

THE INTERNATIONAL ASSOCIATION OF PORTS AND HARBORS

Introducing The Crests of Co-Member Ports

(Each Issue One Port)

THE PORT OF LONDON





The Royal Victoria, Royal Albert and King George V. Dock, known collectively as the Royal Group are situated on the north bank of the Thames 10 miles down-river from London Bridge.

THE INTERNATIONAL ASSOCIATION OF PORTS AND HARBORS

OBJECTS AND PURPOSES (Per Article 3 of Constitution)

The objects and purposes of this Association shall be:

(a) To associate its members from all countries together in the common cause of mutual international friendship and understanding;

(b) To exchange information relative to port and harbor organization, administration. management, development, operation and promotion;

(c) To encourage, develop and promote waterborne commerce to and from all world ports and harbors; and

(d) To encourage the standardization and simplification of procedure governing imports and exports and the clearance of vessels in international trade:—

thereby promoting the peace in the world and the welfare of mankind.

UNDERTAKINGS

(Per Article 3 of Constitution)

This Association shall carry out the following undertakings in order to accomplish the objects and purposes specified in the foregoing Article:

(a) The holding of conferences of the International Association of Ports and Harbors as provided in the By-Laws;

(b) The publication of the minutes of Conferences, an official Association journal or other publication and other special publications concerning ports and harbors, as may be authorized by this Association;

(c) The establishment of relations with other international organizations, associations and agencies on matters of mutual international interest concerning ports and harbors;

(d) The establishment of a center or centers for the collection, tabulation and distribution of information concerning ports and harbors from throughout the world for the benefit of members of this Association and other interested persons:

(e) The dissemination to ports and harbors, and governmental agencies and private operators thereof, of the accomplishments of this Association as expressed in resolutions, bills, reports of committees, and the published proceedings thereof;

(f) The establishment of committees from among the membership of this Association for reference purposes of members engaging in the organization, administration, development, operation, utilization, management or promotion of ports, harbors and other waterfront facilities;

(g) The assumption of other undertakings necessary to effectuate and realize the objects and purposes of this Association.

PORTS and HARBORS

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THE INTERNATIONAL ASSOCIATION OF PORTS AND HARBORS

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From The Central Secretariat

By Gaku Matsumoto Chief of the Central Secretariat I.A.P.H.

Mr. John P.Davis, President Group A: Coastal Engineering of IAPH Visits Japan

Mr. John P. Davis, the President of the International Association of Ports and Harbors, will visit Japan early October to attend the Annual Meeting of the Japan Port and Harbor Association at its invitation, which will be held at Niigata, Niigata Prefecture on the 10th October, also to discuss the business matters with the Central Secretariat staff in Tokyo.

Mr. Davis will pay a visit to Yokkaichi, the Sister-City of the Port of Long Beach, later.

м, Changes in Member of the staff of the Central Secretariat

Mr. Kenichi Takaku, the Senior Under-Secretary, has resigned and Mr. Motoc Kiyooka has taken over the position, while Mr. Akira Ikeda, the Editor of the "Ports and Harbors", has retired from office and Mr. Kenzo Matsuo has succeeded him.

÷ \sim The Group Training Course for Port and Marbor **Engineering** 1963

The first Group Training Course, besides the Seminar hitherto held in Tokyo, is to be held with the Japanese Ministry of Transportation and the Overseas Technical Cooperation Agency as organizers.

The object of this Group Training Course is to improve relations and tighten friendships between countries through subordinates staff such as actual working people of the ports and harbors especially in the field of engineering.

The Group Training Course is to start from September 10, 1963 to December 20, 1963 including Study Tour and Observation. The duration varies according to the Groups and subjects of Training

Group B:	Structual De	esign, Soil
	Mechanics a	nd Foun-
	dation Engin	leering

Greup C: Cargo Handling Equipment and Construction Craft

At the present, 17 participants are expected for the Group Training Course.

The Central Secretariat of the International Association of Ports and Harbors will coordinate with aiming that through the activities of the Group Training Course the Secretariat can make propaganda of IAPH and acquire new members from ports of various countries for future expansion of IAPH.

General Offer of the Group **Training Course for 1963** In Port and Harbour Engineering By the Government of Japan

·X-

I. Introduction

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This Group Training Course in Port and Harbour Engineering for 1963 has been organized by the Government of Japan as part of the Technical Cooperation Scheme

under the Colombo Plan in South and South-East Asia, the Technical Cooperation Plan for Near and Middle East and Africa and the Technical Cooperation Plan for Latin America.

All necessary arrangements for this training course are made by the Overseas Technical Cooperation Agency (hereinafter referred as "O.T.C.A."). This course is intended to introduce Japanese techniques and to contribute to the further development in the field of Port and Harbour Engineering in the participating countries.

It also aims at promoting mutual international understanding and friendships among the peoples of the participants' countries and Japan.

II. Procedures for Application

(1) The government intending to send its applicants to this course is requested to forward completed Application the Form (Form-A2) and the Nomination Form (Form-A3), for each applicant with six (6) copies, to the Government of Japan through Japanese Embassy concerned not later than two months prior to the opening of the course.

New Memberships

Applications for membership filed with the Central Secretariat since June, 1963 are as follows:

	Regular Members
Chittageng:	Board of Trustees for the Port of Chittagong, East Pakistan
Guam:	Commercial Port, Government of Guam
	Corporate Supporting Members
Hakata : Tokyo :	Hakata Port Development Co., Ltd., Hakata, Japan Japan Port Consultant Association, Tokyo, Japan
	Individual Supporting Members
Tokyo:	Mr. Fukujiro Hoshino
Buenos Aires:	c/o American Embassy, Tokyo, Japan Mr. F. R. A. Prestien Casilla de Correo 4510 Correo Central Buenos Aires, Argentina

(2) The Government of Japan will reply to the applying government about the feasibility of training not later than one month prior to the opening of the course.

III. Qualification

- (1) Applicants shall be nominated by their government.
- (2) Applicants shall be the middle class engineering officials and have more than four years of practical experience after they graduate from a university.
- (3) Applicants are required to have a command of English good enough to follow the training course.
- (4) The training course will consists of 10 (ten) participants.

IV. Duration

From September 10, 1963 to December 20, 1963 (for 100 days).

V. Programme

The tentative training programme is as attached. This training course mainly consists of lecture and research works. The first part of the training course will consist of lectures on the fundamental port and harbour engineering connected with planning, designing and execution of the works. The latter part of the works. The latter part of the training programme will be divided into the following three items.

- Item A: Study on coastal engineering such as breakwaters or shore protection. (A Group)
- Item B: Study on structural design, soil mechanics and foundation engineering. (B Group)
- Item C: Study on cargo handling equipment & construction craft. (B Group)

Participants are requested to choose one item from the abovementioned items and to submit a report describing the theme which they want to solve in the training course. The report should be submitted attached with Application Form.

VI. Facilities or Institutes

Name and location of facilities or institutes for the training course: —omitted—

VII. General Information

- (1) Participants are requested to arrive in Japan on the date designated by the Government of Japan.
- (2) Necessary arrangements for the receiving of participants will be met by personnel of a travelling agent designated by "O.T.C.A.".
- (3) Participants who have successfully completed their training course will be awarded a certificate issued by the Government of Japan.
- (4) Participants shall strictly follow the schedule of the training course.
- (5) No application for changes in training subejct or for extension of training period shall be accepted under any circumstances.

Maryland Port Authority Names Two New Directors

*

W. GREGORY HALPIN has been named deputy director, by the Maryland Port Authority, effective July 1, 1963.

Mr. Halpin, executive assistant to the director of the Authority since January 1963, first became associated with the organization in 1959.

He served as director of communications for four years, during which time he supervised the Authority's public relations, advertising, promotional and radio communications program.

DR. WALTER C. BOYER has been named deputy director in charge of engineering and planning by the Maryland Port Authority, effective July 1, 1963.

Dr. Boyer, director of engineering since November 1957, has been instrumental in developing the Authority's program of new port facilities in Baltimore and in the ports of Crisfield and Cambridge.

He also helped draft the lease and agreement with the Baltimore and Ohio Railroad for the rehabilitation and operation of the Locust Point piers.

> Communications Department Maryland Port Authority Pier 2, Pratt Street Baltimore 2, Maryland

Another New Facility For Port of Long Beach

Another maojr step in the Port of Long Beach's \$150 million expansion program was taken today (Sept. 30) when the L.B. Board of Harbor Commissioners accepted a low bid of \$2 million for the construction of a clear-span transit shed.

As the low bidder, Fred A. Johnson, Inc. will build the 200×970 -foot shed on the port's new Pier F. The shed will have two berths with a 50-foot wide apron wharf.

The port will spend an additional \$850,000 on the new facility for rail tracks, utilities and paving. Completion date is scheduled for early next fall.



Mr. W. Gregory Halpin



Dr. Walter C. Boyer

THE PORT OF LONDON

E. W. King Chief Information Officer Port of London Authority

The Port of London

To the visitor, perhaps the most significant features of the Port of London are its sheer size, covering 69 miles of the tidal Thames, and the richness and strength of its traditions. To these who like simple categories: medieval history on the right, mechanization on the left, as it were; the unbelievable variety of the Port of London; the casual mixture of ancient monuments with mechanised ship berths and the juxtaposition of hallowed tradition and ruthless modern efficiency, present a canvas not easily comprehended. A stroll along Tower Wharf by the Tower of London gives no hint that within easy walking distance of this historic building, the glass-lined vats of the most modern and efficient bulk wine handling plant in the world are pioneering this method of dealing with wine imports. So it is throughout the Port. Hydrofoil and hovercraft moor without fuss next to the site of the excavation of a Roman galley or, on the site where Samuel Pepys toiled at the care of the wooden walls of England, a P.L.A. computer contributes its evidence to economic forecasts in connection with the planning of new ship berths.

