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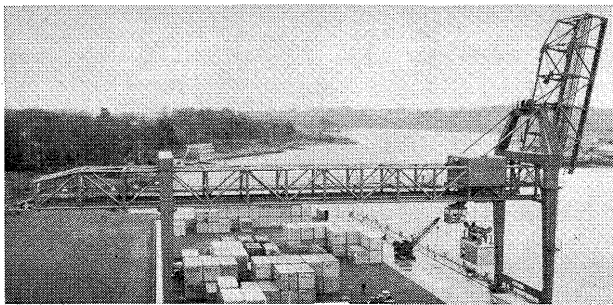
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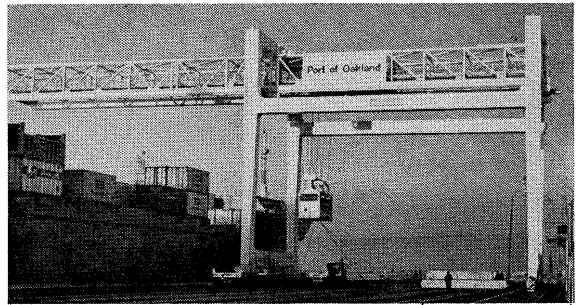
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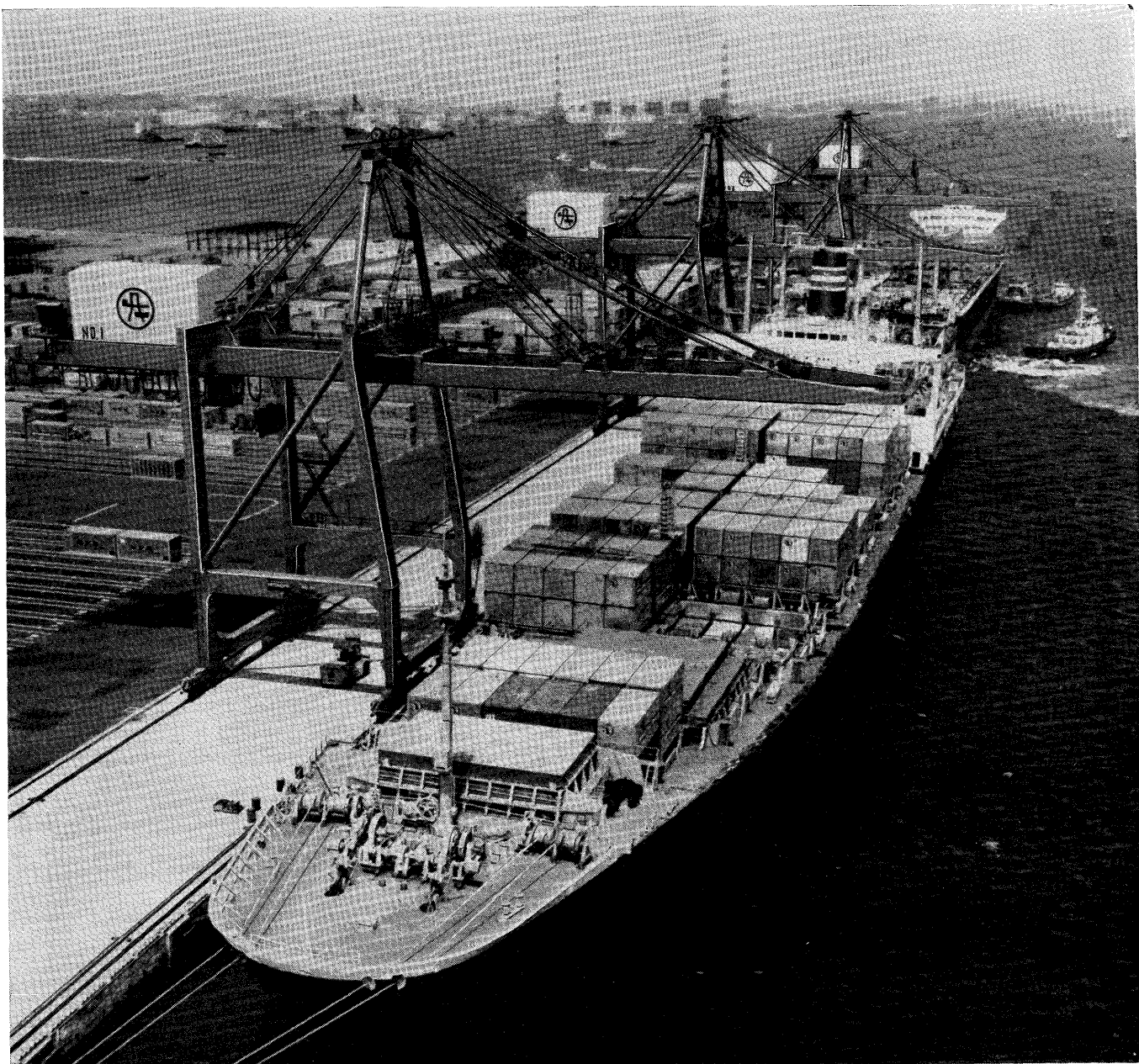
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CONTENTS

Howard A. Mann
1st Vice President, IAPH
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Ottawa

Page

Ir. J. Den Toom
2nd Vice President, IAPH
Managing Director
Port of Amsterdam

Forum :

Port Growth and Development on the East Coast
..... By Thomas T. Soules 7

C. Barrillon
Directeur General
Port Autonome de Marseille

Topics :

Canada's Capabilities in Building Ports and Harbours
Overseas By J. S. Wood14
IMCO As Seen by IAPH19

Howe Yoon Chong
General Manager
Port of Singapore

G. Edney
General Manager
Port of Bristol Authority

Thomas P. Guerin
General Manager & Secretary
The Commission of Public Docks
Portland

Ports :

Port of Tokyo Highlights10

A. Lyle King
Director
Marine Terminals Dept.
Port of New York Authority

Walter J. Manning
Director, Marine Works
Department of Transport
Canada

Orbiter Probe (International News):23-42

Louis C. Purdey
Executive Director
Toledo-Lucas County Port Authority

IAPH News23

Rt. Hon. Viscount Simon, C.M.G.
Chairman
Port of London Authority

Committee on Containerization.....23

Gengo Tsuboi
Managing Director
The Japan Shipowners' Association

Roll-on/roll-off Berths in Rouen38

Head Office :

Kotohira-Kaikan Bldg.
1, Kotohira-cho, Minato-ku,
Tokyo 105, Japan
Tel.: TOKYO (591) 4261
Cable: "IAPHCENTRAL TOKYO"

The Cover :

Aerial view of Port and City of Tokyo, with Mt. Fuji visible on the left
background. (See also story on Page 10.)

Secretary General:

Toru Akiyama

THE SHOWA LINE OPERATES-



-WORLDWIDE



Taking the lead among Japanese shipping companies in August, 1968 in using fully containerized ships on the Japan/Pacific South West Route (P.S.W. Line), the Showa Shipping Co. has exerted its utmost during the past year in the rationalization of container transportation by evolving a transport system for "faster, safer and cheaper transport" of cargoes on a large scale, which is now the motto of transportation revolution. The Showa Line has thus contributed a great deal to the expansion of trade between Japan and the U.S.A. Making active use of the abundant experience and fine record achieved during the past year in the operation of container service, the Showa Line is setting about to open in May 1970 a container service on the Japan/Pacific North Route (P.N.W. Line) with a view to responding to the expectation of our shippers. **Rely on the Showa Line for container transportation of your cargoes of the Japan/P.N.W. Route.**



SHOWA LINE

1, 4 Chome, Nihonbashi-Muromachi, Chuo-ku, Tokyo 103, Japan. **SHOWA SHIPPING CO., LTD.**

PORTS *and* HARBORS

Forum on Port Problems:

Port Growth and Development on the East Coast

Presentation by

Thomas T. Soules

**Port Director, Massachusetts Port Authority
at the Northeastern University
International Marketing Seminar
June 26, 1969**

The technique of handling container cargo at the port level proceeded without serious disruption of the traditional role of the nation's seaports until 1966. Up to the beginning of that year there were a few purely container terminals in this country concerned with the domestic and intercoastal trade. But the entry of Sea-Land into the North Atlantic-European trade touched the match to the powder keg.

The container revolution leapt out of control at that point and, as is typical of revolutionary changes, those directly involved had very little understanding of just what the final outcome would be. The technical changes in container port facilities were well understood and the basic guidelines were quickly standardized and adopted throughout the industry. The marginal berth, the 10-20 acres of upland per berth, the pier-mounted container crane, the advantage of being near the sea rather than as far inland as possible, the annual volume requirements and so on, were apparent to all who were in the business. There were, however, factors which were even more vital but which were not as clearly apparent.

The tremendous economic and inventive power of the United States industry was artificially restrained in the field of marine general cargo

transportation and the American Merchant Marine steadily declined from 1946 through 1966. The federal building and operating subsidy program simply was not working, and even massive infusions of tax dollars, which was politically unrealistic, would not change the trend. A new approach was required.

Having both a narrow responsibility and a narrow outlook, the planners within the scope of the Federal Maritime Program were offered a way out of the political-economic trap they found themselves in during the 1960s by developing the international container ship which, to be effective, required the two-port concept. Within three or four years this led to the concept of the super containership. The super containership is, in fact, as revolutionary to the ocean general cargo business as the steam engine had been 100 years ago.

The basic change in regard to the ports of the 1970s appears to be that the cargo will be drawn to the supership terminal rather than the ship going to the port nearest the source of the cargo. But even more revolutionary is that the supership terminal location may be entirely independent of the inner city-port complex of the past. It is of considerable interest to port executives that the recent Federal Commission

on Marine Science and Engineering Resources report entitled "Our Nation and the Sea" stresses the extreme fragmentation at all levels—federal, state and local, in the responsibility for the development and utilization of the coastal zone. It recommends a Coastal Management Act and the establishment of State Coastal Zone Authorities strong enough to surmount special local interests.

The Commission argues "the maintenance of a major port in every coastal city is no longer justified" and notes that "a port for containerships in the heart of the city adds to the traffic problems and the cost of transporting goods out of the port." It goes on further and states "transportation should rather be examined as a total system and not just as ports and docks." The American Association of Port Authorities challenged the Commission to point out a single container port which was "in the heart of the city"; but perhaps the Commission was thinking of the location of second generation container terminals and not of the container terminals which have sprung up on port-city fringes modeled on the Port Elizabeth design. Perhaps general cargo terminals, like super tanker and super airplane terminals, will move entirely outside of the port-city boundaries. The problems facing port management in the construction of new terminals can be illustrated by the lament voiced at a recent private meeting of port managers, where it was admitted that the outports of New York today face a ratio of \$15 of capital investment to gain \$1.00 of annual gross revenue.

Once the steamship industry freed itself from the need to serve all the major ports in its trade area and adopted the two-port concept under the direction and prodding of the Maritime Administration thinkers, all sorts of unforeseen events started rapidly unfolding. The capi-

tal requirements of remaining in the general cargo trade have changed so completely that, first, the steamship lines started losing tremendous sums; second, they were taken over by much stronger financial organizations (conglomerates); and third, they began to consider that the full potential of efficiency could probably only be reached by getting rid of the restrictions of the U.S. Subsidy Program. Thus the Maritime Administration may have started the revolutionary "two-port concept" only to find itself one of the victims along with the many ports which it proposed to eliminate. That is, the steamship line planners are realizing that the disadvantages of the subsidy program are greater than its advantages in the new super containership system economics. Where a super containership has a potential 30-60 times gain in efficiency over the traditional break-bulk carrier, provided the very heavy capital investment and extensive land support systems are fully exploited, the old economics with cost differentials and subsidies of all kinds could become irrelevant. This, of course, is about as difficult for an American ship operator to grasp as it is for an American farmer to imagine life without farm subsidies. But farming is rapidly being shifted to super farms where the traditional farmer is no longer the prime decision maker. And in shipping, control is rapidly passing from the traditional operator to the conglomerate type executive.

Dock labor and ship crews in the traditional sense and numbers are rapidly becoming outmoded. The skill of the shipboard longshoreman is no longer a large factor; and both shiploading and ship operation can become almost entirely automated. This situation is defined as changing from a labor intensive industry to a capital intensive one. The record-setting demands and gains of the last ILA contract strike period will seem to be modest indeed in coming bargaining sessions, and the faster labor raises its price, the faster they force the elimination of the breakbulk general cargo carrier which has been the basis of the employment of waterfront labor for thousands of years. Thus the more

unions raise the profit potential of automation, the more they force the elimination of labor from the waterfront.

The ports will also have increasing problems. The super containership will put an impossible strain on the first generation of container terminals. Already the steamship lines are unhappy with container port agreements only recently entered into with terminal operating firms. The prospect of one thousand or more containers being carried in vessels with speeds of over 30 knots cannot be entirely pleasing to those deeply committed to first generation container terminals.

This brings our discussion to the point of the reaction which must take place to the initial two-port concept action and then to the adjustments which must take place to the supership, because in our imperfect world things do not always work out the way big industry and government planners think they will.

All containerships, and particularly super containerships, require huge amounts of cargo moving in basically equal amounts, at weekly intervals, all year round. Under such conditions these new ships become so profitable that they drive out the less efficient modes of competition. This in turn invites the strongest sort of nationally-supported competition, for no nation shows any sign of dropping out of the shipping game on the major trade routes. Thus the conditions are set up to suck cargos out of the old ports as all the strongest steamship lines fight to draw the cargo to the favored ports, from anywhere and everywhere.

It should be pointed out that the East Coast states congressmen have wholeheartedly supported the Federal and Merchant Marine programs since the earliest years of our nation. However, the country as a whole has exhibited some reluctance in recent years to appropriate all that the unions and steamship management thought was deserved. When the politicians of the coastal states, which do not contain the famous two ports, find out they are supporting a program to build and operate vessels which not only cannot economically serve their ports, but even more serious, actually re-

duce the economic attraction of their state, they may, in turn, lose their enthusiasm for subsidizing the new two-port concept merchant marine. Thus, despite the claim of greater efficiency with which the Maritime Administration counters all protests of its present program, the prospects of greater subsidy appropriations are not entirely bright.

The ports of this nation have been shown to serve, for the most part, only their immediate hinterland concentrated within 50-mile radius. The new economics of the super containership, while hailed as a boon to all in the general cargo import-export field, undoubtedly favors the regular shipper of multiple container lots either within the 50-mile radius of the two favored ports or those located sufficiently inland to use the new super ports without disadvantage. Rather than strengthening the exporter of small shipments who has been urged by countless federal programs to get into the import-export field, it will make it much harder for him to venture into that area and will drive out many small entities now exporting who are located in the hinterlands of those ports not among the favored two. Air freight will attract him, but sea transport will lose its appeal as he finds his local seaport and all of its trade paraphernalia less and less able to serve his individual needs at costs equal to his competitors which are located near the super ports.

When these ports can no longer attract the general cargo ships it would seem to be inevitable that the industry which was served by them cannot simply survive at a distance of 100, 200 or more miles from the super containership seaport. Either that industry will merge, relocate, or go out of the import-export trade. With these industries will go the benefits that the general cargo seaport of small and medium size (up to 4 or 5 million tons a year) have historically brought to their areas. It is doubtful the taxpayer and congressmen will gracefully accept that the theoretical efficiency of the U.S. flag containership justifies their own economic sacrifice. It is far more likely that they will be added to the political foes of the maritime

subsidy program. Thus the thinking of the conglomerates that the subsidy is not a necessity, is certainly timely. However, just as the maritime nations of the world will not willingly give up their share of world trade under their national flag vessels, the stronger outport cities and their related distribution systems will not fail to react to the threatened two-port concept.

The outports have shown a willingness to build container terminals regardless of the economics involved. This, in turn, will make it possible for the clever steamship operator to beat the giants at their superport-supership game, for although the unit cost of carrying containers is more in a small ship than in a large one, there are enough factors involved to make it very profitable for a relatively small volume vessel operator at outports. His chance of success is to hold down terminal costs by sharing a facility; to raise year-round load factor by going after a steady, limited market rather than a fluctuating mass volume market; to attract the high freight rate cargos with reasonable F. A. K. rates; to eliminate low freight cargos by control of his container; and most of all to be content with a small operation which does not seriously bother the giant operators; also to limit his U.S. call to only one rather than two ports. It may very well be wise to confine his activity to the sea and let others handle the land end of it.

Following this program the alert operator may gain and hold enough of a market to build a reliable base and then look beyond the coastal hinterland to selected inland customers. There will be plenty of those who will be eager to get out of the superports with their super problems. The profit will come from the skill with which those customers are selected to benefit from the outports special advantages.

It would seem to me that labor sector of the outports faces a serious dilemma. Their work forces will diminish under the impact of the superports, the share of the unitization and containerization which it manages to attract, and the inevitable loss of traditional break-bulk loose cargos. National bargaining, which has been, in fact, the imposi-

tion of New York deals and costs on the outports, will be under great pressure to reflect the national needs rather than the New York needs. The outport labor and management alike will soon come to realize that while solidarity with New York is a wonderful principle it is also a very serious act of self-sacrifice on the part of outport labor and port community which, if continued long enough, will reduce the outport to insignificance with the labor force doing only intermittent work. Philadelphia, which is under the strongest attack from the two-port concept, is the first port to have labor and management recognize the absolute necessity of having a cost advantage over New York. Boston management and the port community now understand this, but Boston labor has yet to face up to the realities of the new port economics. They still profess faith in the power of their New York brothers to force enough steamship lines to call in Boston to keep the Boston pension fund and "guaranteed annual wage program" alive. While Boston has made great changes and progress in 1969, it will find that it cannot stand still in the future like it has in the past. Boston and the other outports must accept changes faster than New York; must compete rather than follow, and output ILA locals must throw their full political and economic weight into common cause with management and their port authorities to achieve cost advantages for the shipping firms and shippers who offer them work at the ever increasing wage levels of the seventies.

There is no reason for outport labor to work at lower wages or lower benefits. There is every reason to be more flexible, to be more efficient, and to eliminate the stratified specialization which results in countless wasted man hours. There is every reason for the outports to unite in common cause against the selfish interest and power of New York. There is every reason for the shippers of the great American hinterland and the outport hinterlands to recognize that along with promised efficiency of the two-port concept, there is a very strong probability of their being caught in a worse trap than that from which

the American Merchant Marine is trying to escape. There is every reason for the American importer and exporter to ask their congressmen to insist that the Maritime Administration come up with a program that produces American-flag general cargo vessels, including classes of container vessels, which can economically serve the outports and retain the advantages for this country of a multiport transportation system using the American flag. The theoretical advantages of the two-port system are obvious. So were the theoretical advantages of the TFX airplane for multiservice/multipurpose use, and those of the St. Lawrence Seaway to open the Lake ports to U.S.-flag general cargo vessels. The great savings to the surviving American-flag steamship lines, however, must be weighed against the economic cost of the destruction of the general cargo outports and their supporting economies. To the best of my knowledge, the government planners have only considered the theoretical advantages of the two-port concept and have ignored the cost of economic disruption.

There is also every reason for the Department of Transportation to follow up on the current Government Accounting Office worldwide survey to determine if the container revolution has been good or bad for military cargo movements with one to determine if the hurricane rush to containers is good for the U.S. transportation system; and also to determine if it is really to the taxpayers' and economy's advantage to force the American break-bulk vessel out of business due to unwise Marad decisions past and present.

Very few truly believe today that the theoretical gains of the two-port container concept will actually result in lower shipper costs. Certainly, stock market analysts touting conglomerate issues are plain enough in declaring there will be no need to reduce rates or hold back on future rate increases. We seem to be caught in another drama of escalated investment with no clear idea of the inevitable costs of the side effects.

Port of Tokyo Highlights

Extracts from "Port of Tokyo 1970"

Containerization

Container transportation developed for "faster", "safer" and "lower-cost" transportation of goods is a transportation system that broke through the existing concept of marine transportation. At the Port of Tokyo, a container wharf was constructed at the Shinagawa Wharf, thus pioneering containerization in Japan. Since S.S. Hawaiian Planter, a container ship, entered the Port of Tokyo for the first time in September 1967, the North American Pacific Coast Line was established,

and since then 166 container ships entered the Port up till the end of 1969. At present, seven shipping companies operate eight container ships, which are placed on the line between Tokyo and Los Angeles or Oakland, California, once a week.

About 80% of export goods produced in Tokyo is supposed to be feasible to container transportation. In particular, since high-quality sundries form the mainstay of trade through the Port of Tokyo, the container transportation system is especially significant and promising.

