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Port of Antwerp. Churchill dock: Antwerp's main container center with seven gantry cranes. (See also photograph on page 49.)

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(14) THE PROJECT OF NEW KOBE ISLAND AS A TERMINAL OF SEA-LAND-AIR COMPOUND TRANSPORTATION IN KOBE PORT

BY

TATSUO MIYAZAKI

MAYOR OF KOBE

1. Introduction

The economic growth of Japan in recent years has been truly remarkable, and the rapid expansion of the equipment investment by private enterprises due to the technological revolution has intensified the development of heavy and chemical industries to the extent that the swift tempo of urbanization has led to the mass concentration of goods in large cities and accordingly to the enormous change in the transportation system.

The amount of goods handled in the Port of Kobe has also shown a steady increase from year to year and the existing and ever expanding facilities and equipment can hardly catch up with the tremendous increase of cargos.

In the qualitative phase, there took place changes as evidenced by the progress of containerization and the sharp rise in the transportation by ferry boats in the domestic shipping industry.

In order to meet the requirement of the massive growth of physical distribution and the qualitative improvement of the same, plans are afoot to further expand the facilities of Kobe Port whereby to build a "New Kobe Island" so as to make it serve as an international compound transportation terminal covering sea, land and air. Given below is the outline of the basic principle of this project.

2. Trend of Transportation Renovation in Kobe Port

With the rapid growth of Japan's economy, the amount of cargo handled by the nation's major ports

Table 1 – CHANGES IN THE QUANTITY OF CARGO HANDLED IN THE PORT OF KOBE





and harbors increased by leaps and bounds. The foreign trade cargo in 1963 totalled 397 million tons, the domestic cargo 723 million tons and that by ferry service stood at 240 million tons.

In 1975, these figures are expected to rise to 1,090 million tons, 1,520 million tons and 770 million tons, respectively, and they are further expected to reach 2,300 million tons, 2,920 million tons and 1,780 million tons, respectively, in 1985.

Of these, Tokyo Bay, Osaka and Ise Bay which take care of the bulk of the nation's foreign trade general cargo handled in 1963 28 million tons in Tokyo Bay alone, while Osaka Bay and Ise Bay handled 30 millions tons and 14 million tons, respectively.

It is anticipated further that 1975 will see Tokyo Bay handle 58 million tons, Osaka Bay 61 million tons and Ise Bay 31 million tons, and the cargo will rise 152 million tons in Tokyo Bay in 1985, and 133 million tons in Osaka Bay and 63 million tons in Ise Bay in the same year.

In 1965, the cargo that passed through the Port of Kobe totalled 16,350,000 tons for foreign trade and 18,120,000 tons for domestic trade and 7,700,000 tons for ferry service, for a total of 42,170,000 tons. These figures rose to 26,750,000 tons, 24,860,000 tons and 28,830 tons, respectively for a total of 80,440,000 tons in 1969 and they are expected to aggregate in 1975 46,670,000 tons, 43,270,000 tons and 95,000,000 tons, respectively, for a total of 184,940,000 tons.

On the other hand, the rationalization of cargo handling in the shipping industry and ports and harbors has also taken a long stride. Containerization, in particular, is way out in the foreground. In the fall of 1967, the first full container ship made its debut in Kobe to usher in the container age and its popularity is such that about 65 per cent of the U.S. West Cost-bound cargo is containerized. Full-fledged container ships are slated to be put into service on the European route in the fall of 1971, and also on the New York route just about the same time.

In order to cope with the situation, the construction of "Port Island" was commenced in 1966 with 1975 as the target. When completed, it will have a total of 30 berths, or nine berths for container ships and 21 for liners. The 1,090-acre artificial island is already known the world over in the nickname of a "floating Marine City."

Under the plan, the Port Island will be enabled to handle 5,900,000 tons of containerized cargo and 4,200,000 tons of liner cargo for a total of 11,000,000 tons. Nevertheless, the volume of cargo in the Port of Kobe is increasing in large quantities from year to year and it is estimated to top 47 million tons for foreign trade alone in 1975, the year when the Port Island is slated to be completed, which leaves Kobe

Trade Partners	Export	Import			
U. S. A.	697	797			
Asia	595	377			
Europe	340	247			
Oceania	68	29			
Total	1,700	1,450			
Export-Import Gross Tor	3,150				

Table 3 — Estimate by Regions and Countries of the Quantities of Japan's International Air Cargo1985(Unit: Thousand tons)

Table 4 --- Estimate by Items of the Quantity of Japan's Air Cargo (1985)

(Unit: Thousand tons)

Item	Tons			
Provisions	121			
Textiles	160			
Chemical Products	245			
Metals, Non-ferrous, Minerals	83			
Machinery, Mechanical Equipment	848			
Miscellaneous	243			
Total	1,700			

Import:

Export:

(Unit: Thousand tons)

I t e m	Tons			
Provisions	273			
Textiles	29			
Chemical Products	102			
Machinery, Mechanical Equipment	863			
Medicines, Materials, Metal	68			
Raw Material, etc.	110			
Total	1,450			

short of facilities for 6,500,000 tons of foreign trade cargo, even with the full use of the existing facilities and those of the Port Island inclusive.

This makes it imperative that the construction of a new pier known under the project of "New Kobe Island" should be commenced without waiting for the completion of the Port Island now under construction.

The renovation of the transportation system of late is also remarkable. Designed to unitize the shipment of general goods, the shipping circles of the world are already using container ships and roll-on roll-off type vessels and LASH will come into the picture soon. On the horizon are even million-ton tankers for the shipment of exclusive cargos.

In the domestic scene, in addition to the exclusive purpose freighters and container ships for domestic service, ferry boats are looming large as future stars of inter-island and inter-port service within the country. They are, so to speak, domestic versions of roll-on roll-off vessels. With the Seto Inland Sea as the main theater of operations, they are now being increasingly put into operation on long routes. Kobe-based ships of this type are now running to Shikoku, Kyushu and even to Tokyo.

Responsible for the quick popularization of the ferry service are the automobiles, champion of the leisure industry. Due to the increasing popularity of ferry service to ship "unmanned" trucks, and the growing need to eliminate the loss in ports, the ferry boats are likely to dominate the domestic service in no distant future as time-saving they make possible the time-saving door-to-door delivery of cargo.

The Port of Kobe is linked with its hinterlands — Chugoku, Shikoku, Kyushu, etc. — via the Seto Inland Sea. Along with the development of the littoral industrial zones facing the Seto Inland Sea and that of containerization, ferry boats as well as exclusive ships are expected to play even greater parts in the feeder transportation as well.

In the field of air transportation also, the factors on the part of the suppliers such as the aggrandizement and speed-up of the aircraft as a result of the technological advancement or the aircraft material and the operation of freight planes, passenger-freight liners, coupled with the factors on the part of the customers such as the increase of the volume of international cargo, transfer to the high speed means of transportation due to the rise of time value, etc., led to the average yearly rise by more than 20 per cent of the volume of international cargo in 1960's.

As for the future trend of the air cargo transportation, the volume of cargo to be airlifted is considered to continue its rise at a great tempo. The IATA estimates the yearly increase in 1970's at about 20 per cent, and foresees that the volume of air cargo will increase eightfold in 1980.

In other words, the 2,695 million ton-kilomiles air cargo in 1968 is expected to reach 21,735 million ton-kilomiles in 1980. According to the estimation made by the Society for the Study of Aeronautic Policies, Japan's international air cargo in 1985 will be as shown in Table 3 if classified by countries and regions, and also as shown in Table 4 if classified by items.

If the air cargo transportation continues to rise like this, it is likely to intensify the competition between the air cargo transportation and the shipment of cargo by container vessels. This tends to indicate the possibility of cargos that can bear the freightage of high added value being win over by air transportation.

Then occurs the problem of air-sea intermodal transportation. An intermodal air and marine transportation between Europe and the Far East is already in practice in the form of air-sea service. The cargo is transported by ship between the Far East and the U.S. West Coast to be air lifted there.

In the light of this, the ports and harbors can hardly remain nonchalant about the transportation of cargo by air.

In the Kansai area, there is today the Osaka International Airport. Being located in a densely populated inland area, it is subject to strict restrictions in use. Since it seems certain that the Osaka International Airport will become saturated in 1975, the project of a new Kansai international airport is now under contemplation.

An extensive study is now under way as to its possible sites. In view of the fact, however, that flat land is scarce in Japan and the sea surface can be utilized as noise absorber, an island or reclaimed land in Osaka Bay appears to loom large on the horizon. In this case, the access to the airport poses a major problem. The confusion in an airport includes that of air traffic control, or that arising from the custody or classification of the cargo. The confusion on the ground is usually triggered by small-lot cargo which is brought in by transport and freight planes. As a means to eliminate this confusion, the construction of an airport for the exclusive use by cargo planes is considered.

When such an airport is constructed, two possible ways of use may be contemplated. One is to make it an airport for the exclusive use by cargo planes, and the other is to handle the cargo brought in by cargo planes and transport planes at an independent cargo airport. Under the first plan, the following four points can pose problems:

- (1) It seems likely that cargo may continue to be carried in the belly of transport planes for some time to come. Therefore, in the airport for the exclusive use by transport planes rush of small-lot cargos cannot be avoided.
- (2) Transfer of cargo between transport planes and cargo planes becomes infeasible.
- (3) Airlines are compelled to make double investment for the cargo handling facilities.
- (4) The degree of utility may be low.

Considered as an alternative is a method wherein an independent cargo airport is built for the handling of cargo, regardless of its origin — whether it was brought in by transport planes or freight planes. However, the problem lies in that the airlines operating transport planes tend to be reluctant to take the trouble of sending the transports to the cargo airport just for the purpose of picking up the small-lot cargo.

From the foregoing, it is necessary for the new Kansai International Airport Project to probe the advisability of not building an independent cargo airport as a measure to mitigate, if not to eliminate, such a confusion. A possible solution would be to build an air cargo terminal along the Osaka Bay where cargo can easily be collected, and unitize the cargo by classifying it, loading it without regard to its destination and getting customs clearance for the same for immediate shipment to the airport and loading on the airplane.

Indications are that the new Kansai International Airport will be built on an island or a reclaimed land. For the convenience of ships sailing in the neighborhood, it is likely that an undersea tunnel will be built resulting in the considerable restrictions on the traffic volume. This gives room for the role of ferry boats. In that case, it must be necessary to build an air cargo terminal in the port area whereby to link it functionally with other means of transportation.

3. Basic Idea of the New Kobe Island Project

In order to cope with the transportation revolution, both quantitative and qualitative, mentioned above, the construction of "New Kobe Island" is under contemplation. As a result of the study made at the committee about the basic idea of this New Kobe Island, it was concluded as follows:

- (1) It shall be made into an international transportation terminal complex of sea, land and air.
- (2) It shall be made into a collective information center for the international transportation in Osaka Bay and the Seto Inland Sea.
- (3) It shall be made into a green-rich marine city by the induction of nature.

As the forerunner of the material distribution revolution, an intermodal transportation system is looming large in the transport of general goods along with the specialization in transportation. In the intermodal transportation system, however, each means of transportation must display its merits to the fullest extent and thereby meet the ever diversifying requirement of transportation. Therefore, unless smooth linking of each means of transportation is attained at the connecting point, it is impossible to materialize an effectively systematized transportation.

In order to help the terminal meet the intermodal transportation system, it is necessary to geographically collectivize the terminals retained individually so far by various means of transportation and energetically renovate them into one with structure which enables it to make a rational selection of the transportation route.

In the New Kobe Island which will serve as a linking point of the international shipping, domestic

shipping and means of land transportation like trucks, a new air cargo terminal will be added with consideration given to its link with the international air transportation based on new requirements whereby to make it an international transportation terminal complex of sea, land and air.

Furthermore, an international transportation information center designed to handle collectively the information about international transportation shall be established, whereby to enable it to serve as the nucleous of the international transportation information network in Osaka Bay and Seto Inland Sea as well as in Kobe so as to meet the development of the Osaka Bay in the future.

In order to help it function properly as an international transportation terminal, it is necessary to provide it with business, commercial and dwelling facilities.

On the other hand, the intensifying concentration of population in large cities is depriving the citizens of their access to nature. The New Kobe Island is conveniently located, and is so close to the verdant hills of Mt. Rokko. Our plan is to bring nature to their immediate environment, profusely planting trees on the island and make it a really comfortable city to live in.

4. How to Build-Up the New Kobe Island

(1) Port and Harbor Facilities

According to the Transport Ministry's Osaka Bay Port and Harbor Project, the Port of Kobe is slated to be made into a foreign trade liners' port. Accordingly, the New Kobe Island will also be equipped with facilities along this line.

If the economic growth of Japan continues the present pace, the total volume of foreign trade liners' cargo is estimated to top 60 million tons in 1980, or 39.5 million tons for export and 20.5 million tons for import in Osaka Bay alone. Of this figure, containerized cargo is estimated to account for 22 million tons for export, and 12 million tons for import. To handle such voluminous cargo, it is necessary to build 32 container berths.

Under the plan, 16 container berths will be completed by 1975 and so additional 16 container berths should be built in the subsequent five years ending in 1980 in Osaka Bay. The New Kobe Island should be prepared to build about two-thirds of these berths. As for the liner berths, during the decade of 1970's 60 berths will be required in Osaka, of which 21 berths will be built in the Port Island and 25 in the New Kobe Island under the project.

As the operation of roll-on roll-off ships and LASH boats is also foreseen, the foreign trade facility plans should be made as flexible as possible in order to build sufficient facilities for these types of ships.

In addition, the development of the containerized cargo shipment is anticipated to result in the increase of feeder transportation for Southeast Asia as well as for the western Japan centering on the Seto Inland Sea. Then, it is necessary to renovate the facilities for them and those for the secondary transportation of foreign trade cargo.

(2) International Transportation Terminal Complex

The New Kobe Island will have behind the berths a vast space for the port and harbor functions with distribution warehouses, open storage yards, etc. for smooth handling of cargo besides collectivizing the truck terminal and air cargo terminal. In this way, it will be made into an ideal international transportation terminal complex which makes it possible to select the rational transportation route. It will have various functions including consolidation, delivery and collection of cargo, stock point, information service, etc. and attempts will be made to unify the consolidation and collection and delivery of cargo for the economy of labor and to link rationally the transportation activity and storage activity by dint of the stock point function.

The development of containerization and the increase of the volume of the air shipment leads to the drastic curtailment of the transporting time between nations and reduction of the cargo handling time in the terminal is required. In order to systematize an intermodal transportation system through various means of transportation, it is essential that an enormous amount of transportation information should be handled with accuracy and promptitude. To this end, it is required to establish a transportation information system



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by computers.

In the full-fledged transportation information system, not only the information about the movement of cargo but also the exchange of information with other ports and harbors, terminals and airports plus cargo reservation, delivery, accounting information and information about the delivery of invoices, etc., the entire process from end to end must be linked collectively and perform a chain of functions.

From these points, the New Kobe Island will establish a collective center to intensively handle information about transportation to enable it to serve as the nucleous of the international transportation information network in Osaka Bay and the Seto Inland Sea, its hinterland.

(3) Urban Facilities

After completion, the New Kobe Island will handle under the plan some 20 million tons of foreign trade cargo in a year as the transportation terminal complex of the sea, land and air. In order to make this transportation terminal complex fully display its function, it is essential that it should be provided with relevant business facilities, commercial establishments, dwelling, traffic and environmental facilities.

With the intensifying concentration of population in large cities, a number of urban problems like environmental pollution, traffic snarl and rise in the cost of land, etc. are arising. Not only as an ideal transportation terminal complex, but also as a comfortable place to live in, the New Kobe Island will be enabled to have an ample green belt which is an essential element of an ideal urban environment.

In this connection, it will have a sports park, green plaza, hospitals, a rest house, hotel accommodations and other facilities essential for an ideal environment for work place.

In addition, it will be necessary to have hotel accommodations and recreational facilities for crewmen, general visitors and people concerned with trade.

Furthermore, a large number of trees will be planted, artificial river and hills will be built whereby to bring man and nature closer together. The residential area and the port and harbor and distribution facilities shall be completely separated with a green belt and by building them on different levels, whereby to create comfortable dwelling environments. It will thus be enabled to constitute a community with the workers on the New Kobe Island as the nucleus.

It is also important to complete traffic facilities sufficient to handle the large flow of people and cargo without a hitch. To this end, a full adjustment must be made with the re-development planning with regard to the contact between the New Kobe Island and the existing urban area and the main terminals and a bayshore road to integrate Osaka Bay and a marine trunk road should be built to link the New Kobe Island with the Port Island and the Maya Pier. In addition, a third Rokko tunnel will have to be dug to establish contact with the trans-Chugoku Superhighway and the great sphere truck road network including the highways behind the Rokko Range.

As for the islandwide traffic, pedestrians and vehicles should be separated for safety traffic and separate routes should be built for the transportation of people and cargo.

The New Kobe Island Project still has many problems to be studied, especially in connection with the management system, connections of the New Kobe Island with other port and harbor areas and the existing urban sections, and the functions to be shared by them. It is the aspiration of our city to continue our study and make the New Kobe Island a truly fine marine city which, along with the Port Island, we can really be proud of to the rest of the world.

