off "better than we could have dreamed".

The next step, the port hopes, will be the doubling up of the Geest service to two vessels a week—an arrangement with which they are



## South Wales Docks

Pierhead Building, Cardiff, CF1 5TH. Tel. 42544. Telex 49371

Port Director: T. S. Roberts, J.P.

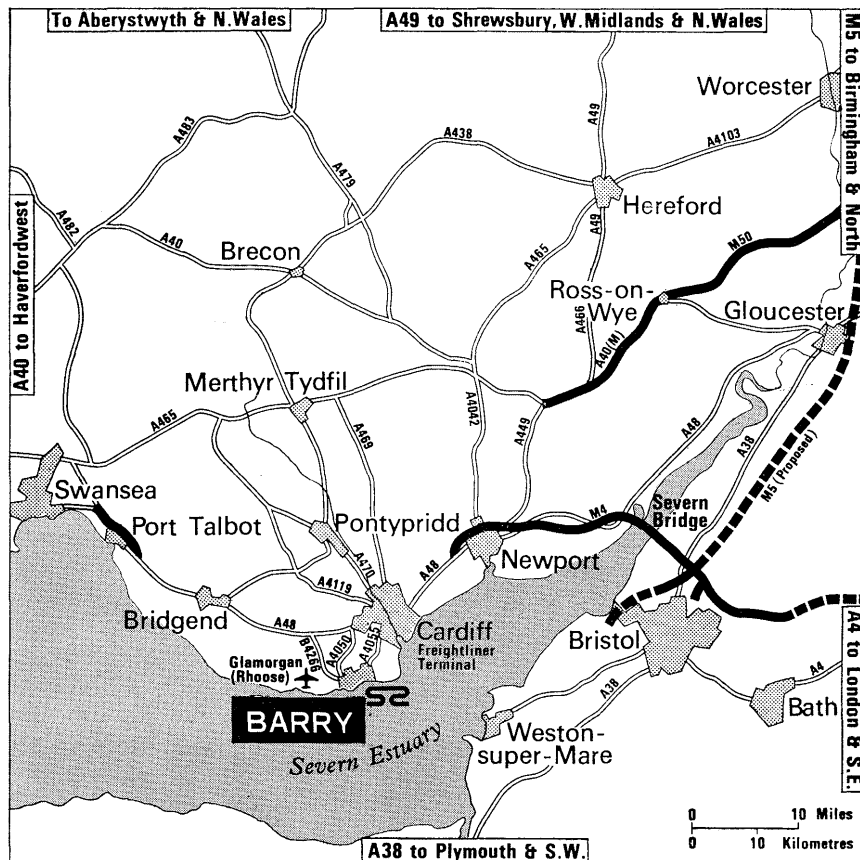
Commercial Manager: R. G. Wareham

## Barry

Dock Office, Barry, CF6 6US. Tel. 22311. Telex 49421

Docks Manager: M. W. Watt

Asst. Docks Manager: B. J. Harding



confident they can cope, given the new shed and the speedier handling which palletisation has brought. The potential for outward cargo on the service from Barry is, they feel, almost certainly in excess of 80,000 tons a year, or double the present level.

### Overall Trade Increase

The overall trading position at Barry is fairly buoyant, the latest tonnage figures—985,608 tons in 34 weeks—showing an eight per cent increase over 1970. But it is unlikely that Barry will be able to finish the year with a total tonnage higher than the 1.8 million tons of 1970—its best year since 1965—according to Mr. Marcus Watt, the docks manager.

“Although the latest figures show a very healthy increase, and earlier this year we were 26 per cent up,

it must be remembered that during the second half of 1970 we were called upon to handle a tremendous amount of diverted traffic when Newport was forced to close down for reconstruction of its entrance lock, “Mr. Watt pointed out. “In fact, we dealt with 1.2 million tons during those six months, almost as much as we have been handling in a full year in recent years, and it is unlikely that we will find that much additional traffic again this year,” he said.

“Nevertheless, we have proved beyond doubt—and not for the first time—that we have the capacity to deal with a lot more traffic and I would hope that we will maintain our present rate of improvement and achieve over one and a half million tons this year,” he added.

Discounting the welcome but unexpected boost which Barry’s trade

has received from temporary diversions, there remains a sound basis to the port’s prosperity which has enabled it to produce regular surpluses on its operations every year since the port was taken over by the Docks Board in 1963, even after allowing for depreciation and interest payments.

This achievement, outstanding as it is when considered against the general background of depressed profit levels in the port industry as a whole, is all the more remarkable for having been sustained in the face of a fairly massive decline in Barry’s basic coal export trade. The figures clearly underline the changes which have occurred over the last decade: between 1963 and 1965 the port’s total trade varied between 1.75 and 2 million tons annually, of which some 900,000 tons was coal; last year, despite the fall in coal shipments to only 303,000 tons, the port dealt with 1.8 million tons of traffic and so far in 1971, with trade running at an annual rate of nearly 1.6 million tons without the benefit of 1970’s diversions, coal exports have declined still further.

Although coal remains one of the largest tonnage items at Barry—and the unusual situation has arisen where the port has handled nearly 90,000 tons of coal imports this year—the port’s prosperity is now firmly founded upon the West Indies trade and the oil and chemical business of the Powell Duffryn Group.

### Oil Traffic

Oil is regarded as one of Barry’s growth trades and during the first half of this year the tonnage of petroleum and its products passing through the port was almost 238,000 tons—an increase of more than 50,000 tons over the corresponding period of 1970.

The port now has tank storage amounting to over a quarter of a million tons capacity and most of this belongs to Powell Duffryn Oil and Chemical Storage Ltd., who were established at Barry in the early 1950s and act as public wharfingers on behalf of the major petro-chemical companies, with a trade that is now 40 per cent chemicals and 60 per cent oils. Also established on the docks are Mobil Oil and B.P. Chemicals.

It is, then, the West Indies and

the oil trades which are providing the foundation of Barry's prosperity. Then there is the 24,000-ton capacity Atlantic Mills of the Rank Hovis McDougall Group, dealing with nearly 80,000 tons of imported grain in a year. And there is also the timber business of Messrs. Meggitt and Price, the port's main timber receivers, who apart from using the port, bring additional tonnages in by road for processing at their saw-mill on the Dock Estate. Timber imports for this company and the N.C.B. Mining Division amount to 40,000 tons a year.

Because Barry is an economic port to operate, with little expenditure incurred on dredging to maintain water depths, these basic trades virtually assure its viability. But coal, though still important, is declining and the main task has been to find new business to take up spare capacity that is being released; and Barry has been having some notable success.

One additional traffic for which Barry has developed considerable expertise and a good reputation is the handling of scrap metal. It is a two-way trade which the port expects to bring it about 60,000 tons of extra business this year. In recent weeks Barry dockers have been engaged in loading a number of scrap cargoes destined for China and Japan and have achieved loading rates of up to a thousand tons a day using a chute system in conjunction with grabbing cranes. And Thompson Metals Ltd., a private firm which has invested about £250,000 in a scrap processing plant nearby, has also just completed the development of a sophisticated system for loading scrap by conveyor.

Barry is one of the few U.K. ports to have a dispensation to deal with large quantities of Government ammunition and explosives, within the enclosed docks and at selected anchorages. Stringent regulations cover the points at which explosives may be handled and the maximum quantities which may be dealt with. Barry has already handled a number of 2,000-ton consignments at the designated anchorages in the estuary and it is anticipated that this will become an increasing feature of the port's trade.

## Land for Development

One major fact that is constantly being pushed is that, of the port's total land area of 819 acres, no less than 200 acres is available for industrial development. Already some of this land has been taken up as a base for the Natural Environment Research Council's Research Vessel Unit, and a £1¼ m development is at present under way to provide the unit with a modern laboratory and storage complex including a new administration block. More recently, the port has attracted Holt Products Ltd., the manufacturers of car care products, to set up a 40,000 sq. ft. factory on the dock estate to pack anti-freeze from raw materials landed at the docks, and the new factory is now in production. But Barry is out to persuade more industry of the advantages of developing alongside deep-water port facilities and it does have very great potential in this respect.

At the moment the Docks Board is seeking in Parliament to extend the port limits at Barry to bring within their jurisdiction the very deep-water outside the port which is established would be suitable for dealing with ships of up to 200,000 tons. The feeling is that whether for tankers or even perhaps LASH vessels, here is a natural asset which could be the key to the future development of the port of Barry.

## Unique Container Crane

Toronto, July 23:—The Port of Toronto's newest piece of equipment, a \$600,000 container crane, has now been put into operation and is ready for business.

The first 20 and 40-foot containers were discharged from the German m/v TILLY RUSS on July 12 at Marine Terminal 51.

Since her arrival on May 20 and the following assembly, the crane has undergone extensive pre-testing operations to ensure efficient workability in handling all sizes of loaded containers.

As a result of the steadily growing container business since the mid-1960's, the Port placed an order with the Leo Gottwald Company of Dusseldorf, West Germany,

in October 1970 for this unique piece of equipment.

At a maximum radius of 82 feet, the crane's capacity is 26.4 tons which allows for loaded containers, up to 40 feet in length, to be discharged or loaded on the far side of the vessel.

It is the first container crane of its kind in the world, equipped with unusual equipment and designed to meet the Port's criteria. The crane itself is mounted on a 91-ton mobile carrier and includes an unique tower and boom combination which allows for maximum flexibility in all areas. Thus, turnaround times of vessels calling at Toronto are substantially reduced.

Statistically, the crane can be described as follows:

- total extended height of 140 feet
- mobile 91-ton base powered by a 6 cylinder, 420 horsepower diesel engine
- a 63'6" tower supporting a 96'6" boom
- a 6 cylinder, 360 horsepower motor powering the tower and boom combination
- six four-tired axles
- a tower cab 37 feet above ground thus giving the operator a direct view into the vessel hold
- 60 tons of counterweights for operational stability

To date, enquiries regarding this crane have already been received by the Gottwald Company from industry in France and Germany and from the Ports of San Francisco, California, and Port Everglades, Florida.

To supplement the crane's container handling operation, the Port has just recently taken delivery of another first in the Canadian port industry.

This one is a \$170,000 mobile overhead lift truck with a 40-foot spreader frame for transporting loaded 40-foot containers to ship side for handling by the container crane or away from dockside after discharge. The 56-ton unit is the first hoist of this size in Canada to date. (Port of Toronto Press Release)

## Reports by observers from IAPH at IMCO sessions

**Report No. 15**

Date: 10-14 May, 1971

Place: I.M.C.O. Headquarters,  
LondonSession: 9th Session of the Sub-  
Committee on Marine PollutionObserver from I.A.P.H.: Mr. J. H.  
Potter, Chief Engineer, River,  
Port of London Authority**Text of Report**

1. At the 1st April, 1971, there are 42 Contracting Governments which have accepted the 1954 Oil Pollution Convention as amended in 1962, these amendments coming into force in 1967. Four of these Governments have accepted the 1969 amendments and others have indicated that they will do so in the near future.

