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PORTS and HARBORS

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Port of Wellington, New Zealand

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We make ht flow the fr

There are a lot of good reasons for sending your goods via Bremen/Bremerhaven. For calling at our ports, too. Speed, efficiency, and flexibility are only three. But there are others as well.

We look ahead. By planning, developing, and improving. Our new ultra-modern terminal on the sea, the "Container Crossroads Bremerhaven", has just been opened. And this terminal has everything:

Deepwater riverside berths, 9 up-to-date container cranes, 22 straddle carriers, closed-circuit TV, computerized movements, and wide open storage spaces. Specially trained men are on the job. Making sure that the goods are kept moving. To keep costs down. It is no wonder that we are called capable, adaptable, reliable. Find out what we can do for you. It will pay.

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The key ports of Europe



PORTS and HARBORS

Forum on Port Problems:

Port Industry Research NPC's Five-Year Programme

National Ports Council, U.K.

A new five-year research programme for the port industry is being undertaken by the National Ports Council, following completion of an earlier programme which was initiated in 1966. According to the Council's Annual Report, published today, the research will cover three main categories: research and management services for individual ports; general research for projects of interest to the ports industry; and research to assist the Council in their general functions, particularly planning.

The Report says that the first five-year programme represented a pioneering effort to develop a coordinated programme of research covering all aspects of port operations. An effort of this nature necessitated a number of projects whose purpose was to clear the ground, so as to provide a sound basis for more detailed work. More recently it has become possible to concentrate on more specific aspects, for instance transhipment, productivity, and harbour structures, and this approach will be continued in the new programme.

Aids to Navigation

Recent incidents in Britain's congested coastal waters underline the importance of a survey of navigational aids which is now being carried out by the Council.

Both shipborne and land-based aids, already available or under development, are being included in this survey, which will assess their application to navigation in harbours and shore approaches. The work will include a systems analysis of available aids and a preliminary cost/benefit study to their

value.

The study will concentrate on the value of available aids in assisting the movements of ships and avoiding collisions and strandings in harbours and harbour approaches.

The ultimate object of this work is to provide assistance for port authorities and port users in making the best choice of equipment.

Harbour Structures

The Report gives details of follow-up studies in the general field of the design of harbour structures which have been commissioned in the light of the report prepared for the Council by Bertlin and Partners in 1969.

Probably the most interesting of these is a project on soil and water pressures on waterfront structures. This has been set up with a view to producing up-to-date recommendations for the design and construction of such structures, and is being handled by the Construction Industry Research and Information Association with the assistance of the Association's members, including the Council.

This CIRIA project includes two sub-projects. One of these is to examine the possibility of instrumenting various projected structures with a view to improving the knowledge of soil and water pressures acting upon them; the other is a comparative design study of various hypothetical structures using the Danish and German recommendations as well as the British Code of Practice on Earth-Retaining Structures in relation to the possible revision of the British code. Consulting engineers Rendel Palmer

and Tritton have been commissioned for this latter work. The Council are represented on the British Standards Institute Committee which is shortly to commence revision of the Code of Practice and the results of the CIRIA projects will be fed into the BSI work.

The Council have commissioned Bertlin and Partners for a study of the design of lock sluicing systems and the use of sector gates in locks.

A further recommendation in the original report was for a study of the incidence of damage to lock gates leading to draw-down in enclosed dock systems. The Council have conducted a questionnaire survey, covering a selection of overseas ports as well as U.K. ports, and it is intended that a report will be published later this year.

A project on the design of jetties and breakwaters has been carried out for the Council by consulting engineers Harris and Sutherland, and a report will be published shortly.

Dredging

The Report lists studies which were in progress during 1970 into various aspects of dredging.

These include an economic study of research and development in dredging which was carried out by the Programmes Analysis Unit of the Department of Trade and Industry with assistance from the Council's staff. Government Departments have considered the report on this work with a view to determining the most profitable line of action.

The Council have commissioned Professor A.W. Bishop, of Imperial College, to carry out a preliminary study of the accelerated consolidation of fine-grained materials. The object of this study is to assess the scope and value of further work on the subject, and Professor Bishop's report is expected shortly.

A preliminary study is in progress of the scope for the use of large modern dredgers for maintenance work by sharing their operation between a number of port authorities. This work is being carried out by the Council's staff with the assistance of Mr. E.R. Radway, formerly of the British Transport Docks Board.

The Council's staff are also engaged on a survey of the practice of various overseas countries on the financing of dredging and reclamation work, with a view to advising the Government on these matters.

Evaluation of Equipment

The Council's staff have begun work on the evaluation of cargo handling equipment used in port operations. This has become particularly important because the ports industry is rapidly becoming more capital intensive and this has led to the acquisition of high-cost mechanical handling appliances, especially for handling containers. Straddle carriers were selected as the first item for study, and a report on the actual maintenance cost of these machines working in the dock environment has been prepared. A further more detailed report covering the ergonomic aspects, engineering features and driver training will be available later this year.

The National Materials Handling Centre has been commissioned to carry out an equipment evaluation programme for fork-lift trucks which could be used as a guide to ports' purchasing policy. It is intended to study the handling of goods by forklift trucks at the maior ports to establish conditions of working as a basis for defining a specification for a fork truck or trucks which is appropriate to the work involved. The study will also recommend the evaluation tests which could be carried out to assist in defining purchasing policy and comment on handling methods generally from the standpoint of the possible improvements observed during the investigation.

It is also proposed that side loaders should be evaluated and consideration is being given to commissioning such a study.

Operational Research

The Council's research staff spend much of their time on operational research projects at individual ports, and during the year they worked in several ports on problems concerned with the operation of container berths.

The Report refers to the problems which are being thrown up as a result of the development of container services. A body of experience is being built up of the new management skills required by container operations; it is important that this knowledge should be made widely available, and the Council hope to ensure that this is done.

Work Study

The Council's Research Division is also deeply engaged in efforts to develop the use of work study in the ports, particularly in cargo handling. Assistance has been given to individual port employers, and a project has been carried out on terminal layout, aimed at assessing the extent to which improved layout can assist cargo flow.

The Report says that the Council are increasingly becoming recognised as the focus for work study activity in the industry, and adds:

'The Council feel that the time is now right for a fuller exploitation of the benefits of work study for both port management and port workers'.

Management Information

Work on the development of a comprehensive computer-based cargo information system for ports is being taken a stage further. In conjunction with the Board for the Simplification of International Trade Procedures (SITPRO) the Council are carrying out a study of the feasibility of a cooperative computer system for the production of cargo information. This follows the completion of specifications for 8 computer-based vehicle-booking system.

Partial Processing of Bulks

The future planning of ports which cater for bulk imports will be affected by the current trend for certain raw materials to be partially processed in the producing countries before shipment, in order to reduce shipping costs. A study of the effects of this trend upon the importation of phosphates, commissioned by the Council from the Warren Spring Laboratory, was completed during the year.

Noise in Dock and Harbour Craft

In recent years ever-increasing attention has been paid to the prominence of noise as a feature of the environment in which people are obliged to live and work. This attention has been particularly focussed on those areas in which industrial noise is potentially capable of having effects on hearing and working efficiency, and on susceptibility to accidents.

In December 1970 the Council published a report entitled Noise in Dock and Harbour Craft which surveyed the problem associated with diesel engine installations in small inshore craft in order to establish the magnitude of the problem and to determine how it might be overcome. Whilst the first of these objects was largely achieved, the second remains uncompleted Because of this the report recommended that a short circular be prepared for the guidance of medical officers in the supervision of personnel exposed to noise and this was published in June 1971.

This circular is a guide to the control of auditory hazards and draws attention to the risk to hearing from noise of dock craft and equipment. Medical selection of staff, follow-up supervision, environmental control and supervision of ear protection in Port Authority employees, are described under various heading. 9th June, 1971.

Beyond Duty

Reprinted from Ministry of Transport Newsletter Canada

(The writer is Marc Pakenham, a crew member on the Racer.)

There comes a time in some positions or jobs when the individual must, through a series of circumstances, go beyond the demands of his work and putting down his own fears, questions and debates, help in a situation where his fellow man is in danger. When the CCGC "RACER" spends a weekend patrol in the Straits of Georgia, Sandheads area, the unexpected is almost anticipated. Long weekends where vacationers over extend their capabilities, usually contain an abnormal number of distress calls. The normal range of incidents usually include a larger percentage of 'minor' troubles that we have learned to handle quickly with a great degree of efficiency.

Reflecting upon the 22nd of May, a Saturday morning, one recalls the fact that things, prior to the reported fire aboard the cruise ship 'Meteor', were abnormally quiet. At about three in the morning, a Mayday relay from Vancouver Radio reported that the vessel 'Meteor' was afire and in need of assistance.

Within minutes of the distress signal the "RACER" was underway from Gibson's Landing and proceeding at full speed to the 'Meteor'. The crew employed themselves making ready the full range of fire fighting equipment, smoke mask, Scott-Paks, foam discharge units and the diesel turbine high output pump. Shortly after dawn, they arrived on the scene to witness the 'Meteor' listing with smoke pouring from the bow. In that first light the smoke was suspended like a wreath about the vessel adding great mystery to what was to become one of the largest West Coast marine disasters.

Each crew member of the "RACER" had an assigned respon-

SEPTEMBER 1971

sibility and as the distance between the "RACER" and 'Meteor' narrowed, the hoses started to play vast amounts of water on the forward section of the smoldering vessel.

Due to the vessel's location at the time of the fire, a mass of assistance was available almost immediately. The CCGC "RACER" under the command of Captain Kenneth Clapp, was designated rescue command vessel.

Upon arrival, the Chief Officer Norman Scott, William Dalzell, Donald Sweeney and Gary Taylor, went aboard the 'Meteor' with breathing apparatus to lend assistance to the 'Meteor's exhausted and depleted crew. The macabre details of their encounters within the smoke filled foc'sle need not be related as our imaginations are adequate to picture that scene. Thirty-three people, mostly under thirty years of age, perished in the fire or from asphyxiation.

Mr. Scott, upon boarding the burning vessel, placed himself under the command of the Master, and with three crew members from the 'Meteor', Mr. Scott and his three man crew began their 22 hour flight against the stubborn fire. Once familiar with the layout of the ship, the crew from the "RACER" continued the battle alone.

The "READY" arrived on the scene at 0830 hours in support of the "RACER" and the monitoring systems from both cutters were valuable in keeping the heat down as they played water on the hull of the ship and in putting out the fire on A Deck by putting water on the portholes. Twice it was thought the fire on A Deck was out, but when they began pumping out the water, the decks would heat up and the fire break out again. The air compressor from the "READY" was also invaluable as it was the enly source of filling the air bottles.

Helicopters were busily engaged shuttling oxygen and air bottles for smoke breathing apparatus from the Comox Air Base. Sudbury II put a foam making machine into use and supplied pumps. There was also assistance given by 'La Garde' and other vessels.

Captain Clapp was alone on the bridge of the "RACER" during this time, manning two telephones, maneouvering the ship and keeping the lines of communication open between ship to plane, ship to ship and ship to land. Coordination was of the highest importance in order to contain the fire and best utilize the fire fighting equipment available, and Captain Clapp did a remarkable job.

It was an almost perfect display of teamwork carried out over a long period of thirty hours and was favourably commented upon at the initial Inquiry. The "RACER" crew has never before been called upon to fight a ship fire of this size and are certainly to be congratulated on a job very well done.