Selection, Collection and Presentation of Port Statistics and Information A guideline by the UNCTAD secretariat

Bernard Mortier UNCTAD Interregional Adviser on

Shipping and Ports¹

Biographical note

Mr. Bernard MORTIER, French National, has a large experience of port problems in developing countries. As an Economic Adviser to the port of Casablanca (Morocco) from 1962 to 1966, he introduced in this port a modern system of data collection. In 1966, he joined UNCTAD to participate in the research programme of the secretariat on ports. Recently, he has been appointed as an Interregional Adviser on Shipping and Ports to deal with the technical assistance activities of the secretariat.

The UNCTAD secretariat has recently issued a manual on the "selection, collection and presentation of port statistics and information"²⁰, which was submitted at the fifth session of the Committee on Shipping held in Geneva in March/April 1971.

The secretariat has always emphasized that a large fraction of the overall ocean transport cost occurs in port. In addition to the cost of providing, maintaining and operating port facilities and port services, part of which is directly reflected in freight rates (port dues and charges levied on ships), the level of freight rates and port surcharges is also largely determined by the time spent by ships at berth or waiting for a berth. Ports appear therefore as places where significant savings on the total transport cost can be made through the provision of adequate port facilities and by ensuring a quick dispatch of ships and a smooth flow of cargo through the port. To achieve this result, a large number of decisions have to be made regarding port investment as well as port organization and port functioning.

To date, one of the main obstacles against a systematic and quantitative approach to port problems has been the lack of appropriate port statistics, traditionally regarded as a simple record of trade figures rather than as a basis for an improved decision-making process. One reason for this short-coming is that the port activities are sometimes scattered between several administrative authorities and private operators who are reluctant to release the information collected for their own purpose. The manual emphasizes therefore the need for establishing for each port a centralized statistical unit, responsible for assembling and processing all the data issued in different parts of the port.

Another idea expressed in the manual is that the collection of data on ports should be closely related to specific purposes. One of the immediate objectives of any port authority is to improve the port performance in respect of criteria defined by the policy-makers. It may prove difficult to measure the port performance by a single figure, especially in ports which handle several quite different types of traffic. But, for each main category of traffic, the port performance may be approached by using appropriate efficiency indicators such as the berth occupancy rate, the handling rate per ship/day or per gang/hour, the berth throughput in tons per berth/ year or per meter/year and, last but not least, the cost per ton of cargo passing through the port, broken down between port costs and time costs of ship. The manual gives precise definitions of such efficiency indicators and specifies the data needed for their establishment. By comparing these efficiency indicators with those obtained by other ports handling similar traffic, the port management may have already a relative idea of the port efficiency. This assumes obviously that the figures produced by other ports are strictly calculated in the same way, and the UNCTAD secretariat hopes that the manual will assist in achieving an increased extent of comparability of port statistics throughout the world.

However, the efficiency indicators, if they give a first idea of the port situation, are not sufficient to arrive at the appropriate decisions to be taken to improve the port performance. The second step is therefore to get a clear understanding of the internal functioning of the port, based on a detailed analysis of each port activity with a description of its own inputs (equipment, manpower), its operational rules and the quantity of each input needed for each operation. Since a port is a complex system in which many interrelated activities are performed simultaneously or in sequence, it is then necessary to investigate the relations existing between all different port activities to understand how, in any possible situation, a given activity interacts with others. The purpose of this exercise is to find out which port activities form a bottleneck and therefore to indicate in which areas urgent action is needed. Where a bottleneck might be removed by any one of several alternative decisions, it will be necessary to assess in advance the impact of each decision on the overall port

¹ The views expressed here are those of the author and are not necessarily shared by the UNCTAD secretariat. 2 TD/B/C. 4/79 — United Nations publication—Sales No.; 72. II. D. I. Price: US\$1

performance. Afterwards, the effective result will be reflected in new values of efficiency indicators and, in case of important discrepancies with the expected results; necessary adjustments can be made. It is obvious that this analysis is not an easy one. It may prove necessary to build sophisticated mathematical models to reproduce the complex functioning of a port. In large ports, the use of simulation programs run by computers may be indicated. The results will depend to a large extent on the availability and the accuracy of statistical data.

Given the rapid expansion of international trade, another subject of concern for government and port authorities is the continuous adjustment of port capacity to a growing volume of traffic. Practically every day, newspapers announce new port development schemes, both in developed and in developing countries. In the latter group of countries, the problem of port expansion is particularly acute, not only because of scarcity of capital (which obliges them to rely on external sources of finance), but also because the structure of their foreign trade has been deeply transformed since their independence. Presently, most of these countries are engaged in industrialization, and the traditional pattern of their traffic (exports of raw materials and imports of manufactured goods and foodstuff) is being replaced by a new pattern, characterized by the importation of a large amount of capital goods needed for the new industries and also by the exportation of increasing quantities of processed or semiprocessed goods. At the same time, they are compelled to develop their traditional exports of raw materials to cope with the high value of imported capital goods. As a consequence, their existing ports have to be rapidly reshaped and improved and new ports have to be established.

In doing so, due consideration should be given to the consequence of the recent developments in shipping technology. Following the introduction of large ships for bulk traffic (oils, grains, ores), an increasing fraction of break-bulk general cargo is now transported in unit loads (pallets, containers, vehicles, lighters) by specially designed ships. A common feature of these modern ships is the

high level of their capital as well as their operating costs. To make the most economic advantage of such ships, it is essential to reduce as much as possible the time spent in ports. This will only be achieved by a full mechanization of cargo handling and also by limiting the number of ports visited. There is therefore a trend to concentrate the traffic on "trunk routes" linking a small number of main ports, which in turn collect and dispatch part of this traffic from/to a larger number of secondary ports. This new pattern of shipping is already in operation on several routes linking the main industrialized areas of the world; there is in parallel a pressure from various shipping lines to introduce unitization in trade with developing areas and this raises the question of defining, in each case, the most appropriate type of unitization to be applied, with due consideration given to the capital requirements involved in developing ports.

Governments and port authorities are consequently faced with the difficulty of deciding which ports should be selected as major ports in a region and how to develop them. The necessity of achieving a quick dispatch of ships has several consequences. The number of berths required for a given amount of traffic will be reduced, but larger storage capacity and faster delivery and receiving procedures will be needed. This explains why the layout of many existing ports is not suitable for modern cargo handling methods. In addition, the quick dispatch of ships assumes that powerful and costly handling equipment is installed. Such investments may raise the overall transport cost, unless it is possible to use the equipment 24 hours a day. In some cases, the move towards mechanized handling may be questioned and opposed by port workers, both in developed and developing countries. This problem is particularly relevant in developing countries where an unskilled labour force is abundant whilst capital is scarce. In addition, heavy port investments are sometimes discouraged in developing countries not only because of scarcity of capital, but also because a faster turn-around of ships is not reflected in lower freight rates, and this aspect should be born in mind by shipping lines whose longterm interest remains to find the best possible working conditions in any port visited by their vessels.

These remarks demonstrate that decisions regarding port investment are not easy to arrive at in the present changing situation. To define a coherent port policy at national or regional level, the first necessary step is to have a clear picture of the patterns of shipping and cargo flows prevailing in the region. This assumes the collection of a large amount of statistical data such as the number, type, tonnage of ships, their origion and destination, the amount of cargo loaded and unloaded classified by nature and type of packaging, etc. The record should be continuous in order to produce a series of data showing the existing trends. This is particularly important in relation to the establishment of ship traffic and cargo flow forecasts. In addition, the application of modern methods of investment appraisal assumes the availability of data on capital, running and maintenance costs of port facilities as well as cost data on the various types of ships serving the trade.

As a conclusion, the UNCTAD manual is an attempt towards the identification of the most important data that port authorities should collect in a systematic way as a basis for decisions regarding port functioning and port planning. In addition, the manual offers a number of suggestions as to the best way of organizing the collection of data and contains several examples of statistical tables to be issued at regular intervals. The preparation of this work has benefited from the assistance of six wellknown port statisticians from developed and developing countries and from valuable comments made by the United Nations Statistical Office (UNSO), the International Bank for Reconstruction and Development (IBRD), the Inter-Governmental Maritime Consultative Organization (IMCO) and the International Labour Organization (ILO). Several port authorities are already using the manual as a basis to establish their own system of data collection and it is hoped that a large number of ports, both in developed and developing countries, will find this work useful.

Marseille—FOS

Adapted from brochure "marseille-fos 7" published by Port Autonome de Marseille

Concrete evidence supports the statement of managers of the Port of Marseilles Authority that "the port and the industrial zone of FOS constitute only one aspect of overall policy." But it cannot be denied that this aspect is of great importance. The fifteen thousand acres of FOS form the largest development site in Europe today: civil engineering, dredging, the building of factories and motorways, railways, the supply of electric power and the planting of trees are all being carried out at the same time.

The FOS Installation Board

The development and general expansion of port amenities concern everyone in the Autonomous Port of Marseilles. And Fos represents just one aspect of this overall policy. The extent and the specific nature of such an undertaking, however, have made it necessary, in the interests of efficiency, to create a single liaison service between the different organizations and interests concerned. This is the role of the Fos Installation Board.

Mr. Michel PECHERE was asked to outline the function of this department (D.E.F.—Direction des Equipments de Fos) and its main activities.

-You mentioned a liaison service. In effect this is what we are, first and foremost for those people who come under the heading of "suppliers," that is to say, the departments of public works, civil engineering, and of building. We also act as a liaison service for public bodies and nationalized companies which cooperate in the installation and equipment of Fos: the Fos Installation Department, the Post Office, the Electricity Board and the National Railway Company. We are in permanent contact with them all and our job is both to provide support and co-ordination.

But from time to time we incur

wider responsibilities, assumed once more in the interests of efficiency. These include, for example, our participation in providing temporary accomodation for workers in the Fos zone.

Finally we act as a liaison for industrialists interested in investment. We have to make the necessary effort to understand their problems and help them to resolve them.

But we are also entrusted with corollary missions. We are thus closely interested in the distribution of expenses as related to the general financial policy of the Port.

Another important role which, after all, justifies the others is that of promoter at an operational and concrete level. This concerns, in particular, the study of expansion projects for the "Zadee" zone. This is a role demanding tact as general development, agricultural interests, the interests of rural councils, local restrictions and important environmental problems must be taken into account.

—What do you mean by "environment"?

—Both the way in which men will live at Fos—the whole complicated and under-explored question of "living communities"—and protection for the surroundings of this way of life. One of the major aspects of this problem is the struggle against pollution in general, and first of all the precise definition of a reasonable level of pollution, whether it be of the atmosphere, of water or of industrial and household waste; or whether this latter problem should be studied jointly by the Port Authority, the Management Board and the Marseilles Water Board.

By co-operating with such associates, P.A.M. (Port Autonome de Marseille) shows its concern with public interests and its willingness to unite its efforts with those of the region as a whole.

As promoters, but also as site

developers, we must take care that the land is put to good use.

—You told me, at the beginning of our interview, that the setting up of Fos was only one aspect of P.A.M.'s general policy.

—That is true. Our general management board is simultaneously undertaking development in four important areas:

—an increase in the capacity to receive and convey petrol traffic, —the promotion of the Fos industrial zone.

I can assure you that these four areas are being tackled in strict coordination and that, for example, development of the Fos industrial zone is not allowed to impede development in other sections, especially as far as financing it is concerned.

This is an advantage, for it was necessary to diversify activities in order to develop, and above all, to stabilize the life of our ports. In fact the volume of petrol traffic is increasing rapidly.

Since 1965, sixty to eighty million francs have been spent directly each year by P.A.M. in order to achieve these projects—and this includes the direct aid given by the State. This represents a financial engagement, from the beginning, of about four million francs, including the fifty millions devoted to the acquisition of land.

These investments will continue at a slightly increased rate until 1973.

—But what are the resources available?

—There is, of course, State aid for land expenses and for port installations. The Port pays the rest. In particular P.A.M. is responsible for financing the setting up of the properly so-called industrial zone. However, it can be stated that the creation of Fos does not cost a penny to users of the port, as we have obtained loans from the "Caisse des Dépôts et Consignations" to ensure the necessary finances. Receipts from the commercialization of the zone enable us to cover exploitation costs and the repayment of loans.

The ZIF (Zone Industrielle de Fos)

On the brink of autumn 1971, what has the Port of Fos attained?

Mr. PECHERE has outlined the mission entrusted to the Fos Installation Board. What, in actual fact, has been accomplished?

—Within the perimeter of the ZIF, where the land is banked up, firms need water and power, rapid and efficient means of communication with the rest of the country, and finally, means of transporting raw goods and finished products: supplying all these is the task of the "works" department.

Everyone knows there is no lack of water in the area. This situation —seemingly paradoxical for such a sunny region—can be to a diameter of one to two meters!), the water will be supplied at a pressure of 2.5 bars.

—Which leaves one to judge the importance of the electromechanical installations in the pumpingstation!

—The water in question is "industrial" water. But another network also distributes water for domestic purposes throughout the ground surrounding the wet-dock n° 1. A temporary station pumps water out from the phreatic layer and transfers it to the water tower, 40 meters high, which can be seen near the minerals quay.

The expansion programme 1971/ 1972 foresees the building of a permanent pumping station, link canals, and the extension of the distribution network to the western part of the zone, towards Port Saint-Louis.

—Well, that's the water. And what about power?

—At present it is supplied by neighbouring regional power stations while waiting for the large Electricity Board station to be put into operation.

Two major transformer stations one is already partially in use and the building of the second has been started—will supply those firms requiring power at 225,000, 63,000 and 20,000 volts. In the small industries zone, the Port itself finances a 20,000 volt distribution network which brings power to the limits of the individual plots.

-I believe the Port also plays a role in financing telecommunica-

tions?

—To be precise, in agreement with the Post Office Board PAM "prefinances" networks within the Fos zone. This arrangement will enable users to be branched on under the same conditions as for an urban area. This advantage is in addition to those offered by the Post Office: there is already a telephone exchange with 1,000 lines at Fos. A second exchange is in process of completion; in the meanwhile communications are ensured by a Hertzian wave system.

--Communications also include roads and railways.

—As for the railways, traffic is catered for. But what was temporary will become permanent at the completion of the 1971/1972 plan and according to lay-outs strictly adapted to demand.

Towards April 1972 both a line serving the mineral quay will come into operation, and the permanent linking-up of the network in the zone to the main railway lines to Miramas (2) and Port de Bouc (1) will be carried out. The main line is at present being doubled.

In the same way the work on the marshalling yard serving the zone will be sufficiently completed at the end of the year to receive material and plant intended for the building of factories.

And finally roads! From east to west, within the Fos Zone, a series of roadworks have been begun for the extension and the adaption of road communications: a dual carriageway deviation for the secondary n° 5 linking the two main roads Fos-Arles and Fos-Istres; a four lane coastal access road, clover-leaf and a series of dual carriageway roads skirting the ESSO refinery, the S.D.M. petrol depot and the iron and steelworks; the "iron and steelworks road" going straight north towards the Fos-Arles main road (RN 568) where a clover-leaf will lead the traffic to the small industries zone; "a lorry lane", running east to west, created between the "iron and steelworks road" and the ring road skirting the Air Liquide plant and Gas Board to the north; these latter will, moreover, have dual-carriage way access to the ring road; further west on this ring road a clover-leaf is being built which

will give direct entry and exit for the UGINEKUHLMANN plant. Finally, beyond the wet dock n° 2, the future container quay will be directly linked to the ringroad and to Port Saint-Louis by a dual carriageway access road.

This 71/72 programme includes a good number of works of art.

-But Fos is flat land!

-Nevertheless what with cloverleafs and passageways under or over railways, we are building in all at least ten bridges.

—There will be tons of material to move!

—To which must be added thousands of cubic metres of filling material made necessary—all at the same time—by banking up of the ground for the iron and steelworks and for the future Electricity Board.

I should like to make it clear that the whole work for 1971/72 is intended to supply the equipment necessary for those industries which have definitely decided to set up at Fos. It happens that, for technical reasons, they are relatively scattered throughout the zone. Thus the preliminary networks which are being put into place for them will in addition form the basis for the final network. This groundwork will, in fact, be enlarged, extended, ramified and enforced until the complete installation of the industrial zone of Fos is achieved.

1971/72 marks an important period in Mr. COULOMB's service.

The problems are not the same in Mr. CABANIOLS service. It might be said that they are more human—green spaces, living communities.

Creating and developing green spaces in the industrial zone of Fos could be considered something of a wager. This is the task that has nevertheless been undertaken, after perfecting a process for keeping sand in place, and choosing grass which will grow in it.

Two problems have been studied: the choice of position for these green spaces and the finding out of plants suitable for salty ground. (1)

Symbolically a magnificent tomato plant on Mr. CABANIOLS desk gives evidence of the diversity of such research. And a greater proof is the acre of nursery-land created at Fos in connection with the National Institute of Agronomic research, the National Forestry Commission, as well as the experimental plantations which are being tried out this autumn in two small arboretums. A larger arboretum (2 acres) is in preparation near the community setting.

—In fact, Mr. CABANIOLS said, as Mr. PECHERE has pointed out, the contents and the plan of the community setting are just being elaborated. One can estimate its importance in the centre of a vast zone totally given over to industrial activity. Given the extent of ZIF the area will certainly have to be broken up: a main living centre grouping all the usual facilities and several small secondary centres nearer to the potential user.

—Does the problem of the community setting include that of housing?

-No, workmen, managers and skilled workers will be housed with their families outside the industrial zone, in an area not exceeding twenty to thirty minutes' travelling time.