2. Further amendments have been proposed as draft Assembly Resolutions which are intended:-

- i) to give protection from pollution to the unique area within 50 miles of the Great Barrier Reef,
- ii) to define tank arrangements and limitations of tank size in tankers constructed after June, 1972 so as to minimize pollution hazard in the event of maritime casualty, in particular that wing tanks 50,000 cubic metres.

3. The Sub-Committee included in its future programme, the examination of proposals for further amending the Convention by:-

- i) the definition of "oil" and "heavy diesel oil" and noxious cargoes generally.
- ii) The establishment of adequate shore reception facilities for oil residues at main ports and oil loading terminals and for the residues of tank washings and fuel purification at all refineries.
- iii) The establishment of a sys-

tem for the mandatory carrying out of inspections of oil record books and of the ships themselves to detect breaches of the Convention including the provision of an international inspectorate appointed by the Organization.

4. A draft manual on methods of dealing with oil pollution, with particular reference to spillages, was prepared by the United Kingdom delegation and distributed to members of the Sub-Committee for comment. It is hoped to finalise the manual at the eleventh session taking into consideration similar documents prepared by Finland, Canada and the Federal Republic of Germany and also one by the U.S.S.R. on methods of avoiding pollution of the sea by oil.

5. It was agreed that voluntary reports of spillages of oil should be submitted by Governments and then be circulated as soon as possible to all other Member Governments in a prescribed form, for which a recommended draft was prepared by the Sub-Committee. An annual summary of these reports is to be prepared.

6. The Sub-Committee considered a document prepared by the Joint Group of Experts on the Scientific Aspects of Marine Pollution (GESAMP) on the Identification of Noxious and Hazardous Cargoes other than Oil. It was noted that GESAMP had defined two main categories of noxious and hazardous cargoes other than oil and had prepared preliminary lists identifying such cargoes known to be currently carried by sea. Member Governments are to be invited to consider the lists and to supply information on any other cargoes, the release of which into the sea might give rise to pollution, for

inclusion in the list.

7. An International Conference on Marine Pollution is to be convened by I.M.C.O. in 1973 and the following subjects were amongst those recommended for inclusion in the conventions to be recommended for discussion by the Conference:-

- i) The recoverable packaging of dangerous cargoes whose release to the sea would otherwise have a serious effect on the marine environment and its resources.
- ii) The establishment of an additional convention to provide for the minimization of wilful, intentional and accidental pollution of the seas by oil and other pollutants causing harm to living resources or reduction of amenities.
- iii) The need to consider the development of more rapid means of amending conventions.
- iv) The incorporation of arrangements within ships so as to avoid both intentional and unintentional discharges of oil with specific reference to a note prepared by the Government of Sweden.
- v) The control of the dumping of industrial wastes into the high seas by ships and barges.
- vi) The increasing problems of pollution caused by sewage from ships in harbours and congested waters, subject to further examination of the information already requested from Member Governments on regulations, facilities and standards for the reception of sewage and garbage and the control of effluents from ships.
- vii) The provision of adequate port reception facilities and the fitting of ships with adequate sludge tanks to receive oil residues from purification of fuel and lubricating oil.
- viii) Extension of the International Convention to cover

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# Orbiter Probe

## IAPH News :

### Conference Proceedings

The Proceedings of the Montreal Conference now being compiled by the IAPH Head Office is scheduled to be published on December 1, 1971 and then to be sent out by seamail to all members free of charge.

It will include the proceedings of plenary sessions, major papers, panel discussions, portrait photographs of members of the Executive Committee and the Board of Directors, and some photographs of Conference scenes, but will not include the records of Conference Committees, Standing Committees, Luncheons, dinners, and Minor Papers. There will be printed a separate book of records of the Executive Committee

pollution casualties by noxious and hazardous cargoes other than oil and those arising from exploration and exploitation of the sea-bed and ocean floor.

8. The Sub-Committee were informed by the International Council for the Exploration of the Sea (ICES) that a Working Group was being set up to carry out a comprehensive survey of the North Sea with respect to the amounts and distribution of pollutants and their effects. They also took note of information submitted by the United Kingdom Government on the hazards created by floating and submerged debris.

9. The next meeting of the Sub-Committee is tentatively scheduled for the 6th-10th September, 1971, when first priority will be given to the preparatory work for the 1973 Conference on Marine Pollution.

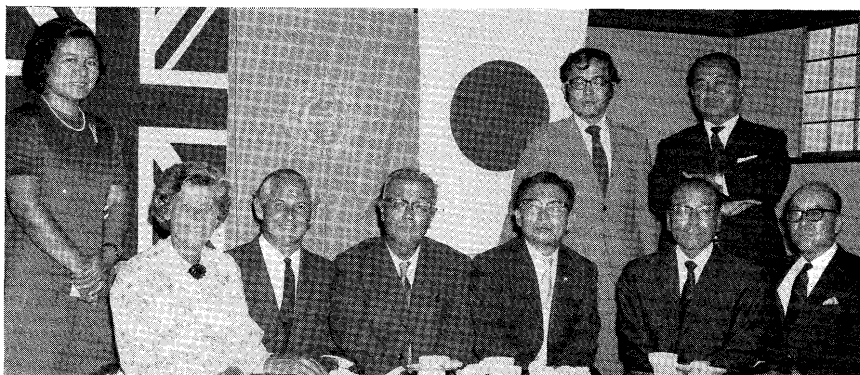
and the Board of Directors sessions, but this book will be given only a limited circulation.

Minor Papers, 21 of them, excluded from the above-mentioned Proceedings of the Conference, are going to be printed in this magazine, beginning with this issue at a rate of two or three articles a month, until they run out.

### Travelers

- Mr. Weddell H. McCroskey, Commissioner of the Port of Olympia, Washington, U.S.A., dropped in at the IAPH Head Office on Thursday, September 2.
- Mr. John Lunch, Director-General of the Port of London Authority, and Mrs. Lunch stayed in Japan for 7 days before departing for home via Hong Kong on October 1. In Tokyo Mr. Lunch had conversations with Government officials, presidents and executives of Butterfield & Swire, Mitsui-OSK Line, Kawasaki Line, Ben Line,

(Continued on Next Page Bottom)



In the ante-room of tempura-house Matsuyama in Tokyo, Tuesday September 28 evening. From L. to R.: Mrs. Kazuko Tatsuta (S.G. Mr. T. Akiyama's daughter), Mrs. J. Lunch, Mr. J. Lunch, Dr. Hajime Sato, Mr. E. Yamazoe, Mr. Rinnosuke Kondoh (standing), Mr. T. Okumura, Mr. K. Enomoto (standing), and Mr. J. G. Hasegawa. Dr. Y. Kurisu and Mr. Y. Nagata arrived later.



At the tempura table, L. to R.: Mrs. J. Lunch, Mr. J. Lunch and Dr. Y. Kurisu.

# Customs Co-operation Council

(Brussels, 22nd June 1971)

## Calendar for Council and Committee Sessions and Other Meetings

1st July 1971—30th June 1972

### 1st July 1971—31st December 1971

Commodity Code Study Group		Tuesday 14th September	Thursday 16th September
Permanent Technical Committee	Working Party	Monday 20th September	Monday 27th September
	73rd/74th Sessions	Tuesday 28th September	Friday 8th October
Valuation Committee	56th Session	Tuesday 12th October	Friday 22nd October
Nomenclature Committee	27th Session	Monday 8th November	Saturday 20th November

### 1st January 1972—30th June 1972

Chemists' Committee	18th Session	Tuesday 18th January	Saturday 29th January
Valuation Committee	57th Session	Tuesday 8th February	Friday 18th February
Permanent Technical Committee	Working Party	Monday 28th February	Monday 6th March
	75th/76th Sessions	Tuesday 7th March	Friday 17th March
Nomenclature Committee	28th Session	Monday 17th April	Saturday 29th April
Valuation Committee	58th Session	Tuesday 2nd May	Friday 12th May
Finance Committee	39th Session	Monday 8th May	Saturday 13th May
Council	39th/40th Sessions	Monday 5th June	Friday 9th June

N.Y.K. Line, P.&O., etc. On Tuesday afternoon Mr. Lunch visited the IAPH Head Office and, in the absence of Secretary General Mr. Toru Akiyama who was in Europe, met Dr. H. Sato, IAPH Deputy Secretary General.

That evening Mr. and Mrs. Lunch were invited to a "tempura" dinner hosted by Dr. Sato at Matsuyama Restaurant in Azabu, Minato-ku, Tokyo where also were invited Dr. Y. Kurisu, Director General, Bureau of Ports and Harbors, Ministry of Transport, Mr. T. Okumura, Director, Port and Harbor Bureau, Tokyo Metropolitan Government, Mr. Y. Nagata, Director, Port and Harbor Bureau, Kobe City Government, Mr. E. Yamazoye, Director, Port and Harbor Bureau, Yokohama City Government, and Mr. K. Enomoto,

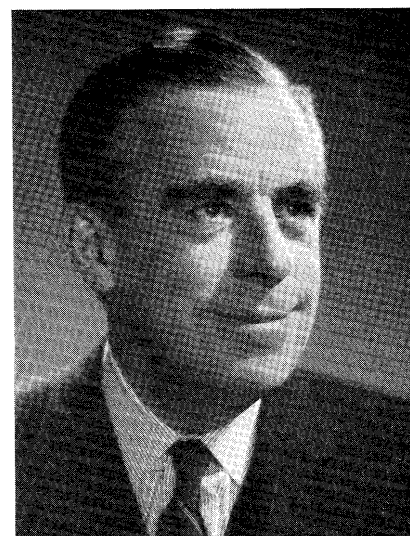
Counsellor, Keihin Port Development Authority.

Wednesday evening Mr. Lunch held a reception from 6.30 p.m. at the Imperial Hotel, Bamboo Room, where Dr. Kurisu, Dr. Sato, Mr. Okumura, Mr. Yamazoye, many shipping company executives and businessmen were present.

### Mr. L. R. Talbot

Ottawa, September 17:—The appointment of Louis R. Talbot, 57, of Ottawa to the Canadian Transport Commission was announced today by Transport Minister Don Jamieson.

Prior to his new appointment, Mr. Talbot was vice-chairman of the National Harbours Board, occupying that position since September, 1961. During his long pe-



Mr. Louis R. Talbot

riod of service with the Board, he was closely associated with major developments in all of the harbours within the jurisdiction of that body. A civil engineer by profession, he is widely known in Canadian marine and engineering circles. (Ministry of Transport)

### We're Moving

#### FROM:

THE TREBLA BUILDING  
473 Albert Street, Ottawa

#### TO:

Place de Ville,  
330 Sparks Street,  
Ottawa, Canada,  
K1A 0N6

### Effective September 10, 1971

Telephone Numbers Will Remain Unchanged

National Harbours Board of Canada, Head Office

### Yarmouth Radio Station

Ottawa, August 31:—The opening of a \$181,000 communications building at Yarmouth, Nova Scotia on August 31 was announced by Transport Minister Don Jamieson today.