The crew members who were on the "RACER" during this incident were:

Kenneth Clapp —Captain Norman Scott —Chief Officer Garith Clouston —Chief Engineer John McKinnon —Second Engineer Richard Bailey —Oiler James Campbell —Seaman William Dalzell —Seaman Marc Pakenham —Diver/seaman Donald Sweeney —Diver/seaman Gary Taylor —Diver/oiler Rosaire Montplaisir —Cook Tom Brown —Steward

9

P.L.A. Future Policy —1971 Review

The Port of London Authority

The P.L.A. have now completed their annual review of the policy set out in the January 1970 document "P.L.A. — The Next Five Years". The purpose of the present document is to inform all those concerned with the affairs of the Port of London of the next stages in pursuing the policy set out in the January 1970 document. Naturally consultation will take place in the usual way with port users, the trades unions, other port employers, etc. on the precise measures to be taken to implement the policy.

As foreshadowed in the 1970 document, it is expected that container traffic and other bulk traffics such as grain and oil will continue to grow at the rate forecast, although London may not necessarily retain all its existing conventional general cargo when it changes over to containers. Container traffic has developed rapidly at Tilbury and an application has been made to the Secretary of State for the Environment seeking his approval to the expansion of facilities by the development of a riverside container berth on the Tilbury Fort Land downstream of the Passenger Landing Stage. The introduction of three-shift working at container berths has improved the service to customers and increased job opportunities by stimulating customer demand. Operations at the new Tilbury Grain Terminal have been increasingly successful. By the end of 1970 these container and bulk traffic facilities were showing some return on capital although the return is still inadequate.

There are several projects in hand for the expansion of oil traffic in the port, and linked with this is the possible development of a seaport/airport complex at Maplin Sands; it is not yet possible to put a time scale on this, but consultations are proceeding with the Government and interested parties. The January 1970 document also forecast a substantial decline in conventional general cargo traffic as a result of containerisation. At the beginning of 1970 there were 108 conventional general cargo berths in the P.L.A.'s docks but with the decline in this traffic it was expected that these berths would be reduced over the succeeding five years to about half their number.

It is essential that the reduction of berths should keep pace with the decline in conventional general cargo traffic to avoid losses arising from idle berths. The P.L.A.'s aim, therefore, is a phased reduction of these facilities to keep ahead of the decline in traffic.

The reduction of conventional general cargo traffic presents the P.L.A. with economic and managerial problems as a large part of the P.L.A.'s present gross revenue is derived from this traffic. By the end of 1970 losses on conventional general cargo were far exceeding the profits from containers and bulk cargo facilities and in March 1971 the P.L.A. increased substantially their conventional general cargo charges to bring them more in line with costs.

These charges increases are part of a policy which it is essential for the P.L.A. to pursue as part of the general concept of commercial realism in all their affairs. The aim is to improve service to customers, reduce costs, streamline management, and seek and achieve greater effectiveness everywhere.

The P.L.A. has always stood on its own feet financially, and will continue to do so. Indeed the Government has made it clear that ports must follow this policy. Unfortunately the financial difficulties of the Mersey Docks & Harbour Board have naturally affected the market standing of all port stocks and bonds including those of the P.L.A. To maintain confidence in P.L.A. stock,

we are seeking to clarify the security of stock and bondholders by explicitly securing the stock and loans on the assets of the P.L.A. These arrangements would include specific provision for the appointment of a receiver and manager in the event of failure to meet a maturity, in addition to the existing arrangements for such an appointment on failure to meet interest. P.L.A. stock and bondholders will, therefore, be in a broadly comparable position with company debenture holders. To assure its future market standing and its ability to raise money both to meet maturities of debt and for new developments the P.L.A. must demonstrate its determination to achieve profitability, and for this purpose to contract its conventional cargo dock system in a planned manner, and exploit all its assets, including its substantial areas of valuable surplus land, to best financial advantage. The P.L.A.'s assets include over seven square miles of freehold land of which 880 acres (some one and one-third square miles) are now surplus to operational requirements and these areas are situated in valuable positions for re-development.

In 1970 the first steps were taken to reduce conventional general cargo berths when 16 were closed—15 at Surrey Commercial Docks and 1 in the Royal Docks. In the light of the latest forecasts of conventional general cargo trade the Board have considered the next steps in the planned reduction of berths and it is proposed to close another 11 berths in 1971 and a similar number in 1972. By the end of 1972 about one-third of the 108 conventional general cargo berths in January 1970 will have closed.

The closures are likely to be mainly at the Royal Docks and India & Millwall Docks. The Authority's plans are firm up to the end of 1972 but thereafter they are indicative only, with the objective of meeting by 1975 the total reduction of conventional cargo berths as outlined in the 1970 plan.

The reduced throughput of conventional general cargo in the docks resulting from Devlin II is disappointing and has been taken into account in the above plans. With initial problems overcome and steady improvements being made, Devlin II along with a rapid expansion of lorry booking schemes is providing a better service for exporters and importers; the service to conventional shipowners, though improving, is still not back to pre-Devlin II standards. Much remains to be done, therefore, in raising the standards of efficiency under Devlin II for conventional cargo. This is, of course, a problem for the private stevedoring companies, as well as the P.L.A., because they undertake the loading of all conventional cargo ships and some 85% of ship discharge work in the enclosed docks.

Linked with the next stage of the rationalisation programme outlined in 1971 and 1972 is the need to continue the process of devolution by developing a management structure which ensures that members of top management are closely involved with the centres of activity having full authority and responsibility for local businesses. The P.L.A. have, therefore, appointed the present Coordinator of Operations, Mr. R. H. Butler, to be Director of Tilbury, responsible for Tilbury Docks and the Tilbury Grain Terminal, and the present Director of Industrial Relations, Mr. J. H. Gabony, to be Director of Upper Docks, responsible for India & Millwall and Royal Docks. They will continue to be members of the Board of Management and will be directly responsible to the Director-General. These Directors will be served by a small support unit housed at the Royal Docks which will undertake for them certain work which is common to both and will be devolved from Head Office. Under this organisation the Plant Department will be abolished and the plant allocated to individual managers. With regard to the River, proposals are being worked out for the integration of River and Dock Marine Services so that all marine aspects of the P.L.A.'s business can be brought under one head.

The strengthening of local direction by the appointment of experienced Chief Officers to be local Directors, will be matched by a reorganisation of Head Office functions. Head Office will be reduced essentially to a policy, planning, coordinating and monitoring role, in

Halifax's Pier "C" Container and Ro-Ro Terminal

Operated by Halterm Ltd. at Halifax, N. S.

I. What is Halterm?

Halterm, a stevedore and terminal operator, is a Company incorporated under the laws of Nova Scotia, in which the Canadian National Railways Company, Clarke Traffic Services Ltd., and Halicon, each have a one-third interest.

II. Canadian National is the primary land transportation organization serving the Port of Halifax. CN connects Halifax by rail to all of Canada and the United States. Clarke Traffic Services Ltd., a Canadian general transportation company, operates ship, truck, and pool car services across Canada and also operates internationally, having an interest in Dart Containerline Company Limited. Halicon, a crown corporation jointly

addition to essential central services. A close examination of the staff needed to service the remaining headquarters functions has begun. This will include an appraisal of the future location of these functions. Following modern business practice it is intended to relocate in the docks office staff now providing common services at headquarters, thus releasing substantial areas of valuable office accommodation in or near the City of London.

The continuation of the planned reduction in the numbers of conventional general cargo berths envisaged in the 1970 P.L.A. Plan, and the organisational changes, will involve a progressive reduction in the personnel required for the efficient operation of the business. It is expected that there will be a reduction of 1,700—both staff and labour—by the end of 1972. In 1971 the reduction is expected to be almost entirely staff as there are labour shortages in some areas. But in 1972 there will be a more even distribution between owned by the Province of Nova Scotia and the City of Halifax, is responsible for the marketing and concentrates on the development of Halterm's services and facilities.

III. Halterm Objectives:

- -The operation of a highly specialized common-user terminal at the Port of Halifax which will provide their steamship customers with a modern and efficient facility and terminal operation for the handling of containers and other specialized traffic.
- -To handle traffic at the lowest possible cost.
- -In conjunction with its steamship customers and Canadian National Railways, to facilitate the flow of traffic through Halifax to the principal inland cargo distribu-

the various sections of employees.

With the continuing switch of general cargo to containers and the drive to increase efficiency and reduce costs in all directions, it is expected that the P.L.A.'s employees in 1975 will number about twothirds of those employed today.

All sections of staff and labour have, in the past, co-operated fully with Management in achieving the closure of surplus or uneconomic facilities by their acceptance of voluntary severance schemes as the means of achieving reductions in personnel required. The Authority gratefully acknowledge this co-operation from the P.L.A.'s employees and from the Trades Unions, and hope that the reductions now necessary will again be achieved by retirement, natural wastage and voluntary severance on the bases already established. The Authority expect that reductions in the dock labour force will be dealt with under the Dock Labour Board's severance scheme for Registered Dock Workers.



tion centers of North America via rail (in Canada via **unit trains**) and at the speed Canadian rail service provides and when coastal services come "on stream" via water to East Coast and Caribbean destinations.

-To optimize the cost and service aspects of container handling in the best interest of the shipping public.

IV. Competition

Halifax, because of its geographical location, is ideally suited to become the foremost containerport on the East Coast of North America. Some basic facts in the development of Halifax's containerport operation are inescapable. Most important is the fact that SOME PORTS ARE BETTER SUITED FOR CONTAINER FACILITIES THAN OTHERS and HALIFAX

IS ONE OF THESE.

A port must meet three basic physical requirements if it is to be suitable for location of a modern container terminal. These are:

- -DEEP WATER to accommodate modern and future containerships.
- -SUFFICIENT LAND AREA for terminal operations, staging, and storage, as well as back up space for future development.
- -EASY ACCESS TO ROAD AND RAIL TRANSPORTATION SERVICES in order not to constrict an efficient and expeditious flow of containers to and from the port.

Halifax readily meets these important requirements. In addition Halifax:

—is on the Great Circle route between Europe and New York.

- is the closest Canadian mainland port to Europe and is for example closer than New York to Rio de Janeiro and Capetown.
 is direct access from the ocean.
 is ice free 52 weeks of the year.
- -has excellent all weather harbour approaches.
- -has wide and deep channels.

V. Physical Facilities

Halterm's Pier "C" container terminal consists of an area of approximately 56 acres located at the south end of the Port of Halifax. It provides the following:

- -1775 feet of dock face which will accommodate any two of the largest containerships built or building or several smaller containerships.
- -Two (2) container gantry cranes which will operate along the full length of the dock on 50-foot

gauge rails. These cranes have cantilever booms on the water side providing an outreach on one crane of 115 feet and 133 feet on the other and a backreach of 57 and 60 feet respectively over the land area. The lifting capacity of both cranes is 89,600 lbs. (Halterm is already examining the need for a third crane." At today's cost, cranes represent an investment of $1\frac{1}{4}$ million dollars; each.)