But in order to cater, as needed, for the thousands of workers who will work on the building sites, the Port, is co-operating with the industrialists concerned and various specialized organizations, and the association FOS-A.P.H.E.P. (Association for Temporary Lodging and Equipment). The A.P.H.E.P. is constructing a caravan site with 350 places which will be in use before the end of this year and two lodging house sites for single workmen. The temporary nature of these sites will in no way affect the quality of their equipment. The first lodging house site (1,500 beds) at La Fenouillere will be handed over in October 1971, and the first section of 500 beds for the second, built at Mas des Bannes, should be ready in December.

—Will everything be ready in time?

—It must be, assured us Mr. TRIFAUD, head of the "Fos Promotion" department. And Fos will be a success because it is competitive. In fact we are aware of this feeling of success as a result of the number of approaches that have already been made to us.

---Why do you say Fos is competitive?

A lot of people are interested: we must ask ourselves if it is a good

SITPRO—A General Account

John A. Raven, Director

SITPRO (Simplification of International Trade Procedures Board)

This account was released on February 2, 1972 in Tokyo at a meeting convened by Japan Committee for Standardization of External Trade Documentation.

1. SITPRO is the British international trade facilitation organization. Our purpose is to "facilitate" our international trading—both export and import. It is our experience that this can only be done effectively as part of a general international effort to free multi-lateral trading from all the extra complications and constraints which arise merely because two parties to a commercial transaction are based on different sides of a national frontier.

thing that all of them should set up there.

Fos is at one and the same time an industrial and port zone with all the advantage that represents. On the other hand Fos is at the heart of a vast region which must be industrially "vitalized"; diffusion rather than concentration must therefore be encouraged. PAM's policy is to attract the very important industries to Fos by granting them certain privileges, but this does not mean that they will occupy a major part of the land.

In actual fact, more or less half the industrial area is under contract. The other half could take firms occupying 12, 49 and 247 acres. Present perspectives are based on a reasonable filling-up of the area, covering each year between 247 and 494 acres. And this surface could, in addition be divided between one, two, five or ten firms.

There is no cause and effect link between the importance of a firm and the surface it actually occupies.

-How do you carry out this somewhat selective search for industrialists?

—We must keep in mind that Fos has an international reputation and will not only welcome French firms. Moreover the first contract signed was with I.C.I., the huge British chemical firm.

Many organizations are concerned in the promotion of Fos, from the D.A.T.A.R, up to the industrial commissary, Mr. SCHAPIRO. But, at our level, part of Fos' success is our responsibility. It is not enough just to "find" the customer, discussions must be held with him and a contract drawn up.

—Where, in fact, do you look for customers?

-Of course in countries likely to invest abroad, in France, that is to stay: firstly Germany, Switzerland, Belgium; secondly Sweden and Great Britain; and finally the United States and Japan.

With the eight million francs allocated by PAM for the promotion of Fos in the course of the VI plan we are, this year, prospecting in Germany and Switzerland. We envisage tackling the United States next year. Our work is concerned with general enquiries and research, with selection, and with the finding of those people whom we can most usefully approach.

And, moreover, when close contacts have been made and details of the contract are to be gone into, we have to make known all the aspects of the problem and help the possible investor as much as possible. In this field, something new is always available. For example, at the financial level, there is the recent setting-up of "GIFOS" which will launch the first "geographical" loan plan, thus both bringing financial help to industrialists and enabling regional savings banks to take an active part in the development of Fos.

—And finally, the future of the region.

2. Many of these difficulties are in fact outside the scope of SITPROvarying safety standards, complicated and infinitely varied labelling requirements for food and pharmaceuticals, marking goods with country of origin, varied and often incompatible legal systems, language barriers including different script systems and of course the complicated fiscal handicaps placed on imported goods at many national boundaries. Nevertheless, in practice, facilitation has come to mean very much the range of tasks performed by SITPRO. These concentrate upon the documentary and procedural problems of goods in transit. In essence every consignment passing in international trade has to be preceded or accompanied by an assembly of information which is essential for movement control, compliance with official regulations, financing and payment formalities and such associated services as insurance. This information reflects usages and procedures which have been worked out over the centuries out may be said largely to conform with the practice of the more sophisticated trading nations at about the turn of the century.

3. Because this information has been conveyed so far almost entirely by marks on paper, many early efforts at trade facilitation concentrated on the elimination of unnecessary documents. Apart from such enormities as consular documentation however, this can be a very unrewarding activity because most documents have emerged to meet commercial needs and in peace time the governments of most major trading countries try to minimise such unnecessary official forms as the CD6 Exchange Control document which was abolished at SITPRO's request last year. In general, documents are merely representations of necessary procedures and it is to the procedures that we need to address ourselves in order to secure radical rationalization.

4. Progress can be made by standardising both procedures and related documents. The aligned documentary series sponsored by the Economic Commission for Europe, provides a standard layout size and format for a number of essential documents in international trade,

such as the Bill of Lading, the Certificate of Origin, the Insurance Certificate, the Customs Entry, the Shipping Note where applicable, and by individual extension into firms' commercial systems such documents as acknowledgement of order and invoice. Similarly many agreements have been reached on international standardization of procedures for such trading problems as the international transit of road vehicles across a number of national frontiers —under the TIR Carnet system.

5. A tidying up job of this sort would have been a desirable activity in any event from, say, about 1945 onwards. More recently however, commercial and technological changes on a vast scale have produced an entirely different and more urgent set of pressures in international trade facilitation.

6. The volume of world trade has increased tremendously. The complexity of the items bought and sold. including a whole new range of synthetic materials, has greatly intensified and with it, of course, the load of detailed descriptive nomenclature which is an essential item of data in the consignment "information package." Furthermore, vast multi-national corporations have developed and these organizations no longer require the complicated, if prudent, safeguards which were built into traditional "arm's length" buying and selling transactions in the days of long voyages and associated hazards. ICI, Unilever or Philips for example, are more concerned with international transport than trade for much of their across frontier consignments, which are generally raw materials for processing or items for assembly, despatched from one undertaking to another within the same group.

7. Equally important and perhaps more urgent in its effects has been the growth of rapid through movement of unit loads, finding its extreme example in the standard container shipped from an inland assembly point in one country to an inland unloading point in another country. Such concentrated rapid flows of goods are reflected in immense concentrations of data. Because of the speed of movement of the goods the time available for processing this data is correspondingly telescoped, and while goods move all round the clock seven days a week, the office systems necessary to move the information now work on an eight hour, five day week basis. On a voyage to South Africa of say, twelve days, four days of office work have to be deducted and so this and even longer voyages are beginning to give rise to the sort of data congestion common in short sea movement.

8. Airfreight, of course, moves so fast that no paper documents can expect to arrive ahead of the goods and so open up the way for their orderly progress.

9. What we must organize, if goods are not to be slowed down to wait for their servicing data, is an orderly but rapid transfer of that data from paper documents to ADP systems employing all the resources of modern communication. This will involve a carefully regulated revolution at every point in the established pattern of Government and commercial international trade procedures.

10. Paper documents represent "slices" of assembled information and the procedures which give rise to them tend to "clot" round that particular packet of information. Once the data is taken off a paper document and fed into an ADP (automatic data processing) system individual items of information are liberated and the sequence in which they arrive in the system and are taken out again for use can be rearranged to fit closely to the contours of the physical movement of the goods and the order in which the necessary procedures of finance, customs formalities, movement control and so on naturally arise.

11. The total task of returning the present systems to the change from paper to ADP cannot be carried out in a sequence most convenient to SITPRO. The most urgent needs are imposing priority of treatment. Major sea ports, international airports, large scale container movements and jet airfreight traffic are forcing the pace in schemes to transfer data from paper to ADP, simply because it is at these points that the old system is under the most intense strain. The danger is that these intense pressures will force us to provide what turn out

eventually to be localized or sectional solutions because we have not had time or perhaps lack the mechanism to relate necessary urgent adjustments properly to longer term wider needs.

12. Among these wider needs already identified is the obvious advantage of liberating the great store of ADP investment already made in industry and Government throughout the world, so that it may be brought into play to operate in international trading and transport systems to replace paper documents. This is impossible until we have agreed on some common systems and operating elements-such as codes and message formats- which can be put into common use in the no-man's land between individual commercial transport and Government organizations, where at the moment no "common carrier" systems of communication are available. Many businessmen must be frustrated to find that their expensive internal managerial and operational systems are useless in international trade transactions-that in effect the use of their computers and associated hardware and software stops short at the factory gates. Of course, some small closed circuit inter-communicating systems can be built up between a manufacturer and one or two carriers or major overseas customers, but to develop these in isolation means that the associated investment may well have to be jettisoned on the emergence of a generally more acceptable and hence more economic system of wider application.

13. Against this background we can now state SITPRO's aims. We have already started on the rationalization and reform of conventional paper systems in so far as they concern UK exporters and importers. We are also taking an active part in associated international improvements including the extension of the ECE aligned documentary series.

14. We are servicing, promoting and guiding both national and international efforts to adapt the paper based systems to the large new strains put upon them by major changes in trading and transport practices. For the time being pending the development of ADP appli-

cations much of this extra stress has to be absorbed by new commercial and Governmental procedures reflected in new paper documents. An example is the SITPRO interest in the rapid development of an international convention on combined transport-the TCM--which seeks to define and give international legal status to the operations and responsibilities of the new functionary who has emerged from the container revolution-the combined transport operator who undertakes as a principal to transport a shipper's goods by a variety of means of transport from point of origin to point of destination, but who may not himself be in fact the owner or operator of any transport facilities. Finally SITPRO is taking a leading part in the international explorations, which are now acquiring great urgency, into the feasibility of working towards compatible, if not common international systems to move and process data transferred from paper to electronic communication and handling devices.

15. There is, of course, a very important national activity to be stimulated and co-ordinated in this field but the primary stress must be put on international work because we must begin in this area with possible international solutions, however crude, and then seek national acceptance of them. The alternative of perfecting national or sectional systems and later seeking accommodation and standardization would produce the most apalling dilemmas of investment sacrifice in which inferior solutions might well be advanced merely because so much money or prestige had already been invested in them that abandonment would be impossible.

16. A complication for SITPRO, particularly in its international ADP work, is that no effective international mechanism for discussion and agreement exists which can be regarded as wholly or even mainly dedicated to international trade facilitation. Various parts of the paper system have been modified, patched up or adjusted for many years to meet developing changes in transport and trading habits. Innumerable international organizations and national trade associations and consultative bodies have had specialist sub-committees occupied on some aspect or another of this work. Only in the United States, Great Britain and more recently Belgium and possibly Canada, is there any national central body to take even a national view of the trade facilitation problem.

There is no international SITPRO, nor because of extremely rapid changes in the circumstances in which we are operating and the great lack of national facilitation bodies, would it be reasonable or useful to erect some new specific international body. Instead SITPRO is working internationally as in the UK through a system of encouragement and co-operation embracing all interested organizations. Internationally we have indentified the ECE and ICC as the two existing organizations which could together co-ordinate Governmental and commercial progress and behind these we have a number of sectional international bodies-IATA, FIATA, ICHCA, and UNCTAD for example, which can all be orchestrated in such a way as to carry on their specialist facilitation work within an agreed system of priorities and coordination. Nationally in the UK SITPRO has been most fortunate in enjoying the support of a large number of organizations, including Chambers of Commerce.

Port of Los Angeles Checking Fish Cannery Waste

Los Angeles, January 12: — The Los Angeles Harbor Department today (Wed., Jan. 12) presented a plan to handle waste discharges from Terminal Island fish canneries that will prevent possible pollution of Port waters in Fish Harbor far in advance of any corrective schedule previously considered feasible.

The proposal, presented by Chief Harbor Engineer L. L. Whiteneck, was developed after consultation with cannery operators and officials of Los Angeles' Board of Public Works. It was announced at a public hearing held today in Los Angeles by the State's Regional Water Quality Control Board.

Water quality within the Port of Los Angeles has been vastly improved in recent years as a result of concerted efforts, led by the Regional Water Quality Control Board, and with the cooperation of the Harbor Department, spear-headed by Harbor Commissioner Frank C. Sullivan, by industries outside Harbor Department jurisdiction which release effluents that flow into Port waters, and by other concerned governmental agencies.

"The cooperation given by everyone, and the expenditure of a great deal of money by industry to improve the quality of their discharges into the Harbor have made the Port of Los Angeles perhaps the cleanest commercial harbor in the world," Sullivan said. "Fish not seen here for 20 years have returned, and plant life is flourishing."

"We also owe the general public a vote of thanks," he added, "for their cooperation in helping keep their publicly-owned port clean."

In view of standards set by the local Water Quality Control Board and the Federal Environmental Protection Agency, Whiteneck pointed out that a remaining and serious

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problem involves the release of possible contaminants from the fish canneries. Last October, the quality of the receiving waters in the Port's Outer Harbor suddenly became substandard, and emergency measures were immediately taken to correct the situation and the condition was soon restored to normal again. Inspection and monitoring control programs have been implemented to insure that such a substandard condition will not occur again.

However, a reliable long-range solution to the problem is diverting the canneries' waste into the City's Terminal Island Sewerage Treatment Plant. But officials pointed out that the plant's capacity to accept and treat such an additional volume would not be adequate until planned expansion of the facility is completed in mid-74.

At the same time, the Regional Water Quality Control Board has proposed a cease and desist order which could require the Harbor Department to shut down its pumps which direct cannery waste into the Outer Harbor and thus, in effect, close down the canneries themselves. The Regional Board's proposed cease and desist order, however, authorizes time for further study and plant modifications to solve these problems.

Whiteneck announced that the Harbor Department's \$7 million program to expand its own sewer system to accommodate all present and future sewer and industrial waste discharge at the Port and deliver them to the City's sewerage treatment plant will be completed by next January.

Simultaneously, he said, the canneries are coordinating plans for necessary in-house pre-treatment of their industrial waste. Considerable funds are being invested by them to install new equipment and to implement the new program. The result will be, according to testimony presented by cannery representatives at today's hearing, a reduction in waste discharge from 25 million gallons a day to a pre-treated and upgraded 2.5 million gallons, spread over a 24-hour period, rather than being released in concentrated amounts in eight to ten hours, as previously done. All this will be accomplished, it was pointed out, by July 1973.

The Harbor's chief engineer also said that, at the request of the Harbor Commission, the City's Board of Public Works is revising its schedule for receiving additional industrial waste into the sewerage treatment plant in order to accept the reduced outfall from the canneries then (July 1973)—nearly a full year ahead of the time total expansion of the plant is completed.

When that is finally done by mid-1974, Whiteneck said, the City and the Harbor Department will be complying with the most stringent requirements imposed by the Federal Environmental Protection Agency and the Regional Board for municipal waste discharges into the ocean.

Summarizing his proposal following his public testimony, Whiteneck said the cooperative program offered by the Harbor Department, the Board of Public Works and the fish canneries provides that: 1) the Harbor Department's sewer system will be ready for cannery waste by January 1973; 2) the canneries will have reduced the volume and improved the quality of their waste for delivery into the system by July 1973; and 3) the sewerage treatment plant will be ready at that time to accommodate this new load.

"This is a full year ahead of the original schedule for the disposition of cannery waste to the treatment plant," Whiteneck pointed out.

Sullivan said the plan makes possible the solution of the most serious threat of further pollution of Harbor waters.

"With its adoption, and final expansion of the sewerage treatment plant by the Board of Public Works," he added, "Los Angeles Harbor most certainly will maintain its position as one of the world's cheanest harbors, and its leadership as a major center for international trade."

More on Pollution Control at Port of Los Angeles

February 3:—Patrol officers at the Port of Los Angeles doubled their efforts in policing possible pollution during the past fiscal year, according to a recent report by Capt. Lionel H. deSanty, port warden.

He said his men devoted over 7,200 man-hours to direct regulatory control, and more than 100 hours in surveillance from the air.

"Of the 321 investigations of possible pollution and 175 reports filed, 81 actual cases of pollution were found," he said. "While some of these were equipment failures—not considered negligence on the part of responsible parties—complaints were filed on 36 cases, 34 of which resulted in substantial fines for violators."

In comparing the 81 actual cases of pollution against 97 last year, de-Santy said, "We like to think that our increased efforts are paying off. Many of the man-hours spent on pollution control are of a public education nature, that is, talking and consulting with harbor tenants and other users of our Port about problems that could cause pollution."

The port warden added that most cases of pollution at the harbor are oil spills, either from ships or from landside, during petroleum transfer operations. Other harbor industries, such as those using and returning sea water, have pollution problems from time to time.

In addition to its stepped-up pollution control activities—part of the Los Angeles Harbor Commission's all-out campaign against water pollution—the port warden's division of the Harbor Department carried out other safety and security duties as recorded in the report:

Assistance was given to 163 small craft in various degrees of peril, including a number of life-saving rescues of boats adrift or otherwise out of control.

The patrol issued warnings to 340 small craft operators and cited 26 of them for on-the-water traffic violations. It also distributed, in person, over 2,000 safe boating pamphlets to boat owners at the harbor.

In its many security oriented activities the 44-man harbor patrol inspected over 1,000 oil tankers and 2,071 "hot work" sites—places on Harbor Department property or ships where torch welding or cutting was being done under permit. Dangerous cargo inspections totaled 892 and 444 hazards to navigation were removed from harbor waters.

Other duties carried out by the division were in the areas of facilities inspection—warehouses, transit sheds, wharves—investigations, traffic accidents and fires, vehicle parking and traffic control, boats recovered and vessels escorted, and other security measures.