The new building will house the Yarmouth Marine Radio Station previously located at Rockville and the Yarmouth Aeradio Station at Yarmouth Airport.

The Yarmouth Marine Radio Station began operations in 1921.



The station was established by the then Department of Marine and Fisheries as a coast station to provide a communications service for the extensive shipping in the area.

Meanwhile, increasing air traffic—partially due to Yarmouth's location on the Great Circle Route between New York and Europe—dictated the need for an enroute air-ground communications station which subsequently was built in 1944 adjacent to the Yarmouth R.C.A.F. Airport. Coincident with the closure of the R.C.A.F. tower in 1945 Yarmouth Aeradio, in addition to being the main communications centre for enroute civil and military aircraft, commenced service to aircraft using the Yarmouth airport. This service included landing and take-off information, weather, flight planning assistance, navigational aid information, all of which are necessary for a pilot to complete his flight safely. Over the years, air-ground communications facilities and navigational aids have been added.

In 1965 the Yarmouth Marine and Aeradio stations were combined under one management located at the airport. At the same time, a Yarmouth complex was established with electronic maintenance responsibilities for island-and-shore-based marine radio beacons, lighthouse radio telephones, Coast Guard vessels and Department of Fisheries patrol vessels located along the coast from Digby to Liverpool. In addition, navigational aid facilities and landing aids associated with the airport were installed.

The new, consolidated marine aeradio station will continue to provide a radio/telegraph/telephone safety communication service in terms of a requirement under the Canada Shipping Act. The station will provide a radiotelegraph service for ship business and personal messages as well as a marine telephone service which permits ship-shore intercommunication equivalent to ordinary long distance telephone calls. Both services are available at internationally established standard rates. It will also handle press messages, weather information from ships for the Canadian Meteorological Service

and a considerable volume of operational messages for ships of the Canadian Coast Guard.

Information on weather and dangers to navigation will be broadcast and the station will act as the communications link between the Halifax Rescue Co-ordination Centre and vessels requiring assistance. The Aeradio station will continue to provide, in addition to safety communications to enroute military and civil aircraft, all the necessary services required by pilots using the Yarmouth Airport.

The Yarmouth Marine Aeradio Station is one of the most up-to-date in North America and is manned by a staff of five electronics technicians and ten radio operators. Communications and navigation equipment in use will reflect the latest technological developments in their respective fields. Consolidation of the two stations under single management with a common operating and maintenance staff will provide a more efficient and economical operation. (Ministry of Transport News)

## New Container Crane

Baltimore, Md., August 24:—Baltimore's third specialized container crane swung into operation for the first time today, putting the Maryland port in a leading position for handling containerized cargo on the East Coast.

In announcing deployment of the \$1,167,000 crane, which was built for the Maryland Port Administration's Dundalk Marine Terminal by Paceco, of Alameda, Calif., Joseph L. Stanton, the Maryland Port Administrator, said this second bridge-type unit would double the handling capacity previously provided by the first specialized Dundalk crane.

The two structures will now average approximately 20 lifts an hour (each), and in a typical 10-hour working day will be able to handle about 400 boxes. In contrast, the four gantry cranes which the MPA has outfitted with special spreaders for container handling can each accomplish about 10 movements an hour at best.

Container crane number 3—there

is another 15-story-high Paceco container crane in operation at the private Sea-Land Service terminal in the Canton area of the port, in addition to the two now in service at Dundalk—has a longer backreach than its predecessors. It can transverse about 100 feet to the rear in order to accomplish direct pickup from the marshaling area, or to perform stacking operations. The other Pacecos in service here have a backreach of approximately 30 feet.

Like its forerunners the new crane has a 40-ton container handling capacity. Working alone it can handle the average container-ship calling at Baltimore in one day. But if employed in conjunction with Dundalk's other Paceco the two units, operating together could move a full container vessel through the port in about five hours.

The Dundalk terminal is scheduled to have seven container cranes operating on Berths 7 through 12 by late 1972. The next mammoth bridge-type gantry-mounted structure is to be operative about the end of October '71, with four additional Japanese-built units set for completion in a little over a year.

Current new crane expenditures for the Dundalk Marine Terminal containerization complex are in excess of \$7.5 million. The initial Paceco cost just under \$1 million, with escalating prices requiring an outlay of \$6.6 million for the next six cranes.

As of January 1971 some \$14 million had been spent by the MPA on container facilities at Dundalk. An additional \$21 million is earmarked for the period between now and the end of 1974. (News from Maryland Port Administration)

## MPA: A New Name

Baltimore, Md.:—Effective this month the Maryland Port Authority became part of the newly established state Department of Transportation. Designated as the Maryland Port Administration, the heretofore semi-autonomous authority joined six other state divisions as a line agency of the new department.

Created by the 1970 Maryland

General Assembly, the Department of Transportation came into being July 1, 1971, absorbing all existing transportation agencies of the state into an individual cabinet-level department which has as its unique feature a single transportation money pool.

Harry R. Hughes, the former State Senator from Maryland's Upper Eastern Shore district, has been appointed by Governor Marvin Mandel to head the omnibus department.

Former state agencies incorporated with the Port Authority in the new DOT include the State Roads Commission, Department of Motor Vehicles, Metropolitan Transit Authority, Maryland Traffic Safety Commission, State Aviation Commission and the Office of the Highway Safety Coordinator.

The department will be funded by revenues from highway taxes, motor vehicle income and other sources, in addition to state monies generated by the port. This transportation fund will be a special money pool under control of the department itself and will be used to underwrite capital programs for roads, mass transit, highway safety, general aviation and port development.

One of the advantages of the department organization is the consolidation of such tax and fee revenues into a single transportation trust fund, and tolls and certain other revenues into a transportation authority fund, thereby achieving greater bonding capability—in excess of \$500 million—and increased flexibility in program implementation.

Funds will be made available according to the individual agencies' needs and the budgetary discretion of the Secretary, thus providing for further long-range planning and additional funding for major construction.

With the exception of these funding powers, all functions and responsibilities of the former Port Authority are now transferred to the Maryland Port Administration, which becomes one of five line departments (integrating motor vehicles, highways, mass transit, aviation and ports) under the new or-

ganization.

The MPA Board of Commissioners, having held its final meeting June 25th, has been dissolved, but the staff and all employees of the agency retain their former status. Joseph L. Stanton, who has been Executive Director since the Authority's founding, continues to head the transferred department, but with a different title, that of Maryland Port Administrator.

Established in 1956, the Port Authority was Maryland's first semi-autonomous public agency and had as its objective the protection, promotion and development of the state's greatest single economic asset: the ports of Baltimore and Chesapeake Bay.

The Maryland Port Administration now assumes that responsibility. (Port of Baltimore Bulletin, July)

## New Bulk Handling

Buffalo, N.Y.:—Buffalo Port Terminal has recently successfully tested an experimental bulk cargo movement that port executives consider important to Buffalo's development as a bulk trade center. It put the NFTA's giant gantry crane into action scooping up 7,000 tons of Australian zircon sand from the 561-foot Canadian bulk freighter, Paterson. Front-end loaders moved the material into a storage shed at Terminal A in the Fuhrmann Blvd. complex.

The Paterson transshipped the load to Buffalo from Contrecoeur, Que., where it arrived from Australia via the ocean freighter, Carolina.

Completing the relay, a bagging operation set up at the terminal sacked the sand for transfer by truck to Niagara Falls where it is used by Falls Chemical Companies in the production of abrasives. The movement tests the claim by Great Lakes port executives that a "feeder" system involving the transfer of cargoes from ocean to freshwater vessels can be instituted to move commodities inland via the St. Lawrence Seaway faster and more efficiently than by overland routes. Said Francis Dee Flori, NFTA trade development manager,

"We believe the cost to shippers can be from \$8 to \$10 a ton cheaper using this method." (Port of Buffalo Progress Bulletin, July)

## Huge Increase in Traffic

Houston, Texas (Special):—Tonnage at the Port of Houston continues to run five million tons ahead of record-breaking 1970 but much hinges on the threatened longshoremen's strike as to whether 1971 will set a new high mark.

Total cargo handled through July came to 40,340,792 tons as compared to 35,343,207 through the first seven months of last year. The big increases are in foreign bulk, which is running 2.5 million tons ahead of 1971; coastwise deep-sea tonnage, which is up by one million tons and internal barge traffic, up 1.4 million tons.

Foreign trade general cargo showed a better than 50% increase over a year ago with 560,000 tons handled in July of 1971 as against 365,000 tons in July, 1970. The principal bulge was in imports which were up more than 160% or 391,000 tons as compared to 149,000 tons for July in 1970.

For the year through July foreign trade general cargo was up nearly 16% with 2,989,000 tons handled as against 2,582,000 tons a year ago. Imports totalling 1,895,000 tons were 675,000 tons over the first seven months of 1970 while exports of 1,094,000 were slightly down from the 1,360,000 tons of the same period for 1970. (Port of Houston News Release)

## New Commission President

Los Angeles, Calif., July 28:—Labor union executive John J. Royal today (July 28) was unanimously elected president of the Board of Harbor Commissioners of the City of Los Angeles.

Royal, executive secretary-treasurer of the Fishermen & Allied Workers Union, Local 33, I.L.W.U., succeeds public relations consultant Frank C. Sullivan as head of the governing body of the Los Angeles Harbor Department.

Harbor Commissioner John B. Kilroy was elected vice president of

the board with Royal in a single nomination, single vote action of the five-member city commission. Kilroy, president of Kilroy Industries, is engaged in real estate and industrial investments.

Royal had been vice president of the Harbor Commission for the past year. His term as a commissioner ends next July 1. Sullivan, who remains a member of the commission, is filling an appointment ending July 1, 1974. Kilroy has just been renominated to a five-year term after 11 months in office.

A native of Colorado, Royal came to the San Pedro district of Los Angeles with his family more than 40 years ago. During World War II he served in the merchant marine, becoming a deck officer. Following the war, he was a tuna fisherman before becoming a union official. (Port of Los Angeles)

## Gulf-Puerto Rico Lines

New Orleans, La., August 23:—Gulf-Puerto Rico Lines, Inc. has entered into a 20-year agreement with the Board of Commissioners of the Port of New Orleans for use of the first berth of the port's new France Road Container Terminal.

J. R. Bowman, general manager of Gulf-Puerto Rico, represented his company at a recent Board meeting during which the agreement was made public. Gulf-Puerto Rico is a division of McLean Industries and Sea-Land Service Inc., the world's largest container-ship fleet operator.

The Board has spent more than \$8 million preparing the first berth and its 17.2 acre back-up area for use. During the next few months, the Board will build a large transit shed on the site, black-top the open storage area, and put up fencing, lighting, and a gatehouse. Gulf-Puerto Rico will provide a shipside container crane, with its rails and electrical equipment. The line expects to begin using the berth in 1972, but volume movements will not be handled until later.