- -These two cranes will handle 1100 containers daily during Halterm's 21-hour work day.
- -The terminal has a live storage capacity of 4377 20' equivalent containers.
- -A loop track of some 5000 feet runs inside and around the perimeter of the terminal area to receive and make up unit trains. Unit trains will arrive at Pier "C" direct from inland origin and will be made up for direct departure from Pier "C" for inland destinations.
- -The terminal is equipped with 4 rail tracks with a capacity of 17 rail cars each or some 272-20' equivalent containers. Three tracks will accommodate one unit train of 50 rail cars or 200 containers. The fourth track is available to receive last minute container arrivals. Containers will be handled from and to vessel directly or from container storage area to alongside rail cars on these tracks.
- -A rail track which runs the full length of the wharf, parallel to the face of the quay, can be served by the container gantry cranes. This would permit the handling of containers directly from vessel to rail and vice versa.
- —The terminal includes a modern consolidation shed of 30,000square feet plus a covered transfer platform of $130' \times 40'$ which is attached to the shed. It is set up to receive/deliver truck and rail traffic on one side at tailgate level and for the stuffing/stripping of containers placed at shed floor level on the opposite side of both shed and platform. Truck doors are equipped with "Kelly" type Serco ramps. Cargo will be handled to/from rail cars, trucks,



and containers under protective cover. The consolidation shed has 4500 square feet of heated storage.

- -A fully equipped, modern equipment maintenance shop located on the terminal can accommodate 2 straddle carriers in two bays under repair (4 in storage.) There are 2 additional bays for other terminal equipment. It has both office and parts storage space. It is the intention to utilize the shop exclusively for maintenance and repair of terminal equipment.
- -A Howe Richardson weighbridge, $20' \times 70'$ and with capacity 204,-000 lbs. is installed on the terminal in proximity to the truck entrance. Remote printer is located in the truck entry gatehouse. The 20 foot width and large capacity permits the weighing of a straddle carrier when carring a loaded container.

- -There are a total of 81 **electrical power outlets** for attachment of temperature controlled containers. 27 are designed for 220 volts and 54 for 440 volts .
- -Lighting is provided by eight (8) light masts equipped with mercury vapor lamps designed to provide 10 foot candles in all working areas and 5 foot candles over the remainder of the terminal.
- —The terminal office building is attached to the consolidation shed, is air-conditioned and consists of two floors which provide approximately 6000 square feet of office space. Halterm's container control room (tower) looks out over the terminal from the second floor. Space is reserved on the second floor for steamship customers.
- -The terminal is completely enclosed by fence. Gates will have to be opened/closed to allow rail

movement on/off terminal. All vehicles and pedestrians will enter/exit and be controlled at the truck entrance/exit gatehouse.

VI. Container Handling Equipment

The terminal handling system is designed around the use of container gantry cranes for handling containers to/from ship; straddle carriers for the movement of containers on the terminal; railcar loading gantry cranes and large capacity lift trucks for handling to rail cars; yard tractors for the movement of road trailers and other wheeled equipment; and fork lift trucks of various capacities for both on-terminal and in-shed use. The following describes the equipment and its use:

- -Container Gantry Cranes-described under Physical Facilities. Each crane can lift 25/30 containers per hour.
- --Straddle Carriers---will be used to transport containers between vessels, rails, staging area, and consolidation shed. These machines are capable of handling both 20 and 40 foot containers and of stacking both 20 and 40 foot containers 3 high in the staging area. Each straddle carrier's capacity is 67,200 lbs.
- -Railcar loading gantry cranesthese cranes are mounted on rubber wheels and straddle one rail track and one row of containers. They are used for loading and unloading of containers from/to rail cars. Their capacity is 67,200 lbs. and they can handle 20/25 containers per hour.
- -Lift trucks with top lift spreader -will be used in conjunction with the railcar loading gantry cranes for loading and unloading of containers to/from rail cars. When equipped with fork tines, they can be used to handle large unit loads both on ship and the terminal. Their capacity is either 60,000 or 52,000 lbs. and when handling to rail each machine can lift 20/25 containers per hour.
- -Yard Tractors—special tractortype units of considerable manoeuverability equipped with hydraulic 5th wheel and employed in the handling of wheeled equipment both on the terminal and

Port and Employment

Port of Oakland

May 19:—More than 1,000 permanent jobs have been generated for Oakland area residents as a direct result of development of the Seventh Street Terminal, a Port analysis indicates.

The study, believed to be the first of its kind involving a large container base, was completed last December when only five berths of the seven-berth shipping facility had been completed. It is estimated that additional permanent positions have been created with the opening of the sixth and seventh terminal berths this month.

Included in the new jobs are positions for longshoremen, truck drivers, equipment operators, clerical personnel, and tugboat and railroad crewmen and mechanics.

The Port-conducted study also found that some 2,000 additional shipping-related positions are at-

between ship and terminal and rail cars.

- -Fork lift trucks—of various capacities up to 3 tons, equipped with pneumatic tires for terminal use and hard cushion for shed and container use. Also equipped with both standard and Hi/Lo free lift masts for working in containers.
- -Mobile repair shop—fully equipped shop, equipped to provide air for tires and electricity for electric tools, etcetera. Capable of performing most minor repairs on the spot to keep equipment operational.
- ---Yard runabouts---for supervisor and personnel movement.
- VII. All operations on the terminal will be controlled by a very versatile 4 channel UHF radio communication system which will be monitored by a base control station located in the container control operations room. Instructions can be given by radio and this system will link all equipment operations, including cranes, straddle carriers, heavy lift trucks and supervisory

tributable to development of the terminal, a number that again has increased with the opening of the final two berths.

About 35 per cent of the new jobs are being filled by members of minority groups.

Funds for development of the \$32 million terminal originated from port-generated revenue, revenue bonds, tenant terminal improvements and \$10.125 million in grants and loans from the Economic Development Administration.

It was the EDA financing that played the major role in helping the man-made peninsula facility become a reality. Those funds got the massive project underway and provided the base for acquiring additional funding.

Oakland became a target area for the Commerce Department agency's "building communities

personnel on appropriate channels for maximum operational flexibility and efficiency.

VIII. Specialized Labour

Operations and the equipment handling already described requires a highly competent well-trained, efficient productive labour force. The Halifax ILA have provided the required terminal labour force. Halterm is presently providing both classroom and on-the-job training. Halterm is confident that within a very short time this work force will be second to none.

IX. Halterm's Pier "C" container terminal will be completely operational by July of this year. When completed, it will be the finest, best equipped, and most efficient container terminal on this continent. It is probably the only container terminal specifically designed to provide highly efficient ship/rail interface operations. If equipped with 4 container gantry cranes and the necessary support equipment, the terminal will have a capability of handling 300,000 containers annually or about 4,000,000 tons of cargo.

with jobs" program because of the city's long-term high unemployment rate. In approving the Port's application for financial assistance, a high EDA official indicated that Oakland was an excellent community in which "to demonstrate the effectiveness of our programs that are designed to alleviate the problems confronting American urban areas."

The success of the EDA activities, administered locally by Deputy Program Manager Hugh Taylor, has been significant. Port projects have also been approved for EDA funds at Oakland International Airport and Port of Oakland Industrial Park. In all, more than \$23 million of EDA grants and loans have been approved to help fund Port expansion undertakings that provide jobs for Oakland residents.

It is estimated that the Port of Oakland is now the city's leading industry and its number one source of employment. About one in five Oakland jobs depend on activities of the Port.

The Port study of employment at Seventh Street found that 55 supervisory and clerical personnel were employed, nine of them from racial minorities; there were 423 International Longshoremen's and Warehousemen's Union workers, 204 from minority groups; an additional 118 people employed were I.L.W.U. offshore personnel, 27 from minorities.

Terminal development produced 150 truck driver jobs, 22 of which reflect minority representation; offterminal container freight station operations generated 103 jobs, 19 filled by members of minorities; and miscellaneous positions accounted for 151 jobs, 69 filled by minority employees.

The study was conducted by Dr. Shanti Vora, Director of the Port's Research Dept., and Joseph H. Barnett, Equal Opportunity Employment Director. Data was gathered from the three terminal operators at Seventh Street—Matson Terminals, Oakland Container Terminal and Marine Terminals Corporation.

Personnel in the study were divided into terminal employees and

Opening of the "Containerkreuz Bremerhaven"

via Bremen Bremerhaven

After three years' construction time the first berth of the "Containerkreuz Bremerhaven" was officially opened on Friday, 23rd April, 1971. This container terminal has been specially constructed for the container ships of the third generation and is situated direct on the Outer River Weser. Bremen's Senator for Ports, Shipping and Transport, Dr. Georg Borttscheller, officially transferred the terminal to the Bremer Lagerhaus - Gesellschaft, Bremen/ Bremerhaven, on the occasion of the clearance of MS "Encounter Bay" of the Overseas Container Ltd. in the presence of over 1.000 guests from home and abroad.

The first stage in the construction of this terminal comprises a berth with a length of 350 metres, two container bridges with a lifting capacity of 54 tons each, as well as a marshalling area of 250.000 sq. metres. Two further berths with a total length of 700 metres, four container bridges and about 300.000 sq. metres of storage and marshalling area will following in the autumn of this year and in early 1972 respectively.

The "Containerkreuz Bremerhaven", consisting of the "Strom-

union workers. A small percentage of the I.L.W.U. personnel are assigned permanently to the terminals, but the majority of those workers rotate from day to day. Ethnic composition for that group was determined from overall percentages supplied by the Pacific Maritime Association.

Most of the "offshore" personnel working on vessels calling at the Port, when those people are locally-based, are hired in San Francisco. Based on information supplied by the steamship companies, however, some 25 percent of the offshore workers are included in the Oakland figures.

Figures regarding the number of new truck driver positions were

kaje" on the deep-water channel and the "Nordhafen" behind the lock as a single operational unit, is an example of port policy which really plans for the future. It owes its name to the geographical position at the "crossroads" of the three economic blocs, E.E.C., E.F.T.A., and COMECON. The whole terminal will be the largest of its kind in Europe, once the two further berths on the "Stromkaje" have been completed. It will then have a quay length of 1.8 km, 750.000 sq. metres of marshalling area, nine container bridges and 22 Van Carriers. It has been necessary so far to invest about 250 million Marks in the construction of the container facilities in Bremerhaven. Further 75 million Marks will be financed by the City of Bremen (infrastructure) and by the Bremer Lagerhaus-Gesellschaft (suprastructure) before the terminal is fully completed.

Excellent geographical position on the sea

The Ports of Bremen are adapting themselves to the trend towards supercontainerships for overseas services by constructing the "Strom-

developed from data on the number of containers moving in and out of the terminals each day. That number was converted to total container trips per day, and based on an average of two daily trips per driver, the number of new jobs was computed.

Container freight station operations, which include the stuffing and destuffing of vans, are conducted both on and off the terminal for lines calling at Seventh Street. Job information was collected from both categories of operators.

Miscellaneous direct jobs such as those in carriers' offices, Port offices, and tug and train crews were estimated to arrive at the approximate total of direct employment.



"Containerkreuz Bremerhaven"

kaje" in Bremerhaven. The terminal is to contribute towards Bremen and Bremerhaven extending their leading position in overseas container traffic, which they have held since the beginning of container services in 1966. The decision to achieve this aim by increasing container capacities in Bremerhaven is based on extensive market analyses. The most important aspect of this decision can be seen in the geographical situation of the site, both with regard to the sea and to the hinterland. It is indeed a position which can be considered ideal for the future full-containerships of the "third generation" with a capacity of about 2.000 containers (20-ft types), a length of 280-300 metres and a speed of up to 33 nautical miles an hour (about 60 km an hour). For it is a fact that these superships can now be loaded and discharged only direct on the coast. The shipping companies avoid, if they can, navigating river channels, as this involves many risks for the large vessels, such as fog, drifting ice, dense shipping traffic,

etc.. For these vessels there is now the "Containerkreuz Bremerhaven". Its geographical position is characterised by, among other things, the fact that the terminal, either the "Stromkaje" or the "Nordhafen", is situated only 30 nautical miles away from the open sea. Another important point is that, owing to the 12metre-deep navigation channel all the way to the berth, which will be deepened to 14 metres, the largest container vessels can arrive and depart at any tide. The fact that the vessels can arrive at full speed up to only a few miles away from the terminal makes the "Containerkreuz Bremerhaven" even more attractive for all the container shipping lines.