February 16:—The Harbor Department today (February 16) was authorized by the Board of Harbor Comissioners to negotiate for a study of water circulation and related water quality problems by the University of Southern California. Cost of the study is not to exceed \$27,000.

The study will provide basic information on discharge systems into the harbor, and future dredge and fill operations, as well as data on water circulation in certain channels and slips which has not been available previously.

Although the U.S. Army Corps of Engineers has monitoring equipment installed in the harbor for a pending model study, specific data is not now available from that source. The proposed study will complement rather than substitute for the Army Engineers' work.

In phase one of the two-phased study, four boats will be deployed simultaneously to track about a dozen drogues (sea anchors) in order to chart water movement at various depths. After the 24-hour test, USC personnel will compile data and report to the Harbor Commission.

The drogue studies are considered superior to dye markers and drift cards which are subject to action by the wind and the wakes of passing vessels.

Phase two of the study includes current meter studies for measuring longer term patterns of flow than are shown by the preliminary drogue studies.

Zohrab A. Kaprielian, vice president in charge of academic planning and research at USC, who made the proposal to the Harbor Commission, stated that the testing will be carried out under the supervision of Ronald Kolpach, Ph. D., and his team of environmental geologists from the university.

February 16:—A water quality status report and recommendation to "expedite in every way possible" the expansion of the present Terminal Island primary sewer treatment plant at the Port of Los Angeles was approved today (February 16) by the Los Angeles Board of Harbor Commissioners for forwarding to the City Council.

The report, submitted by Harbor Chief Engineer L. L. Whiteneck, and called for after a January meeting of the Council's Public Health, Welfare and Environment Committee and harbor officials, said the Harbor Department "has effected a substantial increase in the quality of harbor water and has equalled or surpassed the water quality objective . . . (of the California State Regional Water Quality Control Board) . . . in virtually all areas of the harbor."

Those objectives, which included the return to harbor waters of a dissolved oxygen content of at least five parts per million, have been met by cooperation on the part of the Water Quality Control Board, other local government agencies, and industries located on or using the Dominguez Channel for discharge of industrial wastes.

Charts accompanying the report show that dissolved oxygen content of the water in four major monitoring areas of the harbor reached the required minimum late in 1969 and have, in some cases since, exceeded the five parts per million, rising substantially above the minimum at times.

An area still requiring improvement—and capital investment—is the Fish Harbor area, according to

Port Managers Must Snap Out of Beaten Track

News Release of The Auckland Harbour Board New Zealand

Present organization of ports and their stereotyped forms of management and financing may inhibit, or even halt, the growth necessary in the maritime industry, says the General Manager of the Auckland Harbour Board, Mr. R. T. Lorimer.

"We in the port industry must recognize that serious adjustments may well be required if we are to successfully meet the challenges of change that lie ahead," he said.

In a paper presented to the 1971 Annual Conference of the New Zealand Division of the Chartered Institute of Transport, Mr. Lorimer said Port Boards and their management must be prepared to change their attitudes and approach.

This was the essential requirement

the report. Discharge into harbor waters from fish canning operations is not ultimately acceptable to the Water Quality Control Board and recently resulted in an order from the Board to the City of Los Angeles and the Harbor Department to cease and desist such discharge by 1974.

Efforts to eliminate the problem include plans for a Harbor Department funded sewer collection system, installed and maintained by the Department of Public Works, in-plant monitoring of cannery discharges, and eventual modification of the City's Terminal Island sewer treatment plant to receive all industrial wastes, including that from the canneries.

It is to encourage the removal of this pollution problem in Fish Harbor that the chief harbor engineer's report recommends the expediting of the treatment plant expansion to include adequate capacity and at least secondary treatment of all domestic waste originating within the harbor area. to carry out major developments to meet the fast-changing needs of the maritime industry, he said.

"Priorities must be recognized and if necessary re-evaluated so that New Zealand is able to formulate a national port development plan that best suits its trading patterns and domestic requirements.

"The modern port must be prepared to see more of the national horizon and not just that local area in which it aspires to be the leading local body.

"Instead, the modern port must be prepared to reorganize itself and adapt its policies so that there is greater regional and national coordination, and to ensure that its development programmes are not contradictory to those of agencies charged with the expansion and construction of our inland communications and in other forms of transport."

Mr. Lorimer said New Zealand must be prepared to accept a situation which would place its port development under broad transportation and economic control. The New Zealand Ports Authority Act was conceived for this purpose, he said, "but whether its somewhat diluted powers will let it achieve its original objectives remains to be seen."

The maritime industry also had to face the "hard fact" that ports were considered heavy industry, and for many environmentalists were high on the list of the most undesirable features of our coastal waters and cities.

"It may not be long before the port industry will have to drop the protection of "commercial' benefit to an area, said Mr. Lorimer.

"Modern port management must have prepared and be armed with imaginative programmes which will prevent all types of pollution both of water and air. All industries are now being forced to adjust to these new conditions and ports must keep pace."

The pressure of harbour foreshore space had mounted dramatically over the past 20 years and was certain to increase. As the uses of foreshores increased, management had a responsibility for their well-planned development.

As well as ensuring, with the collaboration of the Government, that existing harbour controls were extended, port organization had to be expanded to take in the use of coastal areas where super-tankers and massive bulk-carriers were loading and discharging cargos through off-shore mooring systems.

"While deep-water access for the dimensions of some of these ships may be essential to the future competitiveness of New Zealand's industry and its economy, off-shore activities must be controlled and the areas in which these operations are to be conducted should be reserved for the purpose, Mr. Lorimer said.

"Here is a clear case for the establishment of a coastal zone authority and the extension of port jurisdiction as an agency of the State to manage coastal affairs effectively and to resolve problems of competing uses.

"Port management traditionally trained in engineering, finance and operations must familiarize itself with many aspects of ecology—it can and will benefit from close collaboration with the academic world.

"From this we may see emerge the understanding, guidelines and better 'know-how' of how best to cope with the changes which must occur in our harbours and along our coastline."



PORTS and HARBORS

In 1876 the Government of Victoria in its wisdom vested exclusive management of the Port of Melbourne in a Board of Commissioners, and this mandate has since proved a most fortuitous one.

Under Section 47 of the Melbourne Harbor Trust Act which reads as follows: "exclusive management and control of the port, shipping, light ships, buoys, beacons, moorings, wharf dock, piers, jetties, ferries, landing stages, ships or platforms, light houses and the preservation and improvement of the port generally are hereby declared to be vested in the Commissioners and shall not be interfered with by any person whatsoever".

Although sections of the port about several municipalities the Act specifically provides that "all lands vested in the Commissioners . . . shall be deemed to be severed from the corporation of the City of Melbourne or from any municipal district in which such lands are located."

Since the port area is excised from the surrounding municipal districts, the Melbourne Harbor Trust assumes many of the responsibilities mainly associated with a municipal council.

The Commissioners of the Port of Melbourne have been granted a considerable degree of financial autonomy in the day to day affairs of the port, and have since 1877 used these very wide powers wisely and well.

Parallel functions are carried by municipalities and the Melbourne Harbor Trust in regard to activities such as road making, footpaths, kerbs and gutters, street cleaning, rubbish and garbage clearance, lighting, traffic control, warning and control signs and notices, road reflectors, parking areas, public conveniences, gardens and telephones.

However, because of its specialized function, a Port Authority such as the Melbourne Harbor Trust has added responsibilities which include laying of buoys throughout the entire port area, dredging and maintenance of all channels and docks under its control, providing amenities for port workers (such as changing rooms, hot and cold showers, dining rooms and cafeterias), security compound fences, mobile first aid service, security check points, pollution prevention and an emergency fire service.

Melbourne by any standard is a clean port. A fleet of modern road cleansing vehicles make daily sweeps of the 12 miles of wharves and roads within the port area, while garbage collection vehicles make daily calls on every ship in port all the year round. Every cargo shed in the port is kept painted and swept and all amenity blocks whether it be for port workers or visitors and passengers at Station Pier are kept in immaculate condition by a large work force employed by the Commissioners.

Though the extra services are provided by the Commissioners and are accepted as a matter of course by port workers and the public alike, its unique feature is that "rates" are not levied by the Trust.

Another important factor, seldom if ever taken into consideration when the mechanics of day to day port operations are viewed by the laymen is its "population" which and very often does fluctuate between a normal 10,000 a day to more than 20,000 but irrespective of numbers, the Commissioners are expected to provide facilities that must be able to handle any contingency that could arise.

The every day users of the facilities of the Port of Melbourne are workers who earn their living directly through the port and these include waterside workers, transport workers, employees of shipping companies, port construction and maintenance workers as well as a floating population of ships' crews and ships' passengers.

In addition tens of thousands of people who use Station Pier, the port's four berth passenger ship terminal, whenever a liner arrives in port, places an enormous burden on the amenities that have been provided for the use of this floating population.

Since being accorded the right to "govern" the Port of Melbourne, the Commissioners have poured millions of dollars into construction projects. Each and every one of these works from road making to dredging to amenities blocks to new specialized container and roll-on roll-off lift-on lift-off berths have all been undertaken with only one objective —to improve and further improve existing facilities to the highest standards demanded by the ships that have called here in the past 94 years.

Currently, capital value of the Port is in the vicinity of \$100,000,-000.

As the principal gateway to the prosperous State of Victoria, it is essential and vital that the Port which handled more than 14 million tons of cargo in 1970, be equipped with the latest mechanical equipment that can be obtained, so that turn-around time for ships can be speeded up and the two way flow of urgently needed goods be transported to and from ships side as rapidly as possible.

The well being and livelihood of nearly every one of the 3.5 million people in Victoria are either directly or indirectly dependent on the Port of Melbourne functioning as efficiently as possible, and the Commissioners are very aware of this great responsibility.

"Prosperity through Service" is the motto which appears at the bottom of the coat of Arms of the Melbourne Harbor Trust, and the present members of the Board, like their predecessors are determined to continue to provide services and amenities that will continue to benefit not only today's generation of Victorians but also their progeny

Credit must be given to the Government of Victoria in allowing the Port of Melbourne to operate as a semi-government authority with a large degree of autonomy.

The prosperity of the port has for many years been recognized as an important indicator of the economy of the State of Victoria, and the franchise, first granted to the Commissioners of the Trust 94 years ago has proved an unqualified success.

New Orleans Pictorial

(Pages 28 and 29, Courtesy Port of New Orleans)



The Mississippi River flowing through the City of New Orleans, seen upstream. Just above the bend, a little way down from the Greater New Orleans Bridge, is seen the International Trade Mart building.



Another bird's eye view of New Orleans, seen downstream. The International Trade Mart building is seen on the left bank.



A closer look at central New Orleans skyline.



International Trade Mart, foreground, and the Rivergate, with its wavy roof lines.

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Orbiter Probe

ney, Chairman of Legal Counselors (Port Attorney, Port of Oakland). Discussions centered around U.S. Dollar devaluation, membership dues structure, etc.

IAPH News:

New Members

- Regular Members approved on January 1, 1972
 - Panama Canal Company Box "M", Balboa Heights, Canal Zone (Capt. Axton T. Jones, USN
 - (Ret.), Director, Transportation and Terminals Bureau)
 - Hamersley Iron Pty. Limited P.O. Box 21, Dampier, Western Australia 6713 (Capt. D. W. Nielsen, Manager—Marine)
 - Rajang Port Authority Sibu, Sarawak, Malaysia
 (Mr. Andrew Chan Nam Wah, General Manager)
 - 4. Marlborough Harbour Board P.O. Box 84, Picton, New Zealand
 - (Mr. W. B. Parker, J.P., Chairman)

Executive Committee Meeting

The IAPH Executive Committee Meeting is scheduled to be held May 2 through 5 in Lisbon, Portugal (in accordance with Article III, Sec. 16 of IAPH By-Laws), where particulars of the forthcoming 8th IAPH Conference in Amsterdam-Rotterdam will be discussed. The occasion has the blessing of Eng. Pedro Nunes, President of Administracao-Geral do Porto de Lisboa, who will host the party in Lisbon.

As a preliminary to the above, a meeting was held at Kahala Hilton Hotel, Honolulu on January 29 by Mr. A. Lyle King, IAPH President (Director of Marine Terminals, Port of New York Authority) with Secretary General Mr. Toru Akiyama, Mr. Bernard J. Caughlin, Chairman of Ways and Means Committee (General Manager, Port of Los Angeles) and Mr. J. Kerwin Roo-

Amendment of the IAPH Membership Directory 1972

p. 54.	Nigeria : Director : Mr. R. O. Ajayi, Controller of Operations						
	Nigerian Ports Authority						
	Alternate Director:						
50	Mr. B. M. Tukur, Port Manager, Lagos						
p. 58.	People's Democratic Rep. of Yemen (Aden)						
50	instead of People's Rep. of Southern Yemen						
p. 59.	Tanzania : Alternate Director :						
	Mr. P. C. Bakilana, Corporation Secretary						
60	East African Harbours Corporation						
p. 60.	Uganda : Director : Mr. E. N. Bisamunyu, Director General						
<u></u>	East African Harbours Corporation						
p. 61.	Alternate Director: Mr. J. E. Abura						
p. 69.	Committee on Containerization (addition)						
	Mr. Edward S. Reed, Executive Port Director						
	Port of New Orleans						
	P. O. Box 60046, New Orleans						
00	Louisiana 70160, U.S.A.						
p. 90.	Autoridad Portuaria de Guayaquil						
100	Gerente General: Contralmirante Luis Gomez Cevallos						
p. 103.	Port of Long Beach—3 units (instead of 1 unit)						
p. 106.	Port of Los Angeles						
	Commissioners: delete Mr. Robert A. Day and						
	add Mr. John Y. Chu						
p. 144	Australian Coastal Shipping Commission (A.N.L.)						
	Official Representative: Mr. R. D. Robin, General Manager						
107	(delete Sir John Williams, C.M.G., O.B.E., Chairman)						
p. 197.	Saban Ports Authority						
	Dente under Administration : add Labed Datu and Kudat						
- 204	Ports under Administration; auf Lanad Datu and Kudat						
p. 204.	Mr. L.A. McDheil Concred Manager (delete Mr. A. I. Sourden)						
- 914	DEODI E'S DEMOCRATIC DED OF VEMEN (delete SOLITHERN)						
p. 214.	Part Autonome de Marreille						
p. 220.	(74,000,000,tops)						
	Telev: 42,746 PORTALITO-MARSI						
n 939	Chang Cargo Handling Co. Ltd						
p. 252.	Directors · 1 Mr B A Mensah (Chairman)						
	2 Brig Alex A Crabbe (Managing Director)						
	2. Drig. Alex A. Grabbe (Wallaging Director) 3. Mr. I.N.K. Wughu, I.I. R						
	4 Mr N B A b b b c b c c c c c						
	T, MI, M. D. ADUDOM General Manager Mr. W.G. N. Debrah, M.C.I.T.						
n 920	City of Rotterdam Rotterdam Municipal Port Management_5 units						
p. 253.	P O Box 5211 Rotterdam (225 790 000 tops)						
n 940	Office Phone: (010) 049133						
p. 240.	Harbourmaster Mr. H. I. Brandenburg (delete Mr. H. I. Verhoeff)						
	Personnel Dent · Mr. I. A de Ruyter (instead of de Ruijfer)						
n 255	Fast African Harbours Corporation						
p. 200.	Official Representative Mr. F. N. Bisamunyu Director General						
	(delete Mr. George Ellam Wekesa)						
	(detete mit George Linam Henesa)						

Ways & Means Committee

A meeting of the Ways and Means Committee is to be held in Barcelona, Spain, on April 27 and 28 under the hostship of Mr. Aurelio Gonzales Isla, General Manager, Junta del Puerto de Barcelona, it was announced by the Committee Chairman Mr. Bernard J. Caughlin (General Manager, Port of Los Angeles).

Mr. Caughlin, after the meeting, will proceed to Lisbon to report on his committee's findings at the Executive Committee Meeting to be held there.

Statement by Mr. Ben E. Nutter

Chairman, IAPH Committee on Containerization (Executive Director, Port of Oakland, Calif., U.S.A.)

As previously announced, one of the functions of the IAPH Committee on Containerization is to coordinate publication of bibliographies on containerization. The initial effort was to publish all known publications on containerization, which was accomplished in June of 1971. Following this initial publication, it was our hope that members of IAPH learning of any new publications on containerization, would send this information directly to "Ports and Harbors" magazine for publication.

When new publications on containerization come to your attention please send the name of the publication, where it can be obtained, cost, language of publication, and any other pertinent details. The Containerization Committee appreciates your cooperation so there can be a continuing benefit to all readers of "Ports and Harbors" magazine.

Bibliography of Publications on Containerization

Received from Port of Oakland on January 25, 1972 since the first collection was published in the appendix pages 59–64 of the June 1971 issue of this magazine—Kimiko Takeda.