Container Wharf Construction

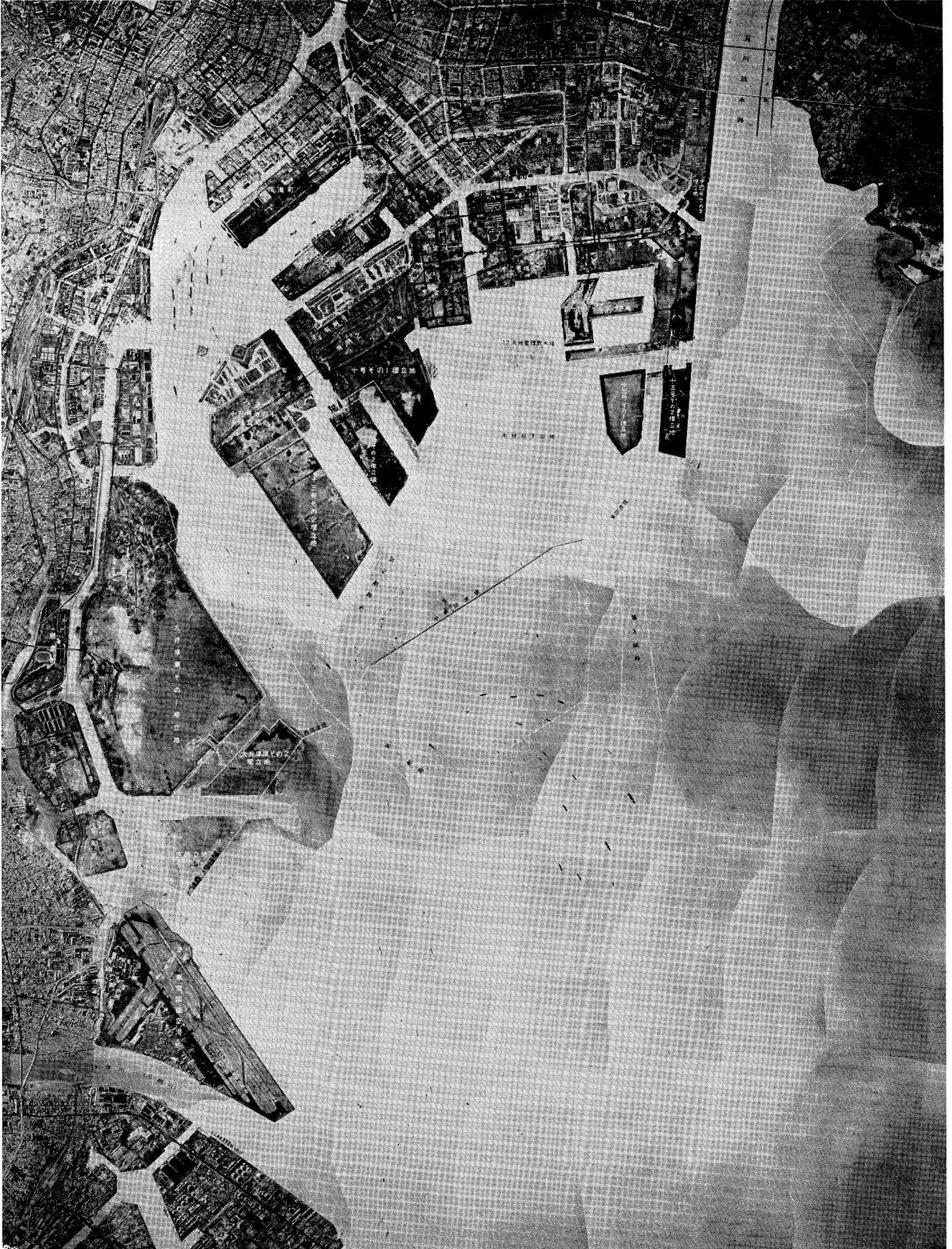
While further growth of Japanese economy is expected to increase trade volume and promote broad containerization of marine transportation, the Port of Tokyo plans to have the Keihin (Tokyo Bay) Port Development Authority build container wharves provided with 11 berths at the Ohi Wharf and Landlot No. 13-2, which will be capable of accommodating 25,000-to 35,000-ton class ships.

Construction of container wharves and foreign trade wharves requires urgency and also requires vast sums of money. And since it is necessary to make the use of wharves exclusive, Tokyo Metropolitan Government and the National Government and the City of

(Continued on Page 12)



Port of Tokyo being expanded southward (Port of Tokyo)

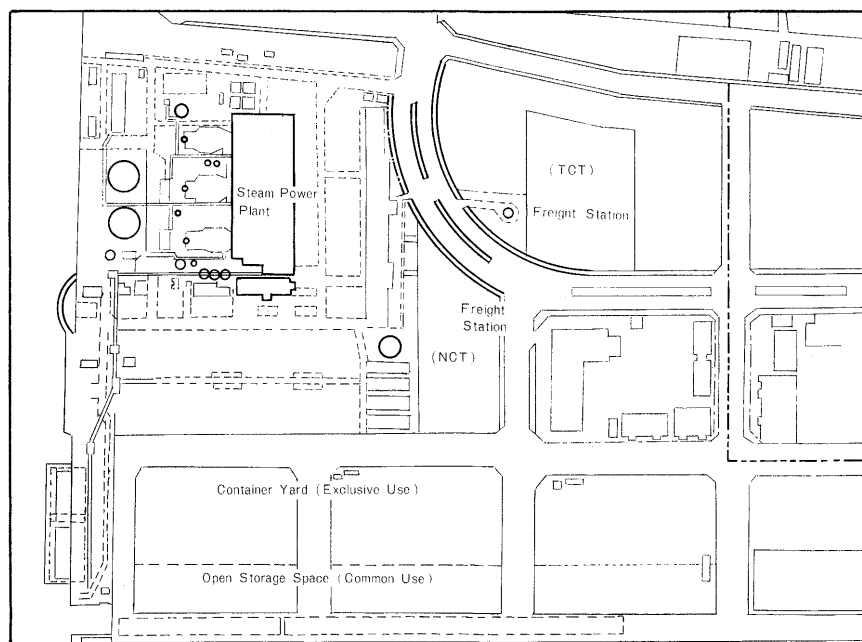


Aerial map of Tokyo Port (Port of Tokyo)



Harumi Wharf (Port of Tokyo)

Sketch of Shinagawa Container Wharf



(Continued from Page 10.)

Yokohama have made joint investment and established the "Keihin (Tokyo Bay) Port Development Authority" in October 1967. This Authority is to take charge of the construction and operation of the wharves with loans partly obtained from private organizations.

The proposed location of the wharf faces the No. 1 fairway of

the Port of Tokyo, and sufficient site space has been secured in the vast reclaimed land. Behind the area are arranged expressways and freight depots of railways so that an integrated land-and-sea transportation can be realized.

Port Strength

The Port of Tokyo is rapidly developing year by year. Since 1958, cargoes handled have increased an-

nually by average of 12% plus, and in 1969, the cargoes totaled 41,916,000 tons, or 2.4 times the total cargo handled during 1959.

In 1968 a total of 69,000 ships with gross tonnage of 39,230,000 entered the Port. These figures compared with those of 10 years ago were 2.5 and 2.3 times respectively.

Of the total cargoes handled at the Port of Tokyo, the best ten by items comprised 8,157,000 tons of iron and steel, followed by crude oil, gravel and sand, oil product, coal, timber, cement, lumber, paper and pulp, and foodstuffs. While the volume of gravel and sand, timber, cement, paper and pulp, and foodstuffs handled have increased over the preceding year, iron and steel, crude oil, coal and lumber have shown a decrease.

The growth of trade volume in terms of value exceeded the growth rate in the weight of cargo handled. For instance, the 1969 trade value reached ¥906,350 million (\$2,520 million) or 2.1 times that of 5 years ago. Reflecting commencement of container service and growth in Japanese economy, growth in recent years is particularly notable, the ratio between 1969 and the preceding year being 33.7% in favor of the former.

Principal marine transportation export cargoes in 1969 include tape recorders, radio sets, toys, metal products television sets, scientific optical instruments, iron and steel, ship, fishery products, clothing in the order mentioned. Imports include timber, meat, fishes and shellfishes, sugar, wheat, banana, office machinery, raw hide, soy beans, and crude rubber in the order mentioned.

Metropolitan Port

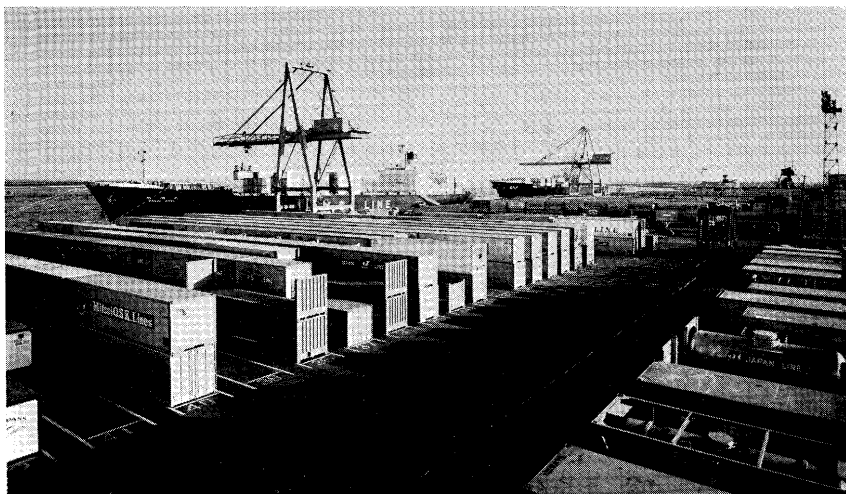
The Port of Tokyo developed as an artificial port created along the mouth of River Sumida while maintaining close link with the life of the Tokyo people as a port playing its part in the functions of the mammoth city of Tokyo. On this point, the Port of Tokyo differs from Yokohama and Kobe ports, which are excellent natural ports.

While cargoes flowing into Tokyo

annually are estimated at approximately 100 million tons, the Port handles about one-third.

Also, more than 80% of cargoes unloaded at the Port is distributed in Tokyo, and more than 95% of cargoes loaded on ships at the Port is carried out of Tokyo.

The Port of Tokyo can thus be considered to be directly linked with 11 million people's consuming and productive activities.

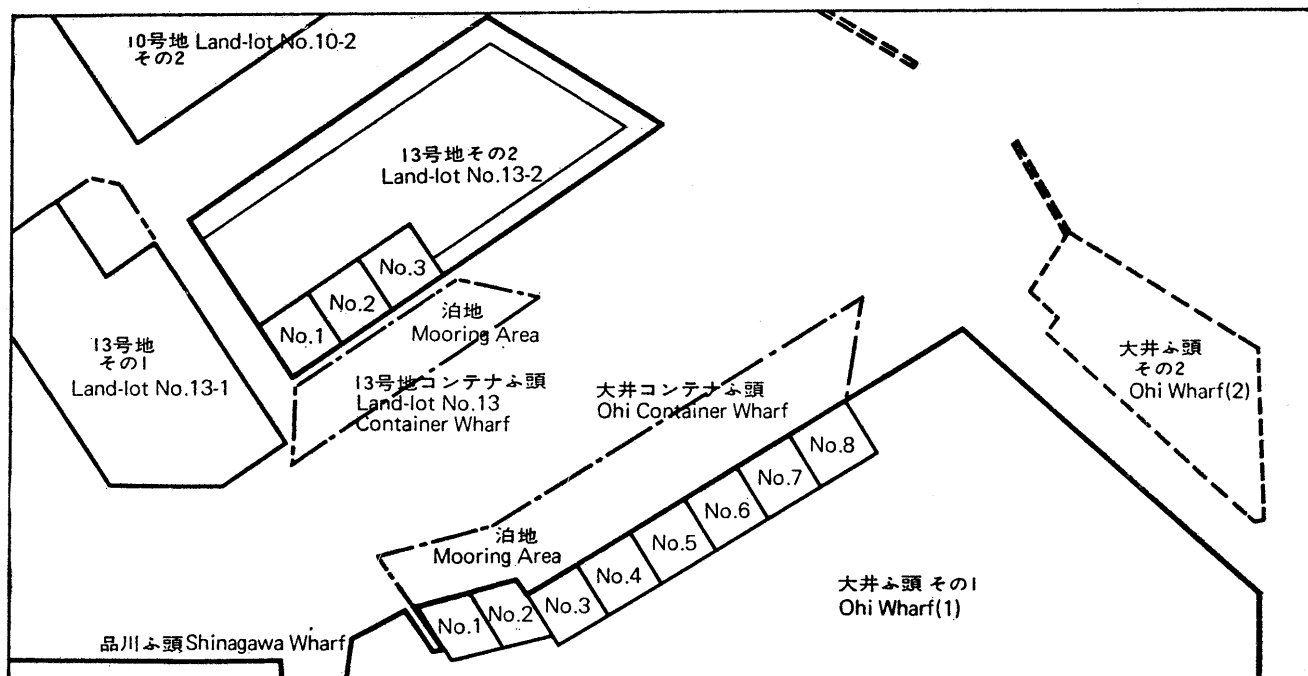


Shinagawa Container Wharf (Port of Tokyo)

List of Container Wharf Construction Plan

| ふ頭名 Name of Wharf | バース名 Name of Berth | 前面水深 Depth | バース延長 Length of Berth | けい船能力 Mooring Capacity | コンテナふ頭 敷地面積 Site for Container Wharf | 荷役機械 Cranes | 使用開始予定 Date of Opening | | |
|--------------------------------|-----------------------|---------------|--------------------------|---------------------------|--|--|------------------------|-------------------|-------------------|
| | | | | | | | 1972 | 1973 | 1974 |
| 大井ふ頭 Ohi Wharf | No. 1 | -12m | 250m | 25,000 | D.W.T. | ガントリークレーン 各バース2台 (揚力37.5トン) Each berth has 2 Gantry cranes Capacity 37.5t | | 4月1日 1st April | |
| | No. 2 | -12 | 250 | 25,000 | 75,000m ² | | | 4月1日 1st April | |
| | No. 3 | -12 | 250 | 25,000 | 90,000 | | 4月1日 1st April | | |
| | No. 4 | -12 | 300 | 35,000 | 90,000 | | 1月1日 1st January | | |
| | No. 5 | -12 | 300 | 35,000 | 90,000 | | 1月1日 1st January | | |
| | No. 6 | -12 | 300 | 35,000 | 90,000 | | 4月1日 1st April | | |
| | No. 7 | 12 | 300 | 35,000 | 90,000 | | 4月1日 1st April | | |
| | No. 8 | -12 | 250 | 25,000 | 75,000 | | | 4月1日 1st April | |
| 13号ふ頭 Land-Lot No. 13 Wharf | No. 1 | -12m | 300m | 35,000 | 105,000 | ガントリークレーン 各バース2台 (揚力37.5トン) Each berth has 2 Gantry cranes Capacity 37.5t | | 4月1日 1st April | |
| | No. 2 | -12 | 300 | 35,000 | 105,000 | | | 4月1日 1st April | |
| | No. 3 | -12 | 300 | 35,000 | 105,000 | | | | 4月1日 1st April |

Map of Container Wharf Construction Plan



Canada's Capabilities in Building Ports and Harbours Overseas

**Address by
J. S. Wood, P. Eng.**

**Manager-Civil Division
Swan Wooster Engineering Co., Ltd.**

**The Engineering Institute of Canada
84th Annual General and Professional Meeting
Ottawa, Ontario, Canada
September 16, 17 and 18, 1970—Chateau Laurier**

Introduction

In examining the various factors which influence the involvement of Canadian engineers with overseas port projects, one is impressed with the variety and complexity of the knowledge required to create or expand ports in developing countries and also with the complexity of the arrangements — financial, legal, technical and social—required to field a team to carry out the work. For example, to ensure that a port will function at the economic optimum, the design of a port, or a harbour facility will involve detailed study of some or all of the following:

- a) the economic development of the port hinterland and the import and export volumes
- b) the transportation connections to the hinterland and the channels to sea
- c) cargo characteristics, the type of handling equipment, and the type of vessel traffic
- d) storage requirements for incoming and outgoing cargo
- e) the permissible port congestion and its effect on the port operating costs
- f) navigation requirements
- g) foundation, structural and hydraulic requirements and conditions
- h) the ownership of port facilities, responsibility for stevedoring and the operation and management of the port

The following paper gives a very

brief outline of the overall situation regarding World Ports and the opportunities for Canadian Engineers to be involved in their design and construction.

World Need for Ports

Now, as in the past, the need for ports and harbours throughout the world is related to a number of factors. Two of the most important factors are (i) world trade patterns and (ii) the technology of marine transportation.

Rising standards of living and population growth contribute to an increased dependence on international trade by developing nations. Similarly, the developed nations continue to expand their international trade in raw materials and finished goods to serve the newly developing states.

World shipping is expected to experience unprecedented growth in the near future. It is estimated that seaborne trade will double in the next 30 years to service the needs of an expected world population of 6.3 billion. This growth is encouraged by the new economies of large ships: A 100,000 DWT or 200,000 DWT vessel costs less to build per ton of carrying capacity, a similar amount to run, offers far superior efficiency than, for instance, an 18,000 DWT ship.

While the advent of larger ships provides for economies of scale in seaborne trade, an increase in shipping traffic will not necessarily oc-

cur since the larger loads per ship mean that vessel arrivals may decline as the total cargo tonnage is increasing. But the mammoth supertankers, ore carriers and container ships demand not only new or modified ports to accommodate them, but also more efficient loading and unloading facilities to further decrease the costs of handling large quantities of bulk materials or manufactured items. The deeper and longer ships require deeper and wider channels with larger turning and stopping areas. The faster handling equipment is required to ensure quick turnaround of the large capital intensive ships.

Terminals and machinery for the newer bulk handling facilities, like the Central Terminal System concept, containerization, etc., now require a higher state of engineering specialization than was previously the case. This means the consulting engineer, who has become a specialized problem-solver, undertakes assignments that may be beyond the capability of the technical staff of local government or corporate organizations. The skill and experience of engineering consultants is used increasingly within developed industrialized countries, and is in demand in the developing countries, few of which have comparable industrial experience or educational facilities.

Basically, the advantages in using consultants are the same for both developed and developing countries. The time needed for implementing projects is shortened; specialized skill and expertise is gained; a fresh approach to established practice may be obtained, and independent evaluations and recommendations are available. In addition to this, consulting firm services may include not only planning, design and engineering, but technological and economic management and training.

The problems of port development and planning, as with other aspects of development, are also financial and political. A reflection of this is the extent to which overseas consulting services are retained by the international agencies of finance and development.

The majority of projects (over 60%) in which Canadian consulting firms were involved in 1970 were

externally financed. Agencies concerned with the export of Canadian Services include: the Association of Consulting Engineers of Canada (ACEC), the Department of Industry, Trade and Commerce, the Canadian International Development Agency (CIDA), the Export Development Corporation (EDC), the United Nations Organizations, the World Bank Group and other international finance agencies.

A major field of interest for the World Bank Group (IRDB, IFC, IDA) in the area of transportation has been port improvement, the construction of berthing facilities, purchase of harbour craft and cargo handling equipment. Financing has taken into consideration the new trends and developments in world shipping, and it has been recognized that the standards of port facilities development, particularly with respect to containerization and bulk facilities, are just as critical for developing countries as for those that are highly industrialized.

To date, port improvements loans from the World Bank have amounted to \$455 million in 26 countries. In addition, the Bank has provided technical assistance in the form of sector and feasibility studies, staff training and institution building.

Canada's Role to date in Overseas Engineering

The value of exported Canadian consulting services rose from \$16.5 million in 1964 to an estimated \$50 million in 1968. The total estimated value of Canadian consulting fees during 1968 was \$170 million, which represented projects valued at over \$2 billion. The exported consulting services accounted for some 30% of Canadian revenue from the industry. This market for foreign consulting contracts may reach \$100 million by the end of the 1970's according to the Department of Industry, Trade and Commerce (ITC).

The Department annually conducts a survey on Canadian engineering services abroad. For example, the 1967 survey reached 329 firms, comprised of architects, consulting engineers, management consultants, geophysical exploration firms, aerial survey firms, etc. The majority of these firms were in the consulting engineering category. Of the 143 firms that responded to the

survey, 75 reported being engaged on foreign assignments during 1967. At present, there are approximately 80 Canadian consulting firms actively seeking markets in technologically underdeveloped countries.

The global distribution of the total export figure was 41% (\$15.6 million) between Europe (9%) and the U.S. (32%) and 59% between Asia (28%) (Middle East, Ceylon, India, Pakistan, Far East, Australasia) Central and South America (15%) Caribbean Area (6%) and Africa (10%).

Of the total 503 projects with a dollar value of \$37.9 million, 64 transportation projects accounted for \$3.4 million. Port and harbour projects would be within the transportation group, but the exact number or dollar value was not determined.

The sources of payment or financing for the total amount of \$37.9 million of engineering services furnished abroad came from the following:

| | Percentage of Total Amount |
|--|----------------------------------|
| 1. Canadian Government | 21 |
| 2. Canadian Private | 8 |
| 3. U.S. Sources | |
| (projects outside US) | 2 |
| 4. External sources (other than Canadian and U.S. sources, e.g., U.K., France, etc.) i.e. financed from sources outside countries where project is located | 4 |
| 5. Domestic sources, i.e., financed from sources within country where project located | 60 |
| 6. International agencies—UN, IADB, WB, etc. | 5 |

Canada's consulting engineering exports have been primarily in the fields of forestry, power, mining and industrial development (with the associated handling and shipping facilities) which, together with aerial and resource surveys, are areas where Canadian conditions have led to the development of specialized technologies. This expertise is in demand in both developed and developing nations.

Possession of high levels of competency in these disciplines enables Canada to export consulting services to nations where industries or por-

tions of the economy can benefit. Although Canada cannot produce a volume of services to compare with those available from the U.S., Japan or the U.K., it is apparent from the size of individual projects completed across the country that in certain technological areas including ports and harbours development, Canada possesses the necessary skills for the development and export of port engineering services.