Excellent connections to the hinterland

Bremerhaven has not only a good maritime position, but also has excellent connections to the German and European hinterland. By rail as well as by road it is nearer to the most important industrial and consumer centres in Europe than the rival ports, and this leads not only to shorter delivery times but also to lower freight costs. By rail, the container facilities of the Ports of Bremen are connected with 49 container terminals and facilities in the Federal Republic of Germany and with 167 similar terminals in the other parts of the European hinterland. Apart from the regular departures of the special container train, "Delphin", there are thirteen other daily services from Bremen/Bremerhaven to the south and the west. The bulk of the containers are transported, though, in a special night service. These excellent rail connections are certainly one reason why over 70% of the containers moved through the Ports of Bremen are now transported by rail. This fact was also taken into consideration in the new terminal. Freight trains (freightliners) will be made up on three pairs of tracks, each 400 metres long and soon to be extended to 700 metres each. This means that the German Federal Railways can operate without shunting and thus speed up delivery of the containers for the shippers.

The fact that the Ports of Bremen/Bremerhaven are connected to the network of autobahns and other trunk roads is also a very important factor, even if Bremerhaven will not be joined to the network of autobahns until the end of 1973. Among the many road connections from Bremen to the hinterland we can find, for example, the "Hansalinie" to the Rhine-Ruhr area and the autobahns to South Germany and South-West Germany. This road network will be further improved by the "Nordseelinie" from Bremen to the Bielefeld-Gießen area, which is now at the planning stage.

"New criteria in container handling"

These primarily natural advantages of Bremerhaven are supplemented by above-average turnover figures in the container terminals. Bremen and Bremerhaven belong to those ports which can handle large amounts of cargo within the shortest possible time, and this is no secret in shipping circles. Achievements of more than 60 containers an hour on an average, which is more than 600 tons, are no exception, but an everyday occurrence. This "tradition" will not only be continued by the new terminal, but the above-average results of today will gradually become the normal results of tomorrow. This will be made possible by highly automated techniques of cargo handling. The Ports of Bremen will do all they can to achieve this aim. A smooth-running organization and computer-controlled cargo movements will set up new standards in the cargo handling of these ports. Even now the "gatehouse" has taken over the function of the brain of the "Containerkreuz Bremerhaven" with central control and supervision. This control and supervision is effected by means of radio equipment with eight frequencies as well as by closed-circuit television, whose monitors transmit every single movement within the terminal area to the control room. The problem of the flow of data and information between shipping lines, shipbrokers and forwarding agents, the German Railways (transit goods), the customs and the Bremer Lagerhaus-Gesellschaft (i.e. the port operation company), which



is so very important in containerization, has been solved by a pneumatic post system. Documentation of all containers is taken over by an IBM 360/20 computer. All information required will be collected and stored in this computer; later it will be retrieved in many different kinds of lists and then made available to the partners in container transportation, especially to the shipping lines. Moreover, these data can be used for the disposition, documentation and also for statistical purposes.

The numerous functions taken over by the gatehouse in Bremerhaven have already made it too small. Many inquiries from the shipping companies, shipbrokers and forwarding agents have led to the decision to build a second gatehouse, which will be in operation as early as 1972.

Shift of emphasis

The fact that there have been so

many inquiries from concerns and institutions involved in containerization reflects very clearly the increasing importance of container traffic for Bremerhaven. This development can also be seen in the container turnover figures. For a long time the bulk of the container traffic was moved in the City of Bremen itself, but now a definite shift towards the estuary of the River Weser in favour of Bremerhaven can be noticed. This trend will be considerably increased when the container lines Sea-Land Service, Inc. and American Export Isbrandtsen Lines (Container Marine Lines Division), both now calling at the docks in Bremen itself, also make Bremerhaven their only German port of call. (See table below).

Concentration of container lines

Since 6th May, 1966, when M.S. "Fairland" started the overseas container service to and from Europe

Year	Nu Absolute	mber 20-ft basis	Weight	Bremen	Bremer- haven
1966	8.335	16.670	72.462 t	8335/ 16670 t	
1967	35.358	51.258	318.310 t	31967/219625 t	3391/ 26685 t
1968	46.873	69.848	464.553 t	39042/380369 t	7831/ 84184 t
1969	73.334	118.001	822.129 t	53079/584601 t	20255/237528 t
1970	112.191	194.812	1.384.817 t	57848/692324 t	54343/692493 t
1971	20.728	34.785	255.295 t	10928/126751 t	9800/128544 t
(Janua	ary/Februa	ıry)			
1971	130.000	240.000	1.700.000 t		
(estim	ated)			*	

in Bremen, Bremen and Bremerhaven had moved up to the end of February of this year a total of 296.-819 containers (485.374 20-ft basis) with a weight of 3.317.566 tons. Six further full-container lines followed the Sea-Land Service, Inc., namely American Export Isbrandtsen Lines (Container Marine Lines Division), Hapag-Lloyd AG, the Atlantic Container Line Ltd., Seatrain Lines, Inc., the United States Lines and the Australia Europe Container Service; also 23 semi-container lines decided to call at Bremen/ Bremerhaven. The concentration of these container services on the Ports of Bremen has, of course, led to the introduction of feeder services. Now regular feeder services are in operation from Scandinavia, Great Britain, the Benelux countries, France, Spain and Portugal to Bremen/ Bremerhaven. The clearance of these smaller container and roll-on/ roll-off vessels is to be effected in the container terminal "Nordhafen" at the same time as the main vessels on the "Stromkaje". No other container port has such optimal conditions for the simultaneous turnround of main vessels and feeder vessels.

At present the following full-container shipping companies regularly serve the Ports of Bremen/Bremerhaven: (See table below).

Expansion by 2 million square metres

With these eleven container and roll-on/roll-off lines the Ports of Bremen will be able to improve on their excellent turnover figures of last year; 112,191 containers (194.-812 on a 20-ft basis) with a weight of 1.385 mill. tons were moved via Bremen/Bremerhaven last year. The

IMCO As Seen by IAPH

Reports by observers from IAPH at IMCO sessions

Report No. 13

- Date: 26th/30th April, 1971
- Place: I.M.C.O. Headquarters, London
- Session: 11th Session of the Sub-Committee on Fire Protection I.M.C.O.
- Observer from I.A.P.H.: L.E.M. Le Besque, Marine Assistant, Harbour Master's Dept., Mersey Docks & Harbour Board.

Agenda

Mr. M. HAREIDE (NOR-WAY) was re-elected Chairman and

figures of the first two months of this year already indicate that a new record turnover of 130.000 containers can be expected for this year. The "Containerkreuz Bremerhaven" will make a great contribution to this new record turnover with both the existing and the new container lines to the U.S.A., to Australia, the Far East, and possibly to South Africa, Canada etc. In any case, it is not possible that difficulties in operating at maximum capacities will occur in the Ports of Bremen. If world trade should make it necessary, the "Containerkreuz Bremerhaven" can be expanded by the required number of berths and by 2 million square metres of marshalling and storage area. (23 April, 1971)

	Shipping line	Departures	Berths
1.	Atlantic Container Line	weekly	Bremerhaven
2.	Hapag-Lloyd AG	weekly	Bremerhaven
3.	Seatrain Lines, Inc.	weekly	Bremerhaven
4.	United States Lines	weekly	Bremerhaven
5.	Australia Europe Container Service	every 10 days	Bremerhaven
6.	Iberhanseatic Transport System	weekly	Bremerhaven
7.	IBESCA Container Line	every 10 days	Bremerhaven
8.	Svea Line A/B	weekly	Bremerhaven
9.	Sea-Land Service, Inc.	every 5 days	Bremen
10.	Container Marine Lines	weekly	Bremen
11.	Short Sea Transport AG	weekly	Bremen

- 1. Adoption of the Agenda (FP. Xl/1/Rev. 1)
- 2. Decisions by the Maritime Safety Committee (FP. X1/2, FP. X1/2/1)
- 3. Fire test procedures.
 - (a) Flame spread characteristics.
 - (b) Incombustibility tests.
 - (c) Measurement of smoke and toxic products.
- 4. Fire Safety measures for tankers.
 - (a) Requirements for construction and equipment. (FP. X1/4/1, FP. X1/4/2, FP. X1/4/3, FP. X1/4/4 FP. X1/4/5).
 - (b) Safety measures in Ports (FP. Xl/4/7) (IOTTSG-Guide).
 - (c) Explosion hazards of Large tankers (FP. X1/4, FP. 11/4/6).
- Fire protection of cargo ships (FP. X1/5, FP. X1/5/1, FP. X1/5/2, FP. X1/5/3).
- 6. Fire Safety measures for containers and portable tanks and for ships carrying containers (FP. X1/6).
- Fire Safety measures for air cushion vehicles. (FP. X1/7, FP. X1/7/1, FP. X1/7/2).
- 8. Fire Safety measures for fishing vessels.
- 9. Fire Safety measures of ODAS (FP. X1/9, FP. X1/9/ADD. 1).
- 10. Other matters FP. X1/10, MIS. 71/2.
- 11. Report to the Maritime Safety Committee.

Text of Report

Item 3. Fire test procedures

This item was considered by the Ad Hoc working group whose report is contained in working paper 3. The Sub-Committee stressed that testing of materials be continued by members using U.S. provided equipment as a matter of urgency.

National Ports Council Book Review :

Item. 4. Fire Safety measures for tankers

(a) Requirements for construction and equipment

The main proposed recommendations of the sub-committee are contained in working paper 6/REV. 1. These should apply to all new tankers carrying crude oil and petroleum, products having a closed flash point not exceeding 60° C. (140°F).

They proposed the need for all accommodation (other than possibly navigating positions) and machinery spaces to be aft of cargo tanks.

There was considerable discussion over the protection of the cargo tank deck area and cargo tanks by a fixed deck froth system and a fixed inert gas system. An expert on the Inert Gas System spoke on behalf of the U.K. delegation. Recommendations and guide lines were proposed for both systems.

(b) Safety Measures in ports

The sub-committee considered the International Oil Tanker and Terminal Safety Guard, and the comments made by the USSR in their paper. The publication was welcomed as a valuable contribution to operational tanker safety and the subcommittee invited the M.S.C. to recommend Member Governments to use the Guide in conjunction, as appropriate, with any national requirements of their own.

The observer from "The Oil Companies International Marine Forum" stated that OCIMF will be responsible for any amendments to the Guide and it would welcome comments or suggestions by member Governments, either direct to OCIMF or else through I.C.S.

(c) Explosion hazards of large tankers

Due to fact the I.C.S. hoped to submit its second report to the Committee in August 1971, and the U.K. and Norwegian delegations' Administrations were directly concerned with investigations into particular tanker explosions, the sub-committee indicated this item be put over to the next session.

Item. 5. Fire protection of cargo ships

After lengthy discussion it was agreed by the great majority of members that Regulation 54 of Chapter II of 1960 Safety Conven-

1. Cost of Maintaining Straddle Carriers, Evaluation Study by NPC

National Ports Council engineers have been studying the operational and maintenance problems of straddle carriers working on container berths at a number of British ports.