Administration of the P.L.A.

This functional mixture of tradition and modernity are the base on which have grown the appar-

ently complex administrative features of the Port. The unmistakeably British compromise represented by the governing body of the Port, the Port of London Authority, is in fact a reasonably effective and satisfactory administrative instrument. A public trust, its shape was drawn early in the century when, following a Government enquiry into the affairs of the Port, a Royal Commission was appointed. In those days the enclosed docks were operated by private companies and the tidal river was controlled by the Thames Conservancy Board. The Royal Commission envisaged a new public body, the Port of London Authority, to take over the docks and river. The scheme, in its original broad conception, was excellent. But it was a time when tradition was too highly respected and the issue became so clouded with ancient rights and interests that the plan was whittled down.



The Operations room of the Thames Navigation Service at Gravesend, a service to give information to the Masters or persons in charge of vessels in the Port London.

By an Act of 1908 the new Port of London Authority became owners and operators of the enclosed docks and Conservators of the tidal river from Teddington to the Nore. Pilotage, port health and policing of the River (but not the docks) were left in the hands of other bodies. Wharfage, towage, lighterage and other river services remained in the hands of private interests and a complicated pattern of commercial rights and privileges continued to flourish. As in the case of most United Kingdom ports, road and rail access are administered by other undertakings (except within the actual dock estates) and industrial development in the vicinity of the docks has not been related to the future needs of the Port. Dispersal has continued for in recent times we have seen the creation of the National Dock Labour Board to take over and administer all casual dock

labour whether engaged by public London stretches along 69 miles or private interests.

Most of the problems created by this compromise plan have long since been smoothed out, but one cannot help feeling sometimes, that in an age of greater integration and efficiency, the problems of the P.L.A. might be a little less hydra-headed if there was a more unified control over some of the breeding grounds of these problems!

So far as the P.L.A. itself is concerned, the administrative organisation is a microcosm of our national form of government. The Board consists of 28 members elected or appointed by all who use the Port. The Chairman and Vice-Chairman may be drawn from within or without their ranks. This body formulates policy.

Great Size of the Port

of the tidal Thames from Teddington to the Nore and includes the five great dock systems which the P.L.A. took over in 1909 and have since transformed in many respects. The Authority's estates cover a total area of nearly 4,000 acres. At the docks, there is a total area of 660 acres of impounded water and the total length of deep water quayage is 36 miles providing in the region of 200 working ship berths.

Dock history in the Port began with the Howland Great Wet Dock in 1700. Long since rebuilt, and now named the Greenland Dock, it is one of 11 in the Surrey Commercial group which are now very much in the age of technology, handling such completely modern vessels as the Pavlin Vinogradov, a Russian gas-turbine ship in the timber trade. Surrey Docks have Geographically, the Port of been many trades in their time,



Aerial view of the West India & Millwall Docks, Port of London. The white lettering shows the sites of new sheds in the Millwall Docks.

including whaling, but now they are the centre of the softwood timber trade of Britain and provide some of the most extensive examples of the virtues of mechanical handling to be found anywhere. Recently the demand for general cargo facilities at this control has led to further striking developments some of which are described in the section on engineering in the Port. The total water area of the Surrey Docks is about 160 acres, the total estate area being about 400 acres. The Potr of London handles about a quarter of all the country's softwood imports half of the hardwood and about two thirds of the plywood. Most of this traffic is centred at the Surrey Docks and is nowadays handled by the P.I.A. mobile cranes, gulping and disgorging in more minutes loads of timber which would once have needed the efforts of hosts of deal porters. The fork-lift truck has similarly speeded the handling of plywood. Recently, packaged lumber has made its appearance, with further economies in handling. The mobile cranes for timber handling are of special design with jibs sufficiently long and curved to permit high piling of long lengths.

On the north side of the River, the London and St. Katharine Docks are nearest to the City of London, being within easy walking distance of the City's eastern boundary. Opened in the early 19th century, this group of docks is perhaps most renowned in international circles as the centre of the wine and wool trades. They provide too, a striking example of the continuity of development in the handling of specialised trades. Below ground 27 acres of wine and spirit vaults have served the trade for about 150 yards. They are still regarded as some of the best vaults in the world and the value of the spirits stored there may be as much as £16 million depending on the state of stocks and trade generally. Above ground, No. 22 Berth is a pioneer venture, one of the first of its kind in the world to handle wine in bulk. This is the Bulk Wine Berth, a place of glass-lined storage vats with a total capacity of over half a million gallons of wine, of stainless steel and plastic pipes. Here wine is

pumped ashore from wine tankers or from special containers holding up to 800 gallons. The success of this plant has already indicated the need to extend the facilities and storage capacity. Though a comparatively small control, the London and St. Katharine Docks have 29 cargo working berths. Provision for the wool trade includes, beside show floors, about 20 acres of storage space.

The India and Millwall Docks. five miles downstream from the London and St. Katharine Docks. lie on the land known as the Isle of Dogs, enclosed by the great sweep of Limehouse, Greenwich and Blackwall Reaches. The West India Docks, promoted by the West India merchants and the Corporation of London, were opened in 1802 to deal with the rapidly increasing West India trade. In 1868 the Millwall Dock, to the south, was opened. Nowadays 1t is joined to the West India Dock system by a water cutting constructed by the P.L.A. Modernisation at the India and Millwall control has been a long and costly business. In addition to the cutting mentioned others have been made to inter-connect all the docks and a new entrance lock has been constructed. Quays have been reconstructed and water depths increased. A large number of new sheds and warehouses has been built and an extensive range of modern cargo-handling equipment installed. At present extensive engineering work on the east side of the Millwlal Docks is nearing completion and already, this site is one of the most extensive areas of modern mechanised cargo handling in the Port. The work is described in more detail in the section on engineering in the Port.

The Royal Docks, the largest sheet of impounded water in the world, are on the north bank of Woolwich Reach. The first dock constructed was the Victoria Dock, opened in 1855. In 1880 the Royal Albert Dock, joined by the Connaught Cutting to the Victoria Dock, was opened to cope with the ever increasing traffic of the Port. To the south of the Royal Albert Dock, the P.L.A. added the King George V Dock, completed in 1921. The Royal Dock estate to-day is almost a city in itself and the long lines of big ocean liners at the berths are a sight which never ceases to attract visitors to the River and Docks Cruises run by the Authority during the summer months.

The Tilbury Docks, near the seaward end of the Thames Estuary, were built in 1886 and virtually brought the era of private dock developments to an end. To this group, the P.L.A. have added the Tilbury Passenger Landing Stage in the river, with its ancillary shore facilities and the next stage of development has crystallised into a plan for several major berths at Tilbury and for two additional roll-on, roll-off berths in this group. Work has already started on this project. Opposite Tilbury, on the south side of the river at Gravesend, is the P.L.A.'s Thames Navigation Service headquarters, providing in addition to routine reporting on shipping V.H.F. radio telephone traffic. communication with all ships fitted with V.H.F. communication This service is inequipment. valued by shipping creasingly companies and more and more vessels are being fitted with the radio gear necessary to take advantage of it.

This very brief listing of some of the P.I.A.'s estates is given only to convey some idea of the size of the Port and to indicate the strength and duration of the traditions inherited by the Authority. Paradoxically, the very strength of this historical fabric gives it flexibility. In many ways change comes easily to the Port of London which has, after all, seen 2,000 years of change. In such a big port even a major work of engineering may appear no more than a slight cluster of activity when viewed from the perspective of Events which mid-stream. is smaller ports very naturally excite enormous publicity are all in a day's work. A sunken tug is raised and returned to her owners in a day; the ship which loses an anchor finds it waiting when she berths a few hours later, and so The Port can absorb vast on. amounts of the unexpected without trouble. If a grain barque arrived at the Authority's Central Granary at Millwall Dock, as they once did on every tide, she would be discharged by the same imperturbable grain elevators which nowadays handle modern bulk grain carriers and have a total discharge capacity of 10,000 tons a day. To take but one more example of the Port's growth and rate of change, we can contrast the 1,300-odd barrels of oil brought to the Royal Victoria Dock aboard the 110 ft. brig *Elizabeth Watts* in 1861 with the 12 million tons of crude petroleum now handled annually by the facilities of Thamessite. London is, in fact, Britain's major oil port as well as the general cargo port handling one third of the country's trade.

Planning in the Modern Port

The responsibility for ensuring the continued efficiency of one of the foremost ports of the world is, as all port administrators know, greatly increased in an age when obsolescence overtakes design with bewildering speed. Expenditure on developing P.L.A. facilities since 1948 has beeen of the order of £40 million and current plans envisage the expenditure of £30 million over the next six years. The annual rate of development investment is likely to be still further increased certain major technical and economic studies are completed. These studies are nowadays conducted with the aid of teams of work-study experts,



One of the Authority's new berths at Surrey Commercial Docks, equipped with modern tubular quay cranes, and modernised transit sheds.



No. 4 berth, Royal Victoria Dock, Port of London, built specially for the United States Lines. The shed is 700 ft long with a 55 ft canopy and loading platforms for road transport at each end. The berth is 1,160 ft long and can accommodate two ships each 470 ft long.

economists and also by means of electronic computer techniques. The heavy capital cost of modern ship berths, and the need to ensure that such spending is done to the best advantage of maritime commerce, are not the only reasons for these careful studies. The P.L.A. is financially financed on normal commercial terms. The size of the Port of London-it handles up to 1,000 vessels a week-has already been referred to and it will be appreciated that the variety of possible trade patterns within such a huge complex is endless. Technical, economic and political events all have their repercussions on the rhythm of the Port. A recent example is afforded by the European Common Market discussions. The data confronting the port-planner, reduced to their barest bones, were the political pressures both for and against Britain's entry; the 40 per cent increase of Britain's export trade with the Continent of Europe between 1960 and 1962 and the 7 per cent increase in British imports from Common Market countries in the same period. To these could be added political reaction from the British Commonwealth. In the event, Britain did not join the Common Market. That was one problem off the plate of politicians. Nothing is changed, however, for the port planner. Trade with Europe flows on, unperturbed by the political discussion.