The demand for Canadian services is reciprocated by Canada's demand for manufactured goods, selected raw materials, services and/or agricultural products from the nation receiving our technology. According to the CIDA Annual Report, 1969, one of Canada's main activities is in the supply of industrial commodities to India, Pakistan and Ceylon. The variety of commodities shipped includes copper, zinc, asbestos, lead and newsprint. Some of the developing nations now have well established industrial infrastructures, and shipments of commodities to us help them to use the existing industrial capacity without spending foreign exchange for such items.

Canada has gained considerable expertise in solving transportation problems created by our long, narrow band of settlement across the southern part of Canada. This expertise is directly applicable for export purposes in view of the lack of adequate transportation networks which is a serious problem in many developing countries. Much of Canadian assistance in Asia is oriented toward the development of more efficient rail transport. In Africa, also, Canadian advisers are helping to re-organize rail systems. In the Caribbean, the main emphasis of Canadian assistance is on improving interisland air transport, although assistance is also provided in the construction of numerous bridges. In the agricultural sector, emphasis is placed on the development of bulk handling facilities for grain, fertilizer and other commodities—many of these are located in ports.

Factors that Influence Canada's Role

In comparison with many other nations, Canada has an advantage in the development of technologies

which comprise the bulk of the technical skill exports. Few countries possess the variety and wealth of Canada's natural resources. To develop these resources, technologies emerged for the forestry, mining and transportation industries which supported the development of power projects, industrial complexes and survey techniques—all of which broadened the Canadian engineering experience. Few nations encompass so large an area as Canada, with resources so widely dispersed. Problems encountered in moving commodities to tidewater or to facilities in the Great Lakes have provided the Canadian harbour engineer with a multitude of opportunities to develop his expertise. On our coastline, one of the longest and most varied in the world, isolated locations for port facilities have developed the harbour engineer's ability to organize men and materials under relatively primitive conditions. Construction problems associated with high tide ranges, and delta conditions which develop experience in land reclamation have broadened the technical scope of the Canadian marine engineer. Other problems encountered in Canada include those related to the construction and operations of lock systems and the difficulties presented by river harbours and their development. Consequently, the Canadian engineer has many opportunities to develop the expertise and resourcefulness required for overseas port construction.

A closer look at typical Canadian harbour projects with a view to evaluating the various characteristics most useful in training the engineer for his overseas assignments will be worthwhile. The outstanding characteristics of modern terminals for the mining industry, which are often built in isolated locations, are simplicity of design and economy consistent with the requirements of the ships to be berthed and the volumes to be shipped. Similarly, forest products terminals are simply and economically constructed to ensure adequate storage and loading areas to guarantee low loading costs to modern deepsea vessels.

The larger modern Canadian terminals and harbour installations are often built on reclaimed land

constructed by hydraulic dredges. New techniques of reclamation and bank protection have proved economical and will be applicable to many overseas problems. Similarly, new design techniques have been developed for materials handling equipment such as stackers and shiploaders.

To illustrate some of the consulting services that Canadians can provide for overseas ports, a few projects will be reviewed.

One example of a terminal for a mining project is the wharf and shiploader for the Marcopper Mining Corporation on Marinduque Island in the Philippines.

In February 1967, Marcopper Mining Corporation, which is partly owned by Placer Development Limited retained us to plan a wharf and shiploader to handle up to 250,000 tons of copper concentrate annually from their proposed mine near Santa Cruz on Marinduque Island. The loader chosen required a maximum design capacity of 600 short tons per hour to ensure a loading rate of 400 tph onto 5,000 to 15,000 DWT bulk carriers, with provision for occasional visits by vessels up to 25,000 DWT in size. As there were no other suitable unloading facilities on the island, the facility was also required to handle up to 1,000 ton shipments of general cargo and heavy machinery in up to 50 ton loads for construction and operation of the mine and mill facilities.

An approach causeway which passes through 200 meters of mangrove swamp supports the approach conveyor and provides vehicle access to the wharf head.

A quadrant type shiploader was chosen to shorten the loading time and thus provide savings in operating costs. During general cargo operations, the loader can be moved out of the way. Use of the quadrant system also permits savings in the cost of the loader support system. Detailed design of the shiploader commenced in early 1968; at the same time Swan Wooster supervised the detailed design of the wharf by a Philippine design team. General cargo was being handled by October, 1968, and the shiploader, installed in the summer of 1969, was operative by

the fall. Cost of the facility, excluding the storage warehouse, was under \$600,000.

The construction was supervised by a Canadian firm incorporated to operate in the Philippines under the name Commonwealth Pacific, a subsidiary of Commonwealth Construction of Vancouver. The shiploader was fabricated in the Philippines with the machinery components being supplied from Australia.

Another project which was supervised during construction by a Canadian engineering firm was the port expansion of the port of Acajutla, El Salvador.

El Salvador exports one quarter of her Gross National Product so, as the GNP increased and with a heavy reliance on import and export trade, the volume of ocean-going freight increased. This made extensive expansion of the port with modernized bulk handling facilities essential. The port authority proceeded with plans to add a new finger pier inside the existing pier with bulk material handling equipment and supporting storage facilities on the shore.

In late 1966 the Canadian International Development Agency (then the External Aid Office) extended a long-term, low interest loan of \$3,240,000. (Canadian) to finance one half the costs of the proposed expansion. The loan was made through, and administered by the Inter American Development Bank, and was the first such arrangement by the Canadian Government.

The purpose of the expansion project was to increase the capacity of the port from 350,000 tons to 1,200,000 tons per year, and included the following works: construction of a four-berth finger pier parallel to the existing structure; acquisition and installation of a 500 tph bulk loading/unloading unit with the necessary conveyor equipment; construction of a 15,000 ton bulk storage warehouse with provision of extending the capacity to 30,000 tons, with purchase and installation of accessory equipment; and the dredging of approximately 140,000 cubic metres in the harbour basin.

Swan Wooster was appointed Consulting Engineer for the project in December, 1966. The terms of

reference involved: a complete review of a design previously prepared by a U.S. Consultant in association with a Salvadorian consultant; preparation of bid documents and calling for tender; bid analysis and recommendations for the selection of contractors; and supervision of construction.

The pier, 360 by 28 metres, has four berths for ships up to 40,000 DWT.

The bulk storage warehouse, located on shore close to the landfall of the pier, is an A-frame structure of precast, prestressed concrete, 37 metres wide and 75 metres long, with a reclaim tunnel along the longitudinal centre line.

The project's construction was divided into two contracts. After prequalification of potential contractors, and acquisition of the necessary approvals by the client and lending agencies, the first contract for dredging and all civil engineering work was issued for tender in June 1967. The successful bidder was Marwell Construction Co. Ltd. (now a division of Dillingham Corporation), with a bid of approximately \$4.6 million (U.S.). Work commenced in December 1967.

The \$2.5 million bulk handling equipment contract was won by Commonwealth Construction Company of Vancouver, Canada, with sub-contracts to Peco Engineering (ship loader/unloader), Barber-Greene Inc. (conveyors) and TIPIC (S.A.), structural steel fabricators.

The conveying system at Acajutla is a dual one, comprising both import and export conveyors. The design will handle material weighing 100 pounds per cubic foot at 500 metric tph. Typical import bulk materials are phosphate rock, sulphur, potash, wheat, soybeans and soybean cake, while export bulk materials are raw sugar, cotton and urea.

The shiploader/unloader unit will perform three operations; first shiploading at 500 metric tph, second, grab bucket unloading, and third, container handling of 25 metric ton containers.

Completion of expansion at the Port of Acajutla will significantly affect the entire Central American Common Market area. Foreign

trade with the United States, Britain, West Germany and Japan will no longer be hindered by inadequate port facilities; but more important, the expanded port will create vital employment opportunities and attract new industry to a country with one of the most modern port facilities on the Pacific Coast south of California.

Advantages and Disadvantages of Overseas Work

Even though the overseas market for port engineering appears attractive, the individual engineer, consulting firm or consortium should weigh the advantages and disadvantages of working overseas carefully. Factors usually cited in favour of overseas work include:

1. Foreign markets for consulting services are often larger than domestic markets.
2. Significant access to these markets may be gained through foreign aid programmes.
3. Foreign work often presents greater challenges than domestic work.
4. There is sometimes less competition in foreign work compared to the usual intense competition in domestic markets.
5. The larger export market may permit more efficient use of some of the firms facilities and/or staff.

Two other factors will probably influence the Canadian's decision to become involved in overseas work. First, in order to expand or maintain a firm's share of the domestic market, it is becoming increasingly important for that firm to achieve some form of international recognition. Secondly, large domestic projects are generally assigned to the most competent firms available—those with current knowledge of world-wide technology which can often only be developed through international associations and operations. This is particularly valid in the port and harbour engineering field.

Factors cited against exporting consulting services:

1. Business development is usually more expensive for foreign than for domestic projects.
2. Foreign clients often insist on a lump sum price for poorly de-

finied work that would not be undertaken domestically on such a firm price basis.

3. Taxation and legal structures in some nations discriminate against foreigners.
4. Communications difficulties arise at all organizational levels in foreign ventures.
5. Financial risks may often be greater in foreign work, even with all of the EDC and charter bank guarantees.
6. Barriers based on political-cultural-economic grounds are likely to develop on foreign projects.
7. Repatriation and foreign exchange problems may eliminate job profits.
8. Foreign partners are required in many countries, these foreign firms may not be as competent as the exporting organization.
9. Import and export restrictions may exist or may be brought into effect during the course of, and to the detriment of, an assignment.

Federal Government's Role—Past, Present and Future

Canadian engineering services are the second most expensive in the world, next to those of the United States. The high cost of these services is making it increasingly more difficult for Canadian firms to compete abroad with foreign firms who are often subsidized by their national governments. For instance, in the U.K., the British Overseas Engineering Bureau is authorized to cover the cost initial feasibility studies at no charge or free to the prospective foreign client. Japan also has a program which provides consulting engineering services at minimal charge. In Canada, up to the present time, most of the support for the growth rate of the export sector of the consulting industry has come from the industry itself. The Federal Government has provided limited support in the form of informational and financial assistance. Recent changes in the organization of the Department of Industry, Trade and Commerce and in the articles of the Export Development Corporation (EDC) related to encouraging, insuring and financing foreign contracts for engineering services indi-

cate that the government's outlook is changing and a more helpful approach may be adopted.

Canada's Export Development Corporation (EDC) has modified its articles to provide for the financing of services exported abroad, but with the exception of the Province of Ontario, little has been done to encourage the initial decision for Canadian firms to look abroad. Ontario has established a programme called "The Ontario Engineering Services Abroad Program", whereby assistance is provided to engineering firms undertaking preliminary studies which are required before negotiating foreign engineering assignments. Eligible costs for this programme are staff transportation, living expenses at the site, and fees paid to outside professional services for the initial study. Up to 40% of the eligible costs for submitting a proposal are borne by the Province. The funds advanced by the Province must be repaid if the proposal results in an assignment. This subsidy no doubt accounts for some of the growth in Ontario's engineering exports relative to other provinces. Similar programs are being explored in B.C., Manitoba and Saskatchewan.

At the present time in Canada, little has been done to provide government loans, on a hard or soft basis, or guarantees for firms undertaking the initial step in obtaining an engineering assignment—i.e. the presentation of a proposal to a prospective client outlining how a certain project can be investigated and evaluated. These proposals may lead to feasibility and/or preinvestment studies and eventually to the design and construction of development projects. Many firms are unwilling to risk the loss of monies in the preparation of expensive proposals for foreign work. Generally speaking, the information required in foreign proposals is far more extensive than the amount required in domestic proposals. The additional time and effort required to prepare the proposal combined with the time and travel expended gathering necessary on-site data means that the proposal may cost many times the equivalent domestic proposal. However, experience has demonstrated that there are no

shortcuts; only first class proposals will be successful.

CIDA's requirements that 66-2/3% of the value of goods or services be of Canadian origin on projects financed by CIDA funds creates a problem for foreign port projects. For example, most wharf construction involves the use of large volumes of local materials such as concrete, which makes adherence to the content requirement difficult, or where use of Canadian materials would render the project uneconomical. In many cases, the recipient country may seek preliminary engineering and consultants services elsewhere—from countries which offer financing for the whole project and do not have the same content requirement.

Generally, it appears that the trend of Canadian firms towards foreign business ventures, together with the larger world markets and the prestige of involvement in foreign projects should stimulate the export of engineering services from Canada, including the export of port and harbour expertise.

The Canadian Engineers Role

It is clear that Canadian engineers are already considerably involved in the export of their services to both developed and developing countries and that prospects are favourable for increased involvement. We have shown that we can not only satisfy our own needs, but can develop export capabilities of benefit to both recipient countries and ourselves. It now remains to see if our expertise can be exported as successfully as our forestry, mining and power specialities.

In the export of services the social significance of the engineer's work assumes more importance. In this country, the engineer has a major influence in controlling many aspects of a project. He has attained this position as a result of his knowledge, not only of engineering aspects, but also of the operating methods of the business world, i.e. the function of suppliers, subcontractors, labour unions, safety, overtime, etc. This is a legitimate position because within the framework of highly industrialized coun-

tries, the engineer is not called upon to operate outside the sphere of his own knowledge.

The Canadian engineer overseas is rarely trained in the Social Sciences and often finds it difficult to understand or appreciate cultural differences or the nuances of local social conditions which may affect the achievement of his project.

Thus, on overseas work, the engineer must be constantly aware of his role as an outsider and guard against tendencies to extend influence and advice beyond his field. This restricted role should be adopted if the development goals of newly industrializing nations, involving as they do the difficulties of a transitory social systems, are to be achieved.

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Canadian International Development Association

(Continued on Next Page Bottom.)

IMCO As Seen by IAPH

Reports by observers from IAPH at IMCO sessions

Report No. 11

Date: 5th/9th October, 1970

Place: IMCO Headquarters in London.

Session: 22nd Session of the Maritime Safety Committee, I.M.C.O.

Observer from IAPH: Captain W. R. Colbeck, R.N.R., F.R.I.C.S., Marine Surveyor & Water Bailiff, Mersey Docks & Harbour Board.

Agenda

1. Adoption of the agenda (MSC XXII/1/Rev. 1)
2. Report of the Secretary-General on Credentials (MSC XXII/2)
3. Report of the Sub-Committee on Safety of Fishing Vessels (MSC XXII/3)
4. Report of the Sub-Committee on Fire Protection. (MSC XXII/4; MSC XXII/4/Add. 1)
5. Report of the Sub-Committee on Radiocommunications. (MSC XXII/5; MSC XXII/5/Corr. 1)
6. Report of the Sub-Committee

Annual Reports, 1968, 1969 and sundry brochures.

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- "An Engineering View on the CIDA's Capital Program" by P.J. Haines, **Alberta Professional Engineer**.
- "Canada and the World Bank Group." **Foreign Trade**, January 31, 1970.
- "Engineering Export Work Showing Steady Rise". **Canadian Consulting Engineer**, September, 1968.
- "Drive for Exports Triggers Interest Among Engineers Across Canada" by G. Spark, **Canadian Consulting Engineer**, July 1967.
- "Canadian Engineers Hustle for Overseas Work". **Engineering News Record**, May 28, 1970.
- "Port Construction and Development". **Land to Water International** No. 8, April 1970.

- on Life-Saving Appliances (MSC XXII/6)
- 7. Preparatory work of a conference on container traffic:
 - (a) Report of the Sub-Committee on Containers and Cargoes (MSC XXII/7(a))
 - (b) Co-operation with other organizations (MSC XXII/7(b))
- 8. Report of the Joint IMCO/ILO Committee on Training. (MSC XXII/8; MSC XXII/8/Corr. 1; MSC XXII/8/1; MSC XXII/8/2; MSC XXII/8/3)
- 9. Portable tanks for dangerous goods (MSC XXII/9)
- 10. Number of persons allowed on board existing passenger ships resulting from increase in life-raft capacity (proposal by the United States) (MSC XXII/10).
- 11. Definition of passengers in the context of the 1960 Safety Convention (MSC XXII/11)
- 12. Safety requirements for special purpose ships (proposal by the USSR) (MSC XXII/12)
- 13. Use of VHF in port approaches (MSC XXII/13)
- 14. Automation in ships (MSC XXI/15/Add. 3 — Note by France) (MSC XXII/14)
- 15. Tank size of large tankers (MSC XXII/15; MSC XXII/15/Add. 1; MSC XXII/15/Add. 2; MSC XXII/15/Add. 3; MSC XXII/15/1)
- 16. Access to holds in large ships (MSC XIX/29/2—Note by France) (MSC XXII/16)
- 17. Co-operation with other Organizations: information on subjects of interest to IMCO (MSC XXII/17; MSC XXII/17/1)
- 18. Symposium on Nuclear Ships (MSC XXII/18).
- 19. Consideration of future work programme
 - (a) Programme of meetings for 1971 (MSC XXII/19(a))
 - (b) Progress of work on revision of Collision Regulations (MSC XXII/19(b); MSC XXII/19(b)/1)
 - (c) Preliminary consideration of work programme for 1972/73. (MSC XXII/19(c); MSC XXII/19(c)/Add. 1: MSC XXII/19(c)/1).
 - (d) Long Term programme, including proposed future conferences (MSC XXII/19(d)).
- 20. Date of next session (MSC XXII/20)
- 21. Any other matters (MSC XXII/21)
- 22. Consideration of the Report of the Committee on the work of its twenty-second session.

Text of Report

Item. 4. Fire Protection

(a) Operational requirements for tankers.

The Tanker Safety Guide has been published by the International Chamber of Shipping and the Committee recommend member Governments the use of the Guide in conjunction, as appropriate, with any national requirements of their own.

(b) Air Cushion Vehicles.

Provisional interim guidelines on fire safety measures for air cushion vehicles were approved but it was stressed that, due to the rapid technical development of these types of craft, these were provisional only and the Sub-Committee is to continue to study this matter in the light of experience gained.

(c) Flash Point Criteria.

In the past there have been several values used of the flash point limit as a criterion of flammable liquid cargo and this point can affect Ports as these figures are frequently included in Bye-laws covering the handling of petroleum cargoes. It is stated that the closed cup method of test is more accurate than the older open cup method of test and the recommendation is that this should be standardised in I.M.C.O. documents at 140°F (60°C) as determined by the closed cup method of test. This recommendation is to be further considered by the Sub-Committee on the Carriage of Dangerous

Goods but has already been adopted by the Petroleum Industry and is used in the Tanker Safety Guide.

Item 7. Preparatory work of the International Conference on Container Traffic.

It has been decided, subject to the final approval of the General Assembly of the United Nations, that the Conference on International Container Traffic should be convened in 1972 by the United Nations and I.M.C.O. jointly, and that this should deal with technical, administrative and legal aspects of containerisation requiring inter-governmental agreements.

This item will affect ports since it will cover not only sea transport, but the handling and inland transport of containers.

Item 13. Use of V.H.F. in Port Approaches.

The paper was submitted in March, 1969, to the Safety of Navigation Sub-Committee of I.M.C.O. but was only noted and not discussed. The paper recommended that (a) all ships of 1600 tons gross tonnage and upwards shall be fitted with a Radio/Telephone operated on the bridge or conning position and working on the very high frequencies in the Maritime Mobile Band as required by the Radio Regulations and (b) all vessels below 1600 tons and above 50 tons are recommended to fit Radio/Telephone.

This paper was referred to the Maritime Safety Committee but due to pressure of work, it only appeared on the Agenda in the 22nd Session.

Your Observer introduced the paper and amplified the reasons for Ports wishing, for safety reasons, to improve communications, and this could only be achieved by the fitting of V.H.F. Radio/Telephone equipment for communication with Port Advisory Services and other vessels.

The I.A.P.H. were aware that the I.M.C.O. Assembly of 1967 adopted an additional Regulation 18, the Safety of Life Convention, which agreed that contracted governments could require any vessels navigating in an area under its sovereignty to be provided with V.H.F. R/T but this Regulation

had not yet come into force as sufficient member countries had not yet ratified it. The I.A.P.H. views were strongly supported by P.I.A.N.C.; by Canada who suggested that the Committee should send a resolution to the Assembly urging governments to adopt the provisions suggested by I.A.P.H.; and France and Russia were in favour of a further strengthened amendment to the convention.

There was considerable further discussion, there being no objection to the I.A.P.H. proposals, the problem being that of how to produce the necessary implementation and the final report of the Safety Committee states "it was felt that the purpose of the I.A.P.H. proposals would be adequately met when Regulation 18 comes into force and it was agreed to return to the subject if ratification of Regulation 18 does not proceed satisfactorily". The United Kingdom in their latest Harbours Act, have taken powers to implement Regulation 18 and it would appear that a number of other countries are likely to take similar action and so enable the I.A.P.H. recommendations to be implemented.

Item 15. Tank size of large tankers.

Considerable discussion took place on the question of the limitation on the tank size of large tankers from the point of view of the prevention of the pollution of the sea by oil as a result of collision or stranding in a single accident as, with the increasing size of tankers, the capacity of individual tanks was also increasing.

A number of proposals for limitation of size, particularly of wing tanks, were made but the structural and financial implications of these proposals required considerable further work to permit of full consideration. The Committee decided that at the next session a further resolution should be prepared for submission to the 7th Assembly on the limitation of tank size and other factors attributable to the size of an oil spill and recommended as an interim guideline for circulation to Governments pending further consideration by the Committee at its next session, that the

maximum size of tanks should henceforward not be greater than 50,000 m³ for centre tanks and 30,000 m³ for wing tanks for the largest tankers, smaller sizes of tanks are recommended for smaller tankers.