This follows a decision by the Council to evaluate mechanical handling equipment used in ports, and straddle carriers were chosen for the first study in view of the large amount of capital which ports have

tion should cover vessels down to 500 G.R.T. instead of 4,000 G.R.T.

It was agreed that the delegations of Canada and the United States produce a single proposal, to cover all comments and proposals put forward, in time for consideration at the sub-committee's next session.

Item 6. Fire Safety Measures for Containers and portable Tanks and for ships carrying containers

U.S. delegation stated some cargoes in containers may be highly dangerous and due to possible leakage from tanks, holds to be only ventilated if a detection system installed. The United Kingdom delegation noted comments of U.S.A. on the paper U.K. submitted at the 10th Session; but the U.S.A. paper dealt with stowed containers and the U.K. paper with Roll-on/Roll-off container ships. It was agreed that the U.K. submit a revised paper separating stowed container ships, roll-on/roll-off ships and conventional cargo ships carrying containers for the next session.

Item 7. Fire Safety measures for Air Cushion vessels

An ad hoc working group produced working paper 2, giving amendments and additional provisions to the interim guide lines on fire safety measures. The sub-committee proposed that the proposed provisional interim guide lines be kept under review due to the rapid technical developments of air cushion vessels and hydrofoil boats. invested in these items, and the fact that straddle carriers have appeared to generate heavy maintenance expenditure.

When the study was carried out (last November) there were some sixty straddle carriers in operation at eight ports, having cost $\pounds 3$ million. Thirty more were on order, to cost a further $\pounds 1.8$ million.

Three ports were studied, and the average maintenance cost of each straddle carrier over a six month period at the three ports were £1,970, £2,350 and £1,440 respectively. This represented a carrier maintenance cost for every container passing through the berth of 67p., 52p., and 42p.—sums additional to costs attributable to capital depreciation, lubrication, fuel, and any allowances for overheads and administration.

A series of interim recommendations aimed at increasing machine availability and reducing maintenance costs are given in the Council's latest Research and Technical Bulletin*, published today. The need for adequate training of drivers is particularly stressed-no man, says the report, should be allowed to drive a carrier before he has been thoroughly trained. Other recommendations include the application of preventive maintenance routines, the use of maintenance records as a guide to future plant selection, and the establishment of realistic spares holdings.

The Report also stresses the need to ensure that the layout of container storage areas and methods of working are consistent with the design of the straddle carrier, and that due regard is given to the machine's capabilities, and its limitations.

A detailed report of the investigations, including ergonomic aspects, engineering features and driver training, will be published at a later date. Meanwhile the Council have commissioned a study of fork-lift

^{*} Research and Technical Bulletin No. 8, National Ports Council, 17, North Audley Street, London W1Y 1WE., Price £1.00.

trucks, and hope shortly to begin an evaluation of side-loaders. (2nd June 1971.)

2. Engine Noise on Harbour Craft, NPC Circular on Hearing Hazard

Port Authorities are to receive a circular from the National Ports Council, prepared for the guidance of Port Medical Officers, drawing attention to the possibility of damage to the hearing of the crews of small dock and harbour craft resulting from the noise of high-speed diesel engines.

This follows a study of the noise problem in such craft, carried out by the Council and the British Ship Research Association in conjunction with the Dock and Harbour Authorities' Association and the Department of Trade and Industry.

Reporting on the study in their Research and Technical Bulletin^{*}, the Council say that a major problem in small vessels is the almost universal use of medium and high speed diesel engines and the unavoidable proximity of all accommodation and watch-keeping positions to the engine room.

During the study measurements were taken at various positions on each of a sample of 40 small vessels. In almost all cases the suggested noise levels considered to be acceptable were exceeded.

The report stresses that the noise of auxiliary generators can be as injurious as that of the main engines, and that deck officers and crews may run risks to hearing comparable to engine room staff.

The use of ear protectors by crew members exposed to any danger of hearing damage is urged, and the Report contains recommendations to assist designers and builders of inshore craft to design for noise reduction.

The Report also draws the attention of port authorities to comparable noisy conditions existing ashore among dock staff working with diesel engines and electrical and other power operated plant.

The Report concludes with the recommendation that the National Ports Council should publish a circular for the guidance of port medical officers. The Council say that this circular will be ready shortly. (2nd June, 1971.)

3. Tug/Barge Systems on Short-Sea Routes, N.P.C. Report Discusses the Prospects

The growing use of large seagoing barges should be taken fully into account by British port authorities when planning new facilities and considering their future charging structures.

This is the conclusion of a Report published today by the National Ports Council in their Research and Technical Bulletin*, following a study by consultants and members of the Council's staff of the use of tug-barge systems in carrying bulk cargoes between the U.K. and the Continent.

During the study the relative costs per ton of cargo shipped by barges and by conventional vessels were considered for a wide range of assumptions and conditions. The results suggested that the use of barges might produce advantages in a number of trades in particular circumstances, although each case must be considered on its own merits.

The use of both conventional tugs and pusher tugs was considered. The results indicate that the economic advantages will be greater with the use of pusher tugs, and when the development work on pusher systems has been completed the advantages of tug-barge systems will be enhanced.

The report points out that the towing over great distances of single barges to a size in excess of 15,000 d.w.t. is a well established commercial practice in North America. There is now a wealth of experience of towing in open sea conditions. The barges have proved as reliable as conventional shipping even in areas with severe weather conditions.

The major advantages over conventional vessels of a tug-barge system are the better utilisation of the propulsion unit and of crew. With a tug and barge the power unit is detachable and can be more fully used than if permanently attached to the cargo-carrying unit as in a conventional vessel. Lower manning scales than for a conventional ship of similar size are possible since the barge is unmanned while at sea.

The Report points out that in Europe the reduced manning levels possible with barges would not be as great an incentive as in North America, where labour costs are much higher, but adds that labour and therefore manning costs continue to rise relatively to other costs in the U.K., making tug-barges comparatively more attractive.

The successful deep sea operations to date all employ conventional pulltowing, using a long tow line, Compared with conventional vessels such systems require substantially greater power to carry the same deadweight of cargo, and have much lower operating speeds. The alternative of a pusher system would go a considerable way towards removing these disadvantages, while still retaining the advantages of separable tugs and barges, and there has been extensive research into developing a linkage system between tug and barge suitable for open-sea conditions. The Report says that while no such system has yet entered commercial service (under all conditions) it seems an inevitable development and there are indications that it could be quite near.

A number of European examples of tug-barge system already exist, and further barge operations involving ore, oil and other traffics, including container feeder services, are under serious consideration, throughout the World.

The advantages of a tug-barge system are at their greatest where the annual time at sea of a ship compared with port time is at a minimum (i.e. in near sea trades), the cargo handling operation is slow, and there is continuous employment for the tug. This indicated, says the Report, that any initial introduction

^{*} Research and Technical Bulletin No. 8, National Ports Council, 17, North Audley Street, London W1Z 1WE, price ± 1.00 . The full report may be obtained from the British Ship Research Association, Walleend-on-Tyne, price ± 3.00 .

^{*} Research and Technical Bulletin No. 8, National Ports Council, 17 North Audley Street, London, W1Y 1WE. Price £1.00.

was likely to be in major bulk traffics between the U.K. and Scandinavia or the Continent, and this view was confirmed last autumn when a tug and barge from the Poland/Belgium coal service called at Immingham on an experimental voyage and was loaded with 12,000 tons of coal for Hamburg. The operation has been continued on a fairly regular basis.

The Consultants, Kingston Marine Technology and Transport Research Limited, were commissioned jointly by the Council and the National Research Development Corporation. Their study concentrated on three trades: grain, pulp and china clay. The Report emphasises that these traffics were selected as typical examples of the sort of traffic thought to be susceptible to shipment by barges, and not as indicating, necessarily, the U.K. trades most suitable for tug-barges or where they might be first employed. The Report includes a summary of the conclusions of the consultants as regards the comparative costs of the rival systems in the three trades, together with the results of further work carried out by the Council's own staff.

Discussing the implications of port charges systems for the development of tug-barge operations, the Report points out that currently port charges are assessed on N.R.T., a system which is weighted against the use of barges since, for vessels of an equal carrying capacity, they have a larger N.R.T. than conventional ships. This charging system could therefore be a hindrance to the introduction of tug-barges. The results of the study form an argument in favour of the contention that G.R.T. would be a more rational basis for port charges than N.R.T.

The Report concludes by saying that although the use of large barges will not generally replace the conventional ship, the growth of the use of large towed and eventually pushed barges is a real possibility in a number of short sea bulk trades to this country.

Port authorities catering for bulk traffics are advised to consider the possibility of a switch by carriers to the use of barges during the life of proposed facilities, and to assess the

Seventh Street Terminal Completed in Port of Oakland

Oakland, Calif., May 19:—The Port of Oakland today completed development of the largest and most modern containerized shipping complex on the West Coast, the 140-acre Seventh Street Terminal.

Built at a cost of \$32 million over a five-year period, the giant maritime complex has been the major element in the Port's recent leadership in meeting the boom in containerized shipping.

Its development has also sparked Oakland's emergence as Northern California's largest port and as the second largest container port in the world, behind New York.

The terminal differs significantly from traditional shipping facilities that consist of piers and cargo sheds, the type that were once the mainstay of ocean shipping.

Now freight is moved to a great extent in van-like containers that can be interchangeably handled in rapid order by all modes of transportation. In addition to speed, containers provide for their contents security from damage and pilferage.

Weighing up to 35 tons, the large metal boxes are moved to shipside by straddle carriers, transtainers or trucks. The vans are loaded and discharged from vessels by giant cranes that have a two-minute loading cycle.

Ships that once were in port from three to seven days now take on and discharge cargo at Oakland in 36 hours or less.

In all, Seventh Street terminal features seven berths, with an eighth planned for the future. Five of the berths have been specifically constructed to handle containers while two are designed to accommodate a combination of containerized and break-bulk cargoes.

Nine container lines and one rollon/roll-off service have based their Northern California operations at Seventh Street since initial portions of the complex were opened in 1968.

Seventh Street is divided into three main terminal areas—Matson Navigation Company Terminal, Oakland Container Terminal and the Public Container Facility operated by Marine Terminals Corp.

Matson maintains the base for its Hawaii container service at a 42acre installation that includes two berths, 31 acres of container storage space, an 11-acre container freight station and two container cranes. Two Japanese flag carriers, N.Y.K. Line and Showa Line, also operate from the facility.

Oakland Container Terminal's one-berth, 20-acre installation is Northern California headquarters for four Japanese container lines: Japan Line, "K" Line, Mitsui-O.S.K. Line and Yamashita-Shinnihon Line. The facility includes a 26,000 square foot container freight station, storage area for 1,200 containers and has the use of 40-ton capacity container cranes.

The four-berth Public Container Terminal is available to all lines for containers, combination containerbreak bulk or general cargo operations. It includes a 50,000 square foot covered container freight station, a 61,440 square foot covered combination container freight station-transit shed and offers 785,000 square feet of open storage area. The facility has the use of three 40-ton container cranes.

The public terminal is Bay Area headquarters for United States Lines, Johnson Line and Pacific Australia Direct Line. By mid-year it will be Northern California base for ScanStar's new combined container service.

The Seventh Street development is not all shipping facilities. Also included is a 2.4-acre recreational area complete with picnic facilities, a fishing pier and 40-foot-tall Bay observation tower. The area is known as Port View Park.