Gulf-Puerto Rico is currently offering a container service at the port's Morrison Road Wharf. When the France Road berth is in operation, the port predicts that its cur-



The SS THOMAS E. CUFFE, first of six revolutionary LASH ships to be placed in the West Coast/Orient service by Pacific Far East Line arrived on its Maiden Voyage from the shipyard at San Francisco August 8. The unique 820'-long freighter started on its initial voyage from Avondale Shipyards, New Orleans. Due to the US West Coast maritime strike, no arrival festivities were held in San Francisco. (Pacific Far East Line)

rent annual volume of about 30,000 containers will be more than doubled.

The France Road terminal is located on the port's Industrial Canal near its junction with the Mississippi River—Gulf Outlet. When completed, the terminal will offer nine container berths and represent an investment of over \$60 million. This is an important part of the port's 30-year, \$400 million Centroport development plan.

The first berth is 830 feet long and 147 feet wide. The transit shed will measure 580 by 100 feet. Land preparation is already underway for the development of the next two berths of the France Road terminal. (Port of New Orleans)

## 75th Anniversary

New Orleans, La., September 14:—It was announced today by Dock Board President Richard B. Montgomery, Jr. that the Board of Commissioners of the Port of New Orleans will celebrate its 75th anniversary at a luncheon at The

Rivergate Wednesday, September 22.

Mrs. Helen Delich Bentley, Chairman of the Federal Maritime Commission in Washington D.C., will be guest speaker at the event. Montgomery will serve as master of ceremonies, and Brooke Duncan will speak briefly on the role of the port in the state's economy.

About 300 guests, all from port related industries and government are expected to attend the commemorative occasion in The Rivergate's North Hall.

In 1896, the Louisiana General Assembly (the Legislature) created the Board of Commissioners of the Port of New Orleans, an Agency of the State, which was to construct and administer public wharves in the three port parishes of Orleans, Jefferson and St. Bernard and to regulate commerce and traffic in the harbor.

The Board was to consist of five members "prominently identified with the commerce or business interests of the Port of New Orleans" to be appointed by the governor

for overlapping terms of from three to seven years.

The State Legislature in 1940 passed an amendment by which vacancies on the Board were to be filled by the governor from a list submitted to him by five leading civic and commercial organizations in New Orleans—The Association of Commerce (Chamber of Commerce), the Board of Trade, the Clearing House Association, the Cotton Exchange and the Steamship Association. Memberships were overlapping and were for five years, and no member could hold political office. Membership on the Board carries no salary, compensation, or per diem.

In 1954, two additional civic organizations were added to the groups making nominations for Board memberships—the West Bank Chamber of Commerce and International House. Each year each of the seven nominating groups select two nominees. From these 14 names the presidents of the nominating organizations then select three nominees who are presented to the governor for his final selection. The governor must select one of the three. At least one member of the Board must reside and work on the west side of the Mississippi River.

The Board of Commissioners of the Port of New Orleans sets policy, and its members meet regularly and carry out numerous duties. The Board's policies are carried out by the director of the port, a paid executive. Under him are various departments and approximately 700 employees. He supervises the spending of about a million dollars a month for port operations and for the maintenance, repairs and construction of new facilities. The port authority acts as the state's guardian of port facilities and does not handle cargo or compete with private industry.

Since World War II, the Port of New Orleans has been recognized as the number one port of the U.S. Gulf Coast and the second port in the nation in value of foreign commerce and tonnage of warerborne commerce.

Executive Port Director and General Manager E. S. Reed said

the Board, by operating the port on a businesslike basis, has made the Port of New Orleans a leader among world ports. As the 30-year, \$400 million Centroport development plan becomes a reality, Reed stated, the Port of New Orleans plans to enter the 21st Century as one of the world's great ports. (Port of New Orleans)

### Dredging at Tubarao

New York, N.Y.:—Bids were received in Rio de Janeiro on July 15 by Cia. Vale do Rio Doce (C.V.R.D.) for 20 million cubic yards of dredging in the harbor of Tubarao, Brazil. C.V.R.D. is expected to award a contract shortly for this first major work in the port expansion program engineered by Soros Associates of New York. The construction of new piers and storage yards will follow. At the completion of the expansion program, Tubarao will be the largest ore exporting port in the world, with a shiploading capacity of 30 thousand tons per hour and an annual export capability of 50 million tons.

The enlarged port will be equipped to receive and load the new generation of giant-size ore carriers of the 250,000 dwt class. (Soros Associates)

### Huge Dry Bulk Port

New York, N.Y.:—A new iron ore and pellet terminal is now under construction on Lake Erie at Conneaut, Ohio. This facility will provide significant cost savings and operational advantages for inland steel mills.

The peak receiving rate from vessels is 10,000 tons per hour and initial stockpile capacity 2,500,000 tons. Various size railroad cars in random order will be loaded with multiple products in a predetermined pattern at a rate of 40,000 tons per 12 hours, with car weights controlled to an accuracy of plus or minus  $\frac{1}{8}$  of 1%.

Conneaut is in addition the site of the largest coal terminal on the Great Lakes, also engineered by Soros Associates, with a shiploading rate of 11,000 tons per hour and a stockpile capacity of 4,000,000

tons. Completion of the new ore terminal will place Conneaut among the ranks of the largest throughput dry bulk ports in the world. (Soros Associates)

### ICHCA U.S. President

Oakland, Calif., September 21:—Ben E. Nutter, Executive Director of the Port of Oakland, has been elected President of the U.S. National Committee of the International Cargo Handling Coordination Association, it was announced today.

Nutter, who is responsible for the overall operations of the Port's vast marine terminal and container facilities, Oakland International Airport, a 300-acre industrial park and additional industrial and commercial properties, holds a number of positions of leadership in his professional field.

Other officers elected by ICHCA, in addition to Mr. Nutter, were: Executive Vice President, Eric Rath, President of the Rath Co., LaJolla, Calif.; Treasurer, R. F. Matthes, Senior Assistant Vice President, Stolt-Nielsen Chartering, Inc., Greenwich, Conn.; Secretary, Herman D. Tabak, Transmodel Consultants, New York; Regional Vice Presidents, A. Lyle King, Director, Marine Terminals, Port of New York Authority; Abraham A. Diamond, Singer and Lippman, Chicago; and, Edward S. Reed, Executive Port Director and General Manager, Port of New Orleans.

New directors of the organization include H. L. Brockel, formerly Director, Port of Milwaukee; R. J. Pfeiffer, Senior Vice President, Operations, Matson Navigation Company; A. T. DeSmedt, President, Prudential-Grace Lines; and R. P. Holubowicz, Executive Vice President, International MacGregor, Ltd.

The International Cargo Handling Coordination Association (ICHCA) is a technical organization devoted to the improvement of cargo handling techniques by coordinating and promoting technical studies and world-wide exchange of information on all phases of cargo handling. The group sponsors symposia and technical meetings, distributes periodic literature, and publishes a monthly journal.

A two-day technical conference has been scheduled for April 20-21, 1972, at Oakland, California.

ICHCA, which was founded in 1952, has 1800 members in 70 countries. (Port of Oakland)

## Traffic Representative

Oakland, Calif., September 1:—Timothy T.M. Chen, 31, has been appointed Traffic Representative for the Port of Oakland, Port Executive Director Ben E. Nutter announced today.

Chen's new position involves soliciting cargo for shipment through Oakland, Northern California's largest port and the second largest container port in the world. His duties in the Marine Terminals Department will include contacting steamship lines, importers and exporters, customs brokers and freight forwarders in the San Francisco Bay Area. He will work closely with the Asian shipping and trade community.

Chen brings to his new position an extensive knowledge of the Far East and that region's maritime activities. Born in Fukien, China, and educated in Shanghai, Taipei and Japan, Chen since 1966 had worked as Traffic Representative in Tokyo for Orient Overseas had worked as Traffic Representative in Tokyo for Orient Overseas Line, specializing in eastbound Trans-Pacific containerized shipping. His duties there consisted of soliciting cargo for export from Japan primarily to U.S. West Coast ports.

Fluent in Chinese and Japanese in addition to English, he previously was employed by the Association for Asian Studies in Taiwan, where he was involved with sinological research and translation.

At the port he will report directly to Trade Development Manager William B. Cook in the department headed by Robert W. Crandall, Manager, Marine Terminals and Traffic Manager. He will work closely with the Port of Oakland's Director, Far East, Mr. S. Kuwata of Tokyo. (Port of Oakland)

## Local Impact Quantified

Seattle, Washington, August 29:—



Savannah, Ga., September 21:—J. D. Holt, Executive Director of the Georgia Ports Authority has been named Port Controller for the Port of Savannah by Morris Stans, Secretary of Commerce. The certificate of appointment was presented to Holt (right) by James McShane (left), Port Development officer for the Maritime Administration Department of Commerce. (Georgia Ports Authority)

The Port of Seattle has just released its 40-page book on the Impact of Seattle Maritime Commerce on King County. A year long study conducted by the Port's Planning and Research Department.

Among the original features of the study is the inclusion of water oriented manufacturing industries. Although usually not associated by the public with maritime commerce, these industries are heavily dependent on water transportation as demonstrated by their present closures or heavy curtailments during the longshoremen's strike now in effect.

Another "first" of the report is the use of the Washington State input/output tables enabling scientific measurement of the indirect (or secondary) impact generated by activities directly attributable to waterborne trade.

The depth of the study has been instrumental in backing the Port's (and other agencies') requests for supporting funds from the Economic Development Administration in projects which bring jobs and industry development to the Port District, which is all of King

County.

Among the many highlights uncovered during the study, it was learned that different types of cargoes generate vastly divergent impacts. For example, one ton of petroleum generated \$1.80 in local gross earnings. The per ton impact coefficients indicated that although the facilities owned by the Port of Seattle handled only 16% of the 18.3 million short tons handled by Seattle harbor in 1969, they accounted for 68% of the \$322 million which the 39,000 King County workers earned from maritime commerce in that year. This is because Port of Seattle facilities moved 85% of the harbor's general cargo which is the true economic blood line of any major world port.

Although King County residents supported harbor operations with \$8.2 million in tax levies, the maritime commerce labor force and industry in turn paid more than \$39 million in state and local taxes. Eight percent (94,000) of King County's residents rely on Seattle's waterborne commerce and by 1980, 20% or 250,000, may derive their livelihood from maritime-commerce





Tokyo, September 21:—An unusual 'Containerized' exhibit attracted hundreds of visitors at the Mechanical Handling Show at Harumi, Tokyo, September 13-18. The exhibit was specially shipped to Japan from the U.K. by Overseas Containers Limited (OCL) to introduce its forthcoming Far East-Europe through-transport container services. (OCL Press Release)



G. R. C. Wright (left), visiting Sales Manager of Australia Japan Container Line (AJCL), predicts a huge increase in Australian-Japan trade. He is shown meeting with Y. Tanaka, Sales and Marketing Manager of Swire Mackinnon, the AJCL representatives in Japan. (Swire Mackinnon)

related activities.