The complexity of any port enterprise, especially one the size of London, makes it impossible to describe briefly the very many different ways in which the Authority are planning for the future. Another point, particularly relevant in London, is that not all the operations and functions involved are in the hands of the Port Authority itself. How much can be achieved by meticulous and scientific planning is illustrated by what one shipping newspaper has characterised as "Traffic Control at the Nore." This scheme, not yet in operation, is really a plan to plot tidal data much more accurately. This in turn is expected to permit a reduction in the margins allowed on the draughts of ships using the Port. If, armed with this information, the Authority are then able to offer some traffic advice and guidance to incoming and outgoing ships, deeper draught vessels will be able to take fullest advantage of the maximum high water periods. This reduction of the unknown factor in tidal variation is to be achieved by the installation of an electronic tide gauge and associated V.H.F. radio equipment on the disused wartime anti-aircraft forts at the Shivering Sands in the outer estuary. The biggest ship which has so far come to the Thames was the W. Alton Jones, of 68,000 d.w.t., but she was not fully loaded. Draught is, of course, the crucial factor and it is thought that by means of the procedures outlined it may be possible to add as much as four feet to the maximum permitted draught.

The planning of port facilities in Britain has, of course, taken on a new dimension since the Government's setting up of a National Ports Council under the chairmanship of Lord Rochdale. This follows on from the Report of the Rochdale Committee set up to enquire into Britain's port industry and it was satisyifying to find that the P.L.A.'s belief, that Til bury Docks should be the site of major development, was endorsed by the Rochdale Report.

Engineering in the Port

The line between planning and engineering is not hard and fast. Plans are made not only in the light of economic evidence but also take into account what modern engineering makes feasible. Modern knowledge and techniques make possible projects which only a few decades ago were either impossible or hopelessly uneconomic. Thus new materials and methods of construction have made possible the huge clear-span transit sheds familiar to modern port operators. The speed of modern communication, as we have seen, makes it possible for a deep-draughted ship to advance into an estuary secure in the fore-knowledge of



One of the tubular type quay cranes now in use at all docks within the Port of London.

tidal depths ahead of her. We could all multiply examples.

One aspect, however, of engineering in the Port of London is often overlooked by those who are most clamorous in their demands that all the facilities of the port of tomorrow be produced to-day the fact that engineers must design and build within the often severe limitations imposed by those who built the Port of yesterday. If time, money and other considerations permitted, most dock and harbour authorities would like to sweep away the outworn and outmoded, start with a clean slate and build the port of their boldest and best imaginings. One or two, indeed, got the opportunity, though not in very happy circumstances. Others, like London, had to remain operational with what was left after war devastation and at the same time plan to remain in the forefront of modern developments. This need to develop or create new facilities within a budget and without bringing the operations of the port to a standstill whilst they are installed has often imposed tricky problems of organisation and phasing. Much planning and design have been conditioned too, by the strength of traditions. Thus there was no reason why the bulk wine berth already mentioned should be provided anywhere but at London Dock, the traditional home of the wine and spirit trade. This is natural enough. One provides up-to-date facilities where they will be most used but occasionally the engineering problems which arose demanded imaginatve solutions. For instance, in the course of very extensive developments on the east side of Millwall

Dock, the need arose to preserve a public right of way from one side of the dock to the other. This crossed the site of a vast all-weather loading canopy joining the big new transit sheds on either side of it. The solution is an enclosed walk-way, slung at high level from the girders inside the canopy, continued at this height across the land and water of the dock and served at both ends by lifts and stairs. To all-weather working, the P.L.A. might be said to have added all-weather walking! The programme of work concerned has so far provided at Millwall Dock a number of new transit sheds the two joined by the canopy mentioned are "G" Shed and "F" Shed. "G" Shed is 350 ft. long, has a clear width of 150 ft. and a minimum internal headroom of 20 ft. 6 in. allowing the free use of forklift trucks and ample scope for mechanised cargo handling. "F" Shed, to the south, has been constructed in an identical manner and will eventually be 500 ft. long. Aluminium cladding reduces both erection costs and maintenance charges to a minimum. Rapid progress has been made with these and other sheds and warehouses though much demolition work preceded the actual construction. Quay widening has produced a quay 50 ft. wide, the extra width of 10 ft. being obtained by cantilevering concrete beams, anchored to tension piles at their shoreward ends, out over the water of the dock. One track of the new electric quay cranes is actually on this cantilevered section. A new service road and open standing and marshalling space for lorries have also been provided.

The biggest transit shed in the Port remains that at No. 4 Berth, Royal Victoria Dock, constructed for the use of the United States Lines. Of advanced structural design, it was, of course, planned for the mechanised handling of cargo and provides 140,000 sq. ft. of completely unimpeded floor space where pallets or containers may be handled with equal ease.

At the Surrey Commercial Docks, on the south side of the Thames, there are the 11 interconnected docks already mentioned which, besides handling a major part of Britain's imports of softwood, are becoming more and more important in handling general cargo, a circumstance which has led to striking developments. The P.L.A. mobile cranes there are now taken for granted. The same applies to the fork-lift trucks effortlessly lifting, and scurrying off with, loads of plywood from Russia and the Baltic.

Quebec Dock, once a shallow pond for floated timber, has been extensively developed and now has a depth of 26 ft. alongside the quays. This construction work took place as far back as 1926 but



Timber being piled with the aid of a modern mobile crane at the Surrey Commercial Docks, Port of London. These cranes of special design have a jib sufficiently long and curved to permit high piling of Long lengths. recent work by the Authority on the south side has provided two ship berths of the most modern type. The existing quays have been surfaced and six new quay cranes, four 3-ton and two 5-ton, have been provided to serve the two berths known as "90" and "91". At No. 90 Berth a new transit shed, 327 ft. long and with a clear span of 150 ft., has been constructed. At 91 berth an existing shed has been refurbished and both sheds are equipped with mobile cranes and fork-lift trucks. At the rear, loading canopies allow all-weather working.

These new sheds and berths are examples of the current programmes. The work at Surrey Docks also provides excellent examples of the recurring need to build new facilities without disrupting the traffic of the Port for before the work at 90 and 91 berths could be put in hand provision had to be made for the softwoods from Russia, Finland and Sweden previously discharged here. The necessary preliminary was the erection, on an open site across Quebec Dock. of No. 89 Shed, an open timber storage shed 31 ft. high to handle the softwood traffic and in itself a major work of construction.

At Tilbury Docks, one may remark as well as the work involved in the creation of new berths, an instance of the way in which the adoption of new techniques can make possible work which might previously have been prohibitively expensive. This is the adoption of a special type of pile recently introduced into this country. At Tilbury, owing to the peaty nature of the sub-soil, there is predictable rate of settlement which causes the concrete quay aprons to crack and distort. To avoid recurrent and expensive repairs, the Authority were able to formulate long term plans for reconstructing the quays using the new piles. A thin steel cylinder with helical corrugations and a flat steel shoe is driven into the ground, the driving force being taken by a heavy steel mandrel which is withdrawn when the pile is driven. Reinforcement is then placed in the shell. Handling and driving are easier and quicker and piles do not have to be ordered in advance.

Equipment

In an inventory of equipment which includes several hundred items of floating plant alone, it is not easy to select those which give a rounded picture of the resources available or the direction of future trends. At one end of the scale is the *London Mammoth*, a 200-ton floating crane and the largest of the Authority's fleet of heavy-lift cranes. This fleet is shortly to be



Interior view of No. 4 berth, Royal Victoria Dock, Port of London, shewing modern fork – lift truck piling cargo for shipment overseas.



Rear view of one of the Authority's new berths at Surrey Commercial Docks, shewing canopy to enable road transport tobe handled under cover in inclement weather.

augmented by the London Samson, which will have Voith Schneider propulsion units, affording the excellent manoeuvrability desirable in such plant. At the lower end of the scale in point of size, is the fibre-glass motor launch which serves the P.L.A. salvage craft Yantlet. Incidentally, it is interesting to note an unusual recent use of this salvage vessel to carry out stability tests on the Rehu Moana, a catamaran which made a pioneer voyage to the Arctic. An unusual item of floating plant is perhaps the pumping unit at Rainham where dredgings are pumped ashore into lagoons which will eventually be useful reclaimed land. This scheme was the outcome of extensive investigations with a large "working model" of the Thames and its estuary on which siltation tests and experiments were made. The results seemed to indicate that silt dumped outside the estuary in the Black Deep was finding its way back into

the River.

Dredging plant includes both several bucket dredgers and grabhopper dredgers. The former carried out the enormous dredging programme required to make the deep channel from the Nore to the Pool of London, one of the P.L.A.'s first major tasks which produced a quantity of spoil equivalent to a mountain half as high as Snowdown, the highest mountain in England and Wales. Nowadays this aspect of port conservancy is conducted on severely scientific lines, the object being to keep actual dredging work to a minimum by taking advantage of every bit of natural scour and ensuring that all works in the River are planned and constructed so as not to impede this action.

Closely connected with this work is that of the Hydrographic Section. A recent experiment in estuary surveying with electronic surveying equipment was conducted to assess these aids with the

gratifying result that differences of less than 10 ft. were obtained between positions conventionally determined with sextants by the P.L.A. Hydrographic officers and those determined electronically. Other estuary survey work, conducted in conjunction with the Admiralty, is connected with the plan, already mentioned, to enable deep-draughted ships to use the port. The P.L.A. salvage vessel Yantlet which was pressed into service for this work, also undertook the collection of samples from the seabed to provide data for Admiralty Hydrographic staff who are investigating the basic reasons for changes of depth in certain important estuary areas.