Item 20.

It was decided that the next Session of the Committee would be from the 15th to 19th March, 1971.

New Container Services

- Barcelona: — The "Sea Land Service Inc." which was making regular services from U.S.A. ports to those of the European Continent, will inaugurate march a new line from the Mediterranean to ports of the eastern coast and Gulf of Mexico of the United States, as well as to other ports in Canada and Puerto Rico, the Dominican Republic and Panama. For this service the "Sea and Land Service Inc." has installed a terminal in the harbour of Barcelona to supply that of Genoa.

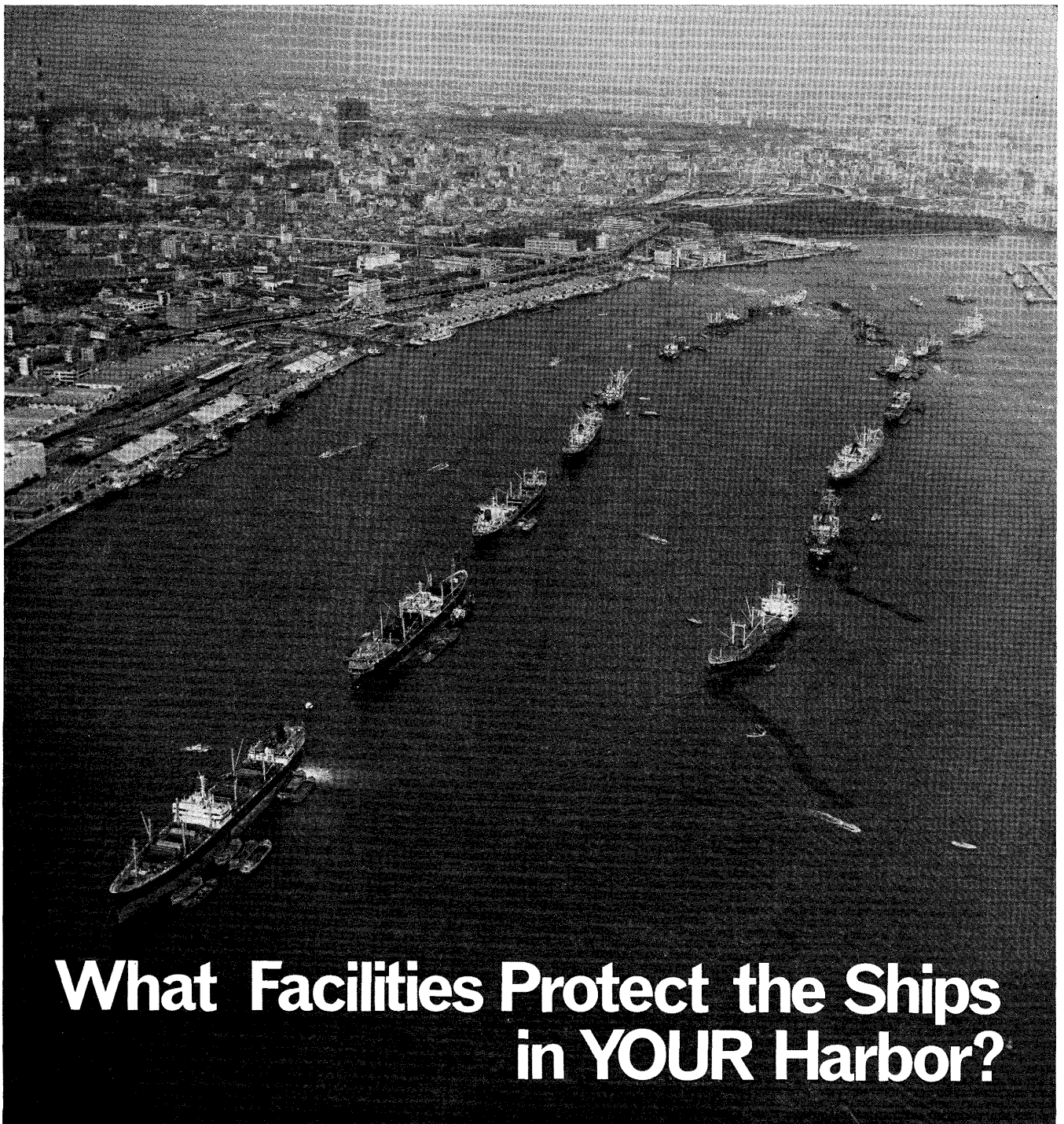
The Spanish ports contemplated in this new line of containers are those of Barcelona and Cádiz with calls twice a week. (Puerto de Barcelona Boletín Informativo, March 1970)

- Barcelona:—With the arrival in our harbour of the new container carried, "Velázquez" sailing under the British flag, the new service of container transport has been inaugurated. This service has been established by the MacAndrews Company and links the Ports of Barcelona and Valencia with the British Port of Liverpool.

The "Velázquez" can transport up to 70 containers of 20 ft. each, in addition to general cargo in the hold and steerage. The new line will sail every fifteen days. (Puerto de Barcelona Boletín Informativo, April 1970)

AAPA 59th Convention

The 59th Annual Convention of the American Association of Port Authorities was held at Shamrock Hilton Hotel, Houston, Texas October 18-22, 1970.



What Facilities Protect the Ships in YOUR Harbor?

Today's huge, ocean-going vessels require modern harbor protection that's 100% adequate. How about the facilities in YOUR port?

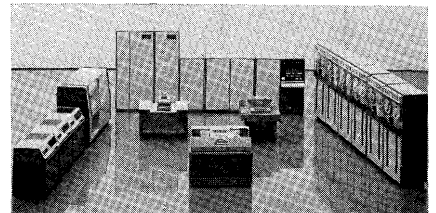
Unless it's designed and constructed to accommodate today's mammoth ships, don't automatically assume that YOUR home town port is a 100%-safe docking facility. If it's not doing an excellent job of protecting the ships that dock there, we'll tell you what steps to take in planning to MAKE it safe (and economically, too)!

Our TOSBAC-3400 computer system is ideally designed for analyzing vari-

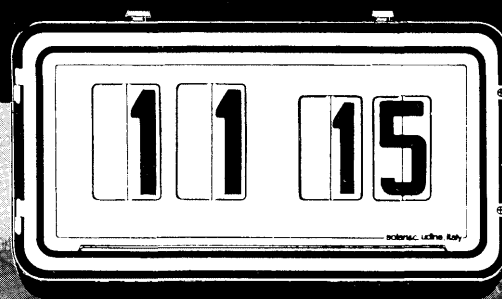
ous sea wave phenomena — such as the generation of sea waves, currents, mixed currents, shallow water, and so on. Practical application of this modern harbor equipment is exemplified in designing tide-block banks and in preparing computerized data for planning every type of antitide structure for marine facilities.

By putting the TOSBAC-3400 to work for you, your vital port facility can be efficiently and scientifically designed or modified, offering a truly appropriate and safe sanctuary for vessels that cost millions of

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IAPH News :

Committee on Containerization

Oakland, Calif., November 9: — The Committee on Containerization of the International Association of Ports and Harbors will coordinate and disseminate information on containerization and container terminal facilities to ports developing container terminals, Committee Chairman Ben E. Nutter announced today.

Meeting at the Port of Oakland for a special two-day session of the containerization committee were Paul Bastard, General Manager of the Port of Le Havre, France; Lyle King, Port of New York Director of Marine Terminals; Dudley Perkins, Director General of the Port of London Authority; Sadao Takama, Hanshin Port Development Authority, Kobe Japan; Robert Vleugels, General Manager, Port of Antwerp, Belgium; and Reginald Savory, Chairman of the Auckland, New Zealand, Harbor Board. Mr. Nutter, Executive Director of the Port of Oakland, was host and chairman of the conference.

The committee moved to coordinate on a regular basis information on container facilities, and to list a bibliography on containerization subjects in the monthly publication of the IAPH, Mr. Nutter said.

Plans for a panel discussion on containerization to be presented at the bi-annual IAPH Conference in Montreal, Canada, in June, 1971 was also approved by the committee during the special meeting.

Other important items considered were issues important to the container shipping industry, including the planning and operations of container facilities, market analyses of cargo well suited for containerization, world container shipping patterns, the effects vari-

ous methods of water transportation will have on the use of containers, standardization and simplification of procedures and others.

The group of visiting port officials toured the Port of Oakland container facilities including the new, 140-acre Seventh Street Terminal, which includes Matson Terminal, Oakland Container Terminal and the Public Container Terminal, Sea-Land Service, and Seatrain Lines. (Port of Oakland)

Commander Platt in Tokyo

Commander E. H. W. Platt, Chairman of the IAPH Committee on Large Ships (Director and Assistant General Manager, BP Tanker Co., Ltd.), while in Japan on business, called on IAPH Secretary General Mr. Toru Akiyama and Deputy Secretary General Dr. Hajime Sato at the IAPH Head Office on an appointment at 9.30 a.m. Friday November 26. Mr. Gengo Tsuboi, member of said Platt Committee (Managing Director, The Japanese Shipowners' Association), and Mr. James S. Kagami (Director of Tokyo Tanker Co., Ltd.) who had attended the Committee meeting in London in October last, were also there. Mr. Tsuboi had to leave after a moment but the other four men went on exchanging views for nearly two hours.

Discussions centered around the Platt Committee's mode of reporting to the IAPH Montreal Conference. As a step, it was agreed that the papers contributed by the Committee members be printed in a book form at the discretion of the Head Office. A summary report will also be printed separately.

UN-ECOSOC

As you all know, a light-blue strip of paper was pasted on the cover

of our magazine "Ports and Harbors" October 1970 issue, offering congratulations to the United Nations on the 25th Anniversary, i.e. October 24. In recognition of the above gesture, a letter was received by the IAPH Secretary General Mr. Toru Akiyama from Mr. C. Roosevelt, Chief of Non-Governmental Organizations Section, Economic and Social Council Secretariat reading in part as follows:

"The fine gesture on the part of the International Association of Ports and Harbors in rendering its effective contribution to the work of the Economic and Social Council by way of printing a special cover for the October issue of the Association's monthly publication, "Ports and Harbors" commemorating the Twenty-Fifth Anniversary of the United Nations is much appreciated.

"With the assistance of organizations such as yours in the promotion of knowledge of its principles and activities, the task entrusted to the Secretariat is somewhat less burdensome.

"May I thank you for your loyal and timely support."

ECAFE Committee

IAPH has been invited to send observers to the nineteenth session of the Transport and Communications Committee of the E.C.A.F.E. (United Nations Economic Commission For Asia and The Far East) to be held at Bangkok, Thailand from 13 to 20 January 1971. The Revised Provisional Agenda are as follows:

1. Opening addresses.
2. Election of the chairman and vice-chairmen.
3. Adoption of the agenda.
4. Highways and highway trans-

Correction

Referring to page 22 Ports and Harbors, December 1970, the 24-point heading should have begun with a figure 2-1/4 instead of 2-4/1.



Oakland, Calif.:—On an inspection tour of Port of Oakland container facilities were members of the Committee on Containerization of the International Association of Ports and Harbors during their recent two-day session. Shown at the Port's 140-acre Seventh Street Terminal are (front row, left to right) Sadao Takama, Hanshin Port Development Authority, Kobe, Japan; Sugianto Rustandi, Chief of Planning, Ministry of Communications, Djakarta, Indonesia; Paul Bastard, General Manager, Port of Le Havre; Ben E. Nutter, Executive Director, Port of Oakland, and chairman of the IAPH containerization committee; and Kimiko Takeda, Under Secretary, IAPH. Back row (left to right) Robert Vleugels, General Manager, Port of Antwerp; Dudley Perkins, Director General, Port of London Authority; Lyle King, Port of New York Director of Marine Terminals; Robert W. Crandall, Manager of Marine Terminals, Port of Oakland; E. R. Turner, Reginald Savory and Robert Carr, Auckland Harbor Board.

- port:
- (a) Progress report on activities in the field of highways and highway transport;
 - (b) The Asian Highway
 - (i) Progress report by the Director of the Transport Technical Bureau;
 - (ii) Report of the Asian Highway Co-ordinating Committee (sixth session).

- 5. Water transport, inland waterways and inland water transport, ports, ocean and coastal shipping, and inter-island communications:
 - Report of the Water Transport Sub-Committee (ninth session).
- 6. Railways:
 - (a) Progress report on activities in the field of railways;
 - (b) Report of the Working Party

- of Experts on the Trans-Asian Railway.
- 7. Tourism and international travel:
 - Progress report on current developments in the field of tourism and international travel in the ECAFE region.
- 8. Facilitation of international traffic:
 - Report of the Working Party on Facilitation of International Traffic.
- 9. Telecommunication:
 - Report of the Telecommunication Sub-Committee (second session).
- 10. (a) Review of current developments in unitized methods for the intermodal movement of freight in the ECAFE region.
 - (b) Preparations for the Conference on International Container Traffic sponsored by UN/IMCO in 1972.
- 11. Review of current activities regarding regional co-operation in the field of transport and communications and of governmental action for achieving the targets set for the Second United Nations Development Decade.
- 12. The application of science and technology to the development of transport and communications—progress report.
- 13. Review of current developments in the field of postal services in the ECAFE region: co-operation with the International Bureau of the Universal Postal Union (UPU).
- 14. Programme of work and priorities.
- 15. Date and place of the next session.
- 16. Report to the twenty-seventh session of the Commission.

Second Panama Canal

Washington, D.C., Nov. 16:—A five-year-old U.S. presidential commission is expected to recommend construction of a second Panama Canal to carry shipping between the Atlantic and Pacific oceans, according to the Washington Post.

The Atlantic-Pacific Oceanic

Canal Study Commission, the paper said November 14, estimates the cost of the proposed sea-level waterway at \$3 billion.

The commission, appointed by President Lyndon B. Johnson in April 1965, thinks the canal could be ready to handle shipping by 1990, the paper said.

Two possible locations are suggested, the article said, one inside the U.S.-owned Panama Canal Zone and the other just outside the zone on land owned by the Republic of Panama. (Shipping and Trade News)

Welland By-pass Channel

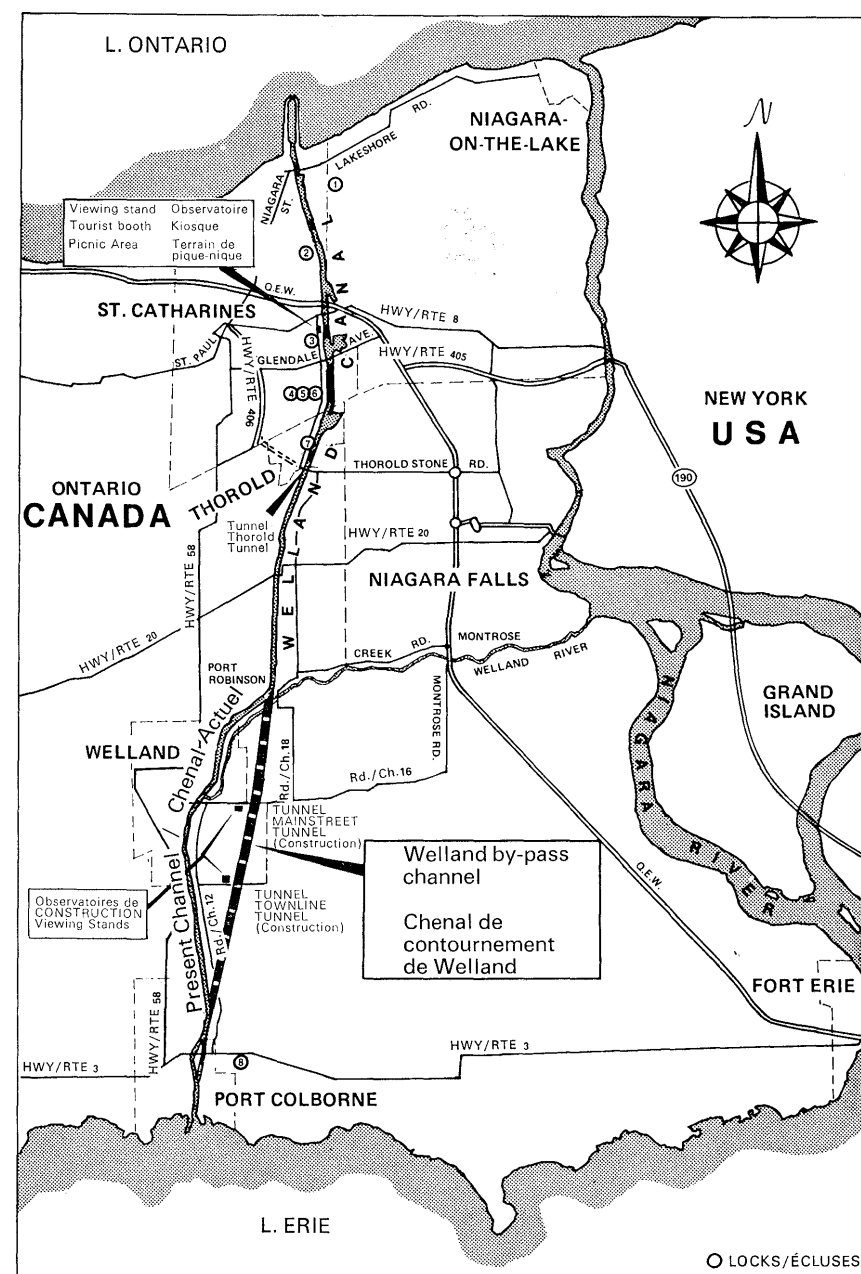
Ottawa:—Mariners and motorists alike have shown keen interest in the progress being made on a major traffic-improvement project undertaken in 1966 by the St. Lawrence Seaway Authority—construction of the Welland by-pass channel (map on outside back cover).

Designed to replace the narrow and winding channel which runs through the City of Welland, and scheduled for completion by the opening of the 1973 navigation season, the by-pass will offer vessels a 350-foot-wide channel along the full 8.6 miles of its course east of the city. The width of the present channel is 192 feet.

The six movable bridges, which have long impeded water and road traffic along the old channel, will be replaced by two tunnels. The first, a road-rail tunnel, at Townline Road, is now under construction and a contract has been awarded for the second at East Main Street. Both will be in operation prior to completion of the new channel.

Work is nearing completion on a four-tube syphon culvert to carry the Welland river under the new channel. A new dock will be built on the relocated channel to replace the dockage installations on the existing canal section.

These improvements require the excavation of 45 million cubic yards of earth for the channel cut, plus an additional 20 million yards for the two tunnels, the Welland river diversion and the Welland dockage. To date, 80% of channel excavation is completed. The disposal ma-



terial is being graded in land-form patterns along the entire length of the channel to provide windbreaks for passing vessels and enhance the general appearance of the area. The soil of these land forms is being treated, fertilized and seeded.

In addition, there is an extensive relocation program involving roads, railways, hydro-electric lines, gas mains, telephone cables and water and sewer facilities. These services are generally being relocated by the respective owners in collaboration with the Authority.

Many of the utilities have already been removed and re-established in order to permit channel excavation to proceed. The amount of new track to be constructed for railroad relocation totals nearly one hundred miles in terms of single track distance.

Substantial changes are also being made by municipal jurisdictions and the provincial highways department with respect to the road highway network in the Welland area. In this connection the Authority is constructing several bridges and

overpasses to accommodate rail and road traffic, thereby eliminating level crossings. (The St. Lawrence Seaway Authority Monthly Traffic Review)

Seaway Closing

Ottawa, October 9, 1970:—Weather and ice conditions permitting, the Welland Section of the St. Lawrence Seaway will be kept open until December 31, and possibly longer, on a day-to-day basis until January 7.

In announcing this extension beyond the previously established closing date of December 22, the St. Lawrence Seaway Authority stated that it wishes to provide as long a navigation season as possible in order to assist particularly the Canadian steel companies located on Lake Ontario in building up coal inventories to carry them through their winter operations.

The extension will also provide additional and very valuable information on the problems of late season shipping. Such information is required in order to identify operating problems and determine cost justification of extending the Seaway season.

To facilitate vessel movement, the Marine Operations Branch of the Ministry of Transport will station a heavy icebreaker in the Upper Lakes, west of the Welland Canal, throughout the winter.

The official closing date for the Montreal-Lake Ontario Section of the waterway remains December 10, with the possibility of navigation extending beyond this date on a day-to-day basis, depending on prevailing weather and ice conditions.

Latin America Confab

Baltimore, Md., October 5:—Baltimore area government and industry is joining forces with the University of Baltimore's School of Business to sponsor a Latin American Trade Opportunities Conference October 22 at the Belvedere Hotel.

The one-day forum, which will include discussions with economics and commerce ministers from

Argentina, Brazil and Mexico, is being arranged by the World Trade Association of Baltimore in co-operation with seven government and government-related agencies and organizations and three local banks.

Featured speaker will be the Honorable Joseph John Jova, United States Ambassador to the Organization of American States. Ambassador Jova will speak on the "Role of U.S. Business in Latin America in the 70s."

Objective of the forum is to apprise small and medium-sized manufacturers and distributors of the tremendous opportunities for trade in Latin America and to present step-by-step procedures for selling, financing and shipping in that market.

The seminar's afternoon session will consist of a question and answer discussion on financing, marketing, transportation and other services available to companies trading in South and Central America, by a panel composed of area businessmen and bankers.