Chief Seattle should have no problems holding his own among departed warriors of greater fame; his namesake is alive and well doing business as a maritime queen. (News Release from Port of Seattle)

## Steel Barged to N.Y.

Tampa, Florida:—More than 390 tons of fabricated steel destined for a building in Rockefeller Center, New York, left the Port of Tampa by barge July 28. It was the largest single shipment of fabricated steel ever to leave the Port.

The steel, fabricated by Musselman Steel Fabricators, Inc., Tampa, will be part of a 50-story skyscraper now under construction by the Celanese Corporation.

The barge and tug are owned by S. C. Loveland Company, Inc., of Philadelphia, and the cargo is expected to arrive in Manhattan in 10 days.

The steel was loaded aboard the barge with two 90-ton Sims Cranes at the Tampa Port Authority's Kreher Terminal.

In all there were seven different fabricated pieces, two of them destined for the main building support and five of them for elevator shafts. Steel for the fabrication came to Tampa from Bethlehem Steel. Fabrication required seven weeks. (News from the Tampa Port Authority)

## More Container Traffic

Sydney, 27th August:—The President of the Maritime Services Board, Mr. W. H. Brotherson, said today that 118,000 containers, based on the I.S.O. Standard Size of 20' x 8' x 8', each had passed through the Port of Sydney during the financial year ended 30th June, 1971, representing an increase of 39% over the previous year's total of 85,000.

Mr. Brotherson pointed out that 82% or 97,000 of the containers had been handled at the berths provided for cellular container ships at White Bay. The remainder were handled through the other cargo facilities in the Port.

It was mentioned as a point of interest by Mr. Brotherson that al-

most 6.5 million tons of general cargo moved through the Port of Sydney during the last financial year and of this more than 2 million tons, or a third of the total, was handled in containers.

During the financial year of 1969/70 only 1.3 million tons of cargo were handled in containers in Sydney and he said that as the first container ship had arrived in the Port in March 1969, it is apparent that the introduction of containers had resulted in a dramatic change in the methods of transporting goods by sea. (Maritime Services Board of N.S.W.)

## Anti-Pollution Week

Sydney, 13th September:—Maritime Services Board employees removed approximately 5,700 tons of debris from Sydney Harbour during the financial year ended 30th June, 1971.

This was announced in Sydney to-day by Mr. W. H. Brotherson, President of the Maritime Services Board, in a statement issued in connection with Anti-Pollution Week.

Mr. Brotherson appealed to the general public and particularly to the boating fraternity and those who live or work close to the foreshores to support the aims of Anti-Pollution Week. He said they could do much

to preserve the environment in which they live, work or enjoy their recreation by being considerate and not disposing of garbage in the navigable waters of the State.

He said that the Maritime Services Board employs 20 men using 7 boats to keep Sydney harbour clean.

Referring to some of the unusual items recovered from the harbour, Mr. Brotherson said that old chairs, bedsteads, mattresses and other types of furniture were quite common but last year the Board's employees removed 3 dead sheep, 35 dead dogs and 26 dead cats from the harbour.

Fence posts, some with lengths of wire trailing from them were also recovered and Mr. Brotherson pointed out that, apart from the pollution aspect, this constituted a serious hazard to navigation.

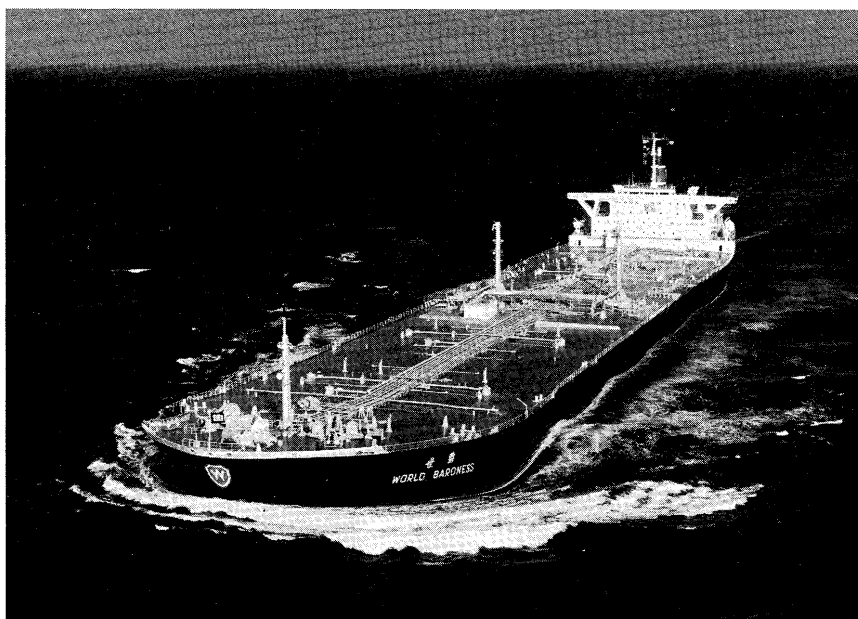
A considerable amount of the debris found its way into Sydney Harbour through storm water drains but a lot of it was either deliberately dumped into the harbour or placed on the foreshore in isolated parts where it was washed in at high tide or following heavy rain. (The Maritime Services Board of N.S.W.)

## Newcastle, Channel Widened

Sydney, 21st September:—It was announced in Sydney today by the President of the Maritime Services Board, Mr. W. H. Brotherson, that work had been completed on the restoration of the Steelworks Channel to a depth of 36 feet at low water following the severe flood in Newcastle earlier this year, and that the channel has been widened to allow of the passage of longer ships.

In elaborating on the statement, Mr. Brotherson said that, as a consequence of the widening, vessels of 800 feet length will now be able to navigate the Steelworks Channel.

Touching on the completion of the maintenance dredging which has provided the depth of 36 feet, it was indicated that the flood deposited approximately 1.3 million cubic yards of silt in the main channels of the Port and the dredging of this deposit has involved the



Tokyo, September 10:—Tanker "World Baroness" (228,825 DWT) was delivered by Hitachi Zosen's Sakai Shipyard to her owner Liberian Shield Transports Inc. on September 3, 1971. (Hitachi Zosen)



The world's largest tanker, "Nisseki Maru" (372,400-DWT), built at IHI Kure Shipyard, was delivered on September 8 to her owner, Tokyo Tanker Co., tanker division of the Nippon Oil Group, and set out on her maiden voyage September 10. The ship will be engaged in hauling crude oil from the Persian Gulf to Kiire in Kagoshima Pref. where the world's largest oil storage base of the Nippon Oil Group is located.

Board in an expenditure of some \$700,000.

Mr. Brotherson added that from the point of siltation of the harbour channels, the flood which occurred in January/February, 1971, was regarded by the Board as being al-

most as severe as the 1955 flood recorded as being amongst the worst in Newcastle Harbour. (The Maritime Services Board of N.S.W.)



Tokyo, September 7:—Mitsubishi Heavy Industries, Nagasaki Shipyard, is going to deliver a 227,245 DWT Tanker "United Overseas I" tomorrow to her owner United Overseas Corp. of Liberia. The tanker is slated to haul crude oil from Persian Gulf to France. (MHI News)

## Chairman Honored

New Plymouth, N.Z.: — Board chairman, Sir Henry Blyde, had the honour of being appointed chairman for the final session of the recent conference of the International Association of Ports and Harbors in Montreal, Canada.

But an unfortunate accident in which Sir Henry fell in his hotel and broke four ribs prevented him from taking the chair and he was also forced to return to New Zealand somewhat earlier than planned.

After the curtailment of his overseas journey on port business he spent some time recuperating at his New Plymouth home.

Sir Henry is an alternate director of the association for New Zealand, an appointment made earlier this year.

The international conference was held in Canada from June 7 to 12, and was also attended by the board's general manager, Mr. J. G. Boddy.

After the conference, Mr. Boddy went on to meet maritime interests in the United States and London. He had other appointments in Holland, France and South-East Asian countries where he met port authorities before returning to New Zealand

towards the end of July.

Sir Henry and Mr. Boddy were accompanied overseas by their wives. (Taranaki Harbours Board port news, July)

## Antwerp and the U.S.A

Antwerp:—During a press conference the spokesmen of the Antwerp mission which on the initiative of the Port of Antwerp Promotion Association (ASSIPOINT) stayed in the United States recently, viz. Messrs L. Delwaide, R. Lhonneux, F. Gyssens, A. Scheirs, H. Vandenberg and D. Le Grelle, gave their impressions on this Mission. The findings of the representatives of the various branches of activity can be summarized as follows:

One of the aims of the Mission was the promotion of specific port traffics. The programme included three sectors: North Atlantic (New York), Gulf Ports (New Orleans & Houston) and Lake Ports (Chicago). The transport technology on these three routes is quite different, viz. full containerization, barge carrier systems & iron and steel bulk carriers, conventional & semi-containers, respectively.

In each of the different ports the systems concerned were competently

dealt with by the spokesmen of the Mission. They especially stressed the great advantages of the port of Antwerp as to the cargo volume, the goods handling, the important potentialities as a port of transit of the E.E.C., the possibilities in the field of distribution.

Summarizing it could be stated that on the North Atlantic it mainly are European lines which are interested in container traffic via Antwerp: ACL, Dart, Hapag-Lloyd and Meyer. It is regrettable that not at least one American line calls at Antwerp. However, there is good hope that this situation will change quite soon.

As to the Gulf Ports Antwerp looks forward to the forthcoming development of the barge carriers, the further expansion of the iron and steel transport by bulkcarriers etc. In this respect the spokesmen of the Mission pointed out to their American public that the ports which dispose of the cargo flows—and this certainly applies to Antwerp—are determinative for the future.

As a matter of fact this is also true for the Lake Ports. In order to let these cargo flows go on passing via Antwerp under the best circumstances, the maritime access to the port should be adapted to the increasing ship's dimensions. Although up-till-now the river Scheldt was accessible without difficulties to all the large bulk carriers, LASH- and container vessels, one should understand the shipowners, who are insisting on measures such as to assure an as fast and as safe as possible navigation of similar vessels in the future. Or to put it in another way: in order to safeguard the position of Antwerp as third world port, the problems of the radarization and the navigability on the Scheldt should be solved by priority.

In addition to the cargo volume offered also the good labour climate and the high productivity exert a great attraction on port users. Finally the evolution of the price level in the port of Antwerp as compared with various neighbouring ports is quite favourable. Taking 1967 as a basis (=100), on 1st June 1971 for the ports of Antwerp, Rotterdam and Hamburg the following figures can be noted: 144.—, 158.8

and 147.3.