Upstream, whispers of things to come are heard from such newcomers as the Denny Hovercraft, which operates a regular passenger service and a hydrofoil craft used by one firm for quick passages between the City and their wharves downstream. Perhaps the

best illustration of the smooth blend of ancient tradition and modern efficiency found on London's River is afforded a recent suggestion that the Hovercraft would be an excellent grandstand for Doggett's Coat and Badge Race, said to be the oldest sculling race in the world, and for the internationally famous Universities Boat Race!

At the docks, characteristic of the skyline are the quay cranes, unfamiliar in the United States where it is the practice to use ships' gear. It is not appropriate here to argue the merits of the European practice of using quay cranes against the American one. Suffice it to say that the cranes are provided by the P.L.A. at the express wish of the shipping companies using the docks. Increasing numbers of these cranes, of which the Authority at present own 550 odd, are of advanced design. In conjunction with a leading firm of British crane makers, the P.L.A. have developed an entirely new generation of quay cranes designed to provide maximum efficiency in performance with minimum maintenance costs. Their lifting capacities range from three to five tons. Nearly 80 of these cranes are in use and about 60 more are on order. Further orders are to follow

The many commodities which require specialised equipment if they are to be handled efficiently and economically include grain, timber, carcassed meat and, in a class by themselves, bananas. The conveyor belt system used to handle these latter has been in use for very many years. Carcassed meat is imported into Britain in large quantities from Australia, New Zealand and South America. It must be handled rapidly and hygienically and intricate sorting requirements must be met. The Authority are in the last stages of planning a completely mechanised system capable of discharging, sorting and delivering 9,000 lamb carcases an hour, a rate in advance of similar systems elsewhere.

The Future

As we have already seen, the Port of London's future is in a Britain. One cannot plan the future of a port which handles one third of a nation's trade except in the light of the trends apparent in the whole of that nation's economic and commercial life. Within such vast terms of reference the future needs of shipowners and traders must be assessed.

Furthermore, we may be on the brink of far-reaching changes in the handling of traffic. The bulk carrier, for instance, has proved its worth in many trades and port authorities everywhere have made provision for handling them. Container traffic may expand rapidly and indeed, such traffic in the form of unit loads on trailers, is already increasing considerably on the roll-on, roll-off ferry routes to the Continent from the Authority's Tilbury Docks.

In other fields, covered berths for ships, the decasualisation of dock labour, the possibilities of fast passenger ferry service by hydrofoils and hovercraft and the feasibility of common carrier pipeline services are but some of the issues which must be weighed and assessed by the architects of the ports of tomorrow. If container traffic increases, for instance, there must be large areas of marshalling space for vehicles adjacent to ship berths. This is a question familiar to us all. Other issues may be no more than an exciting technical possibility-such as nuclear cargo ships-but it is the duty of port administrators to be alert to these possibilities and the needs they will create.

The Port of London has an ancient and venerable history but it is also a history of change, adaptation, renewal and infinite flexibility. Its future is likely to be no different in these respects; indeed the rate of change may be even greater and so the Authoirty continue not only as the operators of the port of to-day, but also as the planners of the port of tomorrow.

<u>...</u> Ore/Coal Terminal for Santa Cruz

х.

The Companhia Siderurgica da Guanabara (COSIGUA) - Guanavery great measure, the future of bara Steel Company-presently in

process of formation, will, in the second half of this year commence the construction of its maritime terminal in Santa Cruz, located in the Bay of Sepetiba, and which job should be completed within approximately eighteen months.

This maritime terminal, the first step in the installation of a modern steel mill, will be located four kilometres distant from shore and will be connected to the continent by means of a pier, over which will be transported iron ore for export and coal for the use of this new steel bill Automatic conveyors are to be installed to expedite loading and discharge operations.

The terminal will accomodate bulk-carriers of up to 100,000 tons deadweight, and will enter into operation immediately upon its completion as the Company has the intention of financing its industrial projects by means of ex-Guanabara has recently increased port of iron ore.

The Companhia Siderurgica da its Capital from fifty million to one thousand million cruzeiros, by public subscription for the purpose of acquiring extensive property for its Plant installation in Santa Cruz, and for the purchase of the Cia. Siderurgica Oeste de Minas S.A., whose ore mines will be utilized to provide the ore for export and which in turn will finance the purchase of the steel milling equipment to be eventually imported. Other mining properties will also be acquired through this increase in capital.

The general plan of work is estimated at US\$395 million, in which figure is included, in Brazilian currency, 56,000 million Cruzeiros to be invested in establishing the ore/coal terminal at Santa Cruz, 5,500 million Cruzeiros for railway cars, locomotives and other railway equipment, and 2,000 million Cruzeiros for mining equipment.

Preparation of the site—an area of nine million square metres-for the steel mill is presently under way. Adjacent to the steel mill, the COPEG will construct a thermoelectric power plant and an industrial park.

FORUM ON PORTS PROBLEMS

A Basic Aid in Port Development

V. G. Swanson

Chairman of the Melbourne Harbor Trust Commissioners

and

Chairman of the Permanent Committee of the Australian Port Authorities Association

At specific intervals, every port executive should ask himself the apparently naive question: "What is a Port?"—and in the complex ramifications of the answer, gain a re-appraisal of the function of his Port in the complex structure of modern society.

Such a re-appraisal will give a new appreciation of the inseparable function of a Port in the maintenance and development of the industrial, commercial and personal phases of life in the community.

There can be little question that even in this age of space travel, the individual and collective prosperity of all nations is still dependent on the cargoes which are carried over both the traditional and the new sea routes to the appropriate Ports, where they are transferred to the media of land transportation, whether rail or road or inland waterways.

This is unquestionably the basic function of all Ports whether Melbourne or Marseilles, Montreal or Macao, Mozambique or Maracaibo. But in the structure of modern society, the Port is becoming increasingly further removed from the individuals in the community it helps to maintain physically and economically.

In earlier times, this problem of port awareness was simple. At all countries, ships brought to the Ports the entire requirements of the community essential to sustain not only the life of the individual people, but also the life of the community.

In this modern day only the pattern has changed.

All countries are becoming more and more industrialised, so that Ports are handling more raw materials, component parts and industrial machinery and equipment with which communities now make indigenous products, instead of importing the finished product themselves.

To an individual, therefore, who goes to his nearest supply centre and purchases a finished product which bears his national mark of manufacture, his association and in fact dependence on his Port seems very remote-if he is aware of them at all. This is despite the fact that the product he purchased could not have been manufactured at all if it had not been for the raw materials and component parts which came through the Port

It is essential then that the new appreciation gained by the Port Administrator should be actively transformed into a new public awareness of the Port's vital function in order to achieve essential port development more easily in various stages in the history of the interest of national prosperity.

Mr. V. G. Swanson

The community and its Port are indivisible. The growth and development of the one is not possible without the growth and development of the other.

The Americans who have the ability to produce appropriate slogans in quantity as easily and efficiently as they produce everything else, coined the phrase "Slow Down the Port and You Slow Down Main Street".

To achieve the commnity's acceptance of this basic fact-and Main Street can be translated into all languages and can be replaced by the name of the main commercial centre of every town and village-is as important a function

of a Port Authority, as it is to efficiently and speedily transfer ship's cargoes from one from of transportation to another.

In the early formative years of the City of Melbourne and the State of Victoria—a period in which other world centres had already become rich in achievement, tradition and development—the civic leaders of the small but rapidly expanding community clamoured persistently for more than 20 years for the establishment of a single authority to establish, manage and develop port facilities.

In 1851 the newly formed Melbourne Chamber of Commerce joined the vigorous demand for the establishment of a proper Port and Managing Authority — although this was only finally established in 1877—to become one of the early Authorities in the world concerned exclusively with the management and development of a Port.

The significant factor in this brief glimpse into early Melbourne history is not so much the establishment of the Port Authority, but rather the public demand for one. Here was a classic example of community awareness of the importance of first-class facilities, and the importance of the continual development under a single Port Authority.

By no stretch of the imagination can it be argued that the importance of the Port in this present day and age has in any way diminished.

In fact it has been increased, and in as much as the Port of Melbouren has kept abreast and ahead of the evolutionary demands for more and better equipped better mechanised and specialised port facilities it has assisted in the prosperity which the entire State enjoys today.

To a greater or lesser degree this applies to any and all Ports of whatever nationality on whatever seaboard of any world continent.

In many Ports, and unfortunately this does not apply in any marked degree in Australian Ports, community awareness of their vital role has been carefully and consciously fostered until today it is greater than ever. Typical among these Ports of course are Rotterdam, Bremen and Yokahama, to mention only three. Whether such public appreciation has been achieved through traditional associations with the sea, or whether because of the necessity to prosper because of the indifferently cruel spur of competition from nearby rival Ports, is difficult to define and in any case immaterial.

The communities in these centres are aware of the essential character of their Ports and they actively foster their growth and development, thereby assisting the prosperity of their national community.

In many other Ports increased community awareness is being actively promoted. Notable among these are the Ports of New York and Seattle. New York has calculated from carefully shifted and evaluated statistics that one person in four of the community the Port serves owes his economic existence to the functioning of the Port.

While no comparable statistics are maintained in Australian Ports, the percentage applied to Australia could well be higher. Australian Ports are more national in character than are Ports in the United Kingdom, Europe, North America or Japan, and there is no rivalry or competition between Ports to attract trade. This is due geographical features and to population distribution which are peculiar to Australia at the present time, but they highlight, on a truly national scale, the importance of community awareness of the Port function in the interests of community development as a whole.