Participating organizations include the Maryland Port Authority, U.S. Department of Commerce, Small Business Administration, Regional Export Expansion Council, Maryland Commission for Latin American Affairs, Chamber of Commerce of Metropolitan Baltimore, Baltimore Consular Corps, Maryland National Bank Equitable Trust Company and First National Bank.

Conference co-chairmen are Clifford C. James, Dean Emeritus, University of Baltimore School of Business; Carroll F. Hopkins, Maryland Manager, U.S. Department of Commerce; and F. Peter Polimeni, International Representative, Maryland National Bank. (Maryland Port Authority News Release)

Mission to Far East

Baltimore, Md., October 4:—The position of the port of Baltimore in international trade with East Asia has "improved dramatically" during the past six years, Joseph L. Stanton, Executive Director of the Maryland Port Authority, stated this week following his re-

turn from Maryland's second Far East Trade Mission since 1964.

Six years ago the port was practically unknown in that faraway corner of the world except for coal and scrap iron shipping. "In 1970, however, we have seen a reversal of this situation," Mr. Stanton declared.

"The Port of Baltimore is now known in the Far East as a major center for automobiles, electronic equipment and countless other goods," he said.

Mr. Stanton credited the establishment of a Port Authority trade development office in Japan with being largely responsible for increased Far East shipments via the Maryland port.

"Through the efforts of Warren F. McClelland, MPA Director-Far East, and our Tokyo office, we've also seen our Japanese business more than double," he asserted, adding: "I am confident that this increasing use of Baltimore's port facilities by Japanese concerns will continue in years to come."

In response to many inquiries concerning the fast-growing movement of freight in containers, the trade mission members pointed out that this new mode of ocean shipment further stresses the need for broader markets in East Asia for American manufactured goods. The success of containerization is based on a balanced flow of commodities in both directions, they noted.

Gerald S. Wise, chairman of the mission, said he believed that "many additional Japanese businesses will select the Port of Baltimore in the future. We have shown them our records from the past, explained our present and future facilities, and cultivated a general understanding and respect for the port of Baltimore and what we can offer."

Some 15 local business and industrial leaders comprised the mission—the sixth of its kind jointly organized by the Maryland Port Authority and the Chamber of Commerce of Metropolitan Baltimore since 1957.

The group visited five Japanese cities, two in Taiwan, and Hong Kong, with a stopover in Honolulu

before returning home. Port facilities were toured in Tokyo, Yokohama, Osaka, Nagoya, Kobe, Taipei and Keelung.

The economics of Far East countries visited can only be described as "booming," Mr. Stanton said.

Previous Maryland trade missions have visited South America, Western Europe, Scandinavia and the Middle East. There is general agreement in the business community that they have proved both effective and instructive in improving Maryland's world trade through the port of Baltimore.

Currently a consortium of Japanese steamship lines is building large new container vessels for service between Far East ports and the Atlantic Coast of the United States. Baltimore's efforts as one of America's major container centers are receiving major consideration, and according to Mr. Stanton, it is expected that this service will be realized for the port in mid-1971. (Maryland Port Authority News Release)

Protesting Telegram

Boston, Mass., Sept. 26: — The following telegram has been sent to Mayor Kevin H. White of Boston and Director John D. Warner of the Boston Redevelopment Authority:

"The direct access road to the new containership facility at East Boston would be eliminated by a Boston Redevelopment Authority site plan for a housing project across Lewis Street near Maverick Square. We are in favor of this housing but have been unsuccessful in attempts to modify or amend the site plan to date. "An amended site plan proposed by the Massachusetts Port Authority, which would provide 118,000 square feet immediately adjacent to the current site on the westerly side, would not hinder the project and would save the proposed waterfront upgrading plans as planned by the maritime community. This plan should be considered without delay. Projects totalling \$500,000 are currently underway to prepare for a containership complex. New labor-management contracts and container facil-

ity investments in the Port of Boston have given maritime operations new life. Years of work to reduce shipping costs of Massachusetts firms should not be destroyed by an arbitrary site plan.

"We request that you schedule an immediate conference to retain and expand jobs of the International Longshoremen's Association and other unions by resolving this unnecessary disagreement.

(signed)

John F. Moran

International Longshoremen's Association

William Morton

Boston Shipping Association

John J. Halloran

Maritime Association of Greater Boston

James G. Kelso

Greater Boston Chamber of Commerce

Edward J. King

Massachusetts Port Authority"

(Massport News Release)

Steel Exported

Buffalo, N.Y.:—The giant mobile gantry crane of the Niagara Frontier Transportation Authority helped load more than 3200 tons of steel billets destined for Israel aboard the Liberian ocean freighter "First Lady" at the Buffalo Port Terminal on Fuhrmann Blvd. The billets were manufactured at the South Park Avenue plant of the Republic Steel Corporation. (Port of Buffalo Progress Bulletin, October 1970)

"E" Award for Export

Rochester, Minn., October 29:—The President's "E" Award for Export Expansion was presented by President Nixon here today to the Seaway Port Authority of Duluth.

President Nixon, in Rochester as part of a week-long, nationwide campaign trip, made the official presentation to Duluth port representatives.

Announcement of the award came earlier in the week from Secretary of Commerce Maurice H. Stans. In a telegram to Port Authority President John F. McGrath, Stans said the award is in recognition of "outstanding contri-

butions to the increase of U.S. trade abroad."

The "E" Award, originally presented during World War II to plants making notable records in wartime production, was revived by President Kennedy in 1961 to give public recognition to persons, firms or organizations for excellence in contributing toward the increase of American exports.

The Seaway Port Authority of Duluth is only the second port authority in the Great Lakes to receive the award. The first was the Toledo-Lucas County, Ohio, Port Authority in 1963.

Duluth Port Director C. Thomas Burke said the award is "gratifying and justified acknowledgment that the efforts of many, many individuals and industries in our market area toward the growth of our port have been properly channeled. This is the culmination of the serious endeavor of the past years and offers promise of the dawning of the 'Seaway Seventies'."

Burke also paid tribute to the legislative delegations of Minnesota and Wisconsin and local city officials "for their tireless efforts in promoting and assisting our world port of Duluth-Superior.

"As only the second port in the Great Lakes to receive the "E" Award, we feel doubly honored and look forward to providing years of continued leadership and assistance for our many friends involved in world trade."

The port authority, established by the State Legislature in 1955, is charged specifically with promoting the movement of waterborne commerce through Minnesota's world port. The agency has conducted six overseas trade promotional missions, advertises extensively in trade publications both in the United States and abroad, assists real and potential exporters through sales offices in New York and Minneapolis and, through its head office in Duluth, works closely with shippers, freight forwarders, steamship operators, agents and inland carriers.

Earlier in the month, the port authority received a national advertising award from the American Association of Port Authorities at its



Long Beach, Calif.:—Pictured at The Port of Long Beach after arriving on her maiden voyage is the Toyota Maru 10, designed with straight sides and ramps connecting the nine decks to permit loading or unloading of up to 2200 cars and trucks in seven hours. Just ahead of the unique vessel, first of three being used by Toyota, is container-carrying vessel at Sea-Land terminal. (Port of Long Beach)

annual meeting in Houston, Texas.

Since the opening of the St. Lawrence Seaway in 1959, exports through the Port of Duluth-Superior have grown dramatically:

Exports of general cargo in 1959 totaled 4,701 tons, whereas the average of general cargo exports for the past three seasons (1967 through 1969) was 107,139 tons.

Exports of grain and grain by-products in 1959 totaled 1.9 million tons; the average for the past three seasons was 2.5 million tons.

Exports of animal fats and vegetable oils—made possible by construction of a tank farm by the port authority in 1961—have climbed from 1,129 tons in the first year to an average of 33,922 tons for the past three seasons.

Exports of scrap iron, non-existent in 1959, have averaged 80,315 tons for the past three years. (Seaway Port Authority of Duluth)

Tri-Hulled Craft

Hollywood-Fort Lauderdale, Fla., October 28:—Florida Department of Transportation officials recently toured the facilities of Hydro-Ski In-

ternational Corp., a Port Everglades industry, and took a demonstration ride on the Aquarius, a revolutionary tri-hulled craft designed for mass transit commuter service. (Port Everglades News)

Base of Export Operation

Galveston, Texas, November 13:—Mobil Oil Corporation, on behalf of Mobil Producing—Nigeria, and C.S. Devoy, Galveston Port Director, today announced selection of the Port of Galveston as the receiving, staging, packing, and shipping area for Mobil's multi-million dollar terminal project at Qua Iboe, Nigeria.

Mobil's traffic officials made the announcement in New York City and said the proved project capability of Galveston was the prime reason for its selection to marshal this significant project.

The Port of Galveston crating division, Pier Point Packers, will handle all crating and export preparation for the job.

Devoy expressed pleasure at having been selected by Mobil to handle the large new project. He com-

mented that Galveston's project concept is unique among port agencies and continues to attract important new customers to the port.

The first vessel on the new Nigerian project, the S/S Buena Fortuna, is scheduled to load at Galveston about November 15th.

Port Earnings High

Long Beach, Calif.:—Long Beach Harbor Department operation of the Port of Long Beach during the fiscal year ending June 30 resulted in record earnings of over \$10-million, it was disclosed in the annual report presented to the Board of Harbor Commissioners this week (August 3).

Total revenue was \$10,495,902, an increase of \$551,599 over the fiscal year previous. Net operating earnings were \$3,194,926, \$425,186 less than the year before. However, an increase in the rate of depreciation of wharves, transit sheds and warehouses during 1969-70 more than compensates for this decline.

Chief Accounting Officer Loren T. Cornish, in presenting the report to the Commissioners, noted that the fiscal year's net operating earnings represents a return on port investment of 2.82 percent, compared to a 3.26 per cent return the fiscal year previous.

For the first time in several years, general cargo revenues showed a small decline, while containerization income continued to climb sharply. This trend is the basis for the Port's taking larger depreciation on general cargo facilities, he added. (The Port of Long Beach News)

First Russian Vessel

Long Beach, Calif.:—In what is believed to be the first call by a Russian-flag vessel to the Port of Long Beach since the Iron Curtain closed in 1949, the MV Raduga (Rainbow) has docked at Pier C, Berth 22 to take on bunkers and provide shore leave to the crew of 72.

The ship, described as a scientific research vessel, is 265 feet long, weighs 2435 gross tons and is commanded by Captain Mikhail Volik.

Captain Volik said that the

Raduga left her home port of Vladivostok March 13 and has spent most the months since in studies of fisheries in the South and Central Pacific and off the West Coast of Mexico. She is scheduled to depart later this week to return to Russia.

Carrying ten marine scientists, two of them women, the Raduga is conducting research for the Russian fisheries institute.

Captain of the Port A. J. Bush, USCG, said the ship is being treated as a public vessel, and will not be boarded as is the case with cargo ships. A Coast Guard patrol boat is on duty in the vicinity.

Russian crew members, cleared by the U.S. State Department, are now shopping and sightseeing in Southern California, including a visit to Lion Country at Africa U.S.A. in nearby Orange County. (The Port of Long Beach News)

New President

Long Beach, Calif.:—The Board of Harbor Commissioners has elected H. E. Ridings, Jr. president for the 1970-71 fiscal year, replacing outgoing president Robinson A. Reid.

Llewellyn Bixby, Jr. was named vice-president, James G. Craig, Jr. secretary, and Henry H. Clock acting secretary.

Ridings, 50, has been a board member since 1955 and served as its president three times previously. He is on the Regional Export Expansion Council of the U.S. Department of Commerce, member of the Southern California World Trade Center Authority, was a director of the Los Angeles Area Chamber of Commerce and has acted as Chairman for World Trade Week. (Port of Long Beach)

Port Feeds Population

Los Angeles, Calif., October 16:—By 1980, City of Los Angeles is expected to have a 3.4 million population. If it weren't for Port of Los Angeles, that 1980 figure might be only 2.6 million, or even less.

According to the latest figures available, for August, 1969, Los

Angeles Harbor provided 16,106 jobs. The 1969 payroll for the more than 100 firms, tenants, or users of port facilities was \$136,699,247.

But that's only part of the story. More than 20,000 factories in the Los Angeles area depend on Port of Los Angeles, either for imports of materials they need or for exports of their finished products.

In the greater Los Angeles "yellow pages," exporters and allied businesses take up eight pages, and importers another three.

Most of the 16 thousand-plus people employed at the port live in the southern Los Angeles region, Gardena, Harbor City, San Pedro, Torrance, and Wilmington, and other, smaller, cities and communities. This area has a total population of 145,700 and a working population of about 54,000, so the harbor accounts for roughly 30 per cent of its work force.

This is only a little higher than the percentage of all Los Angeles area workers affected by the harbor. A little more than 25 per cent of all metropolitan Los Angeles workers have jobs that depend in some way on operations at Port of Los Angeles.

Not included in the Port of Los Angeles employment figures are some 200 federal (Customs Service, Bureau of Commercial Fisheries, etc.) employees, including Coast Guard officers and men stationed at Reservation Point and federal prison employees.

But even without these people and the annual salaries they receive, Port of Los Angeles has a huge impact on the economic life of metropolitan Los Angeles.

If there were no port, the nation's third-largest city might well be only three quarters of its present size, and growing at only three quarters of its current rate.

The Port of Los Angeles employers fall into a dozen categories. Of these, the fishing industry, including boat crews and canneries, is the largest in point of personnel, with 5,245 people employed and a \$31 million payroll in 1969. Shipyards and boatworks are second in per-

sonnel, 4,400 but first in payroll for the year, \$43 million. Third in personnel is longshoreman and stevedore operations, with 2,829 people and a \$33.5 million payroll.

But even the Harbor Belt Line Railroad, smallest in either category, has 79 employees and an annual payroll of more than a half million dollars.

Ranked in terms of personnel, the Port of Los Angeles employment breakdown is:

1. Fishing industry, 5,245 people, \$30,903,856;
2. Shipyards and boatworks, 4,400 people, \$43,044,471;
3. Longshoremen (ILWU) and stevedore companies, 2,829 people and \$33,570,000;
4. Oil, chemical, and molasses terminal operators, 630 people and \$4,605,017;
5. Recreation, restaurants, cruises, and tourist attractions, 627 people and \$3,519,377;
6. Lumber and scrap metal terminals, 566 people and \$4,300,000;
7. City of Los Angeles Harbor Department, 514 people and \$5,410,924;
8. Tugs, water taxis, oil spill skimmers, and miscellaneous transportation, 444 people and \$3,033,756;
9. General cargo and passenger terminals and lines, 398 people and \$4,484,504;
10. Marinas and small craft facilities, 233 people and \$1,762,342;
11. Miscellaneous users, Marine Exchange, etc., 141 people and \$1,480,000; and
12. Harbor Belt Line Railroad, 79 people and \$585,000. (Port of Los Angeles)

Kobe-Los Angeles

Los Angeles, Calif., October 19:—A proclamation announcing cooperative trade relations between the City and Port of Kobe, Japan, and the City and Port of Los Angeles was adopted today (Monday, October 19) by the Los Angeles Harbor Commission.

The trade pact is to be signed in

Kobe October 27 by Los Angeles Mayor Sam Yorty, Kobe Mayor Tatsuo Miyazaki and Governor Motohiko Kanai of Hyogo Prefecture.

The pact is the tenth signed between Los Angeles, principal American port on the Pacific, and city and state governments in Japan.

Under terms of the agreement, goods manufactured in Kobe and Hyogo destined for the American market, and those American goods destined for Kobe, will be promoted and increasingly routed through Los Angeles.

Already Japan's leading export port and second import port, with 27 per cent of Japan's exports and 13 per cent of its imports, Kobe has launched an ambitious expansion program similar to that of Port of Los Angeles.

Almost three-fifths of general cargo trade through Port of Los Angeles comes from or is headed to Japan.

"While such trade pacts are morally, rather than legally, binding," Acting Harbor Commission President John J. Royal commented when the proclamation was passed, "these agreements are proving to be beneficial to the various Japanese communities as well as the many communities served by Port of Los Angeles." (Port of Los Angeles)

Service to be Resumed

Portland, Oregon, November 3:—The six Japanese steamship lines, operating the North Pacific Container Service space charter agreement, announced November 2 that they would provide regular service to Portland on approximately a 20-day basis.

In a press conference, Portland Mayor Terry Schrunk, Oregon Governor Tom McCall and Japanese Consul General to Portland Keisuke Ochi, announced the lines' decision and lauded their decision as one which would strengthen the relations between this city and state and Japan.

Consul General Ochi, who got much credit from McCall and Schrunk for the development said he "was delighted to serve as a re-

presentative of the Japanese government in a role which I feel is consonant with my mission to the great state of Oregon."

Mayor Schrunk said the move would enhance continuation "of our cordial relations with our many friends in Japanese trade and economic circles."

He also said the agreement demonstrates the importance of Portland as a major West Coast seaport.

Lines involved are Mitsui-O.S.K., Japan Line, Showa Line, Yamashita-Shinnihon, NYK Line and K Line. (Portland Public Docks News Release)

"Golden Arrow" Due

Portland, Oregon, November 6:—The Golden Arrow, a full container vessel operated on a space charter agreement by six Japanese steamship lines, will make its first call to Portland Dec. 12-13.

The ship sails from Kobe Nov. 27. With stops in Nagoya and Yokohama in Japan, the van ship arrives in Seattle Dec. 8 and sails for Portland Dec. 10. From Portland, it goes directly to Japan.

The Portland arrival marks the first time since the end of August that any of the three Japanese container vessels has called at U.S. Pacific Northwest ports. Service is expected in Portland about every 20 days. (Portland Public Docks News Release)

"Cut-Rate" Ocean Freight

New York, N.Y., Oct. 30:—The Port of New York and the Port of New Orleans yesterday petitioned the Supreme Court of the United States to rule against "cut-rate" ocean freight charges which they contend are unlawfully diverting Far East cargoes from North Atlantic and Gulf ports to the Pacific Coast and depriving these ports of business which would usually be theirs, in violation of the Shipping Act of 1916 and the Merchant Marine Act of 1920.

The action on behalf of the two ports was brought by The Port of New York Authority and Board of Commissioners of the Port of New Orleans.

The two agencies requested the Supreme Court to review decisions of the U.S. Court of Appeals for the Fifth Circuit and of the Federal Maritime Commission which uphold the Overland and Overland Common Point ocean freight charges maintained by steamship lines operating between the Pacific Coast and the Far East.

Overland and Overland Common Point charges are special ocean rates on cargoes originating at, or destined to, points in the United States east of the Rocky Mountains. These special ocean rates, when combined with inland rail charges, result in a "cut-rate" charge for freight moving between Pacific Coast ports and the Far East. The ports of New York and New Orleans believe that this discriminatory rate-making practice is contrary to the provisions of the Shipping Act of 1916, and of the Merchant Marine Act of 1920 which admonishes shipping conferences not to develop rate structures which would divert cargo from a port's "natural tributary area."

The legality of the Overland and Overland Common Point rate structure was first questioned in 1962 by the Antitrust Subcommittee of the House of Representatives' Committee on the Judiciary, which recommended that the Federal Maritime Commission investigate these depressed rates. The Commission found that this rate-making practice was unlawful because it had not authorized the establishment of such rates, as required by the Shipping Act of 1916. The Commission, however, failed to order the Pacific Coast steamship lines to cease this type of rate making.

In 1965, the Commission undertook a further investigation of the Overland and Overland Common Point rates. After five years of litigation, it concluded, despite its previous decision, that this rate-making practice was not unlawful. The FMC's finding was upheld by the U.S. Court of Appeals for the Fifth Circuit last July.

The Port of New York and the Port of New Orleans believe that the depressed rate structure maintained by Pacific Coast steamship lines un-

lawfully diverts to the West Coast cargoes to and from the Far East which would normally flow through North Atlantic and Gulf ports. (News from The Port of New York Authority)

Rail Rate Hike

New York, N.Y., Oct. 7:—The Port of New York Authority announced today that it would vigorously protest to the Interstate Commerce Commission proposed rail rate increases on export-import freight that would make the cost of shipping through the Port of New York 9 per cent higher than through Gulf and South Atlantic ports.

James C. Kellogg, 3rd, Chairman of the bi-state agency, said that these highly discriminatory increases could cause "an economic catastrophe of major proportions that would threaten the export-import commerce of the Port of New York-New Jersey and our sister ports on the North Atlantic seaboard."

Under the proposed increases, export-import rail freight through the Port of New York and other North Atlantic ports could be as much as \$5.00 a ton higher than through Gulf and South Atlantic ports.

The discriminatory rail rates stem from the request by the nation's railroads for an across-the-board increase of 15 per cent for eastern and western railroads, but only 6 per cent for southern railroads. The tariffs have been filed with the Interstate Commerce Commission and will become effective on November 18 unless modified by the Commission as a result of public hearings which are now under way.

While the Port Authority in no way opposes railroad rate increases on any level that may be determined by the ICC to insure financial stability of the carriers, it strenuously objects to the threatened disruption of historic trade relationships, in favor of Gulf and South Atlantic ports.

"The Port of New York-New Jersey is now served by five trunk rail lines with connections to all parts of the United States, Canada and Mexico," Chairman Kellogg said. "We are vitally interested in a

prosperous railroad industry in order to provide the finest available service to shippers from all over the world who use the modern facilities of our bi-state harbor," he added.