During the stay of the Mission in the U.S. quite a number of existing relations have been consolidated and new contacts between representatives of industrial enterprises in the U.S. and the "Antwerp metropolitan area" have been established. In this field numerous positive results on the long but also on the short run have been achieved.

Next to the private contacts also the ERA-delegation (Economic Council of the Province of Antwerp) has to an as great as possible number of potential-investors made known the favourable factors of settlement of the province of Antwerp, and this in three economically strong regions of the U.S., viz. New York, Houston and Chicago. Regarding the results it can be mentioned that 37 firms have been contacted which on the long or on the short run consider a settlement in Europe. More in particular specific processing chemical industries and electronical industries are concerned, which can be classified small to medium-sized (3,000 to 20,000 employees) and of which a few have already elaborated very concrete projects.

To the banking sector the journey offered the opportunity to contact their most important correspondent bankers in the U.S., what is of particular importance because the latter — by means of their knowledge of the market situation and their numerous business-relations — can considerably contribute to the success of Port of Antwerp Missions in the U.S.

This has been confirmed during the stay of the Mission in Chicago where local bankers had a large part in the success of the Port of Antwerp Day. (Antwerp Port News, July)

## Containers to/from Japan

Antwerp, August 17:—In connection with recent communications regarding the transport of containers to and from Japan, "Transworld Marine Agency C° S.A." (Antwerp) reminds that at present it is not only possible to forward containers by rail via Russia to and from Japan but—by offering fortnightly sailings—that it is also possible to ship containers overseas directly



Tokyo, September 30:—The world's largest container ship was launched at Hamburg on September 20. With an overall length of 289 meters (nearly as big as the QE2), the 58,000-ton vessel had to be launched without her bow section as she would have become too big for the drydock. Named the Tokyo Bay, she is the first of five ships being built for Overseas Containers Limited for service in the Europe/Far East trade. Sir Andrew Crichton, Chairman of OCL, said at the launching: "Compared to the latest conventional vessels, the Tokyo Bay will lift more than three times as much cargo in a single voyage." Tokyo Bay and her gigantic sisters will each be capable of carrying 2,000 containers, the equivalent of approximately 40,000 tons of general cargo, at a speed of 26 knots. (OCL Press Release)

from Antwerp to Japan. Rotation is as follows: sea-transport from Antwerp to Leningrad (4 days), rail-transport from Leningrad to Nakhodka (Vladivostok) (16 to 18 days) and again seatransport from Nakhodka (Vladivostok) to the main Japanese ports (3 days). A rotation of 30/35 days from terminal to terminal is guaranteed.

At present transport from Antwerp to Leningrad and v.v. happens by means of conventional vessels of the liner service Antwerp/Leningrad operated by the "Baltic Steamship Company", Leningrad.

The putting into service of transformed or full-container vessels has been planned for the future.

For the sea-transport from Nakhodka to Kobe, Yokohama, Osaka two full-container-vessels of the "Far-Eastern Steamship Company", Vladivostok, have already been put into service.

The whole service is centralized by v/o "Sojuzvneshttrans", Moscou, under the style of "Trans-Siberian

Container Line". (Assiport Press Release)

## Dangerous Goods

Antwerp, August 10:—In July 1971 the Antwerp Harbour Master's office made some changes in the regulations for dangerous goods in the port of Antwerp.

It concerns:

1. a more flexible system regarding the application for permission;
2. Regulations elaborated in co-operation with INPRO (Information Centre for Dangerous Products) enabling to determine whether dangerous / hazardous products not mentioned in the IMCO-Code should be directly loaded or discharged without stay in the port area, or if they may remain there for maximum four days.

In both cases there are no quan-

tity restrictions in the port, unless it concerns inflammable liquids having a flash point equal or inferior to 21°C, the highest allowed quantity of which is determined by Art. 77 of the "Police Rules for the port of Antwerp". (Assiport Press Release)

## Harbour Revision Order

London, July 27:—The Harbour Revision Order to secure certain borrowings of the Port of London Authority against their assets became operative yesterday (Monday July 26th). Notice that the PLA had applied for the order was published on March 11th, 1971 and the order itself was made by the Minister for Transport Industries on 25th May 1971.

It provides for certain PLA borrowings to be secured on the assets as well as on the port fund and revenue of the PLA. These borrowings include money raised by the creation and issue of port stock, by the issue of certain bonds of the PLA and by the acceptance of certain deposits, and money lent to the PLA by Government under section 11 of the Harbours Act 1964. (News from PLA)

## North Sea Oil Cargo

London, 23 September:—The first cargo of crude oil to reach the United Kingdom from an oil field in the North Sea is expected to be discharged at the British Transport Docks Board port of Immingham tomorrow (Friday, 24 September), when the 35,437 d.w.t. Liberian tanker 'Theogennitor' arrives at the port.

The 'Theogennitor' is due at No. 1 berth at the Immingham Oil Terminal at 0900 hrs. with a cargo of 34,000 tons of crude oil from the Ekofisk structure in the Norwegian sector of the North Sea oil field. The oil will be pumped into the Petrofina storage tanks at the Lindsey Oil Refinery.

During 1970 the port of Immingham dealt with nearly 14 million tons of petroleum. (British Transport Docks Board)

# Belfast Harbour Commissioners

*Statement by the Chairman at the Annual Meeting held  
in Belfast on 20th April, 1971*

## The Year's Results

Notwithstanding the recent difficult times in Northern Ireland, I am pleased to say that in business generally, and in the Port of Belfast in particular, harmony and co-operation have continued at all levels, and we can look back on 1970 as a year of real achievement.

The tonnage of goods handled in the Port—almost 7 million tons—is the highest in our history. Equally gratifying is that the best available predictions indicate further progressive and substantial increase in trade throughout the '70's. Growing trade does not, of course, come automatically and will demand increasing endeavour from all.

## Financial Details

Financially also the year has been highly satisfactory. Operating Income exceeded expenditure by £746,000. Of this amount, £158,000 was required to cover historic cost depreciation on plant and machinery, statutory contributions to the Sinking Funds, and mortgage repayments. Interest charges amounted to £265,000, leaving a net surplus before taxation of £323,000.

It is estimated that no liability for Corporation Tax will arise in respect of the year's operations by reason of capital allowances. However, following consultation with our Examining Accountants it was deemed expedient to provide a sum of £75,000 towards taxation which may arise in the future, making a total provision of £154,000 now available to cover possible deferred taxation liabilities.

The net surplus available for allocation to Reserves was therefore £248,000, which has been allocated as follows:

£120,000—to Plant Replacement Reserves, to meet higher replace-

ment costs.

£125,000—to General Reserve, for works of general improvement.

£3,000—balance to Net Revenue Account.

During the year £678,000 was expended on capital works executed under the Board's statutory borrowing powers. In addition, a total of £108,000 was expended out of the Plant Replacement Reserves, whilst the improvement of existing facilities and the provision of additional plant and machinery cost £233,000, financed out of the General Reserve. The total expenditure on development and improvements in 1970 was thus £1,019,000, which is up to average of recent years.

Total borrowings at 31st December, 1970, amounted to just over £9 millions. Offsetting this to the extent of £3.8 millions there are investments and also agreements with third parties for the repayment of certain development expenditure, making net borrowings £5.2 millions. This is a slight reduction on the previous year's figure notwithstanding the substantial continuing development expenditure, and reflects the strong cash flow position.

The various Harbour assets are currently valued at around £20 millions.

It is estimated that revenue expenditure in 1971 will exceed the 1970 figure by some £125,000 and with a view to ensuring that ample funds will be available not meet current spending but to provide the necessary allocations to reserves, all Port Charges were reviewed and new charges (suitably decimalised) brought into operation on 1st January, 1971. Whilst individual increases in the charges varied, those on our main sources of revenue—that is, Port Charges on Goods and Ships—averaged a very mod-



est 4.6 per cent which can scarcely be called inflationary.

It is the Commissioners' constant endeavour to ensure that the Port of Belfast continues to enjoy the reputation of being highly competitive with all major Ports in the United Kingdom and to this end expenditure is monitored continuously and modern management accounting techniques are being progressively developed throughout the Harbour organization.

#### **Staff and Port Users**

For our Staff we have just completed new Office accommodation, —the first extension to the Harbour Office since 1895, and the second since the original building was constructed in 1854. The reconstruction of the Harbour Workshops is also well under way. I am confident that these better conditions greatly assist towards ensuring a high standard of work which will be for the benefit of all.

Here it would not be out of place to pay tribute to our Staff for their co-operation and constant endeavours to improve working methods and efficiency. Equally, the efficient running of the Port is dependent on the co-operation of Port users, and here too I am pleased to comment most highly on their understanding of our problems and their helpful response.

#### **Changing Demands**

I have referred earlier to increasing trade. Equally worthy of comment are the changed forms of transport, particularly in the field of unit loads. This has led to intensive use of the modern well equipped berths, and less utilisation of the older parts of the Port. Some of the older quays have already been transformed and drive-on/drive-off facilities installed. It will be one of our immediate tasks to reassess the effectiveness of the remaining older commercial quays and their contribution to the Port's resources. Some may well be modernised and some phased out to give much needed back-up land to those which remain.

#### **Industrial Development**

In the wider field of economic development, it is appreciated that

a major concern of industry in Northern Ireland is the question of Port facilities and also shipping costs. Some industries are desirably located at or close to the Port area whilst most — and here the very extensive road development programme of the Northern Ireland Government plays an indispensable part—can be conveniently sited inland. With the good communications and the utilisation of land to the best advantage for industrial and commercial purposes, Northern Ireland will more and more become attractive to industry. The Port of Belfast is and can increasingly be a unique maritime industrial development area if the right steps are taken. It is I think true to say that with the extensive shipping services now operating the barrier of the Irish Sea is fast disappearing.

We fully recognize the necessity of integrating our development plans with those of the Government and the City and here we shall continue to have consultations with those Bodies in a close and friendly way and at all stages.

#### **Environmental Problems**

The Commissioners have a deep concern about what are now described as 'environmental problems' arising from industrial and civic developments. The Commissioners' interest does, of course, centre around the Harbour and Belfast Lough area where pollution of air and water is always a danger. The Commissioners shall continue to strive to keep that pollution to a minimum, insofar as it lies within their powers.

#### **Shipbuilding and Shiprepairing**

The future of Harland and Wolff Ltd. has caused much concern but we believe that there is now a brightening on the horizon. We wish the new management well.

Let it be stressed that the Company's dry dock for the building of ships, and the Commissioner's new Belfast Dry Dock for the repair of ships, are first-class facilities which are unparalleled in the United Kingdom and in many ways rank amongst the best in the world. Both are in their infancy, and their potential is very great.

#### **Concluding Remarks**

There has been a great awakening in the Ports industry—some would say a rude awakening—and a nationwide realization that individual Ports cannot reasonably remain in being unless they function as a successful business. That criterion we fully accept and, indeed, has been our policy over the years.