By the volume, variety and type of cargo which passes over their wharves, Ports are sensitive economic barometers of trends in the communities they serve. Their continued development and efficiency to provide the essential services depend to a large degree on the full appreciation of their role by the communities they serve.

* *

AAPA holds Annual Convention at Portland

The 52nd Annual Convention of the American Association of Port Authorities will be held September 15-19, 1963.

The Meeting will be attended by some four hundred delegates representing the principal port cities in Canada, Latin America, and the United States.

Indonesia to Open Free Trade Zones

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Indonesia will establish a free port and three strategic free trade zones to bolster its economic confrontation policy against Malaysia Senior Minister for Distribution Dr. Johannes Leimena.

He said the island of Sabang, Indonesia's northernmost territory off Sumatra, will be made a free port.

The seaports of Belawan in Medan, Northern Sumatra facing Malaysia's free port of Penang, Makassar in Southern Celebes and Djakarta's main harbor of Tanjung Priok will be the initial free trade zones, Leimena added.

Single Firm Eyed for Ship Run to N.Y.

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A plan to have Japanese cargoliner service on the Japan-New York route operated by a single firm to be formed jointly by the nine Japanese lines presently engaged in service on the route was bared by the Transportation Ministry.

Tokuji Wakasa, director of the ministry's shipping bureau, explained the plan before a meeting of representatives of the nine lines, including NYK and OSK.

The plan is being studied by the ministry as stabilization of shipping operations on the route is desired.

(Continued on Page 18, Col. 3)

St. Lawrence Seaway Traffic August 1963

St. Lawrence Seaway cargo traffic between Montreal and Lake Ontario was up 18% over the 1962 figure as of the end of August and Welland Canal was 12% heavier than last year's for the same period, according to preliminary traffic statistics released by the Seaway entities.

August traffic for the Montreal-Lake Ontario Section reached a total of 3,600,000 tons compared with 3,200,000 tons in 1962, an increase of 13%. Upbound cargoes increased by 13.7% with downbound cargoes 12.3% over corresponding figures for last season.

During the 1963 period of April to August a 25% increase in upbound traffic from 6,800,000 tons in 1962 to 8,600,000 tons in 1963 is noted. Downbound cargoes increased by 12% from approximately 8,000,000 tons last year to 9,000,000 tons during the present navigation season. The upbound and downbound traffic was more closely in balance than has been experienced heretofore.

The Welland Canal figures for August, show an 18% increase in upbound cargoes from 1,500,000 tons to 1,800,000 tons. Downbound traffic rose from 2,800,000 tons in 1962 to 3,500,000 tons during the present season, or by 24%.

In comparing the year to date figures for the Welland Canal, upbound cargoes increased from 7,000,000 tons to 8,200,000 tons or 17% with downbound traffic from 14,000,000 tons to 15,200,000 tons or by 9.1%.

The total number of vessel transits, (excluding pleasure craft) through the St. Lawrance Section was slightly less than a year ago despite larger tonnage figures, decreasing from 3,735 transits to 3,724. Welland Canal shows a slight increase from 4,426 to 4,549 although the cargo tonnage has increased by a far greater proportion.

Another Gateway to the Sea

Mississippi River-Gulf Outlet is opened

(Quoted from New Orleans "Port Record" August 1963)

On Thursday, July, 25th, the Port of New Orleans officially opened its second "Gateway to the Sea."

With the sailing of the Delta Lines' SS Del Sud from the Public Bulk Terminal, Port authorities marked the inauguration of the operation of the Mississippi River-Gulf Outlet, a new deep-water channel which provides a shorter route between the Gulf of Mexico and the heart of the nation's busiest port, which, in 1962, set a new U.S. Gulf port record by handling better than 71.5 million tons of waterborne commercial tonnage.

The Outlet, which, upon its final completion in 1967, will provide a channel 500 feet wide by 36 feet deep, will eliminate 40 miles from the present distance from the Gulf to the Port, and will also provide much-needed room for expansion of Port and industrial facilities. Its 76-mile route stretches from the Industrial Canal in the Port to a point beyond Breton Sound in the Gulf.

The present channel, designated as an 'interim' channel, is 250 feet wide by the required 36 feet deep, and has navigational aids already installed. Total cost of the project, according to U.S. Army Corps of Engineers figures, will be approximately \$95 million.

Principal speaker for the cere monies which accompanied the Del Sud's departure was the senior U.S. Senator from Louisiana, the Hon. Allen J. Ellender. Congressman F. Edward Hebert, in whose Congressional district the new waterway is located, acted as master of ceremonies for the occasion, and Board of Port Commissioners President George C. Stohlman delivered the welcoming address to the many dignitaries present. Other addresses were made by Senator Russell B. Long

and Congressman Hale Boggs of the Louisiana delegation; Maj. Gen. Ellsworth I. Davis, Division Engineer, Mississippi River Commission and Lower Mississippi Valley Division, U.S. Army Corps of Engineers Owen W. Ware, executive counsel of Gov. Jimmie H. Davis, and New Orleans Mayor Victor H. Schiro.

Pronouncing the invocation for the event was the Most Reverend John Patrick Cody, Roman Catholic Apostolic Administrator of the Archdiocese of New Orleans, and giving the benediction was the Right Reverend Girault M. Jones, Bishop of the Episcopal Church in Louisiana. Guests for the event were transported to the Bulk Terminal on a special train composed of Louisville and Nashville rail cars pulled by a Public Belt Railroad diesel locomotive.

The Tidewater channel, as it is referred to in New Orleans, had its inception in 1922, when the Board of Port Commissioners, under the presidenecy of Rudolph Hecht, first proposed the idea of another outlet from the Port to the Gulf. Many business, civic and government leaders in the area supported the proposal, among them Lester Alexander, former Army engineer and Port Commission president.

However, it wasn't until 1956, after years of surveys, studies, reports and evaluations, that authorizatoin was finally obtained from Congress to proceed with the project. On December 10, 1957, the first ground was broken, and in April of 1961, the efforts of all those who had worked tirelessly for the undertaking were realized when the last bit of land was torn away and the waters of the Gulf of Mexico finally mingled with those of the new channel. Al though this first cut was a relatively small one-less than 20 feet wide—it marked a milestone in the growth of the Port of New Orleans, giving it a route to the Gulf that was almost 40 miles shorter than the old approach by the river.

The new seaway not only provides a shorter access route to the Port, but also opens up vast new tracts for industrial development along its banks. The most suitable tract, as far as relatively rapid development is concerned, follows the channel's north bank from the Industrial Canal to Paris Road, along which stretch the seaway shares its channel with the Gulf Intracoastal Waterway.

However, once the new seaway swings away from the GIWW and proceeds southeastward, the complexion of the land changes. Most of the 35 miles of marshland through which it travels from this point to the Gulf will not be available for development of any kind until suitable flood control measures can be implemented by the Corps of Engineers.

Important as well to the development of the surrounding land area, and, in fact, to the efficiency of the seaway itself, will be the construction of a new lock and channel between the seaway and the Mississippi River to supplement the older Industrial Cannal lock, completed in 1923. A note of urgency was voiced by speakers at the opening ceremonies in connection with this already-authorized project, because of the increasing traffic demands expected to be placed on the Port in the coming decade.

The Tidewater channel's opening was not greeted in the same manner, perhaps, as the construction of some of the world's more notable waterways, such as the Panama and Suez Canals, which are truly great engineering feats. However, the vastness of this new channel can best be realized from the fact that, upon its completion, the Tidewater waterway's construction will have resulted in the excavation of some 60 million more cubic yards of earth than the Panama Canal.

Expansion plans along the new seaway also include those of the Port of New Orleans, which will extend its wharf system into suitable areas along the waterway, and which has already constructed the Public Bulk Handling Terminal along the channel. The old Delta Shipyard area will be converted into a wharf complex in the near future, and the Bulk Terminal's wharf is already being extended. These plans, however, call for the expenditure of necessary funds over an extended period so as to coincide the growth of Port facilities with increased usage of the channel.

Port director W. J. Amoss summarized the feeling of Port authorities in regard to the potential of the seaway when he stated a short time ago, "There is little question in my mind that the Mississippi River-Gulf Outlet will become a valuable asset both as a harbor facility and as a heavily used channel."

Indeed, the new Tidewater channel will provide additional growth impetus to the nation's fastest-growing port.

Port Facilities at Karachi

Location

Latitude 240.47.37" North.

Longitude 660.58.38" East.

Population

2 Millions.

Imports

Piece gods, cotton yarn, metals, food grain, sugar, chemicals, spices, silk, tea, liquors, kerosine oil, petrol, liquid fuel, coal, iron and steel, cars, manufactured goods, machinery and other cousumer goods.

Exports

Textile, cotton, oilseeds, edible oils, wool, hides and skins, bonemeal, salt, fish, chrome ore, carpets, dry fruit and cement. *Accommodation*

Enterance Channel H. W.O.S.T. 380ft. at mean neaps 35 ft. 11 in. Vessels drawing 30 ft. can enter port during monsoon season; but Deputy Conservator may allow vessels of deeper draught to enter at discretion. During fair season vessels drawing 31 ft. to 32 ft. can enter or leave at 8 ft. tide. Steamer Wharves can accommodate three vessels of 575 ft. with 32 ft. draught, one steamer of 600 ft. with 34 ft. draught. (West Wharf), 7 of 550 ft. 9 of 484 ft. long and one 430 ft. all with 26 to

29 ft. alongside (East Wharves subject to some alteration during reconstruction Scheme now in progress) and One of 325 ft. with 18 ft. draught (Return Wharf.)

"Free Port" facilities are not available at this Port.