Books

Containerization International Yearbook 1972

The Book Distribution Manager,

Containerization International 680 Garrett Lane, London, S.W. 17, England Year—1972 Pages—264 Price—United Kingdom £5; United States \$13.00 Language—English

Container Shipping Register 1971

Shipping Consultants A/S, Fr. Nansens Plass 6, Oslo, Norway
Year—1971
Pages—296
Price—\$25.00
Language—English

The Economics of Containerization

Johnson, K. M. & Garnett, H. C. George Allen and Unwin, Ltd., London, England Year—1971 Pages—216 Price—£3.75 Language—English

Golden Gate Atlas-1971

Marine Exchange of the San Francisco Bay Region, 303 World Trade Center, San Francisco, California 94111 USA Year—1971 Price—\$5.00

Language—English

Pamphlets, Papers and Reports

Report of the Study Group on Legal Aspects of Intermodal Transportation

National Academy of Sciences, National Research Council

2101 Constitution Avenue, N.W. Washington, D.C. 20418

Year—1971

Pages—186

Price-\$4.75

Language-English

The Study of Container Interchange and Pooling Arrangements

- National Technical Information Service
- 5285 Port Royal Road, Springfield, Virginia 22151

Year-1970

Pages-197

Price—\$3.00

Language—English

The Study of Container Interchange and Pooling Facilities in United States Export—Import Traffic National Technical Information Service 5285 Port Royal Road, Springfield, Virginia 22151 Year—May 1971 Pages—131 Price—\$13.00 Language—English

Periodicals

Seatrade Fairfax House Colchester, Essex, England Published monthly Annual subscription: £8.50 United Kingdom; \$38.00, Middle East; \$54.00 Japan, Australia; \$34.00 Europe; \$48.00 U.S.A.; Latin America, Asia, Africa. Prices for all but United Kingdom stated in United States dollars and include airmail postage. United Kingdom price stated in sterling and includes first-class postage.

Port of Seattle Party

A reception was held Wednesday, February 16 from 5:30 p.m. by the Port of Seattle Commission at the Gyokutei Room, Hotel Okura, Tokyo. At the receiving line were Mr. J. Knox Woodruff, president of Port of Seattle Commission; Mr. Henry T. Simonson, president of Washington State International Trade Fair; Mr. J. Eldon Opheim, general manager, Port of Seattle; Mr. Glen Carter, maritime editor of The Seattle Times; Mr. Robert O. Edwards, director of Trade Development Dept., Port of Seattle, and Mr. Kazuhiko Asakura, Far East regional manager, Port of Seattle.

I. A. E. A.

Vienna:—A symposium on the Maritime Carriage of Nuclear Materials, jointly organized by the International Atomic Energy Agency and the European Nuclear Energy Agency with the collaboration of Foratom, will be held in Stockholm from 18 to 22 June 1972 on the invitation of the Swedish Government. (I.A.E.A.)

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Shinagaw	a F	Mar., 1965	-10	190	7,122	Shinagawa C	Dec., 1965	-10	30	30	8,443
G	G	Dec., 1965	"		6,634	D	Dec., 1965		539	37.5	11,089
						E	Dec., 1965	"	"		
Land-lot						Ohi No. 1	Apr., 1973	-12	250	37.5	5,000
No. 131		Oct., 1972	"	200	5,600	No. 2	(shcduled)				
		(sched.)				No. 2	Oct., 1972	"	"	"	
	-2	Oct., 1972			"	No. 3	Oct., 1973	"		"	.,
	-3	Jan., 1973	"		"	No. 4	Dec., 1971	."	300		6,000
	-4	Jan., 1973	"	"	"	No, 5	Oct., 1971	"	"	"	
No.	-5	Oct., 1973	"			No. 6	Apr., 1973		"	"	
	6	Oct., 1973			"	No. 7	Apr., 1974	"	"	"	
	7	Apr., 1974	"	"	"	No. 8	Aug., 1973		250	"	5,000
	-8	Apr., 1974	"	••		No. 13-1	Apr., 1974		300	"	6,000
	-9	Apr., 1975		"	"	—2, Sche	d. for '74 or late	r "			
Many	other	facilities are also availa	ble.			-3	"	"	.,	"	

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NPC Book:

Effect of Port Charges on Port Traffic

National Ports Council

London

Ports will not necessarily lose traffic if they increase their revenue by raising charges in order to maintain a proper return on their invested capital.

'At the end of the day, it is what the user gets for his money that matters', Mr. Philip Chappell, chairman of the National Ports Council, said today. 'The quality of the service which a port offers is the key factor when a user makes his choice of port. Of course charges levels do matter, but they are not always a deciding factor'.

Mr. Chappell was commenting on the report, published today, of a study carried out for the Council by Professor M. H. Peston and Mr. R. Rees, of Queen Mary College, London University.* The Council asked Professor Peston to analyse the problems of measuring the relationship between cost and demand for port facilities.

'The report does not come up with any ready-made solutions—nor did we expect that it would', said Mr. Chappell. 'Professor Peston was asked to carry out an initial feasibility study, and the report demonstrates both the value of a background theoretical study and the remarkable shortage of real factual information. It does show, quite clearly, the complexity of the factors which influence any decision to use a particular port, and that charges levels are only one of many factors involved.

'For instance', he added, 'if a port

is able to turn a ship round in half the time of its competitors, thus increasing the productivity of the vessel, the shipowner should undoubtedly be prepared to pay more for this service since, in spite of the higher port charges, he would benefit on his total operation'.

In his report Professor Peston lists the costs which a port user must take into account in addition to port charges. These are: transport costs to the port (including foreign port charges); transport costs through the port; loading and unloading charges; storage charges; wastage of the commodity in question; interest on the capital tied up in the commodity in question; interest on the capital tied up in the commodity during the time interval from origin to destination; insurance; agents' charges and managerial cost; and costs incurred by the shipping line, including waiting time and costs associated with the rate of turn-round. Reliability is another important factor.

Professor Peston points out that a different answer may be obtained in respect of each commodity studied, and a total study covering all commodities would have to be extremely large; he recommends that any demand study undertaken should be confined to a few ports and a few commodities passing over routes on which several ports compete. The commodities and ports should be chosen to ensure as broad an applicability as possible of the results of the study.

Professor Peston's subject has great relevance for ports working out their marketing strategies, and for ports contemplating new investment, to provide expensive facilities for modern capital intensive techniques like the shipment of containers.

'Ports must relate the scale of facilities provided to the willingness of the user to pay for them', said Mr. Chappell. 'This applies with particular force to new commonuser facilities where it is not possible to obtain guarantees in advance; there must be a clear distinction between the return required from such type of risk investment and those cases where users have firmly guaranteed traffics and/or revenues for the life of the asset. Professor Peston's paper is a useful contribution towards the whole study of risk analysis for investment in the industry'.

Mr. Chappell said the Council were publishing Professor Peston's report as a discussion document, and they would welcome constructive comments from people both inside and outside the ports industry.

'We also feel that Professor Peston's work will be of interest to others working in his field', Mr. Chappell added. 'It is the first such study ever attempted in the ports industry. It breaks completely new ground, and puts forward some very interesting ideas. In particular, it lays stress on the difficulties of identifying the decision makers in this field and on the need for ports to carry their marketing to all users of the transport system. The Council intends to continue analysis in this field and, initially, to pin such studies on to a limited range of practical examples'.

5th January 1972.

Port Manager

Montreal, February 4:—Mr. Jean-Marie Chabot, Chairman, on behalf of the Port of Montreal Authority and the Minister of Transport, the Honourable Don C. Jamieson, is pleased to announce the appointment of Mr. Nicholas Beshwaty as Port Manager. "The continuity of management which will be retained in the Port of Montreal through our new Port Manager will be a valuable asset in this period of reorganization and decentralization of port operations in Canada, while at the same

^{*} Port Costs and the Demand for Port Facilities. Published by the National Ports Council, 17, North Audley Street, London W1Y 1WE. Price £5.00.



Mr. Nicholas Beshwaty

time previding the port with dynamic and progressive leadership", commented Mr. Chabot.

Mr. Nicholas Beshwaty, a fluently bilingual Montrealer was born on February 19, 1921 and received his early education in Montreal.

He enlisted in the RCAF directly from Business College and served from June 1942 to May 1946, with active service Overseas from 1945 to 1946.

After his release from active service he immediately joined the National Harbours Board as a Clerk Stenographer in the Railway Department. He has served in almost every area of the Board in the Port of Montreal and prior to his appointment as Acting Port Manager on November 10, 1971, he was Executive Assistant to the Port Manager.

Mr. Beshwaty has gained a well deserved reputation as an extremely competent negotiator and diplomat particularly in relation to the early years of contract negotiations with the CNTU.

He is married and the father of a married son and two daughters.

Mr. Chabot indicated also that Mr. Beshwaty's appointment has been ratified with their personal congratulations by National Harbours Board Members Messrs. Taylor, Beaudet and Rathie at their regular February Meeting presently being held in Vancouver. (N.H.B. Montreal Harbour News Release)

1972 Navigation

Ottawa, February 17, 1972:—The St. Lawrence Seaway Authority said today the Seaway will be opened for the 1972 navigation season at Montreal on April 1 weather and ice conditions permitting.

The Welland Canal will open for the season on March 29 and the Canadian canal and lock at Sault Ste. Marie, Ontario, on April 10.

Noting that ice frequently plays a part in determining the actual opening date, the Seaway Authority reported that the ice cover throughout the system in mid-February is about 30 per cent less than at the same time last year.

Closing dates on the three sections were set officially by the Authority as December 15 on both the Montreal-Lake Ontario section and the Welland Canal and December 12 for the Canadian Sault Ste. Marie Canal.

The Montreal-Lake Ontario section may be kept open past the official date depending on weather conditions and traffic requirements. But the December 15 closing for the Welland will not be extended because of the critical timing involved in completing the \$188.3 million Welland By-Pass channel scheduled to open with the 1973 navigation season. (The St. Lawrence Seaway Authority)

Canadian Licensee

Alameda, Calif., February 3:-Dominion Bridge Company Limited has been licensed by PACECO, a Division of Fruehauf Corporation, Alameda, California to manufacture and market Paceco's line of container handling equipment in Canada.

Headquartered in Montreal, Dominion Bridge has fabricating plants in fourteen Canadian locations, which will facilitate the manufacture of huge Paceco equipment in the area in which it is to be installed.

Products include Paceco Portainers, large ship unloading cranes, such as those already in operation for the Canadian Pacific Railroad, at St. Johns, New Brunswick and Quebec. Also included are the Paceco Transtainers, terminal cranes, such as those already in operation for the Canadian National Railway at Toronto and the Canadian Pacific



Paceco Portainer at Canadian Pacific Terminal in Quebec.

Railway at Quebec.

3 New Cargo Records

Baltimore, Md., February 24:-Three new monthly cargo records, in total tonnage, container tonnage and automobile imports, were set at Dundalk Marine Terminal during January 1972, the Maryland Port Administration announced today.

Container tonnage for the first month of the new year was 112,645 short tons, an increase of 12,291 tons over the previous record of 101,-354 set in April 1971. Total tonnage for all cargo for January 1972, which includes the container figures, registered a new high of 233,120 tons. The previous high was 226,288 tons established in September 1971.

In addition, a new record of 39,-275 automobiles were imported through the Dundalk terminal in January, bettering the old record of 37,018 set in April 1971.

The 550-acre Dundalk Marine Terminal, owned and operated by the Maryland Port Administration, is the largest general cargo terminal in the port of Baltimore. (News from Maryland Port Administration)

460 Norwegian Ships

Houston, Texas (Special):---Norway again led all foreign nations in the number of vessels entering the Port of Houston in 1971 with a (Continued on Page 39)

initiated on Fuge co)



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(Continued from Page 36)

total of 460 ships, followed by Liberia with 404, West Germany with 253, the United Kingdom with 217 and Greece with 213.

Other foreign flag leaders were The Netherlands with 155 ships, Japan with 153, Panama with 144, Sweden with 95 and Denmark with 74.

In all, 4,035 vessels entered the Port of Houston last year, 1,176 of them United States flag and the remainder foreign. Of this total 2,865 were dry cargo vessels and 1,170 were tankers. Of the U.S. total, tankers dominated 681 to 495, but in foreign flag ships dry cargo vessels outnumbered tankers better than 2-1, with 2,865 as against 1,170.

The 1971 total was 25 more than the 4,010 ships entering the Port in 1970, but of these there were 114 fewer American ships in 1971 and 139 more foreign flag vessels. Yugoslavian entries jumped nearly 100 per cent from 31 to 60 while Greece increased by one third from 161 to 213. (Port of Houston News Release)

Huge Cargo Record

Houston, Texas (Special), January 24: — The Port of Houston smashed cargo records on all fronts in 1971 as it amassed a gigantic total of more than 69.3 million tons to top last year's previous high by nearly five million.

In making the dramatic announcement, Port Commission Chairman Fentres Bracewell said the Port had:

Scored a foreign trade record with 21 million tons of exports and imports to beat 1970's record by more than 23 per cent.

Topped 1968's record 1,725,000 tons of imported steel with a total of 1,760,000 tons to reconfirm Houston as the nation's leader in this category.

Imported an all-time high of 127,000 foreign cars for a tremendous 35 per cent jump over 1970's previous record of 93,500 units.

Shipped 8.7 million tons of grain from its five grain elevators, 6.4 million of it wheat to continue its world leadership as a wheat port.

Handled 1.6 million tons at its bulk materials plant for a 24 per

cent increase over last year's record.

"This has been a tremendous year for the Port of Houston and these figures are a tribute to the public and private wharves over which this cargo moved", Bracewell said.

"In addition, it is a tribute to Houston's labor climate which was favorable in the face of long and costly strikes on both the East and West coasts", he added.

Foreign trade general cargo, which is estimated to generate some \$30 worth of economic activity in a port for every ton moved, was up 700,000 tons at better than five million. Of this, three million tons was in imports reflecting the national foreign trade pattern of more imports than exports.

The heavy grain exports dominated the foreign trade bulk cargo picture however, as exports ran three to one over bulk imports with 12 million tons shipped and four million tons brought in. Other bulk exports, after the 8.7 million tons of grain, were in minerals, fertilizers, and refinery and chemical products.

Cargo moved over Port Authority wharves, alone, came to 10.2 million tons of which five million tons was in general cargo. This was a 40 per cent jump over 1970's total cargo handled and a 47 per cent jump over the Port Authority's general cargo tonnage.

Much of this increase was attributable to the Port Authority having taken over operation of the eight wharves at the Long Reach Docks, which it had owned for five years but which were being operated by the previous owners until January 1st of 1971.

However, the Port Authority did register a better than one million ton increase in bulk cargo handled with a half million ton jump in grain, mainly wheat, and 650,000 ton increase in other bulk.

Of the Port Authority's general cargo some 4.2 million tons was in foreign trade and the remainder domestic, largely container traffic moving coastwise between Houston and Elizabeth, New Jersey.

The other main categories of Port of Houston tonnage—deepsea coastwise bulk and domestic barge traffic —showed little change. Deepsea coastwise tonnage came to 21.4 million as compared to 21.7 million in 1970. Internal barge traffic was up two million tons over last year at 23.5 million tons and local barge traffic was down nearly one million tons from last years 3.4 million. (Port of Houston News Release)

Subsea Pipeline Leaks

Houston, Texas:—With the increase in construction and ship activity as harbors continue to expand, subsea pipeline leaks and breaks take on added importance as problems to be solved. Pollution liability and oil spill economics call for a new, quicker method of repairing damaged subsea lines.

HydroTech Services, Inc. of Houston, Texas, has developed a series of simple subsea installation and pipeline repair tools which help solve these problems. The tools are the HydroCouple and HydroBall connectors, the HydroClamp repair tool, the HydroExpansion Joint and the HydroTap "hot tap" saddle. Each tool effects a permanent repair and requires a minimum of floating surface support equipment and diving time.

HydroTech Services can design a standby contingency repair program which assures a port the necessary tools for quick repair of subsea pipelines under the most sensitive or difficult conditions.

The HydroTap saddle is a unique tool which allows for a subsea "hot tap" into an operating pipeline without welding and without shutting the line down. It provides a relatively economical method of tying in a new line which can extend a harbor subsea pipe system to greater depths for servicing larger tanks.

For contingency repair programs, emergency repairs or new subsea pipeline connections, contact Hydro-Tech Services, Inc., attn. TIFCO, box 55364, Houston, Texas 77055, TWX 910-881-2572, cable Hydrocoupl, tel. (713) 688-1491. (Hydro-Tech Services, Inc.)

All-time High Traffic

Hollywood-Fort Lauderdale, Fla.: —Port Everglades Vice Chairman Doug Laird said that waterborne commerce rose seven per cent in 1971 to an all-time high of 10,912,-106 tons. The increase was 685,209 tons.

Domestic cargo and imports accounted for the increase, the former showing a gain of six per cent and the latter, 14 per cent.

In cruise activity, the number of passengers reached 173,138, toppling the previous high of 160,283 set in 1970, Laird stated. (Port Everglades News 1/26/72)

Port-Operated C.F.S.

Long Beach, Calif.:—Southern California's only port-operated Container Freight Station has been approved by the Long Beach Board of Harbor Commissioners.

Signal Terminals, Inc., a subsidiary of Signal Trucking Service, Ltd., has been appointed as operator of the facility. Signal already operates a Container Freight Station in Port of Long Beach, and will move to the new facility in warehouse No. 5 on Pier A following completion of major modifications.

General Manager Thomas J. Thorley noted that Long Beach Harbor is creating this CFS facility to accommodate major importers who distribute goods on a nationwide basis. (Port of Long Beach News)

Tonnage Up

Long Beach, Calif.:—Total tonnage of goods moving through the Port of Long Beach during the 12 months ending June 30 reached an all-time record high of 26,087,296 tons, according to fiscal figures contained in the 1971 Harbor Highlights annual report. This represents a 17.6 per cent increase over the previous fiscal year tonnage of 22,-188,939 short tons.