The Commissioners are proud of this Port and its record of achievement, and will spare no effort to continue its onward progress.

REGINALD W. BERKELEY,  
Chairman

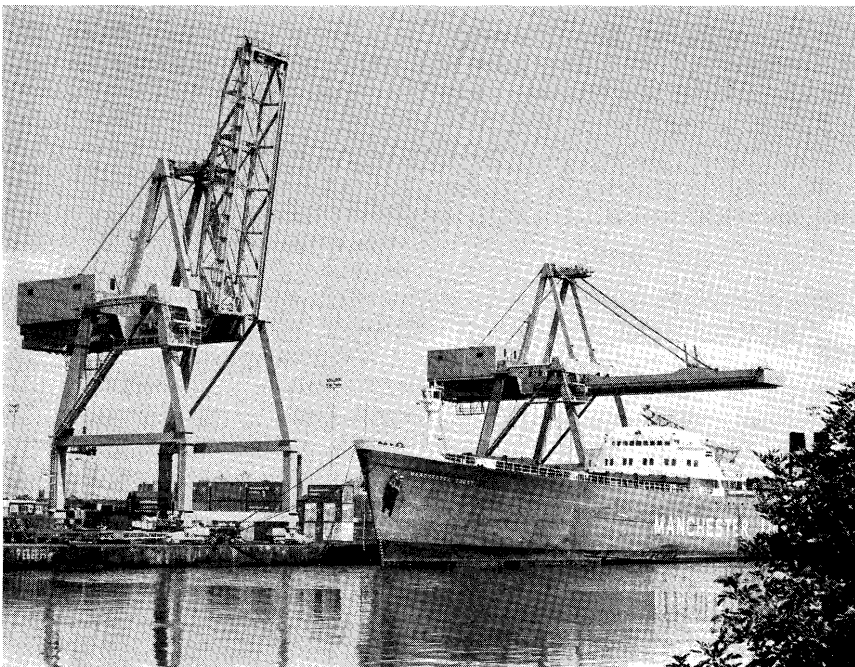
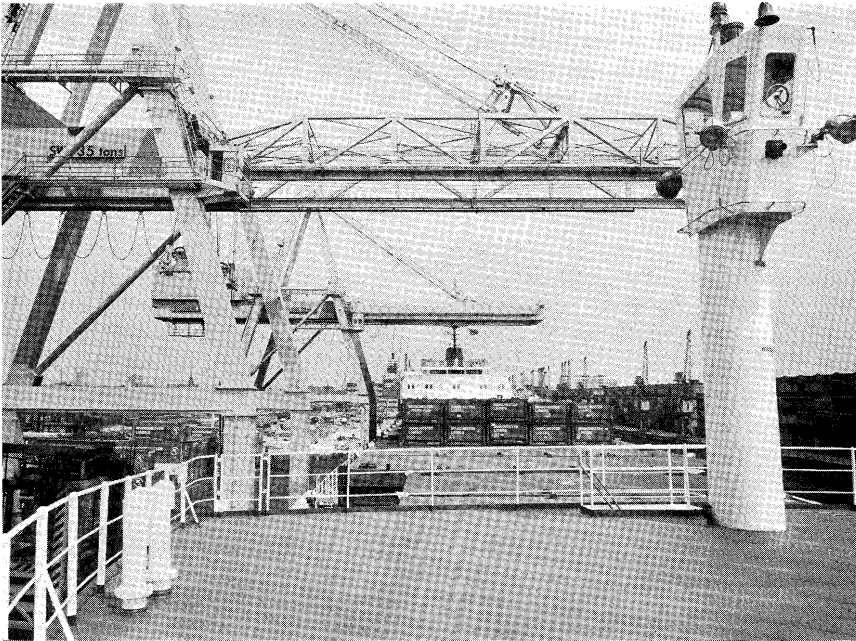
#### **Ore to Port Talbot**

London, 23 September: — The 100,000 ton ore carrier "Chelsea Bridge", which arrived at Port Talbot this morning (Thursday, September 23) from Canada has now brought over a million tons of cargo to the new £20 million harbour in only seven months—believed to be a record for one ship operating to a British Port.

A spokesman for the British Transport Docks Board, which owns the harbour, said that the "Chelsea Bridge" had now completed ten round voyages under charter to the British Steel Corporation since February—nine to Canada and one to Brazil—and had carried almost half the entire ore imports for the Port Talbot steelworks.

"This will almost certainly be the very first occasion that a single ship has discharged a million tons of dry cargo at the same port in under a year," he said, "and before the new harbour was built to cater for ships of this size, it would have taken at least 125 vessel calls at the docks to supply the steelworks with the same quantity."

The total tonnage of ore unloaded at Port Talbot Harbour so far this year is 2,134,245 tons, and the 100,000 tons of ore which the "Chelsea Bridge" has brought on this occasion is the thirty-eighth cargo to arrive this year. "Chelsea Bridge" brought the largest dry cargo ever to arrive at a British port—105,000 tons—to the harbour on 28th April. (British Transport Docks Board)



**Manchester:**—A new container crane with a capacity of 35 tons is now in use at Manchester Docks. When an extension to the container berth is completed it will allow two cellular vessels to be worked simultaneously. Services from the terminal now operate to Montreal and Mediterranean Ports. (The Port of Manchester)

## Biggest Ship Due at Southampton

London, 17 September:—Southampton Docks, for many years home of the world's biggest ships, are expecting to receive their largest ever vessel at noon tomorrow (Saturday, September 18).

She is the brand-new 250,000-

deadweight-ton tanker "Esso Caledonia", and the British Transport Docks Board have made available three berths in the Eastern Docks—Berths 34, 35 and 36—to accommodate her 1,143 ft. length.

Built by Harland and Wolff at their Belfast shipyard, the "Esso Caledonia" is to spend about a week at Southampton for adjustments following her running trials. The

work will be carried out by her builders' Southampton branch.

The "Esso Caledonia" has a gross tonnage about 40,000 tons greater than had Cunard's former 'Queens', previously the largest ships to use the docks, and is 108 ft. longer than the 'France', the longest. Her height from her keel to her main deck is 84 ft. and her superstructure rises another 116 ft.

The "Esso Caledonia" is not the first 250,000-ton tanker to use the port of Southampton as opposed to the docks. A number of tankers of this size have discharged crude oil at the Fawley Marine Terminal in Southampton Water over the past 18 months. In 1970 the port handled over 25 million tons of oil. (British Transport Docks Board)

## Southampton, Passenger Record

London, 3rd September:—An all-time record for the number of passengers passing through the port in a single day was set at Southampton today (Friday, September 3), the British Transport Docks Board announced. A total of 16,324 passengers arrived or sailed by ocean liner or cross-Channel ferry during the 24-hrs, exceeding by almost three thousand the previous record for a single day, 13,338, set in July 1970.

A spokesman for the Docks Board said that today's operations were the start of an exceptionally busy weekend for passenger movements at Southampton. On Saturday (September 4) approximately 12,800 passengers were due to arrive at or depart from the port, whilst on Sunday (September 5) some 9,700 passengers were expected.

Fourteen ocean liners and twenty-six ferry sailings would be involved in dealing with a three-day total of 38,824 passengers at the port.

Passengers were arriving or sailing on cruises being operated by Shaw Savill Line, P. & O. Lines, British India Line, Union Castle Line, and Chandris Lines; and on scheduled services from Australia by Sitmar Line and Chandris Lines, and to New York by French Line.

(Continued on Next Page Bottom)

**Docks Board Feature Article :**

# *Millbay Docks, Plymouth— The Fruit and Vegetable Port*

**British Transport Docks Board**

August and September are busy months at Millbay Docks, Plymouth, with cargoes of about 400 tons of grapes arriving twice a week from Cyprus for quick onward distribution to markets throughout Britain. The British Transport Docks Board, who operate Millbay Docks, are proud of the reputation which has been established for the fast handling of perishable cargoes at the port. To discharge a cargo of this size two gangs work for a total of about 14 hours. The grapes are sorted to marks in the hold—Plymouth is one of the few ports in the country which operates this system—loaded on to pallets and discharged direct to a fleet of about 80 lorries for immediate distribution.

But it could be asked why such cargoes arrive at the port for markets in Glasgow, 487 miles away, Newcastle, 401 miles, Hull, Manchester, Leeds, Birmingham, London, etc., when there are other ports situated nearer to these distribution centres. The answer is simple—lower total distribution costs and good labour relations. Cargoes of fruit and vegetables can be discharged at Plymouth and on their way to markets by the time a vessel had sailed to a nearer port. True the road transport costs are higher, but this is often more than offset by higher port charges at the larger ports, waiting time for a berth, and sometimes regrettably, by strikes, which can be an irretrievable disaster for perishable cargoes. Moreover, Millbay Docks, with its small labour force, specialises in personalised service and quick turnaround

Continental ferry movements were by Thoresen Car Ferries, Normandy Ferries, Southern Ferries and Swedish Lloyd. (British Transport Docks Board)

of vessels. Indeed, one Cyprus shipper has produced a comparison of through transport costs from Plymouth and from other ports around Britain, in which it is revealed that importing such cargoes through Plymouth is as cheap, or in some cases cheaper, than through ports nearer the distribution centres.

Last year Plymouth handled 24,464 tons of fruit and vegetables, which are basically made up of three seasonal trades; broccoli from France from January to April; citrus fruit from Cyprus during December to May; and Cypriot grapes from mid-July through to September.

Like all other British ports, Millbay Docks is hoping to benefit if Britain enters the Common Market. French produce of all kinds—tomatoes, apples, potatoes, and other fruit and vegetables—is certain to be imported in greater quantities after entry. The French port of Roscoff in Brittany, through which most of the French produce arriving at Plymouth is exported, is strategically placed to attract fruit and vegetable exports not only from northern France but from Spain and Portugal as well. A roll-on/roll-off terminal is being built at the port, and it seems probable that a similar facility will be provided at Plymouth which is the nearest port and has traditional ties. With good road networks linking Roscoff with Rennes and Paris to the east and Nantes and down to Spain and Portugal in the west, Plymouth could become an important link in the transport communications system between these points and U.K. centres as far away as Glasgow.

The Docks Board are actively considering the possibility of providing such a terminal and are consulting with various French interests to see if the project is a viable one.

A special market research survey was recently undertaken to establish where there was potential for new traffics for the port to and from France, Spain and Portugal. A questionnaire was sent out to over 1,000 companies, mainly in south-west England, but extending on a sample basis to cover all England, Scotland and Wales.

Local interests are, of course, extremely enthusiastic about the idea. They feel that once a roll-on/roll-off service was started, other business, including a two-way traffic in tourists with their cars and caravans, would surely follow, thereby increasing considerably the prosperity of the City.

Total traffic passing through Millbay Docks last year amounted to 155,491 tons. Already trade during the first six months of 1971 has risen by a third over the same period last year to over 103,500 tons. Imports of timber and grain have both risen by 44 per cent for this period, and petroleum products, mainly calor gas, by 60 per cent.