The general method of discharging and loading at karachi is by means of shore cranes provided by the Port Trust but the ships have also opion to use their own appliances, if required, in order to hasten the despatch of the vessel. The mechanical appliances for cargo handling provided by the Port Trust consists of the following:—

At West Wharfff:

2 Ton Electric Level		
Luffing Cranes		16
3 Ton Electric Level		
Luffing Cranes		8
30 Ton Electric Level		
Luffing Cranes		1
25 Ton Electric Derrick		
Crane for work		
on barges.		
At East Wharf:		
3 Ton Electric Portal		
Cranes	·	44
14 Ton Hydraulic Crane		
for work on Barges		1
At N.M.B. Wharf:		
1 Ton Hand Crane	·	3
Crane at Commissariat Wha	rf:	
3 Ton Hand Crane		1
Cranes at Juna Bunder:		
14 Ton Hydraulic Crane		1
33 Cwt. Hydraulic Cranes		5
1 Ton Hand Cranes		6
1 Ton Jigger Cranes		$\mathbf{\tilde{5}}$

Single Firm (Continued from Page 16)

It calls for the proposed firm to be entrusted with the operating of all ships on the route.

The number of monthly sailings, currently totalnig 14, will be reduced and the ceilings imposed on cargo will be abolished.

The surplus ships resulting from the reduction in the number of sailings will be assigned to other routes. Operational subsidies amounting to around \$1,000million annually will be extended for this purpose.

The Transportation Ministry wants to finalize the plan shortly so that it could enter into negotiations with the Finance Ministry on the budget for the project.

- The Japan Times ----

for working in Sheds, Plinths & Yards.

10	Ton Steam Goliath			\mathbf{ber}
	Crane		1	600
5	Ton Steam Goliath			deej
	Cranes		6	Moc
5	Ton Steam Loco			F
	Cranes		2	dra
4 5	Tons Diesel Mobile			and
-1-	Cranes		23	of 4
5	Ton Derrick Crane		1	a d
Cara	o handling appliances	ava	il-	two
ahle	for working in Sheds. I	Plint	hs	of 2
& Y	ards etc.			Rai
2	Ton Diesel Fork Lift			Α
-	Trucks		18	con
2	Ton Auto Trucks		4	trar
2	Ton Battery Trucks		Â	avai
2	Ton Trailers		50	car
2	Ton Staatruck		5	serv
	· ~		0	line
Float	ing Cranes:			Stor
60	Ton Pontoon Derrick		_	The
	Crane 'King Kong'		1	und
30	Ton Self-propelled			(i)
	Crane 'Pahlwan"		1	(1)
Carg	o Barges & Tugs:			
250	Ton capacity dumbs			
	cargo barges	—	27	
200	Ton capacity dumb			(;;`
	water barges		2	(11)
2	Ton bollard pull Tugs			
	for towing barges		4	
Dang	erous goods and exp	losiv	es	
barge	28:			
	Dangerous goods			
	barge (Bhistee)		1	
25	Ton capacity wooden			
	barges		2	
75	Ton capacity wooden			
	barge		1	····
50	Ton capacity Steel			(111)
	barge	. <u> </u>	1	
Misor	llangous oquimment an	d a	'n	
nlian	nuneous equipment un	u u	p-	
puun			•	
	Shunting Tractors		3	
$\frac{10}{-}$	Ton Road Rollers		2	
, Pro	ovision is also being ma	ade	to	
increa	ase the number of I	Mobi	le	
Crane	es and Fork Lift True	cks	to	
cater	tor cargo handling a	it_tl	ne	<i>.</i>
newly	constructed berths at	Ea	st	(a)
Whar	ves.			
				(h)

The Port can handle upto 12,000 Tons of Cargo daily. On an average the Port handles between 3 to 4 million tons of cargo annually. This may increase by 30% when the East Wharf Reconstruction Project is completed.

Shipping Berths:

East Wharf: There are 17 berths ranging from 400 ft. to

Cranes available at the M.I. Yard 500 ft. long having 26 ft. to 29 ft. deep water alongside.

> West Wharves: Theer are 5 ths ranging from 575 ft. to ft. long having 32 ft. to 34 ft. p water alongside. orings:

Five swinging moorings, with a ft of 24 ft. on the channel side 11 fixed moorings for vessels 400 to 500 ft, of which five have raught of 17 ft. two of 24 ft. 25 ft. one of 27 ft. and three 28 ft.

l-Road Facilities:

dequate road service internecting the quay area, the nsit shed and the storage is ilable for movement of the go. The entire Port Area is ved by railway lines. The rail is approximately 130 miles. raae: storage facilities are as er:-

) Thole Produce Yard: Open area ... 2,01,167 sq.yds. Covered area ,, .. 1,57,133) Import Area: Cover area M. I. Yard

> 46,866 sq.yds. West Warf ,, . . 56.334Juna Bunder 6.111,, Open area for the

entire port area .. 1,29,245 ,, Keamari :

The areas prior to reconstruction were as under:-Open area .. 1,99,781 sq.yds.

Covered area .. 1,19,912

After the reconstruction of East Wharves is completed, the areas aavilable will be as under:-

- Transit Plinth
 - 6,44,860 sq. ft. . .
- (b) Ove. flow Plinth ,, 7,37,839 . .
- (c) Pacca Plinth ,, 5,96,950 . .
- (d) Storage Plinth (Stabilished
 - ,, 4,28,100. . Total .. 24,07,740 sq. gt.
- (e) New Transit sheds ,, 5,00,000 . .

(f) Old Passengers Sheds

61,194 . . Total .. 5,61,194 sq. ft. Aid to Shipping:

,,

A Light House 152 ft. high with hyper-radian dissptire lense of 1,200,000 candle power guides the ships into the main navigable channel. In addition, a 100 ft. high Sperry Tower has been added as an aid to safer navigation. Bulk Oil Piers:

There are two Oil Berths. The old berth is 403 long but is capable of berthing Tankers of 550, with a draft of 31 feet. The newly constructed second berth is 644 ft. long with a draft of 31 ft. Bunkering and discharging Pipes have been laid on these piers and give direct connections to the Bulk Oil Installations located nearly. Boat Basin:

The Basin caters for bunker boats, launches and shallow draft vessels providing ferry transport for the public and the Port Trust, and Stevedores employees etc. The Boat Basin has four wharves along its periphery which have lengths of 325 ft. 130 ft. 450 ft. and 800. Repairing Facilities:

Attached to (1) Dry Dock: Workshop is capable of dealing with all K.P.T. Flotilla.

(2) Workshops: Carries out all maintenance and special repairs to K.P.T. Crafts. Outside work such as dry docking of smaller vessels of the Mercantile Marine, etc. is also undertaken.

(3) Facilities for Chipping & Painting of ships visiting the Port area also available.

(4) K.S.E.W. Shipyard: Provides all kind of repairs to deep draft ships touching the Port of Karachi.

(5) Other workshops run privately cater for port repairs to the shipping.

Stevedoring Etc.:

There are nine Stevedoring firms registered in the Port of Karachi. These Stevedoring Firms are Agents for the different shipping lines touching the Port of Karachi. They handle cargo, on the Quay ores contractors for the Port of Karachi, French food supplies, landing and scrap disposal is also handled by Agencies duly

licensed by the Port Trust.

Fire Fighting:

Fighting An uptodate Fire Service are maintained by the Port Trust. The following appliances and implements are available for fighting fires in the Port Area:-

Afloat: All tugs are equipped with Fire Fighting appliances from the water front.

Water Boat Baori, Anchor Hoy Sea Elephant have trailer pumps mounted on them for use in an emergency.

Staff:

On	Lane	d:	C	Capa	cit	y
2	Fire	Tenders				
					\sim	

700 to 1,000 Gallons 10 Trailer Jump 250 +~ 500 Collong

		55	U.	10	900	Ganons
				per	min	ute.
C	This	T				

6	Fire	Engine
1	Foar	1 Generator

1	L.	oam	Genera
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2 Ambulances

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Staff:	
Port Fire Officer	1
Station Officer	2
Leading Firemen	26
Driver	37
Firemen	144
handoo.	

Charges:

Port does on sea-going vessels on entering the Port 50 paisas per net reg. ton once in the same month (month reckoned from the first day (inc) of one month to the first (excl) of the next months, or from the second day (inc) of one month to be second day (excl) of the next and so on.) Mooring; fixed or swinging, Re. 1.00 per day or part thereof per 100 tons net. reg. cr part thereof plus surcharges of 300%. Berthing fees Rs. 1.50 per day or part thereof, per 100 tons net. reg. or part thereof, with a minimum charges of Rs. 40.00 for the period of stay of every vessel under 1,500 tons and over, plus surcharge of 300% on the total amount. Additional charges of Rs. 10.00 per hour or part of an hour, and Rs. 50.00 for every 24 hours, or part thereof for use of pipeline, are payable by vessels bunkering and discharging petroleum respectively, plus surcharge of 300% on the total amount. Water supplied to vessels at the wharves at Rs. 4.37 per 1,000 gallons plus a surcharge of 150%.

Pilotage:

C. for sea-going vessel of 200 tons net reg. and upwards, FAIR season, 300 tons and under, Rs. 35.00 monsoon season, Rs. 52.50 for every additional 100 tons of part thereof Rs. 4.00 plus surcharge at 100.00 on the total amount. Pilots board incoming vessels day or night about 2 miles off breakwater. For service of a tug for assisting in berthing or unberthing Rs. 75.00 plus a surcharge of 300%.

Tonnage:

In or out 0.19 paisas per net. reg. tons sailing vessels when towed in or out are charged half pilotage. Vessels not under steam towed from one part of the part to another for use of one tug. Rs. 100.00 for every additional tug, Rs. 75.00. During the monsoon season, towage is compulsory for vessels leaving the wharves charges, Rs. 75.00. Otherwise, towage is N.C. in the case of vessels of 1,000 tons and under and in case of vessels using the West Wharf but if a tuge is used a charge o fRs. 50.00 plus a surcharge of 300% is levied on vessels of 1,000 tons and under. Rs. 75.00 plus a surcharge of Rs. 300% for vessels over 1,000 tons.