"But we should not be made the victims of freight rate disagreements among the railroads," Mr. Kellogg said. "We at the Port of New York seek only to prevent the destruction of a century of carefully built trade relationships, and to avoid economic injury to our port and its people." (News from The Port of New York Authority)

Facelift for Containers

San Diego, Calif., October 23:—Container services at the nation's major ports—both ocean and land service—are rapidly developing and the Port of San Diego is moving fast to stay competitive.

On October 20th Unified Port District Commissioners authorized an accelerated study to determine the most efficient kind of crane for use at the 10th Avenue Marine Terminal, and pier modifications required to support the new facility.

Total cost of modernization planned is expected to reach nearly \$600,000.

The investment is expected to attract the attention of major shipping concerns now investing millions of dollars in specialized container ships and equipment.

Containerization is attractive to shipping interests because of the time saved in loading and unloading their vessels in addition to security of merchandise and exposure to weather and repeated handling.

The Ferver Engineering Company has been awarded a contract for foundations engineering and pier modification studies. The engineering group of Shanley-Yates will recommend a specific kind of crane after the study of alternatives. Cranes being considered today include: a track mounted "whirly" or "gantry" type, (which might be purchased, if available, for relocation and reconditioning, from some other world port or a new and specially designed crane). Two other types, a six-axle, truck mounted

crane and a special mobile, rubber-tired gantry crane also will be considered.

"We're expediting action to keep San Diego's commercial port competitive in today's expanding container market," Port Director Don Nay declared today. "The contract let just last Tuesday will result in engineering data you early next January permitting development of specifications required for securing of bids on the kind of crane we think best for the 10th Avenue Marine Terminal by March of next year."

Construction of the new facility is expected to start in May 1971. (Port of San Diego News Release)

Seaway Program

Toledo, Ohio:—The St. Lawrence Seaway Development Corporation's controversial financial structure is heading for a congressional showdown. Secretary of Transportation John Volpe announced on August 10th that the Nixon Administration is against any increase in the present Seaway toll structure. He also said it will ask Congress for legislative authority to cancel the interest payments the Seaway Corporation is required to pay the U.S. Treasury.

The administration's Seaway position is similar to a bill authored by Sen. Walter F. Mondale (D., Minn.), which would refinance and make interest free the debt of the Seaway Corporation. Although any change in the current Seaway toll level would not occur until 1971, a major battle pitting coastal port groups and major railroads against Great Lakes shipping interests is shaping up.

Seaway opponents contend that the Seaway was built with the understanding that it would repay its construction debt, including interest, to the U.S. Treasury. Great Lakes supporters say the toll required to repay the U.S. Seaway debt was a political price tag paid to pass the original Seaway legislation. And, they argue, some of the Seaway's most vociferous opponents are speaking from the shores of toll-free waterways generously funded by U.S. tax dollars.

Mr. Volpe announced the administration's plan at the National Governors' Conference at Lake of the Ozarks, Missouri. "This administration believes any discouragement of Seaway traffic at this time would be detrimental to the Mid-western economy, and the economy of the nation," he said. "Any increase in tolls," he added, "would tend to discourage traffic growth. Therefore, we are going on record as being opposed to an increase in the present toll structure."

The proposed interest cancellation would include unpaid interest which has accrued to date, and interest that would otherwise accrue on the balance of the debt over its remaining life. As of December 30, 1969, the Seaway Corporation had an interest balance of \$22.4 million. The annual interest payments amount to more than \$6 million.

The secretary was to testify before a Senate subcommittee investigating the Great Lakes-St. Lawrence Seaway. However, his remarks at the Governors' Conference prompted cancellation of the hearing.

His testimony mentioned that the Transportation Department plans to investigate a number of areas affecting the waterway "in an effort to increase traffic on the Seaway system, make more efficient the operations of the Seaway Corporation, and improve the financial health of the Corporation."

The secretary said his department is looking into the "reasonableness" of freight rates and services, including rival routes and ports that affect the Seaway. Great Lakes shippers have long contended that inland rail rates discriminate against lake ports.

He also announced the award of a contract to the Manalytics Corporation of San Francisco whose objective, he said, would be to "examine in detail a container-feeder service operating within the lakes." Such a feeder system, he said, "would collect cargo and transport it to a central load point for consolidation into a larger carrier." (Port of Toledo News)

Joint Shipping Service

Melbourne:—The first of September sees the beginning of the co-ordinated six nation Australia to Europe container service, which will result in a sailing every 5 to 6 days to and from European and Australian ports.

The first of the five "pure" containerships to be introduced by European shipowners is expected to arrive in the Port of Melbourne on her maiden voyage next month, and by March of next year 13 containerships of the initial 14 will be in service, and all continental terminals will be in operation.

Companies associated with A.E.C.S. are Australia's A.N.L., with "Australian Endeavour"; Britain's O.C.L., with its six "Bay" class ships, and A.C.T., with two "Act" ships; Germany's Hapag Lloyd, with "Melbourne Express" and "Sydney Express"; the Netherlands' Nedlloyd, with "Abel Tasman"; France's Messageries Maritimes, with "Kangourou". The 14th containership owned by Italy's Lloyd Triestino will come into operation early in 1972.

Marketing and through transport in Australia will be handled by the local representatives of the AECS members, which are Seabridge Australia Pty. Ltd., for the German, French, Dutch and Italian companies, and OCL and ACT (including ANL) which will continue to operate as at present.

In Europe the marketing services will be as follows:—

Germany, Austria, Denmark, Norway, Finland and the Eastern Bloc countries handled by Hapag-Lloyd AG.

France, Spain and Portugal, together with Belgium and Luxembourg (northbound only) by Messageries Maritimes.

Holland, Switzerland and Sweden, together with Belgium and Luxembourg (southbound only) Nedlloyd.

Italy by Lloyd Triestino.

All these four companies will act as principals in their own area and as agents in their own area for the other lines.

Initially all sailing northbound

will include Tilbury and Antwerp, with calls on alternate voyages to Bremerhaven. Southbound ships will depart from Tilbury and call on alternate voyages at Rotterdam and Hamburg. Flushing and Zeebrugge will be phased in as northbound ports of call as their terminals become operational in 1971.

As planned Tilbury an initially Antwerp will have a five/six day frequency of service and the other named ports will have a ten/eleven day service.

In Australia the service will operate from the principal container ports of Melbourne, Sydney and Fremantle on a five/six day frequency. Cargo from other Australian ports and inland areas will be centralised at these three major terminals.

From September 1 also, member lines of AECS will operate a joint conventional shipping service as a complement to the container service.

The first ship from Australia in the joint service will be OCL's "Discovery Bay" while from the UK/Continent, the first ship will be Hapag-Lloyd's "Melbourne Express", on her maiden voyage to Australia. (Melbourne Harbor Trust Port Gazette, Sept.)

Anti-Pollution Bill

Tokyo, October 14:—The Transport Ministry recently completed the general outline of a bill designed to prevent pollution of the sea which features a complete ban on the disposal of oil in the sea by ships in any and all waters.

Known as the Oceanic Contamination Prevention Bill, the measure will be submitted to the next ordinary Diet session and, if possible, enacted into law from next April.

According to the ministry, this measure is intended to expand greatly the restrictions stipulated in the existing Seawater Oil-Pollution Prevention Law.

Its coverage will be broad enough to include the sea disposal of sludge and various other industrial wastes on which no restrictions are imposed at present, it says.

A recent Maritime Safety Agency

(MSA) survey disclosed that various industrial wastes left uncovered by the current legislative control are being dumped into Tokyo Bay and adjacent waters alone at an alarming rate of about 400,000 tons in six months.

In order to make this legislation serve its purpose of beefing up the defense against sea pollution, the ministry also says, the MSA and prefectures will be held responsible in enforcing it jointly and much heavier penalties will be imposed upon violators.

Since various other countries are also in the process of taking similar legislative measures, a worldwide pollution prevention system will be established within a year or two, it says.

In this connection, the ministry notes that including the United Nations and the Organization for Economic Cooperation and Development (OECD), various international organizations have come to take up the problem of seawater contamination of late in view of its fast spreading dimensions across the world.

In one related international development, the Intergovernmental Maritime Consultative Organizations last year revised the International Convention for the Prevention of Pollution of the Sea by Oil in force since 1954.

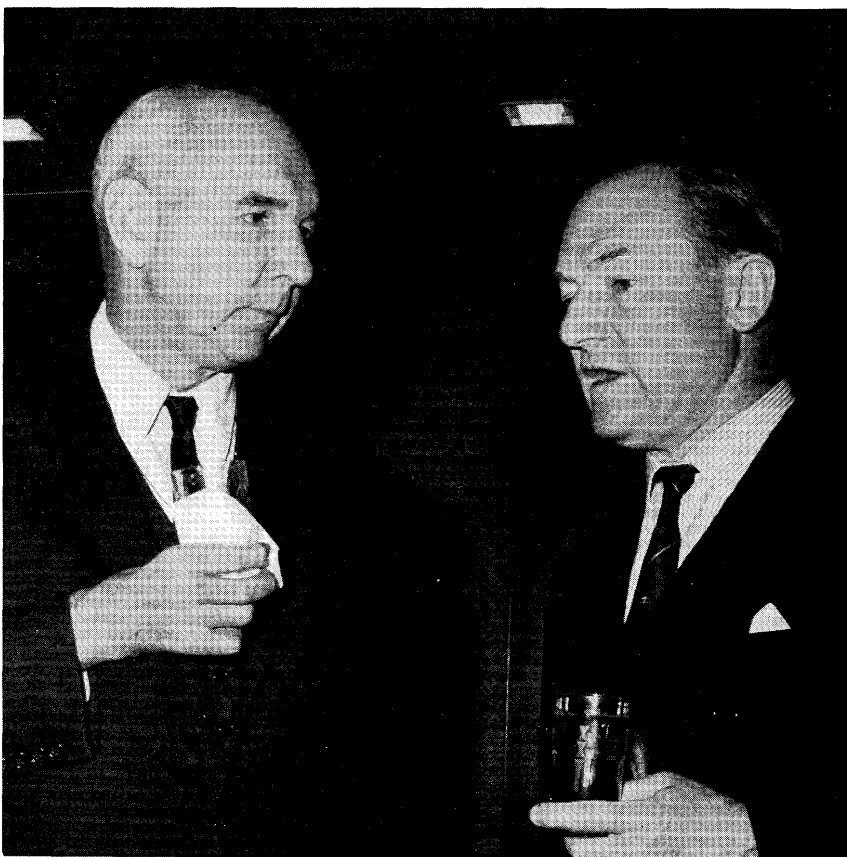
The 42 parties to this convention including Japan are now making preparations to ratify the reinforced convention. (Shipping & Trade News)

Blue Ribbon

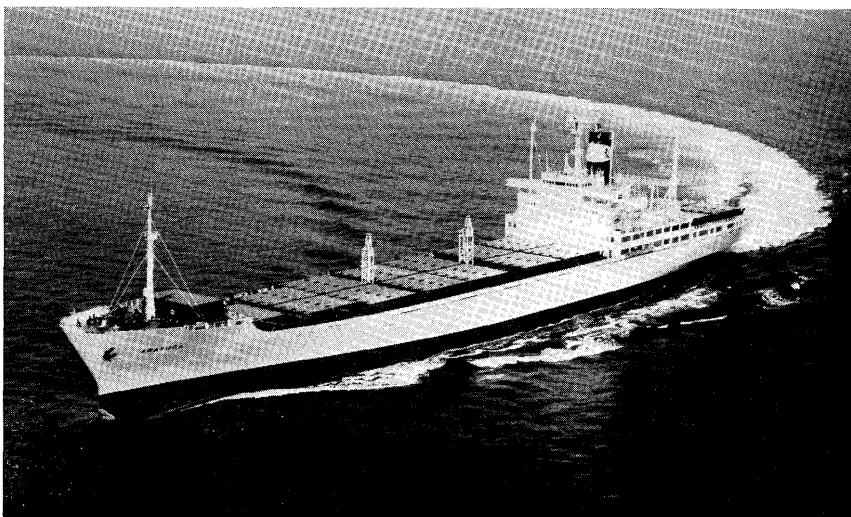
Tokyo, November 5:—The port authority of Yokkaichi announced today that ARAFURA will be awarded "Blue Ribbon Prize" for the record she made in transit time between Brisbane, Australia, and Yokkaichi, Japan.

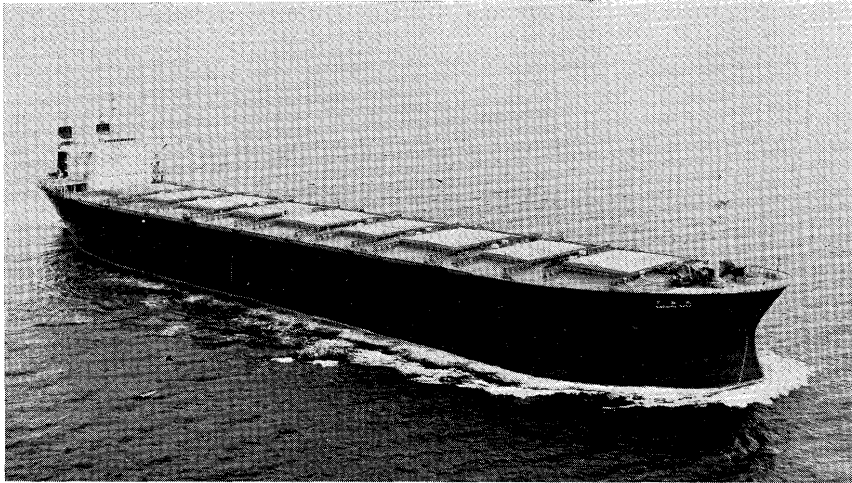
The full containership "ARAFURA" owned by AJCL (Australia Japan Container Line) departed Brisbane port at 0:09 PM, Oct. 20 and arrived at Yokkaichi port at 7:28 AM, Oct. 27, taking no more than 6 days 19 hours and 19 minutes.

The shortest transit time so far



Tokyo:—Sir Andrew Crichton (right), Chairman of Australia Japan Container Line Ltd. and also of Overseas Containers Limited, visited Japan last week (November 22~26) for discussions concerning AJCL's current container services between Japan and Australia and also OCL's forthcoming services between the Far East and Europe. Sir Andrew is shown conversing with Mr. W. B. Rae-Smith (left), managing director of Butterfield and Swire (Japan) Ltd. during a reception in Tokyo on Tuesday (Nov. 24) at which Sir Andrew renewed his acquaintance with top Japanese shipping executives. Both OCL and AJCL are represented in Japan by Swire Mackinnon, the shipping division of Butterfield and Swire.





recorded in the distance between the two ports was 7 days one hour and fifty minutes, which was made by "AUSTRALIA-MARU" of Mitsui OSK Line in May 1969. ARAFURA has shortened the former record by 6 hours and 31 minutes.

'The record was due to the high performance of ARAFURA and good weather conditions we had during the voyage. I don't think the record will be broken for a long time" said the captain A.J. Murdoch of ARAFURA.

ARAFURA, 24,600 gross tons, completed by Mitsubishi Heavy Industries last August, is capable of carrying more than 1,100 twenty-foot containers, including close to two hundred refrigerator containers and is powered by 34,200 horsepower Mitsui-B&W diesel engines, the world's largest diesel engines. (Falcon News Release)

OCL Buying 5000 Vans

Tokyo, November 11:—Overseas Containers Limited (OCL) announced today that orders for more than 5,000 containers, valued at ¥3,024 million (£3.5 million) have been placed with Japanese manufacturers.

The Japanese awards were part of international orders totalling ¥10,368 million (£12 million) placed with Far East and U.K. manufacturers for nearly 16,000 twenty-and forty-foot general purpose containers.

The containers will be used on OCL's Far East/Europe container

service, which is scheduled to start in just over a year from now.

OCL have on order five container-ships for the Far East trade, each of which will carry 2,000 twenty-foot containers at a service speed of 26 knots.

The first of the new OCL containerships is to be delivered early in 1972.

In addition to the over 5,000 containers to be produced in Japan, British manufacturers will supply over 10,000 and Hongkong 600.

The orders have been placed to provide a balanced pool of containers at each end of the service, which will ensure availability for both east and west sailings.

The Japanese suppliers include Mitsubishi Heavy Industries, which won an order for 500 forty-foot containers, Nippon Fruehauf Co. Ltd., which will supply 3,100 twenty-and forty-foot containers, and Kinsan Auto Industries Ltd., which will supply 1,500 flats.

The U.K. suppliers are Crane Fruehauf Trailers Ltd., 8,515 twenty-and forty-foot containers, and AIR, 1,500 twenty-foot containers.

In Hongkong, International Containers will supply 600 twenty-foot containers. (Swire MacKinnon)

Huge Bulk Carrier

Tokyo, September 30, 1970:—SUMITOMO SHIPBUILDING & MACHINERY CO., LTD. delivered m.v. "KASHIMA MARU", 120,000 DWT bulk carrier for Daiichi

Chuo Kisen Kaisha, Ltd., at our Uruga Shipbuilding Yard in Yokosuka on September 30, 1970.

The vessel will carry iron ore from Dampier, Australia, to Wakayama, Japan, and coal from Roberts Bank, Canada, to Kashima, Japan, under the long term charter party with Sumitomo Metal Industries, Ltd.

Main Particulars

Owner

Daiichi Chuo Kisen Kaisha, Ltd.

Gross Tonnage 65,507.89T

Deadweight 120,174KT

Length (b.p.) 244 m

Breadth (moulded) 40.20 m

Depth (moulded) 23.90 m

Draft (moulded) 16.85 m

Main Engine

Sumitomo-Sulzer Diesel Engine
8RND 90 MCR 23,200 BPS ×
122 rpm

Trial Speed 17.539 knots 1 set

Date of Construction

Keel-laying January 31, 1970

Launching July 16, 1970

Delivery September 30, 1970

Hull No. 930

(Sumitomo Shipbuilding & Machinery Co., Ltd. News)

Tieup with Kaiser

Tokyo: IHI has decided to advance into the field of automatic highstack container terminal systems through a technical tie-up with the Kaiser Engineers International Inc. of the U.S.

The technical tie-up concerns total engineering for a port terminal system for marine containers called the Speed-tainer System and the designing and manufacture of various component machinery including the automatic cargo handling system.

Through the arrangement with Kaiser Engineers, it has become possible for IHI, in addition to the series of container yard systems it has developed on its own, to supply automatic high-stack container terminal systems suited for any volume of cargo or conditions of locations.

Further, by making use of system engineering, such as simulation, analysis of incoming and outgoing cargoes and merit calculations, IHI

is planning to conduct consulting service on terminal systems. (IHI Bulletin, Oct. 1970)

New Port Opened

Kanazawa, Nov. 3:—The newly completed Port of Kanazawa made its debut as a major trading port on the Japan Sea coast November 1 for imports of lumber and petroleum from the Soviet Union.

Five freighters, including a Russian vessel, entered the port, where an estimated 1,300 officials of the Transport Ministry, Ishikawa Prefecture and Kanazawa City, turned out for the occasion.

The ceremony reached a climax when Governor Yoichi Nakanishi of Ishikawa Prefecture declared the port open. After his declaration fireworks were set off and balloons released.

Dozens of fishing boats also paraded in the port waters during the ceremony.

It took seven years to build the port. (Shipping and Trade News)

Supersize Tanker

Tokyo: — Ishikawajima-Harima Heavy Industries Co. said November 13 that it would commence the construction of a 372,400-Dwt. tanker, world's largest, on November 18.

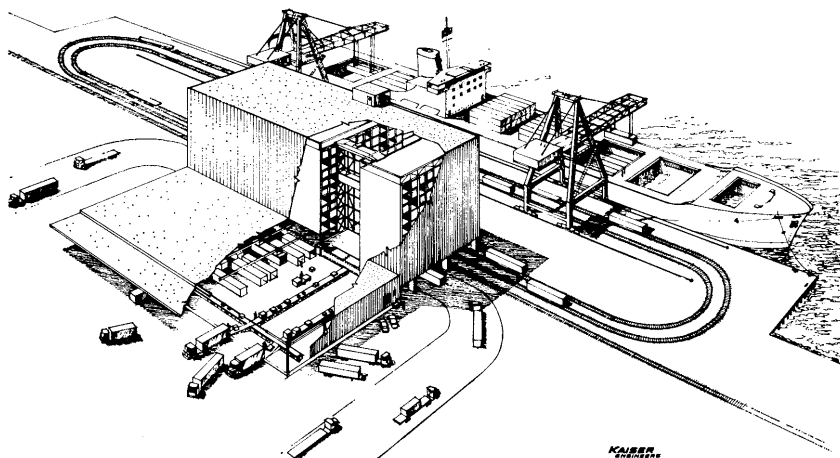
IHI said the tanker, Nisseki Maru, ordered by Tokyo Tanker Co., was scheduled to be completed in November 1971.

The tanker is expected to be commissioned to transport crude oil from Ras Tanura in the Persian Gulf to a central terminal station in Kagoshima Prefecture.

It is understood that a plan is now under consideration to have the Nisseki Maru manned by a crew which will include female members for the first time as an oceangoing tanker in the world.

IHI also said that it would start construction of a still larger tanker of 477,000 tons, ordered by a British firm, Globtik Tanker, in February 1972.

The ship is scheduled for completion in February 1973, the company added. (Japan Times)



Oil Exploration

Taranaki, N.Z.: — A prediction made three years ago by the Harbourmaster, Captain J. Flett, that the number of overseas vessels using Port Taranaki would level out to the 1965-66 figure has proved very accurate. In that year 142 vessels called, and in the subsequent three years the number has been 142 in 1966-67 and 134 in each of two subsequent years.