Although only a small port Millbay Docks has all the advantages which small ports have over their larger counterparts—good labour relations, personalised service, and an excellent record for quick turnaround. Mr. Richard Perfitt, Docks Manager of Millbay Docks, is optimistic about the port's future. He is convinced that the port can attract new traffic and be developed to meet the changing patterns of today's trade. (10 September, 1971)

## **Europe's Largest Rail Port**

Bremen:—In Bremen, the biggest railway-port in Europe, 1,888 goods and container-trains are despatched each month, writes the West-German trade-paper "Transport-Dienst". The goods and express-goods trains travel via two fully-electrified routes from Bremerhaven and Bremen, over a dense rail network into the central and west European industrial centres. Already several hundred 'nightbound connections' of purely container-express trains today traverse the tracks to the—numerous European handling locations (terminals). Thus, as an example, the daily container-express

'Dolphin' connects the most important of Europe's overseas container terminals of Bremen and Bremerhaven night after night, with more than 30 terminals in the Federal Republic of Germany and in the neighbouring countries. The 'Dolphin' is mainly booked-out solely with cargo to and from Bremen and Bremerhaven. According to the "Transport-Dienst", the German Federal Railways transport 750,000 to 800,000 tons of goods to the individual port groups monthly; 40,000 goods-wagons have to be loaded, discharged, shunted and formed into trains every month. (Bremen Air Mail, June)

## Port Seminar

Amsterdam:—Participants from 23 countries in the Seventh International Seminar on Port Management recently spent a few days visiting the Port of Amsterdam. In an ambitious week-long programme, the 32 young port managers were given lectures on various functions and physical equipment of the port and taken on several tours to see facilities at first hand. Visits to port installations included: Container Terminal Amsterdam, Amsterdam-sch Havenbedrijf, Internationale Graanoverslag Maatschappij "Amsterdam", Pakhoed - Amsterdam, Nederlandsche Dok en Scheepsbouw Maatschappij, Vereenigd Cargadoorskantoor, Koninklijke Nederlandsche Stoomboot Maatschappij, Verschure & Co., as well as the harbour mouth at IJmuiden.

The purpose of the annual seminar is to familiarize port officials from all parts of the world with modern aspects of port management and ship's handling. Countries represented in this year's seminar were: Brazil, El Salvador, Argentina, Finland, Ghana, Greece, Haiti, Honduras, Indonesia, Iraq, Israel, Kenya, Liberia, Mexico, Philippines, Portugal, Tanzania, Thailand, Turkey, Uruguay, Vietnam and Yugoslavia. (Haven Amsterdam, July)

## Amsterdam Exhibition

Amsterdam, 22nd September:—The Amsterdam Port Association will have its stand (Stand E300 at

Europort '71, RAI Exhibition Hall, Amsterdam 9-13 November.) in its usual exhibition.

There the visitor can learn about the advantages of the Port of Amsterdam:

- Its wide harbour mouth to the North Sea at IJmuiden.
- Its lack of tidal movement.
- Its fine facilities, equipment and installations.
- Its large amounts of space available for new terminals and sea-port industry.
- Its good service.
- Its fast connections by road, rail, inland waterway and air to the vast industrialized and prosperous European hinterland.

For any further information, please contact: Vereniging "De Amsterdamsche Haven", Havengebouw, de Ruyterkade 7, Amsterdam. (Amsterdam Port Association)

## Review of 1970

Barcelona:—During the course of the year which has just come to an end, there was a great deal of construction done in our Port, both in the buildings and in mechanical installations, to which we have already referred in the article devoted to Public Works.

During the year 1970, the arrivals of almost 8,500 merchant ships and 80 foreign war ships on courtesy visits were registered in the Port of Barcelona. As regards the Spanish Navy, some 40 ships came into port on various different occasions.

Among the eminent personalities who came to visit our Port, we must point out first of all the visit which His Excellency, the Head of the Spanish State made to the Port in the company of the Ministers of Public Works and of the Interior and other authorities. Also in February of last year we were honoured with the visit of the Prince of Spain, Juan Carlos and in the Month of May, the Minister of Public Works, Mr. Gonzalez de la Mora.

On the 16th of June, an important meeting was held in Barcelona at which the following authorities were present: The Presidents of the Ports of Marseille, Genoa and Barcelona,

Messrs. Betous, Dagnino and Suqué respectively and as a result of this meeting the Committee of the Coordination of the Ports of the Western Mediterranean was formed. (Puerto de Barcelona Boletín Informativo, Jan./Feb.)

## Ship Traffic in the Year 2,000

Barcelona:—Under the presidency of the subcommissioner for the Plan of Development, Mr. Ordeix, a meeting of the Interministerial Committee was held with the object of studying the extension of the Port of Barcelona and its industrial hinterland.

The Committee agreed to present to the Government a proposal for the reservation of all the lands necessary in order to guarantee the flow of the traffic which will pass through the Port of Barcelona at least until the year 2,000; and for the purposes of tourism and for recreation, it was agreed that the coastal stretch of land between Castelldefels and the industrial zone alongside the Port should also be reserved.

The Committee also agreed to study the deviation of the present course of the River Llobregat which is made necessary by the urgent need to extend the Port. By the demand of space for new routes and other similar factors. (Puerto de Barcelona Boletín Informativo, Jan./Feb.)

## Correction

In reference to news captioned "Sister-Port Confabs" in page 32 of Ports and Harbors, October, 1971 (Vol. 16, No. 10), the Port and Harbor Bureau of Kobe City has pointed out several errors. Kobe Municipality sponsored the first seminar in 1969 and Port of Seattle Commission (not Seattle Municipality), the second in 1970. Kobe Municipality formed sister-port alliances both with Seattle and Rotterdam in May 1967. The name Yasuhiko Yasuda should be corrected to Yasuhiko Nagata whose title is director-general (not director) of Port and Harbor Bureau.

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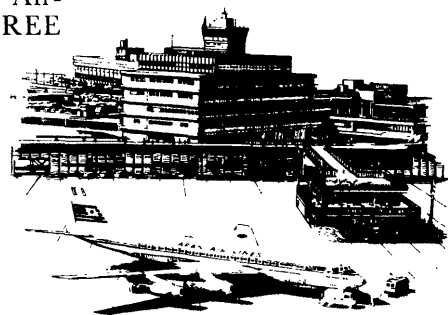
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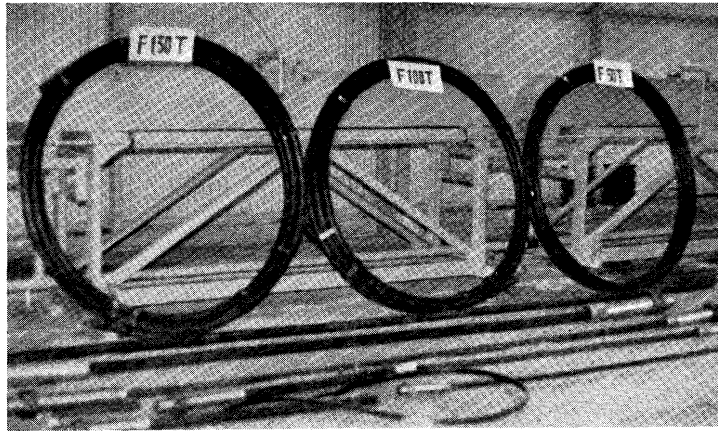
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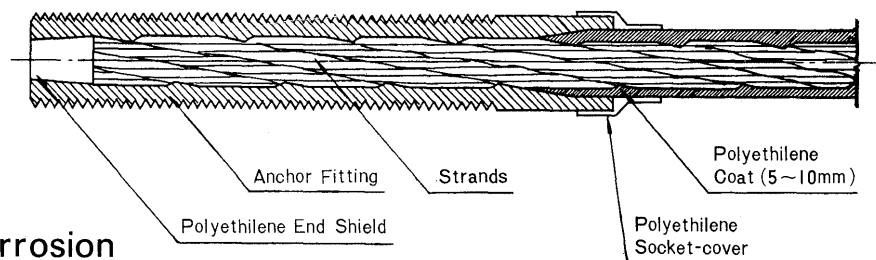
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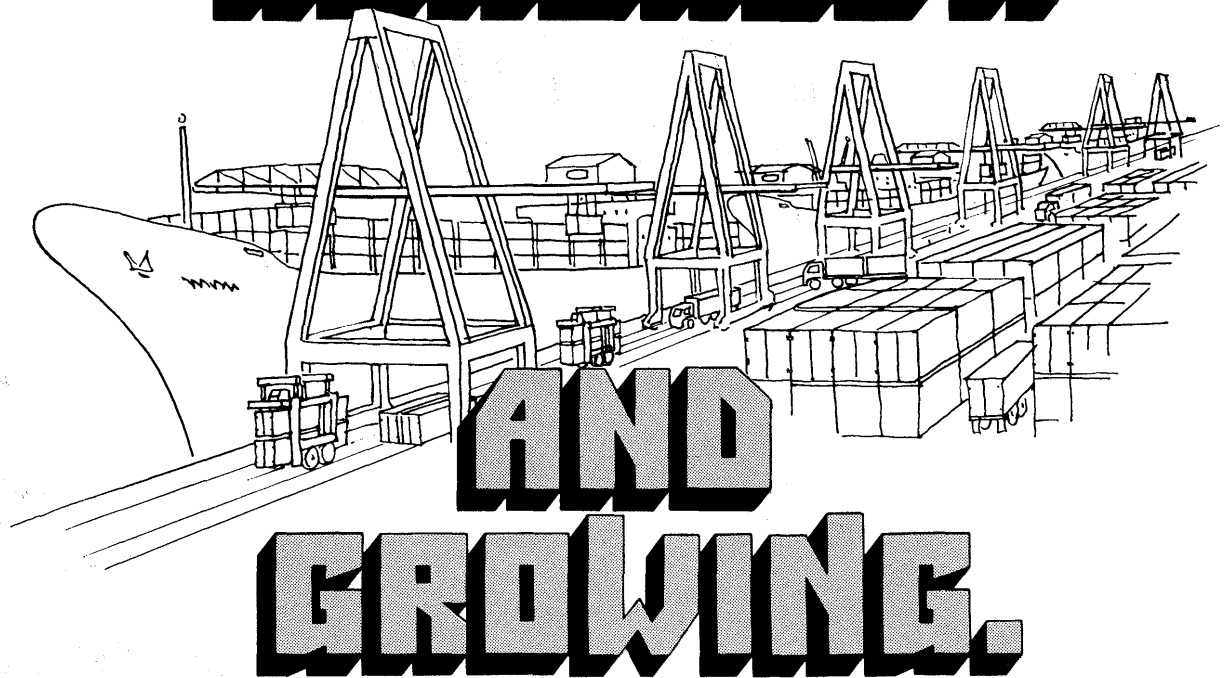
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