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130-ft. Tower For Port Shipping Control **Melbourne Harbor Trust**

A final decision to establish a central shipping control centre for the Port of Melbourne has been reached by the Melbourne Harbor Trust Commissioners, which will give the port a 130 ft. high observation tower from which all shipping movements will be co-ordinated.

The principle of streamlining the control and organisation of shipping movements in the port was agreed to late last year at a conference of shipowners, oil companies, customs, pilots, port health officials, towage companies and the port authority.

The new control tower is to be located at Berth 1. Victoria Dock. near the existing Dock Head Signal Station which it will replace.

The actual centre will be a glassed in observation deck at the 74 feet level, from where the duty officers on watch will be able to direct and control all shipping traffic.

Direct telephone lines will link the centre with key port areas, while link it with ships, pilots and tugs, and the port's own radio network, which includes the Port's Emergency and Safety Service.

24 Hour Service

The duty officers on watch will work from a specially designed control desk carrying a large scale map of the port, as well as tide, wind and weather indicators.

A second platform immediately below the observation desk carries all the amenities and offices necessary for the 24 hour a day operations of the centre.

A lift in the main tower of the structure will provide access to both levels, while an outside staircase is provided in case of emergencies.

The structure has been designed by Harbor Trust architects who, in conjunction with Trust engineers, are now preparing final plans and specifications to allow tenders to be called for its construction towards the end of this year. It is expected that the new centre will be ready by the middle of next year.

A staff of five master mariners is to be recruited to man the centre in eight hour shifts. 24 hours a day, and the officers will receive special training before taking over their duties.

The Port of Portland

The Commissions of Public Docks

The Commission of Public Docks of the City of Portland, Oregon, is the public authority concerned with cargo handling and maritime development of Portland's waterrfont. Formed in 1910 by voters' amendment of the City Charter, the Commission is an autonomous arm of the city government, presided over by five non--paid commissioners, appointed by the Mayor to five year terms. The Commission's responsibilities include the promotion of trade through the harbor, the provision and maintenance of the city's publicly owned maritime facilities, and the watchdogging of maritime construction along the waterfront.

The Commission operates three terminals, two general cargo and one general-bulk cargo facility. Operating on a continuing annual tax levy of 1/10th of one mill from the assessed valuation of the City of Portland (approximately \$93,-000 this year), the Commission carries on most of its activities from annual operating revenues from its terminals. It's budget for the present fiscal year is \$8,500,-000.

The Commission's terminals are operated by its operating department, rather than leased to steamship firms. In all, the Commission operates 18 deepwater berths for handling general and bulk cargoes, and several barge berths for handling paper products, bulks, etc.

Mr. Thomas P. Guerin, general manager, and Mr. Keith L. Hansen, assistant general manager, head the Commission's 150-man staff.

Harbor activity is frequently the largest single contributing factor to the economic growth of a city and surrounding area because of the payroll that is generated on the waterfront. In the case of Portland, a recent report indicates that the income and employment created by harbor activity is one of the most important aspects of the local economy.

This impact on the community evolves through the employment of some 13,400 persons whose livelihood depends directly or indirectly on waterfront movements. The total payroll generated by the employment of these people amounts to \$64,000,000 yearly. In addition, the report showed that nearly 15,000 other individuals in the community depended on import materials or export output in some phase of their work.

The employment and payroll attributable to the harbor is "new money" to the local economy, and as such, it has more than a proportionate impact on the area. The harbor can best be compared in a qualitative sense with other employment, and is more like the tourist industry than retail trade, for example.

The Portland harbor represents an important unifying influence in a large tributary area, extending over 200 miles up the Columbia River. Also, it is the presence of the harbor which makes Portland the most important economic center in the area stretching from southern Washington to northern California and inland to western Wyoming and Utah. With this in mind, Portland strives for continued expansion and improvement to rightfully remain the World Seaport of the Pacific.

Sprawling over 155 acres of land at the gateway to the Portland harbor is Terminal No. 4, the bulk handling center of this great seaport. Owned by the Commission of Public Docks, this vast complex handles all types of bulk cargo, and assorted lots of general cargo.

Berthing space is available for 9 ships, and it is not an uncommon occurrence to see all spaces occupied by vessels from all over the world loading or discharging every type of bulk commodity from asphaltum to zinc concentrates.

The development of Terminal No. 4 at the north edge of the city began in 1917 with the dredging of slip 1. With the rapid growth of both inbound and outbound bulk commodities, the Terminal has continually expanded to meet customer demands, reaching its present capacity in 1961 with the addition of nearly \$4,000,000 worth of new, specialized equipment.

At Pier 1 stands the largest grain elevator on tidewater west of the Mississippi River. Operated under lease by Cargill, Inc., the elevator has an 8.0 million bushel capacity, more than half the total capacity for all grain docks in the harbor. In 1962, Portland watched almost 54 million bushels of grain leave her harbor destined for ports all over the world.

In order to facilitate such movements with the greatest speed and efficiency, Portland Puiblic Docks has installed equipment capable of handling inbound grain movements from barges, rail cars, and trucks. The vast Inland Empire to the east of Portland produces the tremendous amounts of grain that flow into the city annually, and fast, efficient machinery is of the utmost necessity for both loading and unloading.

Coming from as far as 200 miles upriver, grain barges are unloaded at Pier 1 by two Airveyors having a combined unloading capacity of 12,000 bushels an hour. This vacuum system draws the grain into large tubes, and onto conveyor belts, where the grain is sent to storage tanks.

The rail car tipper can discharge grain from a fully-loaded boxcar in six minutes. Boxcars are tilted end for end up to 65 degrees, and side to side up to 20 degrees, making the 500 ton an hour capacity possible. A conveyor belt at the bottom of the pit sends grain on its way to the elevator.

Handling trucks poses few problems for the Dock Commission as it employs a 35 degree hydraulic tipper, allowing grain to spill out the tailgate in a matter of minutes.

Outloading of grain is accomplished at Pier 1 by use of two 600 ton an hour capacity belts leading from the elevator. Six spouts allow grain to pour into all holds without shifting ship. They have a combined discharge of 40,176 bushels an hour. At this rate a

Victory type ship can be loaded in 16 to 24 working hours.

Growing piles of scrap metal around Pier 2 and the increase in outbound tonnage reflects the steady demand for this commodity. Bomb casings, automobile engines and frames, and other scrap metals flow steadily out of Pier 2. Two walking gantry cranes of 25 ton capacity handle the metal after it has been picked up by magnetic cranes and placed on removable truck beds. The gantries also handle dry bulk discharges such as steel plate, rail, and ores.

Housed at the far end of Pier 2 is the Matson Navigation Company shed. Direct freight service t⁰ Hawaii and the South Pacific on a regularly scheduled basis originates there. One interesting cargo that can be seen every year around December 1 is Christmas trees. Thousands of trees are piled high on the docks awaiting shipment to snowless Hawaii for the yuletide season and the event anually attracts many curious Portlanders.

Because this Northwest paradise is blessed with millions of acres of timber, Portland must have economical and efficient lodaing equinment to handle the steady export demands. Prior to this year, ships were loaded with lumber at Pier 2, using the gantry cranes and ship's tackle. Recent trials employing two floating cranes have indicated an increase up to 65 per cent in board feet loaded per gang hour is possible. Certain refinements and other experiments are currently being conducted in hopes of making this operation a routine function at Terminal No. 4.

Recent trends in movements of inbound bulk ores and concentrates indicated to the Dock Commission that new facilities were essential if Portland was to continue as a leader in the handling of this material. Because of this, Terminal No. 4 now houses the largest bulk unloader on the U.S. West Coast. Built at a cost of \$3,600,000, this new straightline unloader can handle up to 900 tons an hour in free digging.

In conjunction with this unloader was another first for the Portland harbor. The Engineering staff of the Dock Commission designed Pier 4 utilizing 687 pre-stressed concrete pilings (nearly 13 miles in aggregate length) in order to sustain the weight of the unloader as it travels along its 535 feet of track.

Built by Dravo Corporation of Pittsburgh, Pennsylvania, the 130 foot high unloader can load rail cars and trucks simultaneously, or stockpile materials on the dock as it comes out of the hold. The overall area of Pier 4 is 15.02 acres, and nearly 4 miles of railroad tracks can handle 140 rail cars in the holding yards. In addition, 1220 feet of deep water berthing space is available at the pier.

Outloading of materials at Terminal No. 4 is handled at Pier 5. An average of 350 tons an hour can be loaded aboard ship from this facility. Open area allows storage for 10,000 tons of material, and a covered storage bunker can handle 10,000 more tons of free-flowing dry bulk. Such commodities as coke, wood chips, and sulphur move out in ever-increasing quantities. Because of the high amount of carbon in coke, Japan has been exporting full loads at a rate of one ship a month for the past two years, for use in her expanding steel producing industry.

A total of 17 tallow and molasses tanks are also housed on Terminal No. 4 property. Having a combined total capacity of 94,000 barrels, these storage facilities equipment available for have transfer from thanks to rail cars and trucks. Molasses is brought from Hawaii aboard Matson vessels, pumped via pipelines from the ship to the tanks and later loaded into trucks for transport to other areas. This crude molasses is used almost extensively as a food supplement for cattle, especially in the eastern sections of Oregon, Washington, and in Idaho and Montana.

Tallow is shipped to 10 different countries for use in making soap and as stock feed supplements. The bulk of tallow shipments are sent to Japan, Formosa, and the Philippines.

Diversity is the synonym of Terminal No. 4, and the Dock Com-mission management is always striving to increase efficiency and cut down ship turnaround time by new and added improvements. This is true not only of Terminal No. 4, but all facilities under operation of the Commission of Public Docks. With farsighted thinking such as this, plus the facilities which have already been implemented, Portland will continue to keep its place as a leader among West Coast ports.