Having the tremendous advantage of a location on the mainland side of San Francisco Bay, the city of

effects of such a switch in each particular set of circumstances. (2nd June, 1971.)



FROM ALOFT—Aerial view of the Port of Oakland, taken earlier this year, shows the giant Seventh Street Terminal, foreground, still under construction. Development of Oakland's Middle Harbor area, (one mile up the Oakland Estuary in the area to the right) can also be seen taking shape. Completion of that project late this year or in early 1972 will give Oakland more than 280 acres of container facilities.

Oakland has historically been the transportation hub of the West Coast's second largest market area.

The western terminal for three transcontinental railroads—Southern Pacific, Western Pacific and Santa Fe—are in or near Oakland. More than 1,000 trucking companies serve the city, 40 with terminals within three miles of the Oakland docks. The East Bay city is the center of a major network of freeways and is the site of Oakland International Airport, operated by the Port and one of the nation's fastest growing aviation facilities.

But it took a modern shipping Complex like Seventh Street to make the city's intermodal mix complete. Now freight in metal boxes flows into the Port from all over the world. In Oakland the vans are transferred for shipment by any of the other three major modes of transportation—all within the confines of the Port.

In developing Seventh Street, several things were required—research into the future of the shipping industry, a belief in the advent of containerization and extensive funding.

The terminal was financed by Port-generated revenue, Port revenue bonds, tenant capital and \$10.1 million in grants and loans from the Economic Development Administration.

The EDA provided those funds recognizing that Oakland was a city with a long-time, high unemployment rate and that containerized could have a strongly beneficial effect on the local economy. That result has materialized. Oakland Mayor John Reading now says that one in five Oakland jobs result from activities of the Port. Seventh Street Terminal itself has meant more than 3,000 new jobs for the community, more than 1,000 of them filled by members of minority groups.

A port prospers on the goods that flow across its wharves, and that's where Seventh Street has had a tremendous impact on Oakland.

In 1967, only months before the first portions of the terminal were opened for Matson and the six Japanese lines, Oakland's container tonnage was 950,047 tons. Last year, with five of the seven berths complete, Port tonnage in vans had soared to 3,650,699 tons, a gain of almost 400 percent. The primary difference was Seventh Street. Also important is the fact that over that period break-bulk cargo remained relatively constant, the net result being that Oakland surpassed neighboring San Francisco in shipping activity by about 1.8 million tons annually.

A string of flat cars powered by a diesel switch engine and carrying a host of American and Japanese freight containers had smashed through a ceremonial barrier on Sept. 12, 1968, to first open Seventh Street.

Since that day more than seven million tons of containerized freight have moved through the Port, while additional portions of the terminal have been developed.

But that's the past. Looking to the future Port Executive Director Ben E. Nutter believes that as much as 6.5 million tons of cargo will be shipped through Oakland during 1971, of which about 4.2 million will be containerized.

He cites several reasons for that

(Continued on Next Page)

CONTAINER HUB—The Port of Oakland's 140-acre, \$32 million Seventh Street Terminal was completed May 19. The seven-berth facility is the largest containerized shipping complex on the West Coast and has provided the thrust for Oakland's emergence as the second leading container port in the world.





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SCENIC-with the Matson container vard as a foreground and San Francisco as a backdrop, the Mitsui-O.S.K. Line ship America Maru loads and discharges cargo at Seventh Street Terminal. In all, six Japanese flag lines are among nine carriers offering containership service from the terminal. Johnson Line, a Swedish flag company, and two American flag lines, Matson Line and United States Lines, have also based their Bay Area operations at Seventh Street. Pacific Australia Direct Line last month established Oakland as Northern California's only roll-on/roll-off port by basing its revolutionary shipping service at the new installation.

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confidence.

"Seventh Street Terminal is complete. Pacific Australia Direct Line roll-on/roll-off service located at the facility last month and ScanStar will establish its new container operation at the terminal in the next few weeks," he says.

"Those factors, combined with a complete year of United States Lines service and expanded Seatrain and Sea-Land Far East operations make the 1971 outlook at the Port look extremely encouraging."

Nutter announced that the public would be able to see the new ocean terminal during Port open house activities Saturday and Sunday (May 22 and 23).

Free boat tours will be conducted around the facility from 9:15 a.m. to 4:45 p.m. both days. In addition, bus tours of other Oakland marine terminal facilities, Oakland International Airport, Port of Oakland Industrial Park and Jack London Square will be offered during those same hours. Both tours will depart from Seventh Street Terminal Berth O.

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OAKLAND CALL-The giant United States Lines containership SS American Legion calls at Oakland. Last year United States Lines established its West Coast headquarters at the Port for a 15,000-mile tri-continent container service that links Europe, the United States and the Far East in one operation. U.S. Lines maintains its area base at the Port's Seventh Street Terminal. In all, 11 steamship lines offer full containership operations from Oakland, with a twelfth service, ScanStar, to begin about midyear.

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EMPLOYMENT — Jobs, and plenty of them, have been the result of development of the Port of Oakland's Seventh Street Terminal. A Port study indicated that 1,000 permanent jobs had been generated at the shipping complex.



PORTS and HARBORS

Orbiter Probe

IAPH News:

Travelers

Mr. E. M. Hodder, Chairman, Wellington Harbour Board, and Mrs. Hodder, began having a restful lapse in Hakone Hot Springs, Japan, Thursday, August 5. On Saturday the couple were guests of the IAPH Secretary General Mr. Toru Akivama who happened to be in his family villa in another part of Hakone. Mr. Akiyama, accompanied by his daughter (Mrs. Tatsuta), drove the couple in his automobile around Hakone area, pulled up at Hakone Kanko Hotel where the mixed foursome had dinner. After driving the guests back to their hotel after dinner, the hosts of the day retired to their family villa.

Earlier in the month, on August 3 morning, Mr. and Mrs. Hodder visited the IAPH Head Office in Tokyo and had a talk with Dr. Hajime Sato, Deputy Secretary General for about an hour. Mr. Hodder had attended the ICHCA Conference in Madrid right after the Montreal Conference before visiting many ports in the U.K. and Europe and arriving in Japan via Moscow.

His itinerary in Japan included the following visits to ports: Port of Yokohama (Aug. 4), Tokyo (Aug. 9), Nagoya (Aug. 11), Kobe (Aug. 12), Osaka (Aug. 13). The couple departed from Osaka on August 15 for Taipei and on their way home.

More Coal for Japan

Ottawa:—Kaiser Resources Ltd. recently announced that increased production of coking coal for Japan, shipped by rail from Sparwood, B.C. to Westshore Terminals at Roberts Bank, had made it necessary to order a new 104-car unit train from the Canadian Pacific Railway. This brings C.P.R. operations on the coal run up to four 104-car and one 50-car unit trains. With a turnaround time of three days, these trains have a capacity of 4.4 million tons of coal a year. (Canada Japan Trade Council Newsletter, June)

Halifax and Saint John

Ottawa:—Halifax and Saint John could both become major ports of entry for Japanese cars if trial shipments, that started with 600 cars through both ports in March, prove successful, according to W. H. Miki, vice-president of Nissan Automobile Company (Canada) Ltd., sellers of Datsun cars. (Canada Japan Trade Council Newsletter, April)

New Man in Tokyo

Baltimore, Md., July 14:—The Maryland Port Administration today announced the appointment of an executive in the Japanese shipping field as its field director for the fast-growing Far Eastern trading area.

Joseph L. Stanton, Maryland Port Administrator announced that the new man, Tadanobu Watanabe, will officially begin representing the State agency on August 2, 1971. He will operate out of the MPA's Tokyo office.

The MPA, an arm of the Maryland Department of Transportation, operates three overseas offices (the others at London and Brussels) and four regional offices in the United States at Baltimore, New York, Pittsburgh and Chicago. Although these seven field branches are designed specifically to promote the use of the port of Baltimore by major shippers and carriers, they are also occasionally employed to assist other operations of the State of Maryland in an unofficial capacity.

Mr. Watanabe, 50, was selected after an extensive search during the past few months in the Far East and the U.S. to find a replacement for Warren F. McClelland, former Tokyo chief for the port agency who resigned recently. The Tokyo office is the newest trade solicitation outpost of the MPA having been opened by Mr. McClelland in January 1968.

Charles I. Hughes, director of trade development for the MPA, said 40 candidates were considered for the post and 20 were actually interviewed. Of the five top hopefuls Mr. Watanabe emerged "as the superior candidate in all categories." In hiring Mr. Watanabe, the port of Baltimore becomes the first U.S. East Coast port to employ a Japanese national as its representative in Tokyo. Several U.S. West Coast ports already employ Japanese men in this capacity.

"With the growing importance of trade with Japan and the Far East, especially for a port like Baltimore which has a long history of trade with the Orient, a Japanese representative is certainly a strong advantage," Mr. Hughes said.

Immediately before joining the MPA, Mr. Watanabe was manager of the head office of Trans-Meridian Navigation Co., Ltd., in Tokyo. This firm is the general agent in Japan for Pacific Far East Line, Inc., an American carrier, and Hapag-Lloyd A.G., of West Germany.

Mr. Watanabe holds a degree in economics from Keio University in Tokyo and has 28 years experience in all phases of shipping including containerization, LASH, break-bulk general cargo, chartering and tanker services. He is adept in freight sales, marketing, administration, public relations and advertising. He spent five years representing the United States Lines in Japan and an equal number of years representing Daido Line, the predecessor of Japan Line, Inc., in New York.

He speaks English fluently and served as an interpreter and translator for the U.S. Military Government on Japan in 1946 and 1947. Mr. Watanabe will arrive in Baltimore next month for an indoctrination period at MPA headquarters before returning to take up his duties in Tokyo in late September. (News From Maryland Port Administration)

Trade with Europe

Buffalo, N.Y.:—Alfred Rehder, president of Carsten Rehder, a West German shipping firm with vessels operating into Buffalo and other Great Lakes ports, stopped here recently for a tour of the city's waterfront. Francis Dee Flori, trade development manager for the Niagara Frontier Transportation Authority; and William Pfohl of the Buffalo Steamship Agency, agent for the Rehder group, accompanied Mr. Rehder on his tour.

The visitor said he was in this country looking for new business contacts and strengthening present ones on the Great Lakes. He said he was hopeful that meetings with United States and Canadian interests would prove worthwhile in building up new tonnage prospects to and from Europe.

Mr. Rehder's shipping firm is responsible for bringing clay to Seaway Piers from Cornwall, England, for distribution throughout the Niagara Frontier and in parts of Pennsylvania. This season the clay shipments are expected to total about 15.000 tons. This is 5 times the amount of the first experimental shipment sent here a few years back. The clay is stored in a bulk terminal shed and trucked to destinations by the William M. Pfohl Trucking Company.

Following his tour of the harbor, Mr. Rehder visited the NFTA offices and discussed overseas business prospects with NFTA Chairman William E. Miller. Mr. Rehder termed "amazing" the setup along the waterfront and the overall scope of NFTA operations that take in a wide range of transportation. (Port of Buffalo Progress Bulletin)

De-Icing Project

Duluth, Minn., July 2:—The U.S. Army Corps of Engineers has announced that a de-icing project conducted in the Duluth-Superior Harbor during the past winter can successfully be expanded both in size and time of operation.

This conclusion was made available to the Seaway Port Authority of Duluth this week in an advance technical memorandum filed on Duluth's "bubbler system," a pilot project conducted off the Clure Public Marine Terminal in late March of this year. The memorandum was prepared by the Army's Cold Regions Research and Engineering Laboratory, Hanover, N.H., and released through the Corps' North Central Division office in Chicago.