In the last ten years, tonnage has increased 143 per cent, reflecting the continuous expansion of port facilities.

Another record was set when for the first time the dollar value of inbound and outbound cargoes exceeded \$2-billion. The number of ships calling at Long Beach remained steady at about 2,500 vessels.

General Cargo tonnage during the 12 months rose from 4,152,052 to 4,603,313 tons, with an increasingly greater proportion shipped in containers. Long Beach is currently completing \$30-million worth of new container terminals.

Petroleum bulk tonnage, traditionally the largest of all cargo categories, leaped dramatically from 11,926,432 to 14,814,496 tons. Other liquid petroleum products increased from 211,988 to 262,005 tons. Dry bulk tonnage jumped from 5,898,467 to 6,407,482 tons.

Based on projections of the tonnage trend during the last decade, Long Beach will within a few years become the tonnage leader among U.S. West Coast Ports. (Port of Long Beach News)

Queensway Development

Long Beach, Calif.:—Approval of a 60-year master lease calling for construction of a \$6-million hotel, restaurant and convention complex on 18.8 acres of land near the Queen Mary in the Port of Long Beach was given by the Long Beach Board of Harbor Commissioners today (1-31-72).

The Queensway Development project includes a 200-room Hilton Hotel, seafood restaurant, and a second yet undisclosed major hotel chain.

The site is adjacent to the harbor end of Queens Way Bridge linking downtown Long Beach with the Queen Mary. Construction of the initial phase is expected to take 18 months, with opening planned for the summer of 1973.

Taking part in lease signing ceremonies at the Harbor Administration Building was Adolph K. Feinberg, president of the noted St. Louis realty development firm bearing his name, and his two sons, Daniel B. Feinberg, president of Feinberg Development Corporation—the Master Lessee—and J. Jay Feinberg, Vice President. (Port of Long Beach News)

Study of Office Needs

Los Angeles, Calif., February 9:-The Los Angeles Board of Harbor Commissioners today (February 9) approved an agreement with Adrian Wilson Associates to study office needs for the Harbor Department over the next 20 years, and to provide feasibility reports on the relocation of department offices based on several suggested sites and comparisons with rental costs in available buildings.

Fee for the services is not to exceed \$37,150, unless extra work is called for by the Harbor Commission, and all work is to be completed in eight months.

Two of the sites designated for investigation are the waiting room area at Berth 93-B (second story of Consolidated Marine Terminal building) and the Beacon Street Urban Renewal Project area in San Pedro. Other sites will be explored in the San Pedro, Wilmington and Terminal Island districts of the post.

The firm will also investigate the possibility of obtaining a site from the Community Redevelopment Agency in the current Beacon Street Urban Renewal Project area in San Pedro on a land-lease exchange basis.

Adrian Wilson is to produce a design and economic study for possible construction of a new administration building at each designated location, other than the Berth 93-B site. The designs will include a site plan, space allocation plans and other specifications, and a cost estimate in each case.

The agreement also provides for a feasibility study of the availability and rental cost of commercial office buildings in terms of lease for comparison to the expense of the Harbor Department owning its own building.

Selection of a site or sites to be studied by the firm will be made by General Manager Bernard J. Caughlin of the Department working with a staff task force comprised of Fred B. Crawford, assistant general manager; L. L. Whiteneck, chief harbor engineer; Donald A. Walsh, director of planning and research; Ronald Kennedy, supervisor of property management; and the Chief Accountant, William Bullock. '(Port of Los Angeles)

Larger Bulk Terminal

New Orleans, La., January 31:---The Port of New Orleans is undertaking improvements totalling \$1.5 million that will more than double the annual storage-handling capacity at its Public Bulk Terminal.

There are two contractors for the project, which involves a bulk material stacking and reclaim system for the plant's ground storage pad number one. Landis Construction Company will prepare the foundation work, and Mill Industries will construct the handling system. Storage pad number one has a 55,000ton storage capacity.

Chrome, manganese and a number of other ores can be stored and moved via the new conveyor system, which will operate between railcar, storage yard and vessel. The work is expected to be completed by late this year.

The Public Bulk Terminal, the port's only facility on the Mississippi River-Gulf Outlet, handled 1.9 million tons of bulk cargo in fiscal 1970-71, which was the facility's highest tonnage record. Leading commodities handled are coke, sugar and alumina. Bulk cargoes can be transferred at the plant between ships, barges, railcars, trucks and open or closed storage systems. (Port of New Orleans News Release)

4 Construction Orders

New York, Feb. 10:—Four construction contracts totaling \$3,721,-022 for the continuing development of container facilities at the Elizabeth-Port Authority Marine Terminal were awarded by the Port Authority according to an announcement today by Chairman James C. Kellogg, III, following the monthly meeting of the Commissioners of the bi-state agency.

—A \$1,099,300 contract for construction of turntable foundations for movable 40-ton gantry cranes at the southeast corner of the Elizabeth terminal on Newark Bay was awarded to Anthony Rivara Contracting Co., Inc. of Rockaway, New York. This work, in the area of Berths 90 to 96, which also includes wharf construction, will begin immediately and be completed this summer.

—A \$1,073,950 contract covers construction of a receiving and delivery building at the new 87-acre facility to be operated at Berths 80 and 82 by Maher Stevedoring Co., Inc. for the container services of Zim

APRIL 1972

Lines. It was awarded to Damon G. Douglas Company of Newark, New Jersey. Construction of the 10,800 square-foot structure will begin immediately and will be completed this fall.

—A \$569,772 contract for paving and utilities at the new Maher receiving and delivery building, as well as at a container stripping and stuffing shed under construction, was awarded to C. H. Winans Company of Roselle, New Jersey. This work will begin immediately and be completed this summer.

—A \$978,000 contract covers the movement of 1.5 million cubic yards of sand from the southeast portion of the Elizabeth terminal to a site at the northern boundary of the terminal, west of McLester Street. The sand will be used to compress and stabilize land leased last fall from the Central Railroad of New Jersey for future container operations. This work, to be done under a contract awarded to Cappy-Simone, Inc. of Freeport, New York, will begin immediately and be completed this summer.

The Elizabeth-Port Authority Marine Terminal is being developed at a rapid pace by the Port Authority to handle the steadily increasing volume of goods shipped in containers to worldwide markets. When completed in 1973, the Elizabeth terminal is expected to handle some nine million tons of containerized cargo annually. Supported by vast container marshalling areas and cargo distribution buildings, the Elizabeth terminal will have over three miles of containership berthing space along the Elizabeth Channel and Newark Bay. (News from The Port of New York Authority)

LASH Terminal

San Francisco, Calif., February 4:—The Port of San Francisco's \$22 million LASH (Lighter Aboard Ship) two-berth, 50-acre terminal is in the final stages of completion at India Basin on the south waterfront.

Pacific Far East Line, only LASH operator in the Pacific basin, will take occupancy in about two months.

The firm has purchased and in-

stalled two giant PACECO shoreside container cranes on the LASH site, each costing over \$1 million.

Each of PFEL's six-ship LASH fleet has its own container gantry mounted forward (in addition to the huge barge crane that travels aft), but the line will utilize the shore cranes for container handling at San Francisco because they are slightly faster than the ship's gear.

Each of the vessels carries both the 61-foot, 500-ton barges as well as conventional 20- or 40-foot containers.

Each PACECO crane weighs about 450 tons and is capable of handling up to 30 long tons at an outward reach of 115 feet from the apron. Its wheels span 50 feet between rails and the spreader is 80 feet above the deck.

A radio-controlled mechanism, specially designed for LASH-ship use, will enable the spreaders to rotate the 20- or 40-foot container boxes for athwartship or fore-andaft stowage.

The container crane rails run the entire 1740-foot length of the LASH (Pier 96) apron. The power supply is in a depressed trench. A cranemounted "plow" lifts a continuous series of heavy protective plates ahead of the trolley when the crane is moved, and lowers them behind, to keep operating personnel from coming in contact with the electrical source.

Among other features of the San Francisco terminal, world's first of its type, are a huge barge-loading station alongside the barge basin, a container maintenance building, container freight station, container yard, headquarters building, and gatehouse.

PFEL and Port engineers worked closely in planning the new facility, which was engineered by the Port engineering staff. Design for the barge loading station was contracted out to H. J. Degenkolb, a San Francisco structural engineering firm.

In addition to serving the LASH fleet, the new terminal will service two ships in PFEL's Guam service that have been sailing out of Alameda in the East Bay. (Port of San Francisco)

Golden Gate Ship Traffic

San Francisco, Calif., 2/3/72:-Golden Gate ship traffic almost held its own last year, despite the 100-day longshoremen's strike which tied up all Pacific Coast ports—the first major Western dock work stoppage in 23 years.

Overall vessel movements were down only 17%, according to the Marine Exchange. The volume reduction was reflected in all categories of traffic except barging, which climbed from 154 in 1970 to 174 arrivals last year.

Some 37 nations were represented in 1971 Gate ship transits, which totaled 8,175—compared to 9,850 for the previous year.

Among unusual changes in the shipping pattern were 11 Russian vessels included in last year's arrivals —compared to only one arriving USSR registered ship in 1970. Another was Somali, represented by 4 vessel arrivals.

American flag and foreign registered shipping shared last year's modest traffic decline—both almost equally off from 1970 totals.

Noting that fewer ships have been carrying more cargos—as part of a longterm trend—the Exchange termed the high year-end totals "surprising" in view of the three-monthsplus dock strike. Larger bulk carriers and tankers—and larger and more efficient container and other specialized cargo carriers—point to lower ship traffic by bigger ships. The 1971 drop-off in vessel traffic "probably represents a decrease less serious than the 17% reduction appears", the Exchange commented.

Last year's Golden Gate arriving American vessel traffic totaled 2,277, while foreign flag shipping was 1,822 arrivals. (Marine Exchange of the San Francisco Bay Region)

General Cargo Record

Toledo, Ohio, December 14, 1971: —The Port of Toledo's 1971 shipping season is nearing a new all-time general cargo record, according to John A. McWilliam, general manager of the Toledo-Lucas County Port Authority. In a report submitted at the agency's board of directors meeting, Mr. McWilliam announced that preliminary figures through November 30 show that the port had handled a total of 673,043 tons of general and miscellaneous cargo, representing a 37 per cent increase over the 1970 season, he said.

The top Toledo port official expressed cofidence that a new season mark would be established when the season's final cargo figures are complete next month. "There is no question that these past few months have been the busiest cargo period in the history of the port," he said. In 1966, a total of 706,703 tons of general and miscellaneous cargo moved across Toledo docks.

McWilliam attributed the general cargo increase to a steady volume of imported steel products as well as sizable upswings in such commodities as chemicals coffee and nonferrous metals.

It was also announced that the port set a new record in improved vehicles. A total of 50,967 Volkswagen commercial units along with 824 tourist VW's were discharged at the port in 1971. This eclipses the previous port record, set in 1969, when 42,223 commercial VW's and 804 tourist vehicles were landed. McWilliam also mentioned that the port's export auto volume was up significantly over the last season.

Statistics through December 10, show that the Port of Toledo's export grain tonnage has also climbed to a new season high. A total of 88,706,000 bushels, comprising soybeans, corn and wheat, were loaded at the port's three waterside grain terminals. This amounted to 2,586,-058 tons. The 1971 preliminary grain figure is two per cent higher than the previous port record, set in 1968, when 87,511,000 bushels equaling 2,527,622 tons, were handled at the port's grain center. Mr. McWilliam also noted that grain officials at the Toledo Board of Trade are predicting a 90,000,000 bushels season for 1971. (Port of Toledo)

Lighting Award

Sydney, 6th January:—The Illuminating Engineering Society of Australia recently decided to issue a Certificate of Commendation to the Maritime Services Board for excellence in the design of the lighting installations at the Board's Common User Container Terminal at White Bay in the Port of Sydney.

The President of the Maritime Services Board, Mr. W. H. Brotherson, said to-day that the lighting at White Bay, which was designed by the Board's Engineers, will be the prototype for the lighting to be installed at the two new container berths now under development at Glebe Island.

He said that, because container terminals are worked around the clock, the lighting virtually needs to provide illumination at night time equal to day light.

While achieving this result, the lights at the Board's White Bay Terminal have been appropriately shielded so that residents in the locality are not disturbed at night time by the reflection.

Mr. Brotherson said that, during the course of last financial year, a total of 106,000 containers, representing a manifest tonnage of 1,700,-000 tons moved through the container terminals in the Port of Sydney and, with the introduction of further ships this year, the trade will continue to increase. (The Maritime Services Board of N.S.W.)

Port Control Tower

Sydney, 5th January:—A \$460,000 contract has been let by the Maritime Services Board to Sabemo Pty. Ltd., for the construction of a Port Operations Control Tower for Sydney Harbour.

This was announced to-day by Mr. W. H. Brotherson, President of the Maritime Services Board, who said that the decision to let the contract had been reached by the Board at its meeting held in Sydney on 23rd December, 1971.

He said the tower will be located in the port area at Millers Point and will have a height above sea level of 250 feet.

It will consist of a concrete column with an internal lift, topped by a stainless steel and glass observation area in which will be installed V.H.F. radio equipment and other sophisticated navigation aids.

Mr. Brotherson said the contract provides for the work to be completed in 43 weeks and the staff of Master Mariners, all holding Foreign-Going Masters Certificates and Pilotage Exemption Certificates for the Port of Sydney, at present manning the existing Port Operations Service located in the Board's Head Office, will then be transferred to the tower.

The Port Operations Service, which is manned 24 hours per day for seven days per week, has been in operation in Sydney for some years.

All ships must obtain radio clearance from the Port Operations Officer before entering the port or leaving their berth in the case of outward operations and, during their passage through the harbour, ships are obliged to call on a radio frequency available to all other ships giving details of their positions at certain set points.

In this way, all ships in motion on the harbour are aware of the position of the others.

Mr. Brotherson said the new tower will have the added advantage of providing visual oversight of the major wharfage areas of the port and the Port Operations Officer would be in a position to provide information based on visual observations to the pilots and exempt masters of ships moving in the port.

This, he said, had become increasingly necessary in recent times with the tendency towards larger ships, such as bulk carriers and specialized container and unit cargo vessels, which are now moving in and out of the port at frequent intervals. (The Maritime Services Board of N.S.W.)

Port Seminar

Tokyo: - The 11th Seminar on Ports and Harbours, 1971 (fiscal year) was opened January 25 in Tokyo by the Overseas Technical Cooperation Agency (OTCA) of Japan to last until March 22, 1972. A reception in honor of the seminar participants was held on February 8 from 6.00 p.m. at Seiyoken Restaurant in Uyeno, Tokyo where Dr. Yoshiaki Kurisu, Director General of Bureau of Ports and Harbors, Ministry of Transport, Dr. Hajime Sato, Director General of Japan Harbor Association Port and Secretary General of (Deputy



Tokyo:—"Chidorisan Maru", a 164,644 dwt ore carrier, was recently completed by the Aioi Shipyard of IHI (Ishikawajima-Harima Heavy Industries Co., Ltd.) for Mitsui O.S.K. Lines, Ltd. and Osaka Shipping Co., Ltd., her shipowners. The vessel, which is the world's largest ore carrier, is 292.44 meters in overall length, 278.80 meters in b.p. length, 44.50 meters in width, 24.50 meters in depth and 17.90 meters in draft. She is equipped with 30,400 bhp IHI-Sulzer 8RND 105 type diesel engine developing a service speed of 15.4 knots at full load. Complement is 26 persons. The new ship will be assigned to the Japan-Port Hedland, Australia route.

IAPH) and other OTCA and Government officials were present.

Altogether 18 participants were registered, one each from the following countries: Argentina, Ceylon, Republic of China, Colombia, Costa Rica, Ethiopia, Indonesia, Iraq, Jamaica, Peru, The Philippines, El Syria, Thailand and Uruguay.

Container Facilities

Penang: — To meet the general growth of container traffic in the Port of Penang, the Penang Port Commission will soon provide handling equipment to handle containers. Tenders have been called for the supply of one heavy mobile crane of 30-ton capacity together with four 20-ton trailers and a prime-mover. The Commission has also placed an order for the supply of a container spreader for 20 ft. containers. Delivery of all these equipment will be made before July 1972.

The Penang Port Commission has as early as 1967 anticipated the growth of containers and made long term plans for the provision of facili-

ties for this type of traffic. For this purpose two of the berths at Butterworth Wharves were specially reinforced to accommodate container cranes and provision was made for the development of a marshalling yard together with other container facilities. The basic structure and land reserve are therefore available for the development of a container port at Penang. The Port Commission has since 1969 been attempting to determine the volume of container traffic expected at this Port in order to determine the type of equipment that is needed. Unfortunately, no firm indication of the volume of traffic was forthcoming from among shipping circles. It was therefore difficult for the Commission to invest large capital outlay to purchase equipment that may remain idle. The Port Commission has, however, made a decision to provide basic container facilities to encourage the growth of container traffic to this Port and at the same time to provide for better facilities for the present number of containers that are moving through this Port.

"TRANSDOORATION" Dedicating to Mr. H. E. Kawulusan of Indonesia

by K. Enomoto, Counsellor

Keihin (Tokyo Bay) Port Development Authority

A symposium sponsored by the Asian Productivity Organization was held at Hongkong on the subject of "Containerization" for five days from 15th to 19th of November 1971 and around 30 participants attended from the following Asian countries: Taiwan, Singapore, Korea, Indonesia, Hongkong and Japan.