The number of vessels using the port during the twelve months to September 30, 1969, were:—

Overseas: 134.
Trans-Tasman: 15.
Coastal: 86 (includes 17 tankers).
Naval and Others: 70.
TOTAL: 305.

The figures for the first eight months of the 1969-70 year are:—

Overseas: 91.
Trans-Tasman: 9.
Coastal: 68 (includes 11 tankers).
Others: 178.

The last mentioned is a very high figure and is attributed to arrivals and departures of craft associated with oil drilling and exploration off the Taranaki coast.

The Shell B.P. and Todd consortium has one berth permanently at its disposal, and this is used by tender vessels which ferry supplies to the drilling rig, Sedco 135F.

The Canadian Tide and Min Tide, identical vessels of about 600 tons, are now a most familiar sight at Port Taranaki. With their bridge and superstructure well toward the bow, and the long, clear deck space

aft, they are ideally suited to the work in which they are engaged. Powerful engines and bow propulsion units give them amazing manoeuvrability.

Recently a third "Tide"—the Austral Tide—spent a few days at Port Taranaki when it brought a special cargo of drilling chemicals from Australia.

Also using the port as a base is the Dutch tug Willem Barendsz, which tows the oil rig to each drilling location.

A succession of seismic survey vessels have used the port in recent months, and these have included the United Geo I, the R. C. Dunlap and the Polaris. A workboat under charter to Hematite Petroleum N.Z. Ltd., the San Pedro Strait, also made a brief call last month to load equipment for an oil probe off the north west coast of the South Island. (Taranaki Harbours Board port news, July 1970)

"Kangaroo" Terminal

Antwerp, November 12:—In presence of Mr. A. Bertrand, Minister of Transport, and of a large number of personalities belonging to the port and transport sectors, the new terminal for "kangaroo" traffic at the goods-station of Antwerp-Schijnpoort was officially inaugurated on Monday 9th November last.

The "kangaroo" transport is one of the techniques for combined overland transport, consisting in placing the trailers on a railway-waggon especially designed to that purpose, and by which the main part of the

route is covered by rail, whereas the final transport is made by road.

Although for some time Antwerp has been integrated semi-officially in this traffic, Antwerp now disposes of an official kangaroo centre-station and consequently the Antwerp port area has been directly linked-up with the European Kangaroo network.

The choice of the station Antwerp-Schijnpoort is to be explained by the fact that this goods-station is located at less than 100 metres' distance from the Ring Road around Antwerp, which is directly linked-up with the whole European motorway-network. On the other hand, the international railway line Amsterdam-Paris passes via this station, as a result of which a rapid service can be ensured. Thus a kangaroo train leaving Antwerp-Schijnpoort at 23.25 h reaches Paris the next day at 5.17 h already. (Assiport Press Release)

Dock Appointment Scheme

London, 16th November:—The Port of London Authority, in conjunction with Furness Withy and Co. Ltd., are to add to the growing list of lorry appointment schemes for export cargo in the docks later this month.

A new scheme for vehicles tendering exports for shipment by the North Pacific Coast Line vessels to Panama, the Canal Zone and the West Coast of the U.S. and Canada, will commence with the opening of the receiving period for the 'Pacific Exporter' at the end of November. The shipping service is a joint one operated by Furness Line, Holland-America Line and Royal Mail Lines.

The appointment scheme will operate for No. 2 Shed at the Royal Victoria Dock or at any other berth used by the service. Vehicle appointments are to be made with the PLA and the appropriate telephone numbers, all on 01-476, are 4595, 6265 or 6, 7667 and 7777. Freight space bookings will continue through Furness Withy and Co. Ltd.

The appointment periods for unloading, which have recently been altered on all existing schemes to cover the two-shift working in the

docks, will be 7 a.m.—11 a.m., 11 a.m.—2 p.m. 2 p.m.—5 p.m., 5 p.m.—9 p.m.

Appointment schemes, introduced into the Port to speed the flow of cargoes, give vehicles a preference period for unloading. (News from PLA)

New Working Setup

London, 27th October:—At the start of the sixth week after the implementation of the far-reaching second stage of Lord Devlin's proposals for the port industry, The Port of London Authority has reviewed the problems which have arisen. These proposals, known as Devlin 2 in the industry, replace the piecework system with flexibility and mobility of labour, the introduction of double-and in some cases, treble—shift working, in return for a higher basic wage, improved holidays and improved fringe benefits.

The teething troubles were aggravated by the after-effects of the national dock strike here and the Rotterdam dock strike, which led to a re-scheduling of vessels at a time when part of the work force was still on holiday. It is estimated that 40 ships were diverted because of difficulties in the Enclosed Docks, averaging 2-3 ships per week per dock, and this figure might well have been equalled under the previous circumstances. These facts demonstrate the continuing demand for facilities in the Port of London.

P.L.A. equipment drivers in Millwall Dock and in the Royal Group, as well as some specialised drivers at Tilbury, started a work to rule, but Millwall men reverted to normal working on October 7th, and have since maintained satisfactory outputs. The P.L.A. men in the Royals and Tilbury decided yesterday (October 26) to resume normal working.

The situation was not helped by recent legislation limiting drivers' hours and the failure of road haulage interests to meet the new hours being worked in the port, and in this respect a deputation from the road transport organizations and the London Port Employers visited the Ministry of Transport shortly before the introduction of Devlin 2 to seek

some relaxation of the ruling on drivers' hours. The P.L.A. recently held a meeting with the road transport organisations, who promised full co-operation on the re-arrangement of booking periods to give quicker attention to pre-booked vehicles, and to even out the flow of vehicles throughout the longer working day. Since this meeting the number of export vehicles turned away or gone away of their own accord has been drastically reduced. Dock labour contractors are being pressed to implement booking schemes for import vehicles at the Royal and Tilbury Docks.

Nevertheless, export tonnages received and shipped across quays in the first four weeks of Devlin 2 are about the same as for May 1970, which was a busy month. At most berths in India & Millwall, and at Tilbury, and in some parts of the Royals, the throughputs have been satisfactory, but there are some areas where output has dropped, and local managements and the union representatives are endeavouring to obtain improvements. The meat hauliers could only supply transport between the hours of 8 a.m. and 5 p.m., but following the completion of a new agreement with the drivers, the trade have now undertaken to work to the new hours, as from yesterday.

Negotiations over lighterage are proceeding between employers and unions, and other benefits are emerging as the new system "shakes down".

All employers of dock labour within the Enclosed Docks had to face a shortage of ship hands and tally clerks. This had been expected, but before recruitment could take place experience was needed of mobility and productivity, and there was an additional unknown effect of further closure of private wharves and lighterage companies, which can lead to a number of men being returned to the London Dock Labour Board pool for re-allocation. The Enclosed Dock Employers have asked the London Dock Labour Board to recruit additional men as a matter of urgency.

A P.L.A. spokesman described the changes in the port industry since

decasualisation as the most fundamental in its history, and said that employers, unions, shipowners, and shippers alike had anticipated some teething troubles, but now, with good will, good organisation and co-operation, these were being resolved. A meeting of the important Port Users Consultative Committee had been called by the P.L.A. for Friday, November 6th, at which a progress report would be considered. (News from PLA)

At Southampton

London, 23rd November:—The dramatic growth of Southampton's container business takes a further step forward today (Monday, November 23) with the entry into the trans-Atlantic trade of what is claimed to be the biggest cellular container ship in the world, Dart Containerline's "Dart Europe" (22,500 d.w.t.).

The vessel, first of three new ships being introduced by Dart, is due to load at the British Transport Docks Board's Southampton terminal today before sailing on her maiden voyage to Halifax, New York, and Norfolk (Va.).

With a capacity of 1,556 20ft. equivalent containers, "Dart Europe" can carry as many containers as all seven of the ships which have been operating the consortium's service hitherto, and will help the port's container traffic towards an estimated total of 60,000 twenty-foot units this year.

In 1969 the port dealt with slightly under 25,000 containers, the rise this year being accounted for by the growth of existing users' business.

With completion of the current £14 million developments to increase container berthage from the present 1,000 ft. to a total of 4,000 ft., and the commencement of the OCL/ACT Far East service, port officials are estimating that by the end of 1973 Southampton will be dealing with a daily throughput of over 1,000 containers.

In addition to this, the port is negotiating with a number of other operators, and further development plans being prepared to cater for this demand account for a further 2,000 ft. of the 6,000 ft. of con-

tainer berths which can be provided by land reclamation on the north side of the River Test.

Background note:

Present ocean container facilities at Southampton consist of 1,000 ft. deep-water quay, with a roll-on/roll-off linkspan and 20 acres of paved working area, served by two Paceco-Vickers transporter cranes and seven Clarks Van Carriers.

The terminal cost some £3½ million and was brought into use in October, 1968 for Belgian Line trans-Atlantic services (now part of Dart Containerline).

Companies at present using the terminal are Dart Containerline (two sailings a week to USA and Canada), Atlantic Container Line (weekly sailing to USA) and Seatrains Lines (weekly sailings to USA with associates feeder services).

The Docks Board have also provided within the dock estate a bonded container depot which is used for Customs examination, break-bulk and consolidation of container traffic. This has recently been extended in size to 4 acres and the Customs shed increased to 32,000 sq. ft.

The OCL/ACT Far East service will be operated by vessels of some 35,000 tons deadweight each with a capacity of about 2,000 containers. The first of these ships are due to enter service towards the end of 1971, with the remainder becoming operational during 1972/3.

The Western Docks Extension project provides for the future construction of up to 6,000 ft. of deep water quays with 225 acres of marshalling area when required. (British Transport Docks Board)

Barry Docks

London, 16th November:—The British Transport Docks Board have placed a £102,000 contract with Avonmouth Engineering Group Ltd. (Building) for the construction of a new quayside transit shed at Barry Docks to replace a shed destroyed by fire in June (1970).

Like its predecessor at the site on the South Side of Barry No. 2 Dock, the new shed will be leased by Geest Industries Ltd., for their regular liner service linking the port with

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the Windward Islands.

The new shed, to be used mainly for export general cargo, will be 425 ft. long and have a clear span width of 120 ft., giving almost 51,000 sq. ft. of storage accommodation. A 20 ft. wide canopy along the full length of the landward side of the building will permit the reception or delivery of cargo in all weathers.

The shed will be of steel portal frame construction, with the walls clad in Galbestos sheeting above a 6 ft. high protective brick wall at its base. Roof cladding will be 85 per cent Galbestos and 15 per cent translucent sheeting, with ridge ventilators. Ten sliding doors, 18 ft. high and 22 ft. wide will be provided.

Other features of the design include screened bonded stores and office accommodation to meet the requirements of H.M. Customs and Geest Industries Ltd., and electrical supply points for mobile equipment.

Work on the contract will begin immediately and is scheduled for completion within six months.

Geest Industries have operated at Barry since 1958, importing bananas and other West Indies produce for

(Continued on Next Page Bottom)

Roll-on/roll-off Berths in Rouen

The Port Authority of Rouen France

The Port Authority of Rouen has issued a detailed information sheet on navigational facilities, statistics, cargoes and port industries. Copies are obtainable from the Public Relations Department.

Transport and handling methods have developed rapidly in the realm of carriage by sea. The progressive adaptation in the employment of unit loads, pallets and containers has brought about important changes in respect of vessels and port facilities.

The endeavours pursued by ship-owners, stevedores and shippers to develop methods of level loading has henceforth rendered this technique universal. The application of this method, of military origin, to the transportation of passengers and their vehicles rapidly spreads to the field of freight.

Few ports are without ramps for the loading or unloading of bow or stern opening vessels or side openings. The Port of Rouen extended such facilities for side loading vessels as far back as 1965; two further berths were in operation in 1966 and 1968. Further loading ramps are foreseen within the framework of the 6th Plan (1971-1975). The present shortage of vessels enabling level handling of goods is, for the moment, slowing up to growth of this type of traffic.

distribution throughout the United Kingdom and carrying export general cargo to Barbados and the Windward Islands in their fleet of modern refrigerated motor vessels.

Since 1963 the tonnage of fruit passing through Barry has risen from 95,000 tons to 159,000 tons in 1969, whilst export cargo to the Windward Islands has grown from under 10,000 tons to more than 40,000 tons during the same period. (British Transport Docks Board)

The Port of Rouen is particularly well placed for the expansion of this mode of transport; the variety of goods employing this technique through the Port of Rouen being sufficient proof: fruit (perishables) and early vegetables, export vehicles, sawn timber, woodpulp, loaded trailers, heavy lifts. The completion of the Paris-Normandy motorway is expected to give new impetus to this traffic.

Apart from wheeled vehicles, this concerns the maritime passage of non-mobile unit loads. It is therefore necessary to take into account this aspect in the handling rates which are given as guidance. Such, however, depend on the interior structure of the vessel. Effectively, vessels with interior ramps or with large hull openings allow higher handling figures than those of vessels with narrower openings or with elevator gear.

1. Present Port Equipment for Level Handling: 3 Berths

• The n° 1 berth of Biessard for side-opening vessels.

Berth n° 1 located at Biessard on the right bank of the Seine (chart locality 251 750 kms down river) came into service in 1965. This was linked with n° 27 waiting berth.

This berth accommodates vessels with side openings and drawing not more than 7 metres in draught. It can handle loads not exceeding those of light vehicles (motorcars, vans, caravans).

The assembly comprises a loading ramp of the »Arromanches« type bearing on a decked dredging barge. The barge is secured 14.70 metres from and parallel to the wharf head coping by bollards. The deck rises to 1.84 metres above water level and a system of unballasting enables this height to be

raised to 2.44 metres.

The ramp, of 24.50 metres length and 3.05 metres width, is guided laterally by two metal caissons which prevent longitudinal shifting of the barge. The width between the caissons is 4.90 metres; the berth is not restricted to a height limit.

The ramp is supported by means of hinged plates, two on the coping and two on the barge. The link between the vessel and the central decking of the barge is assured by the vessels mobile pannels.

The berthing frontage comprising two metal piles each of nine float cases, set at 40 metres from axis to axis, 20.75 metres from the wharf coping completes the installation.

Vast open storage spaces, more than 120,000 square metres, enables the stockage of vehicles. The berth is linked by both road and rail. Ramps permit the loading or unloading of road and rail flats for the transport of vehicles.

A shed of 4000 square metres and 220 sq. mts. of office accommodation completes the installation.

Handling rates vary from 30 vehicles per hour on conventional vessels equipped with lever elevators, to 60 vehicles per hour on roll-on/roll-off vessels equipped with interior ramps.

• The n°2 berth of Moulineaux for vessels with side-openings or bow/stern openings.

N° 2 berth located at Moulineaux on the left bank of the Seine (chart locality 257,800 downriver) came into service in 1966. Initially intended to accommodate bow or stern opening vessels the berth was adapted in 1970 to receive side opening vessels.

The two wharves are accessible to vessels of 7 metres draught and to lorries and articulate vehicles of 30 tons gross.

— The ramp for bow or stern opening vessels.

Vessels berth parallel to the embankment from downriver with their opening (fore or aft) towards the disembarkation ramp. A pontoon links the ramp to the bank over an arc of 37 metres reach, the road access is 4.50 metres at the entrance and 600 metres at the apex of the curve. The actual access ramp of

38.50 metres length offers a road surface of 4.00 metres. The ramp is articulated at the shoreward extremity and supported at the other extremity by hydraulic jacks suspended from a gantry. This system allows for correction in tidal fluctuations. The gantry is of 6.50 metres width between the jacks (reduced to 4.40 metres over a height of 1.20 metres above the plating) with a variable height of 9.50 to 14.00 metres.

The vessel bears up against two piles, one of which is equipped with a triple-position spreader on an off-centre axis thus enabling vessels of different breadths to approach the ramp correctly when berthing.

— The wharf for side-opening vessels.

A wharf of 6.50 metres width on the Seine frontage and 17 metres in length was equipped to enable vessels with side openings to berth at Moulineaux. The vessel drops its door or ramp onto the wharf.

The site comprises enclosed open storage space to the extent of 50,000 sq. mts. and a shed of 800 sq. mts. with administrative offices covering 150 sq. mts. The Moulineaux sector has the possibility of expanding over an area of 500 acres.

The berth is linked by road and rail. Ramps enable the loading or unloading of railtrucks and lorries. A gantry of 25-tons lifting capacity is present for the handling of heavy packages. The berth is well situated on the maritime main road and close to the Paris-Normandy motorway, which is expected to be completed early in 1971. At present some 55 miles are already in use over the 80 mile distance from Paris to Rouen.

A commuter road will link the Moulineaux sector with the motorway.

Lorries will thus be able to attain Paris in less than two hours without having to pass through local built-up areas.

The berth is at the moment employed for the exportation of vehicles (Citroën, Simca, Peugeot), importations of woodpulp, Scandinavian sawn wood and foreign vehicles (Great Britain). Handling rates have been ascertained as follows:

— unloading of woodpulp: 700 tons per gang per 11 hour day

— unloading of sawn timber in standards: 80 tons per gang per hour

— loading of vehicles to specially equipped vessels (fore, side or aft openings) with interior ramps: 360 motorcars at the rate of 60 to 70 per hour including lashing.

• N° 3 berth in the Bassin St.-Gervais for bow or stern vessels.

Berth n° 3 is situated in the southern arm of the St.-Gervais basin on the right bank of the Seine in the upper part of the port. It was equipped in 1968 to accommodate fore or aft opening vessels.

Vessels of 7 metres draught can berth here. The pontoon and ramp can take lorries of up to 16 ton total weight or articulated vehicles of 20 tons total weight. The berth comprises a floating pontoon of 30 mts length, 19 mts width and 4.88 mts height of hull; ballasted with solid material or liquid in special compartments the height of the bridge on its downriver side can be regulated in comparison with the height of water from 1.70 metres to 2.20 metres according to need by addition or pumping of ballast liquid in the downriver float case.

This pontoon bears up against two piles placed parallel to the south bank of the arm and four cases situated perpendicularly to it; it is also moored to appropriate bollards.

A metal ramp with oak planking of 61.40 mts length and 5.45 mts width, of which 3 metres road width, links the pontoon to the quayside. The height of the superstructure to the flooring is 4.75 mts. The ramp rests on the pontoon by fixed bearings which are regulated to absorb any vertical or horizontal movement of the pontoon.

The link between the vessel and the inclined surface of the pontoon is assured by the mobile drop opening in the bows or at the stern of the vessel.

Berthing installations comprising three metal piles of 6 float cases parallel to the coping stone and distant at about 19.20 metres completes the berth.

The site offers open storage space of approximately 5000 sq. mts.

which will be completed with a shed covering 4000 sq. mts. by early 1971.

The berth is linked by road and rail. The opening of the Guillaume-le-Conquérant bridge with a flyover enables direct and rapid communication with the left bank of the river.

The surface area of the pontoon between the vessel and the ramp is quite spacious and permits the passage of lorries and trailers shuttling back and forth between the vessel and the dropping point or transboarding to or from the ship.

This berth was installed within the vicinity of the perishable goods reception centre for the disembarkation of pallets carried by roll-on/roll-off vessels.

The growth in importations of sawn timber and prime wood on the central pier and in the northern arm of the St. Gervais basin should increase the number of roll-on/roll-off vessels carrying sawn timber cargoes. Vehicles may also be loaded from this berth.

Handling rates can be indicated as follows:

— loading of vehicles to ramp equipped vessels: 260 vehicles at 60 per hour including lashing

— unloading of wood pulp: 700 tons per gang per 10 hour day

— unloading of packaged timber: 80 tons per hour par gang

— unloading of pallets carrying 800 kilos vegetables: 150 tons per hour par gang.

2. Level Handling of Exceptionally Bulky Packages

Because of their volume or weight certain goods cannot be handled at either of the present three berths. The Port Authority has in consequence been brought to study alternative quays capable of accommodating vessels specialised in roll-on loading of bulky packages. The Port of Rouen has on numerous occasions undertaken the handling of heavy lifts particularly when exported from factories. According to the characteristics and from where the package emanates the port affords a number of possibilities:

— left bank: in the bassin aux bois in the upper reaches of the port;

in the industrial port at the new Petit-Couronne quays.

- right bank: in the upper reaches of the port in the St. Gervais basin ('Africa quays').

Level handling henceforth enables the handling of large dimension packages and many shipowners possess vessels specialised for such movements.

For example heavy lifts were loaded in the bassin aux bois, on the left bank, direct to ship.

Three road convoys of 55, 29 and 25 tons and of 17.60 mts length and 7.50 width with a height of from 3 to 6.60 metres were loaded to the HANSA owned vessel »Brunneck«.

This vessel, specialising in such transport, lay across the basin tobring its stern to bear up against the quay onto which the vessel lowered a ramp. This ship can take heavy lifts of up to 600 tons.

This possibility then complets present facilities for the transit and handling of exceptionally heavy lifts. The port possesses conventional lifting gear of 30, 40 and 150 tons capacity which can be coupled; the port also has access to a privately owned floating crane of 250 tons lifting capacity.

3. New Level Handling Berths Under Project

At present the same goods for the same destinations are carried either by conventional vessels or by vessels designed for level handling.

It is a certainty that such goods will progressively be increasingly transported by the horizontal method. Furthermore other commodities are gradually being adapted to this means of transport.