The Duluth project involved placement of perforated pipe near the bottom of a main shipping channel. Compressed air was forced through the pipe and the air bubbles worked as agents to transfer warmer water from the bottom up to colder—or frozen—water at the surface.

Based on test data monitored during the 15-day experiment, the report states, "the conclusion to be made is that, for this installation, the heat extracted from the water to melt ice is conveniently replaced by heat advected and/or conducted into the area from elsewhere in the harbor.

"This suggests," the report continues, "that bubbler operation could be successfully conducted intermittently or continuously for an indefinitely longer period of time than was done during the demonstration project."

In addition, the report concludes "that a larger bubbler system or systems could be successfully operated."

A more detailed study of the bubbler project is currently being compiled by Corps engineers and is expected to be released later this month.

C. Thomas Burke, Duluth port director, said the report "brings into focus the long-range projections anticipated from the very outset of the project and provides further encouragement to the entire Great Lakes that an extended Seaway season is truly feasible and economically possible."

The bubbler project, initiated by the Seaway Port Authority of Duluth, and conducted by the Corps of Engineers, was financed by the Upper Great Lakes Regional Commission, U.S. Maritime Administration, the Corps and St. Lawrence Seaway Development Corp. Cost was approximately \$35,000.

During the 15-day experiment, more than 400,000 tons of harbor ice was melted in a rectangular area about 2,000 feet long and 1,000 feet wide. Ice thickness in the project area varied from 20 to 24 inches. (Seaway Port Authority of Duluth)

IAGLP Meeting

Duluth, Minn., June 30:—C. Thomas Burke and James Sauter, port directors of Duluth and Superior respectively, announced today that the Port of Duluth-Superior will be the host for the fall meeting of the International Association of Great Lakes Ports (IAGLP) Sept. 9-10.

The port directors said Duluth-Superior was nominated as the meeting site during the IAGLP's annual meeting in Chicago. The association, largest marine organization of its kind in the Great Lakes-St. Lawrence Seaway region, is composed of 22 U.S. and Canadian lakes ports.

About 80 port representatives and their wives are expected to attend the two-day session, which will include business meetings, luncheons and tours of harbor facilities. Details are to be announced at a later date.

Sauter said he was greatly pleased that the IAGLP chose the Twin Ports for the meeting and noted that it will be the first for the association outside of Chicago and Toronto.

Burke, elected to an IAGLP directorship at the Chicago meeting, said the fall session is another positive indication that the image of Duluth-Superior in worldwide trade is further improving.

The purpose of the association is to encourage cargo movements through the Great Lakes and to foster greater cooperation and understanding between lakes ports. (Seaway Port Authority of Duluth)

Harbor History

Hollywood-Fort Lauderdale, Fla., May 27:—A booklet on the early history of Port Everglades has been compiled and published by Warren T. Eller, retired shipping official and the harbor's first port manager. The report covers the seaport from its inception, construction, and early operating period. Eller was port secretary and manager from 1932 to 1938. (Port Everglades News)

Galveston News

• Galveston, Texas, July 2:--The Port of Galveston now has sales coverage of the West Coast from a San Francisco office, Galveston Port Director C. S. Devoy announced today.

J. Murray Fox of the firm of Muller, Fox & Pennington, port consultants, will handle West Coast solicitation for the Port of Galveston. The San Francisco office is located at 465 California Street, San Francisco 94104, and the telephone number is (415) 391-2370.

Galveston already has sales offices in Houston, New York and Dallas, and the addition of the San Franciso outlet will give the port coast-to-coast sales coverage on a daily basis.

• Special account solicitation of the West Coast for Galveston by William L. Brewster, Western sales manager with offices in Houston, and by Charles M. Ferguson, Eastern Sales Manager in New York, will continue on a quarterly basis as in the past.

Fox has just returned from an extensive trip to the Far East, including lengthy stays in Korea and Japan.

Devoy termed the San Francisco office vital to Galveston's future, particularly in view of the Port's present building of container, SEABEE, and LASH terminals. Fox's solicitation work will be closely oriented to the growth of land-bridge shipments moving direct to and from West Coast origins under the Galveston ocean gateway and then by water to foreign destinations under a single bill of lading.

Fox was graduated from Georgetown University, School of Foreign Service, in 1942. He has held responsible positions in the transportation field, most recently with Sea Land Service and Matson Navigation Co. in the development of their container marketing programs. He has served as consultant to the Port of Norfolk, the U.S. Maritime Administration, and the States Steamship Co. of San Francisco. (News from The Port of Galveston)

Strikebound Cargo

Los Angeles, Calif., July 21:---New low storage rates for strikebound cargo were set today (July 21) by the Los Angeles Board of Harbor Commissioners at the board's regular weekly meeting.

Effective Aug. 1 for 90 days, cargo stranded at the port by the current International Longshoremen's and Warehousemen's Union strike will be charged \$1.10 per ton per month for goods under cover, \$0.96 per ton per month for cargo stored in the open.

Similar rates are already in effect at some other California ports.

Earlier, Los Angeles Harbor Department General Manager Bernard J. Caughlin had extended indefinitely free time on strikebound cargo at the port. He also announced owners of cargo on which free time had expired before the start of the strike would be charged minimum rates upon application.

The rates passed by the board today will cover all strikebound cargo subject to storage charges.

By law, the general manager of the city-owned port can extend free time, but only the commission can effect rate changes. (Port of Los Angeles)

Mainland China Trade

Los Angeles, Calif., July 20:-The Port of Los Angeles will have no difficulty accommodating anticipated trade with mainland China, Frank C. Sullivan, president of the Los Angeles Harbor Commission predicted today.

"Frankly," Sullivan said, "we don't foresee that renewed trade with the Chinese mainland will have too much impact on American ports over the next five years, but we have been studying it's potential for some time in anticipation of renewed trade ties.

"That picture could change rapidly, however," Sullivan noted. "It is based on current Chinese trade relations with a number of nonCommunist nations. If our government were to extend massive longterm loans, we might well see a sharp and sudden upsurge in our trade with the Chinese mainland.

"I'd like to mention, too, that the government in Peking, whatever we may think of its politics, has maintained an excellent international credit rating."

Sullivan has just returned from a trip to Japan and Hong Kong, where he discussed the problems of trading with the People's Republic of China with businessmen who have more than two decades experience in that field.

"In view of the President's pending visit to Peking," Sullivan said, "it is likely we will be seeing vessels from the Chinese mainland ports at Los Angeles Harbor in the not-too-distant future.

"Dr. A. J. Falick, the Harbor Department's planning economist, recently completed a study on what we can expect. Since there has been no U.S. trade worth mentioning with mainland China for more than two decades, this wasn't an easy task, and I think Dr. Falick should be congratulated on doing an excellent job."

Falick's approach, Sullivan said, was to study Red China's trade with other nations over the past 20 years, paying particular attention to Chinese products which might have an American market and U.S. products the Peking government might like to buy.

Falick foresees mainland Chinese imports through the Port of Los Angeles reaching between 22 and 58 thousand tons annually, requiring about six vessels, by 1975, with exports through the port ranging from 20 to 44 thousand tons and carried on up to five ships by the same year.

He estimates roughly one-sixteenth of the mainland China-U.S. trade will travel through the Port of Los Angeles. He put the value of imports via Los Angeles at from \$4.75 to \$12.5 million and imports at between \$9 and \$20 million. He also foresees a balance of trade in favor of the U.S. at between \$4.75 and 40 million annually by 1975.

"One thing we don't have to worry about," Sullivan concluded, "is any need for new facilities at the Port of Los Angeles very soon in order to handle on increasing China trade.

"At it's present stage of development, mainland China is still best equipped to handle traditional breakbulk cargoes; according to Dr. Falick's study, they don't have much to gain at this stage by going to containerization.

"In another decade or so, as Dr. Falick sees it, it may well be to mainland China's advantage to invest heavily in 'lighter aboard ship' (LASH) or similar vessels, but that still won't pose a problem for the Port of Los Angeles.

"We plan to have our first LASH terminal in operation some time next year." (Port of Los Angeles)

Shipping Revolution

Los Angeles, Calif., July 13:-The triple revolution in world shipping, and what the Port of Los Angeles is doing to meet it was the subject of an address in Tokyo today (Tuesday, July 13) by a Los Angeles Harbor Commissioner.

Frank C. Sullivan, public relations executive and president of the Los Angeles Harbor Commission, told the Tokyo North Rotary Club the Port of Los Angeles has made an exhaustive study of the changes in shipping and is now investing millions of dollars to maintain its position as the leading United States port on the Pacific Ocean.

The triple revolution referred to by Sullivan consists of major changes in shipping and cargo handling in little more than a decade —increasing use of containers, with ever larger and faster vessels to carry them; development of bargecarrying (LASH) vessels that do not need to tie up at a dock in order to discharge or load cargo; and the rapidly increasing size and speed of supertankers and bulk carrier vessels, a large percentage of them built in Japanese shipyards.

But Sullivan, in his talk, also stressed the importance of Japan-United States and, particularly Japan-California and Japan-Los Angeles trade. If it were an independent nation, he pointed out, the state would have the world's second highest per capita income and seventh largest gross national product; an independent greater Los Angeles would have the world's 10th largest GNP.

And Japan's trade with the United States via Los Angeles is particularly important to the city, Sullivan added, accounting for more than 60 per cent of its foreign general cargo business.

The California trade, he went on, is equally important for Japan, since it is only 25 per cent less than the Japan-Europe trade.

"Just 13 years ago . . ." Sullivan said, the first container vessel on the Pacific sailed from San Francisco, carrying "everything from baby food to beer." That pioneer ship, he noted, was recently sold for scrap.

To handle container cargo at the Port of Los Angeles, Sullivan told his listeners, the Harbor Commission has in the last few years spent, or is now planning to spend, some \$30 million. Of this, more than two-thirds will be spent for facilities for trade with Japan.

Also planned, Sullivan said, is a \$5.3 million terminal for LASH barge cargoes. Additionally, a million dollar study of the harbor is under way in preparation for a \$15 to \$20 million project that will see the Outer Harbor fairway dredged to 65feet for supertankers and bulk carriers, with a minimum depth of 45 in the rest of the harbor.

In closing, Sullivan told the Rotary group the Port of Los Angeles officials are facing "the shipping revolution with serene confidence," as are Japanese shipping officials and executives. (Port of Los Angeles)

Hoboken Terminal

New York, N.Y., July 8:-Operation of Piers A and B at the Hoboken-Port Authority Marine Terminal will continue after December 1, under a lease with the John W. McGrath Corporation, terminal operators, according to an announcement by Chairman James C. Kellogg III, following the monthly Board meeting of The Port of New York Authority. The new lease will assure uninterrupted service at the Hoboken facility when the present lease with the American Export-Isbrandtsen Lines expires on November 30.

The John W. McGrath firm has been handling stevedoring at Hoboken since 1961, operating the terminal for American Export and other lines. American Export moved its operation from Hoboken last November but McGrath has continued to service vessels of Alcoa, Blue Sea Line and China Merchants Line at this facility. Last month McGrath announced that it would also handle the Concordia Line at the Hoboken terminal.

The three-year lease with the John W. McGrath Corporation for Piers A and B calls for an annual rental of \$870,000. The terminal's third pier, Pier C, will serve as an independent two-berth breakbulk facility available to other carriers.