Among six lecturers, Mr. H. Yo-

The immediate purchase of the heavy crane, including the trailers and prime-movers, is the result of the policy of the Port Commission.

Owing to the shallow draught at the entrance of the Port of Penang (33 ft. at high water), the Port Commission does not expect the large cellular container vessels to call at the Port of Penang and has therefore planned its facilities to meet the requirements of semi-container vessels and feeder container ships.

Since the Wharves will not initially provide shore cranes, ships will have to use their own equipment to discharge or load containers, but containers will be transported between ships' side and the marshalling yard by the Port Commission and the 30-ton mobile crane used to stack and unstack containers at the marshalling yard. Initially the area available adjacent to the timber shed will serve as a temporary marshalling yard, but when the volume of containers increases, the 10 acres of land reserved for this purpose will be developed into a container freight station with all the facilities for container handling. (Berita Pelabohan, January)

shihara of Mitsui Shipbuilding and Engineering Co., and myself joined as specialists from Japan. The former delivered a speech on the mechanical system of a container yard and the latter made a speech on the present situation of construction of container yards in Japan.

In the course of my speech, I made some comments on the wording of "Transportation" and, particularly, on "Intermodal Transportation". Main points of my speech could be summarized as follows:—

Nowadays the wording of "Transportation" means any style of carrying irrespectively either on land and sea or of goods and creatures.

The origin of this word must be so very old time as from 2000 B.C. to 1000 B.C. at which time trading and carrying goods between the shore-side cities locating around the Aegean Sea in the Mediterranean was done mainly by sea ships propelled by wind or oars (galley type).

By then the wording of carrying had been used to mean transit between the port cities and from this fact the wording of TRANSPORT has come to exist to mean the carrying of any material.

However, encountering the new era of containerization, carrying goods by sea does means not only transit between ports of other countries but carrying goods from seaside ports into inland places far from seaside in each of the countries concerned.

Therefore, the wording of TRANSPORT seems to be inadequate. In the new era of technical revolusion, carrying goods between



Mr. K. Enomoto

foreign countries is not completed by only transiting between ports as the goods can be transported inland using various ways and means of carrying without touching the contents stowed inside the so-called container-van.

Confronted by this situation the business circles concerned are using the new word "Intermodal Transportation".

It must be clear to the readers, however, that as far as it still contains the word "Transportation", I think, the wording "Intermodal Transportation" is not adequate to express the real status of the matter, and it is required to make another new and more suitable word to replace "Intermodal Transportation".

As my speech proceeded to this stage, one of the attendants raised his hand showing his wish to make some comments on the matter, and when he was permitted to speak, a very clear word entered my ear, "TRANSDOORATION".

How nice and how smart this word is in expressing the present situation of carrying goods from door to door on sea, land and air by containership and other land and air carrying devices.

The gentleman is Mr. Hans E. Kawulusan of Djakarta Port and Harbour Bureau of Indonesia.

If this wording "TRANSDOORA-TION" should be used from now on in the business circles concerned all over world, the high splendid honor as creator of the word should be dedicated to him, Mr. H. E. Kaulusan, and at the same time the place and opportunity where the word was born should be recorded in the history of world-wide carrying business circle.

The purpose of my writing this short report is to record the whole circumstances for the birth of the new wording "TRANSDOORA-TION".

ECAFE Notice

Bangkok, 18 February:--In pursuance of the recommendation made by the Working Party on Facilitation of International Traffic at its second session (1971), endorsed by the Transport and Communications Committee at its nineteenth (1971) and twentieth sessions (1972) and approved by the Commission at its twenty-seventh session (1971), a meeting of the Working Party on Containerization and Regional Preparation for the United Nations/ IMCO Global Conference will be held from 24 to 29 April 1972, Bangkok, Thailand.

The Working Party will provide a forum under the auspices of the United Nations to discuss, at expert level, problems connected with the development of containerization with special reference to conditions in the ECAFE region. Particular emphasis will be placed on the criteria determining the need for containerization and determination of the quantum of containerizable cargo. The Working Party will also discuss the various technical, administrative, operational, economic, social and legal consensus on those matters and to assisting regional member countries to participate effectively in the United Nations/IMCO Global Conference on International Container Traffic to be held in November 1972. (Extracted from ECAFE Notice)

Port Development

Penang:—Participants in the National Transport Seminar were told of the intensive preparations taking place at Port Swettenham to receive the first container ship to Malaysia in mid-1973. This was expounded by the Director-General of the Port Swettenham Authority, Inche Mohamed Zain bin Ahmad in his paper on "Development Plans of Malaysian Ports".

Under the Second Malaysia Plan, the Port Swettenham Authority plans to spend a total of \$118 million for improving and expanding port facilities. This is only a portion of the \$229.8 million allocated for ports. Enche Zain gave two reasons why ports in Malaysia need to develop. The first reason is to cope with increasing tonnage brought about by economic development of the country, the second, to adjust themselves to technological changes. He cautioned that failure by ports to develop means a slow but sure decline in tonnage of that particular port.

Inche Zain said that until 1964 Malaysian ports were generally little more than lighterage ports. But in that year four modern oceangoing wharves with mechanized general cargo handling facilities were added to Port Swettenham at a cost of \$44 million. This brought the number of ocean-going wharves to seven. However, of the original three oceangoing wharves, only one was capable of forklift operations while the remaining two were due for reconstruction.

However, the real spurt in port development and expansion came in the late sixties. In 1968, three ocean going wharves were put into operation in Penang. A year later two more wharves were added. These five wharves cost \$57 million and are equipped with facilities for mechanized cargo handling. Of special significance here is the fact that the two wharves built in 1969 were specially reinforced to take container cranes. Ten acres of land have been set aside for a container yard and other related facilities. The ferry services will also be expanded with the addition of a new set of ferry terminals to handle only motorized traffic. This step is estimated to cost \$17.5 million.

While Penang is the first Malaysian port to have the basic structures for handling container traffic, it is to Port Swettenham that container vessels will go first.

2,800 feet of wharves are already under construction in Port Swettenham. This expansion project began in July 1969 and will be completed in late 1972. When completed, the wharves can accommodate either five conventional vessels, or two TRIO container vessels and one conventional vessel at a time.

Two container cranes and transporters for containers such as straddle carriers, tractors and trailers and in addition a gantry crane will be installed. A 30-acre container yard will be laid and a container freight station constructed for packing and unpacking containers.

This expansion project is estimated to cost \$76 million. Mean-while, at the South Port in Port Swettenham, a 550 feet wharf is also under construction to provide increased facilities for the export of palm oil.

While emphasis is given to Port Swettenham and Penang to prepare them for container vessels smaller ports will also be modernized and expanded. Two projects which head the list will be the construction of a port each in Kuantan and Johore.

Inche Zain noted that port development projects for East Malaysia were slow in implementation because of time-consuming feasibility studies, but development will be intensified under the Second Malaysia Plan. So, during the next five years, a tremendous amount of development of ports both in East and West Malaysia should take place—a development, he said, that should have been undertaken earlier in some ports.

Kota Kinabalu and Sandakan in Sabah will have four berths each, totalling 1,850 feet at each port. The new berths will have modern storage and handling facilities including those for containerized cargo.

The total cost of these projects is estimated to be \$73 million, out of which \$48.3 million will be financed from a World Bank loan.

In Sarawak, the port of Sibu will have its wharves extended by another 1000 feet as the present facilities have already reached optimum capacity. An allocation of \$14.8 million was made to the Rajang Port Authority, which will administer the port.

Kuching, which is presently served by Tanah Puteh, will get a new port at Pending Point, as the existing port cannot be expanded because of draught limitation. Construction work on this port will start later this year.

A sum of \$34.8 million has been allocated in the Second Malaysia Plan for the development of the ports at Kuching and Sibu. (Pelabohan)

Wharf Expansions

Auckland, N.Z., December 15:— The Auckland Harbour Board is to go ahead with plans for the extension of its container and roll-on roll-off facilities.

At its December meeting the Board adopted a report setting out three items of "essential work" which must be carried out to keep pace with expanding container trade and the Tasman Union Company's plans to increase its roll-on roll-off fleet. The work includes:

*The surfacing and servicing of the balance of the Fergusson Wharf area to support the extension of the container wharf from 900 to 1,500 feet.

*The first stage construction of the container base or consolidation depot comprising a 40,000 square feet shed for container storage.

*The provision of an additional link span in anticipation of the expanded services which the port must accommodate if the recently formed Tasman Union Company proceeds with its programme to introduce additional roll-on roll-off shipping.

The Fergusson Wharf work is estimated to cost \$950,000 and includes stormwater and sewerage reticulation, water supply, terminal fencing, lighting, sealing, offices, and the provision of 240 clip on refrigeration units.

Stage one of the container base in Monash Street would cost an estimated \$715,000 with extensions to complete the planned 80,000 swuare feet depot costing an additional \$528,000.

A preliminary cost estimate for the provision of additional roll-on rolloff facilities amounts to \$600,000 and includes a bridge, portals, controls, walkways, fenders and dolphins.

The Board has instructed its chief engineer to proceed with final specifications to allow the Board to call tenders when commitments and other financial arrangements permit. (Auckland Harbour Board)

Overseas Agents

Auckland, N.Z., November 16:— A worldwide network of agents to promote the \$50 million port and cargo handling facilities at the port of Auckland is proposed by the Auckland Harbour Board's new Chairman, Mr. R.W. Carr.

Mr. Carr, who is chairman and managing director of a transport, container, customs and storage company, and a director of several other transport companies, was elected chairman of the new Board at its annual meeting in November.

He has been a member of the Board for 12 years, the last four of them as deputy chairman. He was nominated for his new position by the previous chairman, Mr. R.C.F. Savory, who stood down from the chairmanship after 11 years but remains a member of the Board.

Mr. Carr proposes to appoint agents overseas for the port of Auckland and envisages that the existing commercial section of the Board could combine with a sales force to liaise with importers and exporters.

Mr. Carr's priorities for Auckland's port development are:

- . Promotion of the port of Auckland overseas
- ... The development of a port at Te Atatu, in the upper Waitemata Harbour, which may involve the relocation of the oil storage tanks at present in the city centre, a new power station, and berths for bulk cargo and container ships.
- ... The provision of new roll-on rolloff berths at Auckland for the Union Steam Ship Company.
- ...Examination of present methods of raising local body loans with a view to making loans more readily available.

Mr. Carr, aged 43, was born in Auckland and educated at Mt. Albert Grammar School and Auckland University. Before joining his father's trucking firm of Carr and Haslam, his experiences included working as an accountant and a casual waterfront worker.

Mr. Carr's family has been connected with the Auckland Harbour Board for nearly 50 years—his grandfather, Mr. E. J. Carr and his father, Mr. G. E. Carr, were both Board members for 18 years. (Auckland Harbour Board)

Reclamation Planned

Whangarei, N.Z.:—Another popular yachting and boating haven which the Northland Harbour proposes to develop is picturesque Parua Bay in Whangarei Harbour. The Board plans to reclaim two acres of tidal land to provide car-parking, public reserve and picnic areas.

The Board has already purchased Patiotio Rock and the causeway linking it with Parua Bay foreshore.

The tidal land will be reclaimed by building a retaining wall from the shore to the causeway. Moorings will be provided.

As a second stage in the project, the Board will dredge-and-fill progressively along the shore, north-east from Patiotio. (Points North, November, 1971)

JANE's Container Yearbook

London, 14 December:—The Preface to the fourth edition of JANE'S FREIGHT CONTAINERS, published today, is by Mr. R. P. Holubowicz, Executive Vice-President of International MacGregor, London. He suggests that the challenge in the coming decade will be to adopt the concepts of and an approach to the container which will bring about a true integration of transport and to make international procedures no more difficult for shippers than a visit to the local Post Office is at present.

He suggests that the physical tools and technology — as shown in JANE'S FREIGHT CONTAINERS —are already in existence. Indeed, the wide range of choice available to operators has had a tendency to make them concentrate on technology rather than on the real problem which is the need to think in terms of a wholly new concept of transport made available by the existence of containers.

Mr. Holubowicz considers that the international transporters' attention and main interest should be directed towards intangible or invisible impediments to transport integration. He cites such examples as container ownership, international agreement on combined transport responsibility for through movement, and the need for structural change in the shipping conference concept in order to include other transport media.

In his Foreword, The Editor examines the present size of the container vessels, the largest of which are now constrained by the physical limitations of the Panama Canal. Depending on their operational requirements, these vessels are capable of carrying about three thousand twenty-foot units. Ship operators or traders not using the Panama Canal, where larger vessels could have been employed, i.e. the North Atlantic and Pacific routes, are committed, with tonnage still coming into service for some years ahead, to smaller vessels. It is therefore considered unlikely that the so-called third generation vessels talked about today can enter service until the early 1980s at soonest.

Containers continue to be adapted for cargoes considered quite unsuitable a few years ago and cargoes continue to be altered for containers. Iron ore, concentrates, marble, cattle feed are but a few of the containered commodities the reader will find described in the book. Moreover, a significant development is the adaptation of container ships for purposes other than the carriage of freight by the use of special modular ISO-type units. The prototype of a hospital ship and an oceanographic survey ship adapted in this way are described in the Future Trends section, together with many other new ideas put forward over the past year, including a comprehensive description of all published developments in the cargo airship field.

Commenting on cargo airships the Editor stated that they suffer from a 1930s hangover. "Their difficulty is exactly the same as Mr. Holubowicz so expertly highlights for the container—the unwillingness to accept or even visualize an entirely new transport concept". Mr. Finlay recalled the scorn poured upon containers in the late 1950s which may have turned to tears in some cases or have been convenient-

"UNION 10"-A Brochure

to commemorate the tenth anniversary of

The International Union of Hopper Suction Dredger Owners Duinweg 21, The Hague, The Netherlands

(Adopted from the introductory part of the brochure.)

The International Union of Hopper Suction Dredger Owners was founded in Amsterdam on 24th February 1961, when eleven dredging companies became founder members. Within twelve months of this formation a further twelve companies joined the Union. Formation of the International Hopper Union was achieved through the initiative and work undertaken by both Mr. M. C. Fritzlin and Mr. W. A. Fischer. A Study Group, led by

ly forgotten; the words "What does a trucker know about ships?" are brought to mind in this context. But today the container is here to stay and tomorrow the freight airship could join it. From the section on airships the reader will be able to judge for himself the stage of technological development reached and realize that a great deal more serious and expensive research and development needs to be undertaken. Clearly the majority of this kind of work is being carried out in the USSR.

The pattern of JANE'S FREIGHT CONTAINERS is now becoming familiar: the first section describes the facilities, working hours, services and traffic at over 180 ports, together with national and international railway services and facilities. The vessels, services and container fleets of 250 operators are listed, as is the equipment available from some 200 manufacturers and about 50 leasing companies.

There are three new sections in the Air Freight part of the book. The first lists those national and international airlines which accept Mr. Fritzlin, carefully laid the foundation on which the Hopper Union, as it is commonly known, has grown and become established.

After personally guiding the Union from formation to firm establishment Mr. Fritzlin recommended that a younger man should take over responsibilities and Mr. W. A. Wichers Hoeth, himself a member of the original Study Committee, was appointed Chairman with Mr. Fritzlin becoming an honorary member of the Hopper Union. On this, the tenth anniversary of the Union,

major unit-load devices — pallets, igloos and "large" containers. Fleets, names of senior cargo personnel and, where possible, the major cargo terminals are also included. The second new section covers manufacturers of ground freight-handling equipment and the third lists the printed material of use to shippers of air cargo.

The section on international recommendations for standards has been updated, and again a future trends section has been included. There is a comprehensive index.

The majority of entries include full listings of address, telephone and telex, directors, officials and executives. Practically every entry in the book has been updated since the third edition was published in November 1970.

JANE'S FREIGHT CONTAINERS 1971–72, Edited by Patrick Finlay, MCIT, A.I.Inf. Sc.

Publication date: 14 December 1971 Price: £12.50

- Published by Sampson Low, Marston & Co., Ltd.
- (JANE'S YEARBOOKS Press Release)

Mr. Wichers Hoeth also celebrates his tenth year of Office, and Mr. Fritzlin remains still an active honorary member.

At a recent General Meeting of the International Union of Hopper Suction Dredger Owners, Mr. Wichers Hoeth was unanimously elected honorary Chairman in recognition of his services in steering the Union through its first ten, sometimes turbulent, but always exciting years.

Modern trailing suction hopper dredgers are highly mobile and productive vessels that have brought a new era to the dredging industry. Such vessels are built and behave in a similar way as a ship. They dredge by trailing flexible suction pipes over river or sea bottoms. A dredge pump loads the material through the suction pipe into the hopper of the vessel.

After loading, the dredger sails to the dumping area, where the bottom doors are opened and the cargo released. Alternatively, trailers fitted with discharging equipment can pump the dredged material through a connecting shore line directly to a reclamation area. The trailing suction hopper dredger is an effective unit for working in exposed locations and in poor weather. Being classified as a self-propelled seagoing vessel it can dredge in navigational channels and shipping lanes without hazard to other shipping.

This brochure, presented by the International Union of Hopper Suction Dredger Owners, marks the tenth anniversary of the Union and it is published to tell of the aims of that Organization. Its distribution is aimed at those professionally active in the development fields of shipping and navigation and to Governmental and International bodies occupied in international development planning and its financial aspects.

Its contents, though brief, are meant to be informative and to offer outline guidance in the fields of contract dredging and reclamation —a field of operations undertaken by Hopper Union members.