The Port of Portland Commission

Oldest public Port agency in the Pacific northwest, The Port of Portland was created as a municipal corporation in 1891 by an act of the Oregon State Legislature. Since its creation, the Port has been given expanding responsibilities which now include the promotion of maritime, shipping, commerce and the aviation and industrial interest of a 470 square mile Port district.

The Port's authority, derived through the years from a series of legislative enactments, presently extends throughout Multnomah County, which encompasses the greater Portland metropolitan area.

Only recently, January, 1963, the Port added to its fleet of dry docks the Pacific Coast's largest fleating dry dock which has a total lift capacity of 27,000 tons. The Port also owns and operates two smaller docks—one leased from the U.S. Navy—nine gantry cranes and numerous other marine service facilities

Charged with channel and harbor maintenance, a Port owned 30inch hydraulic pipeline dredge operates in conjunction with the U.S. Army Corps of Engineers. Towing service and maritime facilities and services not otherwise available are also operated by the Port.

The Portland International Airport, located a scant 15 minutes from the heart of the downtown business district, provides the region with an outstanding jet age aviation facility. Land on which the airport was built was created on dredge filled land owned by the Port.

PIA is supplemented with additional general aviation facilitics provided by the Port at its Troutdale Airport in the eastern end of the Port district.

For promotion of district industry and commerce, the Port has developed, sold or leased many acres of industrial land. A modern, planned industrial area, the Swan Island Industrial Park, has been created and is presently under development. New land has also been filled to provide the area with a new water-oriented heavy industrial district, the River Gate Industrial District, near the confluence of the Williamette and Columbia rivers. Other industrial land has been developed and also is available near the Portland International Airport.

Other Port activities include the support of the 40-foot channel project for 1963 in conjunction with the U.S. Army Corps of Engineers, participation in freight rate and air traffic cases, trade promotion and public relations and information.

Marine (Ship Repair Yard)

The recent major marine project of the Port as the construction and installation of a new 27,000 lift ton capacity floating dry dock, Dry Dock No. 3. The dock, which was designed by Frederic R. Harris, Inc. of New York, was constructed by the Gunderson Brothers Engineering Corporation of Portland at a cost of approximately five million dollars. Related construction involving modifications to the dry dock basin and additional utility installations brought the total project cost to nearly 7 million dollars.

Largest floating dry dock on the Pacific Coast, it is also the second largest in the nation with the fastest unit operating time. Its overall length is 661 feet and width is 114 feet between wingwalls which permits handling any vessel now regularly calling at Portland or anticipated in the near future.

This facility, coupled with the recently authorized 40-foot channel in the lower Williamette and Columbia rivers, contributes greatly in maintaining and improving Port-owned 14,000 lift ton capacity facility and an 18,000 lift ton unit leased from the U.S. Navy. The new dock was designed so a section may be added to accommodate even larger vessels if necessary.

Ship repair is one of Portland major industries and in recent

years has taken in an average of 14 million dollars annual volume of which 7.7 million goes to an average of 1300 employees in direct payroll. The Port's dry docks, ship repair facilities and planned industrial development—light, medium and heavy—are the keystones of this thriving activity.

A major Port effort has been to secure Congressional authorization for the dredging of deeper channels in the Lower Willamette and Columbia rivers between Portland and the sea. Dimensions would be 40 feet deep by 600 feet wide at an eventual cost of 20.7 million dollars. The Port acted as the "local interest" pledging \$369,000 as the required local contribution. The 40-foot channel project was authorized by Congress in the Omnibus Rivers and Harbors Act of 1962. Construction, subject to appropriation of funds, is scheduled to start in mid 1963. Completion of the channel projects is estimated to take three or four dredging seasons. The project, which is of great importance to the entire region, now is on its way to becoming a reality. The U.S. Army Corps of Engineers estimated the project cost would reach \$20,469,-000. The initial request for investigation of the project cost-benfits was made by the Port in 1956.

Aviation

Continued developments at Portland International Airport assure its position as "Portland's "Welcome Mat" of which the Port is justly proud. Two parallel off-set runways with a jet-age terminal situated between provides modern and efficient configuration for a major airport. The two runways --8000 feet and 8800 feet—with long unrestricted approaches will accemmodate aircraft now serving cr proposing to serve Portland in the reasonable future.

The Port has added and enlarged aircraft aprons near the terminal. A parallel taxiway and a high speed exit have been added for more efficient aircraft handling. In cooperation with the Federal Aviation Agency, a number of navigation aids have been installed at the airport. Among these are the Airport Surface Detection Equipment (ASDE), and Instrument Landing System (ILS) on the north runway. Navigation aids now available

at PIA are equal to any airport facility in the nation.

The Port also provides a large adjacent area for the U.S. Air Force on a nominal lease arrangement. The Air Force, in turn, provides facilities for the Oregon Air National Guard, Army National Guard, and the U.S. Air Force Reserve. The Air Force maintains a fighter interception squadron and other forces on a full-time active duty basis. Operational problems involved in operating an active military air base with a commercial airport largely have been resolved.

To meet the responsibility of providing a first class airport facility to the Portland area, the Port in 1962 established an Airfield Emergency Service. Specialized trucks and equipment were required and a facility to house equipment and crew was also constructed between the runways. Three crews of four officers and seven men are on duty around the clock. The Air Force Crash/Rescue service continues to operate in cooperation with the Port AES crew. In any emergency, both units respond to military or commercial emergency. Both units also will respond to a civil emergency, thus maintaining a high level of protection-both on and off the airport.

The airport, which is classified as the nation's fifth largest medium hub type, ranks 29th in passengers handled annually at all U.S. air terminals. Projected 1963 F.A.A. predictions call for 1.3 million inout Portland air passengers by 1967. Air passenger traffic in 1962 totaled 954,942 (inbound and outbound). An average of 80 daily fight departures gives Portland single plane service to 80 state, national and international cities.

Air cargo (express, freight and mail) in 1962 totaled 29,882,959 pounds (in and out).

Air carriers at Portland International Airport include Alaska Air Lines, the Flying Tiger Lines, Northwest Orient, Pacific Airlines, Pacific Northern Air Lines, Pan-American World Air Lines, West Coast Airlines, Western Airlines Coast Airlines, Western Airlines.

(Editor's note: This account is an extract from "World Ports and Marine News, August 1963)

SOUTH PIER, YOKOHAMA

South Pier, Yokohama, is available for big fine vessels from all over the world,

The entrance to the inner harbor requires prompt widening due to the increasing number of incoming and outgoing large vessels. Consequently, the lighthouse at the end of the right breakwater, seen in the background left top corner, will be shortly taken away after 67 years of its existence.

(Contin	nued from page 2)			
Liberia	Mr. Edward Julius Wesley Assistant to Port Director Monrovia Port Management Co., Ltd.	Mr. Raymond J. Weir Consul, Consulate of Liberia Los Angeles, U.S.A.		
Malaysia	Mr. Hon Sui Sen Chairman Singapore Harbour Board	Mr. Loh Heng Kee Acting Operations Manager Singapore Harbour Board		
	Dato Laksmana Haji Mohamed Razalli bin Haji Mohamed Ali Wasi, J.M.N., P.J.K., J.P. Chairman Penang Port Commission	Mr. Inche Ismail bin Ngah Marzuki General Manager Penang Port Commission		
Mexico	Ing. Daniel Ocampo Sigüenza Residential Engineer of Port Construction Villahermosa, Tabasco	Ing. Mario E. Villaneuva Reyes Residential Engineer of Port Construction Coatzacoalcos, Ver.		
Netherlands	Ir. F. Posthuma Managing Director Port of Rotterdam	Ir. H. P. Meijer Deputy Managing Director Port of Rotterdam		
Pakistan	Mr. I. A. Abbasi, S.Q.A., Chairman, Karachi Port Trust			
Peru	Mr. Mateo Kalafatovich Director Administration of Ports Peruvian Government, Lima	Mr. Rene Guevara Engineer Administration of Ports Peruvian Government, Lima		
Philippines	Mr. Florencio Moreno Secretary, Department of Public Works & Communications	Col. Julian C. Chaves General Manager Manila Port Service		
Sweden	Mr. John-Iwar Dahlin General Manager Port of Helsingborg			
Thailand	Major General Prachuab Suntrangkoon Director Port Authority of Thailand	Capt. Lapo Israngkura, R.T.N. Deputy Director (Operations) Port Authority of Thailand		
United Kingdom	The Rt. Hon. Viscount Simon, C.M.G. Chairman Port of London Authority	Mr. G. D. G. Perkins Deputy General Manager Port of London Authority		
U.S.A.	Dr. Joseph D. Carrabino Commissioner Board of Harbor Commissioners City of Los Angeles	Mr. Rae F. Watts Port Director San Francisco Port Authority		
	Mr. Albert Lyle King Director of Marine Terminals The Port of New York Authority	Mr. W. J. Amoss Director of the Port Board of Commissioners of the Port of New Orleans		
Venezuela	Mr. Andres German Otero Ministerio de Hacienda Ministro de Hacienda, Caracas	Mr. Cesar Bustamante Ministerio de Hacienda Encargado de la Administracion General de los Servicios Portuarios Nacionales, Caracas		
Viet-Nam	Mr. Nguyen Van Chieu Director, Saigon Port	Mr. Nguyen Ngoc Du Director Port of Da-Nang		

Head Office of the Port of London Authority

Aerial view of the Thames, shewing the Tower Bridge and four of the dock systems of the Port of London.

Central Secretariat of the International Association of Ports and Harbors Rm. 715-A, N.Y.K. Bidg., 20, Marunouchi 2, Chiyoda-ku, Tokyo, Japan