The Port of Rouen Authority must therefore be prepared for this rapidly approaching evolution in transport. During the 6th Plan (1971-1975) three new berths are foreseen.

The technical characteristics of these berths accord sufficient multiplicity to accommodate the majority of level loading vessels.

The installation of the three new berths under consideration has not yet been finally decided upon. This will of course depend on the expansion of traffic. Nevertheless

we may already foresee certain hypothesis:

— Strengthening of existing traffics

The reception of fresh fruit and vegetables may require the equipping of a level handling berth in the St. Gervais basin nearer to the perishable receiving centre. The construction of such a berth would relieve the one at present in use in the southern arm of the St. Gervais basin in particular for the transit of sawn timber.

The expansion of the motorcar export or import trade could lead to duplicating the Moulineaux berth. The vast possibilities of space in this sector offer considerable prospects of storage.

Lastly the growth in the heavy lift traffic within the port and the advances in the movements of loads in the techniques of level handling incite the port to study the construction of a special berth.

—Equipping new installations

The Port of Rouen has just completed the construction of 1,200 mts. quays of which 600 mts at Petit-Couronne came into service at the close of 1969.

Another quay of 600 mts., constructed in the Rouen-Quevilly basin, constitutes the first section in the reconversion of the basin which will represent 1,800 mts. quays when completely finished.

The quay of Petit-Couronne will be equipped with two 20 t. cranes which will allow the handling of heavy unit loads (wood pulp, timber by 10-15 t) and containers of 20 ft. Containers of 40 ft will be handled by coupling the two cranes automatically.

This quay can receive a roll on-roll off berth to operate mixed container and ro-ro ships.

One of these quays will be equipped with a level handling berth.

Nearer to the Sea

Bremen: — The pace-maker for the new trend towards the sea was, for the Federal Republic of Germany, the large German Klöckner steel concern; in the mid-fifties. Already in 1954 the planning and building of its 'Foundry at the Sea' was begun on a ten square-kilometre

tract of land on the river's edge; located outside the gates of the large city-port. Today's largest and most modern steel works in Northern Germany is—as well as being the most efficient in Europe—Klöckner's 'favourite child'. The long-serving Chairman of the Supervisory Board, Dr. Günter Henle, remarked; "Initially Wesel on the Rhine and Vitoria in Brasil were considered. Then the decision fell for 'near the open sea' Bremen, where the investment costs, far from exceeding the going rate for a new foundry, were—for various reasons—not inconsiderably less". These could have included the substantial requirements in overseas ore of the steelworks plus the favourable location for exporting to all parts of the world. In the meantime Bremen has acquired the modern, efficient "Weserport" ore harbour. "Also in respect of steel exports", said Henle, "the situation at a large port such as Bremen was advantageous". One is given to understand that the concern has never had reason to regret its 1954 decision. Klöckner has just announced (in a circular to shareholders dated August 1970) that the administration of three foundries will be centralised and that "the headquarters of this foundry administration will be in Bremen". (Bremen Air Mail)

Container Terminal

Hamburg:—The extension of the Hamburg Container Terminal, Burchardkai, will be pushed ahead at a greater speed than originally planned. In addition to the five existing berths—No. 5 will shortly start operating—berths Nos. 6 and 7 are scheduled for completion before due date in 1971 and 1972. Moreover, a new container rail station and a district yard will be erected. DM 43.1 million are to be raised from budget funds for the infrastructure, whilst the operator, the Hamburger Hafen- und Lagerhaus-AG., has to find DM 45.3 million for the superstructure.

The construction of berth No. 6 is to begin this summer. By mid-1971 the HHLA will start with its equipment so that completion is ensured by autumn next year when the Far East full containership serv-

ice will be opened. Of the containerizable cargo routed via German ports in this trade, 80% is handled via Hamburg; around 60% of the Federal Republic's trade with East-Asian countries passes through the port. Hamburg is the most important base for Japan's exports to various European markets, particularly Scandinavia.

The seventh berth, equipped with a roll-on/roll-off facility, is scheduled for completion by 1972. Next year, the first of some new full container ships with additional roll-on/roll-off installations will be commissioned by a shipping company calling at Hamburg. In 1972, a second line servicing the port will put this type of ship into service.

To take berth No. 6 the quay wall at Burchardkai will be lengthened by 290 m. Almost at right angles to it, berth No. 7 will be positioned with a length of quay of 350 m. for combination ships. The roll-on facility will be placed between these two berths.

In addition to the four container cranes now available, the HHLA will erect another three, perhaps four, to serve the new berths. A new shed is planned, and the lifting and transport gear will be enlarged by ten new van carriers and three portal cranes at the container rail station.

This station for the handling of incoming and outgoing containers is under construction around 400 m. distant from the quay wall. Three building stages are envisaged. After completion of the first in September, the station will cover 10,000 sq.m. with three tracks, each 620 m. long, and several groups of switches. For the beginning, it will be equipped with two container portal cranes with a span of 28 m. to cover the three tracks, a maximum lifting capacity of 30.5 tons and a travelling range over the whole length of the station. HHLA's intention in building this station is to be able to cope with the rising number of containers carried by rail to be expected from the future container lines to Australia and the Far East. In 1969, around half the containers handled on Burchardkai were transported by rail.

From the Container Terminal with its direct connection to the

electrified network of the German Railways, more than 30 inland destination terminals can quickly be reached in the so-called "night sprint" operated by the container express "Delphin". These fast connections are continuously being improved.

Since in the wake of growing industrialization and the extension of the cargo facilities rail traffic in the western part of the port will go up, a special district yard for container traffic is to relieve the main port marshalling yard Waltershof, through which rail traffic from and to the Burchardkai passes at present. The yard will be assigned to the container railway station, so that arrivals and removals of containers can be accelerated and the costs of transport per unit reduced. Scheduled for completion by 1972 like the rail station, it will be laid out for 17 sorting tracks and one traffic track.

Due to the concentration of container handling on Burchardkai, an average 2.3 ships can be dispatched per berth and week, a considerably higher result than in comparable ports. (Ship via Hamburg, May/June 1970)

Record Traffic

Amsterdam, 18th September:—Figures supplied by the Amsterdam Municipal Office for Statistics (GBS) indicate that sea-going traffic moving through the Port of Amsterdam during the first six months of 1970, has surpassed the traffic for the same period of 1969 by more than 16 per cent.

The figures obtained by the GBS are based on data obtained from the declaration of payment of seaport dues by ship-owners or their agents and therefore these figures are much more advanced than the official ones published by the Central Bureau for Statistics (CBS) in The Hague. The CBS figures are based on data procured by the administration of customs authorities, and since these data are dependent upon final destination of goods it is felt that the actual traffic movements are better seen in the GBS figures.

Since seaport dues must be paid within three weeks of the departure of a vessel the movement of traffic

is accounted for more rapidly by the GBS.

On the other hand, CBS figures do not reflect the temporary storage of bulk cargos—such as ore, coal and grain—and these commodities are not statistically processed until final destination is known. As the temporary storage of bulk cargo reached a high during the months of January through June 1970, these figures must be included in the record for that period.

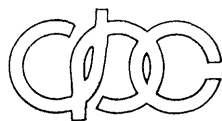
Therefore on the basis of the GBS figures (all figures in this statement are supplied by the GBS, for both 1969 and 1970) there was a significant growth in sea-going traffic during the first six months of 1970. The total tonnage of sea-going cargo handled amounted to 10.5 million tons compared to 9.02 million tons during the same period in 1969. This represents an increase of 1.48 million tons or 16.4 per cent; a total of 0.81 million tons was accounted for by arrivals and 0.67 million tons by departures.

Coal traffic amounted to 0.87 million tons reflecting an increase of 0.1 million tons over 1969. Ore traffic went up by 64 per cent to 3.68 million tons from 2.24 million tons in the first half of 1969. Larger shipments by bulk carrier as well as more indirect transshipment accounted for this increase. Mineral oil transport increased by 16 per cent to 1.988 million tons in the period from January to July this year. Grain transport reflected a loss of 12 per cent. Total tonnage for the first six months of 1970 was 1.77 million tons against 1.99 million tons in the 1969 period. This negative trend applies to most Northwest European ports. Figures for general cargo and timber declined slightly from 1.90 million tons recorded in the 1969 period to 1.80 million tons this year, a drop of 5.3 per cent.

It should be noted that conventional cargo movement in most Northwest European ports has fallen because of modern transport developments and techniques, such as unit loadings. The introduction of modern cargo-handling techniques has been applied because of rationalization on the part of ship-owners.

These new methods have resulted in shifts and concentration in the

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pattern of cargo flows. These developments do not interfere with the considerable growth of roll-on/roll-off traffic between Amsterdam and the United Kingdom and Scandinavia; the Coenhaven area in particular is a good example of a modern cargo-handling area.

The number of sea-going vessels handled in the Port of Amsterdam in the first six months was 3, 873, a drop of 183 from the same period in 1969; however, total capacity of all ships handled rose by 0.87 million gross m³ to 37.01 million m³ an increase of 4.3 per cent. The total tonnage handled advanced less than the total imports and exports by sea, so it can be concluded that average quantity of cargo loaded or unloaded went up.

The general transport picture to be derived from the fore-going figures is quite encouraging. If this favourable trend continues, seagoing traffic in Amsterdam in 1970 will exceed the level of 22 million tons, considerably higher than the record 19.72 million tons set in 1969.

Port of Lisbon in 1969

Incoming shipping

In 1969, 6,166 ships came to the port of Lisbon; of these 1,750 were Portuguese (28.4 per cent of the total) and 4, 416 were foreign vessels. The corresponding gross tonnage attained 33 595 738 tons against 30 898 665 tons in 1968.

Of the tonnage moved through in 1969, 27,170,722 tons correspond to foreign fleet and 6,424,966 tons to Portuguese vessels; to these figures there correspond the percentages of 80.9 per cent and 19.1 per cent, respectively. April was the peak month followed by October and May. The month with the lowest movement was February.

Sea-cargo

The port of Lisbon handled in 1969, 8,584,407 metric tons, 6,356,710 tons being of unloaded cargo and 2,227,697 tons of loaded cargo.

In the whole there was an increase of 573,205 metric tons (6.7 per cent) in relation to 1968.

The peak month was November.

Sea-passengers

In relation to the preceding year there was a decrease of 1.7 per cent in the number of travellers arriving in the port of Lisbon.

The peak months were September and May.

River passenger traffic

The monthly number of 2 million passengers was exceeded except for February. In July and August over 2,5 million were registered.

Budget implementation

Ordinary and extraordinary revenue collected in 1969, in accordance with the Port of Lisbon Authority own budget totalled jointly 363,664,000 escudos; the figure for 1968 was 325,168,000 escudos. Ordinary and extraordinary expenses attained jointly during the economic year of 1969, 340,478,000 escudos against 312,617,000 escudos in 1968.

The tables published herein illustrate what is stated above. (boletim do PORTO DE LISBOA, Janeiro/Fevereiro/Março de 1970)

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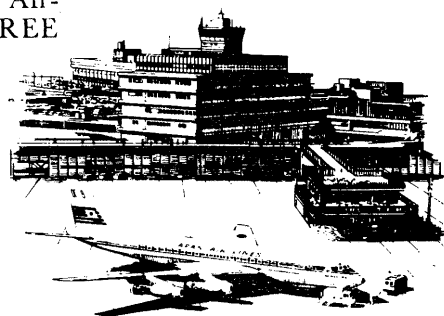
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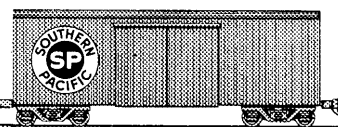
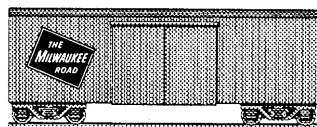
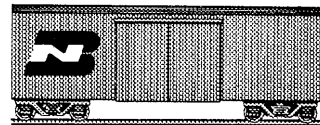
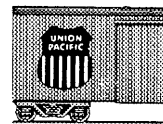
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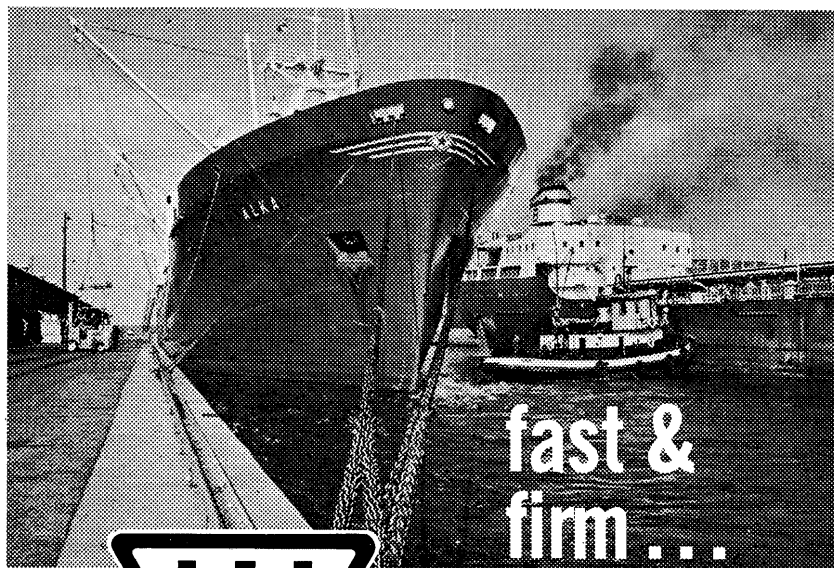
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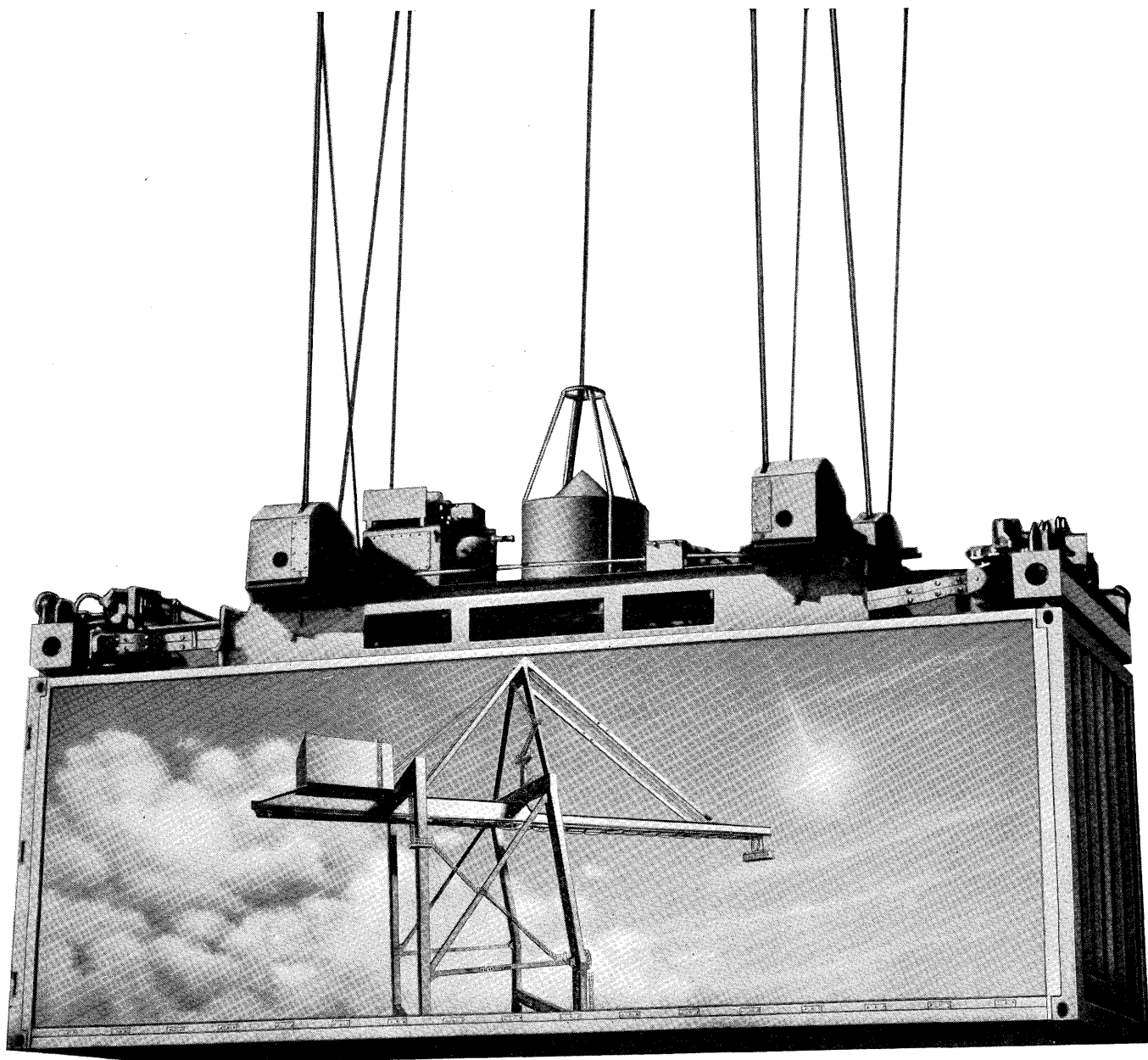
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Judged by the Port of Hamilton's standards, fast-action efficiency is more than a matter of the facilities to handle a vast volume of cargo tonnage . . . It is the *personalized* interest in meeting the requirements of every *individual* shipment! If all you need is extra fast documentation and trans-shipment, tell us and you'll get it. Or perhaps your cargo needs specialized handling involving warehousing facilities, packaging, co-ordinated trucking schedules and other integrated services . . . Or it could even be you need site development land near seaway draft berths . . . Whatever the problem, you may be sure that our personalized service will come up with a practical and *economical* answer based on our low-cost rate structure. Complete information available from the Port's Trade Development Manager.

*A seaway port over 1500 miles inside Canada serving 54% of Ontario's population within a 75 mile radius.



How can you put perspective into your containers?

Before you were born (we presume), we began to make cranes.
That was 60 years and 10,000 cranes ago.

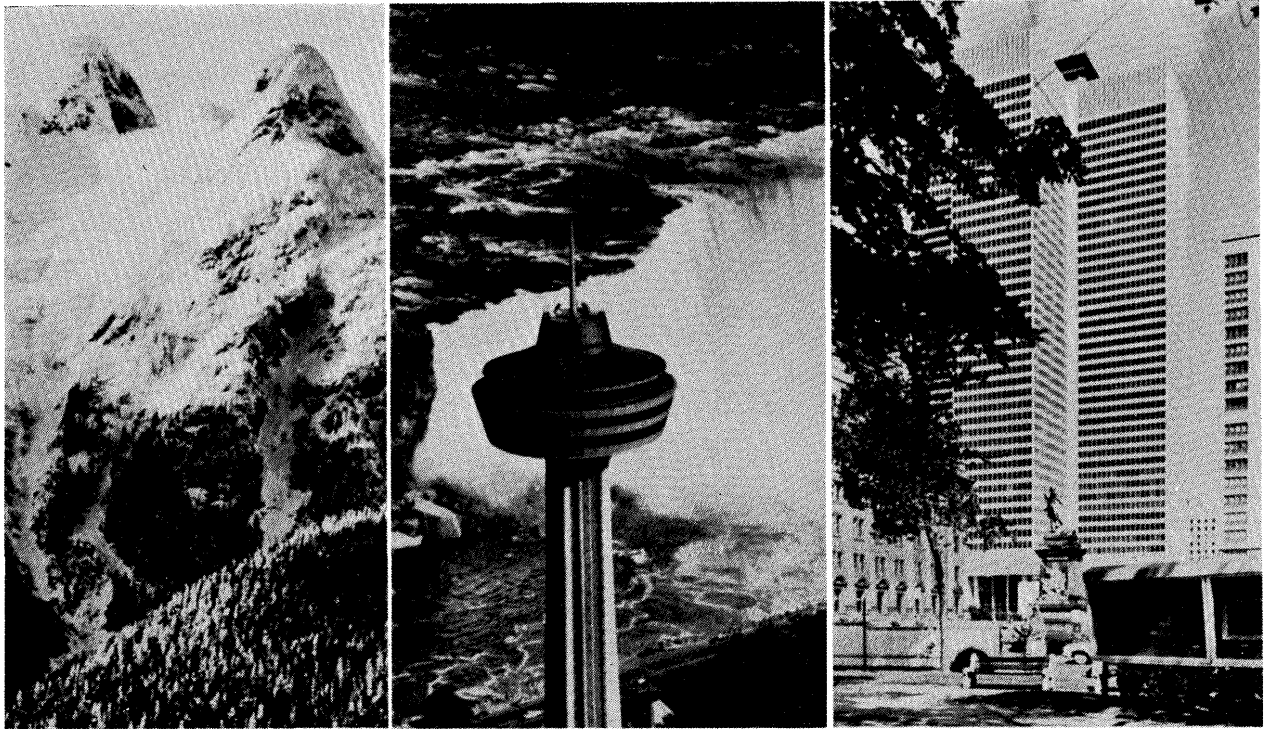
Today, you can get more than a crane with our know-how.
You can get a system.

You can get operation plans, plus, cranes for dock-side, ship and yard.

And, with our container handling systems, you can be fast, safe
and efficient. You can load, unload, stack and unstack—all at the same time.
With less personnel. With less cost. With one name. Ours. That's how.
Please write.

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