Generally contract dredging is the most economical proposition and specifically in major dredging works where the initial volume to be dredged greatly exceeds the later maintenance work. The International Union of Hopper Suction Dredger Owners are proud to mark this, their tenth anniversary, by telling of their wide experience and of their fleets ever ready to meet the challenge of new developments, new ports, new harbours and major worldwide maritime constructions.

(A very limited number of copies is still available to those who are professionally interested in the dredging field. Interested parties are invited to write for a free copy on their business letterhead paper.)

International Union of Hopper Suction Dredger Owners.

Container Traffic

Antwerp, February 22:-Containerized cargo traffic in the port of Antwerp amounted last year to 1.9 million metric tons (nett cargo weight). Unloadings were 1,062,169 ton in 72,895 containers and loadings 892,631 ton in 60,548 containers. The total is somewhat below the 1970 figures since that year temporary diversion of OCL-ACT vessels favourably influenced the results. The basic continuous expansion may be illustrated with the data on the traffic with North America. This traffic was 385,000 tons in 1968, 486,-000 tons in 1969, 908,000 tons in 1970, and now for the first time exceeded the one million ton mark. Indeed, 41,388 containers, with 639,-000 ton were unloaded and 40,897 containers with 597,000 ton were loaded (empty containers are not included). (Port of Antwerp)

Dock Closures at Hull

London, 27 January: — At its meeting in London yesterday the British Transport Docks Board agreed to the closure of the Albert and William Wright docks at Hull and the concentration of traffic at the larger and more modern Eastern group of docks, which have the capacity to handle all forseeable future trade at the port.

The date will not be before 31st March but will be dependent on the results of consultation with port users, trade unions, and staff representatives, which are now in progress. About 200 Docks Board employees will be affected.

The two docks concerned are currently losing money at the rate of about $\pounds400,000$ a year and this closure will make an important contribution to reducing the current heavy losses of the port as a whole.

Sir Humphrey Browne, chairman of the Docks Board, said, "I regret the necessity for the closure of these two docks, but this is vital to the future health of the port. The change in the pattern of traffic makes concentration in the more modern eastern docks essential for the future success of the Port of Hull". (British Transport Docks Board)

Containers at Garston

London, 4 February:—A new container service from the British Transport Docks Board port of Garston to Cork and Rotterdam operated by Cawoods Containers Limited will commence on Sunday, 6 February, 1972.

Initially run on a weekly basis, the service will be inaugurated by the cellular container ship "Craigerin", which is capable of carrying up to 88 twenty-foot ISO containers, or their equivalent. The service will operate from the purposebuilt container terminal in Stalbridge Dock, which is equipped with a 32-ton transporter crane and has a $3\frac{1}{2}$ -acre storage area.

This is the second container service operated by Cawoods from Garston; they already run a daily service to Belfast.

Mr. Tom Wilkinson, docks manager at Garston said "This is, of course, welcome additional business for Garston. Besides the successful container service already operated by Cawoods, a weekly container service to La Spezia is operated by Ellerman and Papayanni Lines, and Irish Sea Ferries run a service three times a week to Warrenpoint. Indeed, the major development during 1971 was the expansion of the unit load trade. The number of containers carried during the year by the various unit load services amounted to nearly 27,000." (British Transport Docks Board)

Brittany/Plymouth Trade

London, 27 January:-An agree-

ment destined to make Plymouth the principal UK port for the importation of vegetables and other produce from Brittany has been concluded between representatives of the British Transport Docks Board, the Morlaix Chamber of Commerce, and the Comite Economique de Bretagne.

Announcing this today (Thursday, 27th January), Mr. John Collier-Wright, Assistant Managing Director of the Docks Board, said that the Board had agreed to develop a new roll-on/roll-off terminal at Plymouth for a year-round ferry service which will link its Millbay Docks with the Breton port of Roscoff early in 1973. A new terminal was already under construction at the French port for the service, he added.

Mr. R. J. L. Perfitt, Docks Manager at Millbay, who has been closely involved in the negotiations, said that the scheme would have important consequences for Plymouth, with the prospect of a substantial increase in the port's trade in a relatively short space of time.

"This agreement means that all of the produce passing through the new terminal at Roscoff will be routed through Millbay Docks, which have strong traditional links with Brittany," he said. "Although the new service will be based primarily on the fresh produce season which occurs during the first six months of the year, we are confident that the frequency of sailings will attract a good deal of other traffic in both directions.

"In addition to this, it is likely that accommodation for passengers and their cars will be provided during the height of the holiday season, from July to September, providing the only car ferry route between Britain and France west of Southampton," Mr. Perfitt added.

"The frequency of sailings between the two ports, which are just 153 kilometres (95 miles) apart, is expected to be five a week in each direction during the produce season (January/June) and three a week at other times. Voyage time will be approximately five to six hours, permitting a 24-hour turnround.

"Present plans involve the use of

APRIL 1972



Potash warehouses at the Albert dock, Port of Antwerp.

a chartered vessel capable of carrying up to forty 40 ft. wheeled freight units, or their equivalent, per voyage, giving the service a potential annual capacity, for the planned 200 round voyages, of 16,000 freight vehicles," he said.

The site selected for the new terminal at Plymouth is at a tidal berth in the north-west corner of the Outer Basin at Millbay, where the ferry vessel can be accommodated at all states of the tide. A bridge ramp of approximately 55 metres (180 ft.) in length, hinged onto the South Quay, will be provided for the movement of vehicles between ship and shore, and an area of approximately 0.8 hectares (2 acres) will be surfaced for marshalling purposes.

Other features of the scheme include the adaptation of an existing building for Customs examination of vehicles; roadworks and fencing; and a limited amount of dredging necessary to ensure a minimum depth of 5.2 metres (17 ft.) in the area of the berth at all times.

Millbay Docks have earned a reputation for the speedy and efficient handling of perishable traffics in recent years and last year (1971) dealt with over 21,000 tons of fruit and vegetables from North-west France and the Mediterranean region. The changeover of the Breton traffic from conventional to roll-on/roll-off operations will release valuable shed and berthing capacity at the port to meet the increasing demands of the fruit trade as well as giving scope for the introduction of new general cargo business. (British Transport Docks Board)

Maplin Seaport

London, 2nd February:—In welcoming the Government's statement about seaport developments at Maplin, the PLA's Director-General, Mr. John Lunch, said today:—

"Here is the green light we have been waiting for. This gives a stimulus to our plans for the continued expansion of the trade of Port of London.

"It will enable us to benefit fully from the technological revolution that is re-shaping the Port.

"The Maplin seaport development is an essential part of the PLA's policy of developing the Estuary fully and of providing deepwater facilities nearer the sea.

"The PLA will quickly respond to the statement made by the Secretary of State and we will soon put forward our plans for consideration under the Harbours Act."

PLA Maplin Seaport Plan

PLA plans a deep water seaport at Maplin with a deepened approach channel. The sand dredged from the channel will be excellent material

Europe-Africa

- handling 250,000 ton tankers of 65 ft. draught from the beginning, increasing to 75 ft. and even 85 ft. draught (500,000 ton tankers—the largest there are likely to be serving North West Europe), if the demand arises. The oil terminal will be linked by pipelines to present and future refineries in the region which means there will be no need for the siting of refineries near the airport.
- handling containerships the largest that can be envisaged in this century and beyond.
- first-class facilities for the upsurge in container and roll-on/roll-off traffic that is expected with Britain's entry into the Common Market.

With first class rail and road links and with its position close to the Continent, Maplin will become a prime location in the U.K. for a modern seaport complex.

The first stage of the oil terminal and of the container/roll-on roll-off terminal in planned for 1976 which means channel dredging must start in 1973. (News from PLA)

Tilbury Grain Terminal

London, 10th February:—Following a record throughput of more than $1\frac{1}{2}$ million tons last year the PLA's Tilbury Grain Terminal is continuing its successes with speedier ship turn-round as it shown by two recent vessels.

The m.v. MOSSHILL with nearly 22,000 tons of Yellow Corn from Baltimore completely discharged in two working days. On day one, Friday February 4th, the two shifts dealt with 12,300 tons and on day two, Monday, February 7th, the two shifts completed with 9,604 tons.

A previous voyage by the same vessel in June 1970 when she carried similar cargo and tonnage required three days to complete.

A further success was achieved this month with m.v. ORION which followed MOSSHILL onto the terminal on February 8th. Chartered by Bunge & Co. Ltd. ORION brought 23,824 tons of Canadian



New Lock on the Seine

Vaires-Sur-Marne, 28th October: —A new lock, the third one built on this place, has just been put into operation on the Seine River, at Suresnes, close to PARIS.

This lock was inaugurated, January the 13th by Mr. CHALANDON, French Minister of Equipment, and Mr. DREYFOUS DUCAS, Director of the Port Autonome of Paris.

This new lock has the following measurements:

Length = 185 m.

Width
$$=$$
 18 m.

Depth =
$$5 \text{ m}$$
.

It will be now possible to go from the sea (LE HAVRE and ROUEN) to PARIS with river lighters more important, until 4500 T pushed freight barges.

After dreding, Seine river will be opened to pushed freight barges up to 5.000T. It is to say that such load is equivalent to three hundred thirty 15 T trucks of five 1.000 T trains.

This river traffic may reach a high leevl with the underconstruction project of a river port at ILE SAINT GERMAIN—close to ISSY LES MOULINEAUX—some kilometers from PARIS.

A new lock is under construction at ANDRESY, and some others are projected at NOTREE DAME DE LA GARENNE, MERICOURT, CHATOU and ANFREVILLE. (Inq. G. Maffait, Service de la Navigation de La Marne)

Spring Wheat from Halifax. On her first day the two shifts at the Terminal discharged a total of 18,-130 tons and they completed the balance of 5,694 tons by 4 p.m. the next day, February 9th.

The Grain Terminal Manager, Colin Betts, said "These results are very gratifying and we were helped by the fact that in each case the shipments consisted of one type of grain only. It certainly reflects great credit on the terminal teams who maintained the rate through the shifts. It justifies the Authority's decision to provide this modern facility for the country's important grain trade." (News from PLA)

Bulk Wine from Spain

London, 22nd February:—Agreement has again been reached between Charles Kinloch Co. Ltd. and the Port of London Authority, India & Millwall Docks whereby the firm's importations of the now well established brands of Spanish table wines will be entirely discharged from ships tanks to the P.L.A. Bulk Wine Installation at India & Millwall Docks during 1972. The wine is subsequently transferred from the P.L.A. bonded vats to Charles Kinloch's own road tankers for delivery to Park Royal, their main duty-paid warehouse.

Charles Kinloch have been regular users of the Port of London for many years. In earlier times, shipping their Spanish wine in casks from Tarragona through London Dock and in recent years by streamlined methods using modern tanker vessels. The firm were amongst the earliest users of the first bulk wine installation built for the P.L.A. at Garnet Street, London Dock in 1959 and currently use the new modern installation at India & Millwall Dock which first opened in 1969. (News from PLA)

At Helsingborg, Container and Ro-Ro Traffics Are Soaring

Transport Engineering

London:—"Transportation Engineering Conference and Exhibition" is scheduled to be held 18-21 April, 1972, at the Imperial College of Science and Technology, London.

Around the main theme of Transport Planning and its implementation", the following subjects are to be covered: the place of air, rail and road in inter-city transport; inter-city links and interchanges; regional transport studies; implementation of urban road traffic schemes; public transport; implementation of urban transport plans; transport and amenity. An exhibition will run throughout the week and will present a comprehensive display of systems and operational methods relevant to the theme of the conference.

Full details and application forms may be obtained from the Conference Office, Institution of Civil Engineers, Great George Street, London, SW1P 3AA.

Ports Are Indicators

Bremen: - Ports are the best seismographs of the international economy. The development in their cargo-handling activities, and the order-book graph-curves of their adjacent shipyards, indicate clearly that the growth in international trade is slowing down-an event which is also readable from many other symptoms materializing in international economics. In London shipping-circles conjectures are being heard that the number of laid-up ships will already rise drastically in the coming months. The comment of one of the largest, European, ocean and inlandwaterway shipping companies-van Ommeren in Rotterdam-on the international shipping situation:----'disastrous'. In the last quarter of a century it has "never been so bad as it is today". The biggest German shipping company, Hapag-Lloyd, has sold its flagship-its biggest passenger-vessel-to a Greek shipowner: A consequence of the global recession in the passenger shipping trade. (Bremen Air Mail, December)

Helsingborg:—Also in 1971 the Port of Helsingborg achieved a new record in cargo turnover, which now has reached a total of 6.5 million tons. Especially interesting is the rapid growth of the container traffic, which rose by 16%. The rollon/roll-off traffic is dominating by 3.3 million tons and the total number of units including containers, flats, trailers and lorries reached 262,-500—an increase of 5.6%.

Ship departures and arrivals totalled 131,187 (131,797 in 1970) corresponding to 57,032,475 n.r.t. (50,446,085), up 13%. Another interesting development is the number of motor vehicles in international traffic by ferries to Denmark and Germany. In 1971 no less than 1,046,770 motor vehicles passed through the Port of Helsingborg against 989,866 the year before.

Also the passenger traffic is on a scale that only few ports in the world may achieve. 14.5 million passengers confirm that the undisputed gateway from Sweden to the continent is Helsingborg. The figure also indicates that more people are crossing the border via Helsingborg than via all other south Swedish ports together.

Helsingborg can now offer direct container services to a row of European destinations such as Middlesborough, Hull, Immingham, Felixstowe, London, Rotterdam, Antwerp and Bremerhafen. Thanks to convenient feeder service facilities containers may be shipped from the port of Helsingborg to a number of overseas destinations, e.g. New York, Norfolk, Charleston, Philadelphia, Jacksonville, Oakland, Los Angeles and Honolulu.

The fruit import swelled considerably during 1971. The ideal location of the port and the convenient facilities attract the fruit import. Thus transhipment by rail or road is easily made overnight to the Stockholm area and to other destinations in hours. Furthermore Hel-



Symbol of Port of Helsingborg

singborg can offer 6 million cu. ft. of cold and reefer storage with a capacity of 100,000 cartons in cold stores.

The terminal company taking care of discharging and storing has developed a very efficient system with an extremely high productivity per manhour, which makes the operations at Helsingborg very economic for ship-owners and importers. In order to meet an expected expansion of the fruit import the Port Authorities are improving the storage facilities in 1972. A new traffic planning system will also come into force for the Ocean Terminal. The system will facilitate the distribution of goods from the warehouses including the fruit stores. By this improvement Helsingborg will be prepared to handle more cargo than ever before.

Weser-Jade Ports

Bremen:—The total cargo handled by the ports of the Weser-Jade economic area (Bremen, Bremerhaven, Wilhelmshaven, Brake and Nordenham) in 1970 reached a figure exceeding 54 million tons, of which 50 percent of the bulk cargo moved through Wilhelmshaven and 95 percent of the general-cargo via Bremen and Bremerhaven. Wilhelmshaven is the leading German oilport, whilst Bremen/Bremerhaven have the largest share in general-



cargo—and also lead as container ports. Brake and Nordenham are industrial and bulk-commodity ports. The Lower-Weser/Jade group of ports participated, in 1970, to the tune of 29 percent of the ocean cargoes outwards from the Federal Republic of Germany and with 41 percent of incoming ocean goods. (Bremen Air Mail, December)

World Tankers Increasing

Bremen:—In the 12 months from mid-1970 to mid-1971 the world's tanker-fleet grew by 10 million GRT; i.e., by 11.6 percent. The main increases were to be seen in the largest tanker fleets: Liberia grew from 19.3 to 22.2 million GRT; Great Britain from 12 to 13.4; Japan from 9.2 to 10.7; and the Norwegian tanker fleet from 8.8 to 10.2 million GRT. Also the tanker tonnages of Greece (mid-1971: 4.6 million tons) France (3.9), Italy (3), Spain (1.7) and the Federal Republic of Germany (1.8 million GRT) increased by more than ten percent. Over half the increase in the international shipping fleet, for this period, was in respect of the tanker fleet. (Bremen Air Mail, December)

Coastal Steel Plants

Bremen: — The Ruhr area, the cradle and-until now-the centre of the German steel industry, will no longer-in the more distant future -harbour this branch of industry. Instead it will presumably changedeveloping into a centre of additional processing; declared the long-standing president of the German Iron and Steel Producers Association, Professor Dr. Hermann Schenck- in the Krupp-metropolis of Essen. Due to ore and coal being imported from overseas, the coast-where the orefreighters can deliver their loads direct to the foundry-has the advantage. The German steel industry will find it unavoidably necessary to come round to the 'principle of the large ore-port being adjacent to the

foundry'. (Bremen Air Mail January)

Container-Boom in E-Asia

Bremen:-The, more than in the past, forthcoming attitude of the Soviet Union in east-west trade; the Europe-Asia land connection with the Trans-Siberian railway, hauling container trains and special handling facilities on the Soviet Pacific-coast; the investment of an estimated 300 million pounds in 1972, 73 and 74 in the construction of some 25 container-ships of the third generation (for ten European and Japanese shipping companies)-ships of 25knots and each accommodating 2000 containers; all this signifies a containerboom in the East-Asia trade. According to a spokesman of the Far Eastern Freight Conference, even this heavy engagement will not lead to an over-capacity on this worldtrade route, which is becoming of ever-increasing importance. (Bremen Air Mail, January)

PORTS and HARBORS



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