The McGrath firm estimates that it will be handling about 400,000 tons of cargo at the Hoboken terminal next year. This is expected to generate employment for some 675 people at a payroll of about \$5,400,000 a year. (News from The Port of New York Authority)

New Board President

Oakland, Calif., June 30:—The Oakland Board of Port Commissioners today elected Y. Charles Soda to serve as president for a year term that begins tomorrow (July 1).

H. Boyd Gainor was elected first vice president and Thomas L. Berkley was named second vice president.

Soda succeeds Peter M. Tripp as head of the commission which exercises general policy-making responsibility over Port operations that include marine terminals, Oakland International Airport, a 300-acre industrial park and Jack London Square.

The new president is the owner of Soda and Sons, general contractors, and is president of several investment corporations. He is a member of the Governor's Judiciary Advisory Committee and is Commissioner of the State Horse Racing Board.

Soda is a former member of the

Oakland Museum Commission, served on the 1969 Alameda County Grand Jury, and is a member of the California State College at Hayward Advisory Board and the St. Mary's College Board of Regents.

He has been a Port Commissioner since October, 1969.

H. Boyd Gainor, a graduate of the University of California and the Stanford School of Business, is vice president and treasurer of Rhodes and Jamieson, a ready-mix concrete company.

He is a former member of the Oakland Civil Service Commission.

Thomas L. Berkley, who holds degrees from UCLA and the Boalt Hall School of Law, is a practicing attorney and publisher of a chain of weekly newspapers.

He was a founder of the Beneficial Savings and Loan Association.

Berkley is active in numerous community organizations and is a former member of the Oakland School Board.

Port Commissioners are nominated by the Mayor of Oakland and appointed by the City Council to four-year terms. They serve without compensation.

Other commissioners, in addition to Soda, Gainor, Berkley and Tripp, are attorney William Walters, real estate executive Ted Connolly and carpeting firm owner Robert E. Mortensen. (Port of Oakland)

Public Works Funds

San Diego, Calif., July 26:---Federal funds totaling \$500,000 have been approved for San Diego Bay by the House of Representatives committee on Public Works Appropriations, it was learned today.

According to U.S. Representative Lionel Van Deerlin, D-San Diego, the half-million dollars is for deepening the South Bay channel. It's the key to full industrial development of that area and in accordance with the District's master plan, Don L. Nay, Port Director, notes.

"If the Public Works Committee approves the bill in its Monday session and the House of Representatives votes favorably next Thursday, the Port can be assured of construction starting in 1972 and that's great news," he added.

The Port of San Diego has been attempting to secure these funds since 1962, the year of the Unified Port District's formation.

The Port District is seeking a total of \$6.9 million from Congress for the deepening to open the South Bay to larger commercial shipping vessels. The non-federal cost would be \$2.8 million, with the Port District providing the greatest share out of bond funds.

A total of \$150,000 already has been appropriated by Congress for preconstruction engineering studies of the dredging project, which would be accomplished by the Army Corps of Engineers. (Port of San Diego News Release)

Bay Filling Opposed

San Diego, Calif., July 21:---The Unified Port District has gone on record in opposition to a proposed fill on the Coronado side of San Diego Bay by the U.S. Navy.

Plans for a 167-acre housing tract erected on fill dredged from the Bay on tidelands controlled by the military have been fought by the City of Coronado, one of the five city members of the UPD.

And while the District has no jurisdiction over the military's controversial tideland's use, it was noted that "federal agencies should respect the wishes of local entities."

Walter Vestal, Coronado's commissioner on the UPD board, noted at yesterday's weekly meeting (Tuesday July 20) in San Diego that "filling the bay will deny a major recreational area to water enthusiasts and continued filling will result in no Bay at all."

Copies of the UPD resolution will be forwarded to the Army Corps of Engineers and the City of Coronado. (Port of San Diego News Release)

Miss Wolff in Marine Exchange

San Francisco, Calif., July 6: — Miriam E. Wolff, Port Director of the Port of San Francisco, has been elected a member of the Board of Directors of the 122-year-old Marine Exchange of the San Francisco Bay Region.

Miss Wolff was one of five industry leaders who took office June 15 to help direct activities of the organization for the next three years.

Others are Worth B. Fowler, president of American President Lines; Jorgen Frederiksen, vice president of East Asiatic Company, Inc.; John Hays, admiralty attorney; and Frank D. Troxel, president of Seatrains Lines, California.

The new directors will help direct new programs, including expansion of UHF shoreside communications for government officials and industry, promotion efforts to expand local commerce, and programs to enhance regional navigational safety. (Port of San Francisco)

Marine Exchange President

San Francisco, Calif., June 21:-Edward D. Ransom, a leading maritime lawyer, has been elected president of the 122-year-old Marine Exchange of the San Francisco Bay Region.

Ransom—a senior partner in the S.F.-headquartered law firm of Lillick, McHose, Wheat, Adams & Charles — was formerly general counsel of the Federal Maritime Board and Maritime Administration, Washington, D.C. His selection was made at the June 15th board of directors' session of the Golden Gate shipping service, navigation and development organization. He succeeds Chris Blom, president of Overseas Shipping Co.

Also picked to lead the West's oldest maritime agency were John R. Page, 1st vice president (president, General Steamship Corp.), Kenderton S. Lynch, 2nd vice president (vice president, Pacific Far East Lines), Lloyd O. Haefner, 3rd vice president (vice president, Johnson & Higgins of Calif.) and William F. Ward, treasurer (vice president, Bank of America, N.T. & S.A.). Also re-elected was Robert H. Langner, executive secretary.

The new top Exchange official

The Americas



Alameda, Calif., July 12:—An exclusive license for the Kaiser Speed-Tainer[®] System has been granted by Kaiser Engineers Division of Kaiser Industries Corporation to Paceco, a Division of Fruehauf Corporation. The agreement covers the manufacture and sale of the Speed-Tainer System for use in all areas of the world except Japan and certain other Asian Countries. The system is presently under active consideration in a number of locations throughout the world, including ports in San Francisco Bay and Japan. Covered by patents in the United States and abroad, the Speed-Tainer[®] System is a highly automated system for receiving, storing, retrieving, and transferr shipping containers between ship, rail, truck and air. Key elements of the system include a vertical storage structure served by one or more high-speed, automated stacker cranes. (PACECO News)

previously served as a director and first vice president, as well as legal chairman. A World War II Navy Lt. Commander, he is a native of North Dakota and a law graduate of the University of Michigan. In addition to his admiralty law assignments with his firm-which maintains Washington, D.C. and Los Angeles offices-Ransom is a director of the San Francisco Legal Aid Society, served as chairman of the American Bar Association's maritime transportation committee and on the U.S. Maritime Law Association's executive committee.

Active internationally, the new president has participated in international maritime law conferences as a member of U.S. delegations. He is also a member of San Francisco's World Trade Club.

With his wife, Margaret, Ransom lives in Oakland, California. (Marine Exchange of the San Francisco Bay Region)

PR Assignment

Seattle, Wash., July 14: — The Port of Seattle, one of the country's ten leading ports, has assigned Harshe-Rotman & Druck, Inc. to develop a broad public relations and marketing program based on research the agency is to conduct.

The Port is a \$300-million municipal corporation which owns 14 waterfront terminals, the nearly completed \$200-million international airport serving Seattle and the Puget Sound area, a \$10-million small boat marina, and a 600-boat fishermen's terminal.

Harshe-Rotman & Druck is a full-service public relations firm with offices in Chicago, New York, Los Angeles, Dallas, and Memphis. (News Release from Port of Seattle)

Polluters Fined

Melbourne:—The constant battle against pollution of the waters and land of the Port under the control of the Commissioners of the Melbourne Harbor Trust is being maintained by the officers and men of the Port Security Service, a section of the Port Emergency Service.

During the first five months of this year in three Courts of Petty Sessions, nine prosecutions were successfully launched which resulted in fines totalling \$2,800 being imposed in all cases.

Seven of the prosecutions were laid under the Navigable Waters (Oil Pollution) Act of 1960, six concerned discharges from ships and one from a place on land. Another two prosecutions were proceeded with under the Melbourne Harbor Trust Act for discharge of offensive matter (fat) from a place on land.

The Port Melbourne Court on 4th February fined the Master of the "Port Sydney" \$250 for the discharge of oil at 32 South Wharf into the waters of the Port and the Court also awarded costs amounting to \$31.30. The offence against the Master of the vessel occurred on 13th December, 1970.

The Port Melbourne Court on 22nd February fined Tom Piper Ltd. \$200 for discharge of oil into a storm water system at Princes Pier, which entered the waters of the Port, and also awarded costs amounting to \$120.85. The offence was committed on 22nd October, 1970. The company was prosecuted under Section 6B of the Act which covers pollution on land.

The Footscray Court on 23rd February fined the Master of the freighter "Lesvos" \$500 for the discharge of oil at Footscray into the Port and also awarded costs amounting to \$34.20.

The City Court on 26th February fined the Master of the "George Anson" \$500 for the discharge of oil into Victoria Dock in the waters of the Port, and awarded costs amounting to \$34.50.

The Port Melbourne Court fined the Master of the "Hwa Chu" \$150 on 11th March for discharge of oil at Prins Pier into the waters of the Port and awarded costs amounting to \$18.

The City Court fined the Master of the "Cap Verde" \$300 on 30th April for discharge of oil in Victoria Dock in Port waters and awarded costs amounting to \$26.

The City Court fined the Master of the "Port Montreal" \$500 on 7th May for discharge of oil in Victoria Dock in Port waters and awarded costs amounting to \$23. The maximum fine under the Navigable Waters (Oil Pollution) Act is \$2,000.

The Footscray Court fined the Corio Meat Packing (1965) Pty. Ltd. on 25th May \$200 on two offences for discharge of offensive matter into the waters of the Port and awarded costs of \$4. The company was prosecuted under Section 155 of the Melbourne Harbor Trust Act, which covers discharge of offensive or corrosive matter into the waters of the Port. The maximum fine under this Act is \$200. '(Melbourne Harbor Trust Port Gazette, June)

Dredging Work

Melbourne: — Dredging of the main 400 ft. wide navigation channel at Spotswood in the lower reaches of the River Yarra was completed by the Engineering Division of the Melbourne Harbor Trust last month.

Most of the dredging work was confined in and around the area immediately above the old sewer tunnel which was abandoned by the Metropolitan Board of Works.

The Metropolitan Board of Works recently completed work on a new 1,750 ft. sewer tunnel at a cost of \$3.5 million also at Spotswood, which was sunk to a depth of 55 ft. below low water.

With the new sewer tunnel in operation, the old sewer became redundant, and Trust engineers lost no time in getting the river dredged so that deeper draughted ships could enter and leave the port in safety.

The old tunnel built in 1896/7 by the Board of Works limited access for ships with a maximum draft of 23 ft. As vessels calling in the port got bigger, stop gap measures were adopted and, until the new sewer tunnel was built, the maximum draft permitted was 31 feet at low water.

The end result of dredging the area above the old sewer tunnel means that the guaranteed depth of the main river channel up to the port's new container complex at Swanson Dock can now be deepened to 33 feet below zero.

Work is now well in hand to remove the old sewer tunnel completely, and is expected to be completed by the end of the year.

The removal of the old tunnel will eliminate for all time the hitherto existing barrier against progressive deepening of the main river channel of the port. (Melbourne Harbor Trust Port Gazette, May)

Dredging Silt

Sydney, 30th April:—Work has commenced on the removal of more than one million tons of silt deposited in Newcastle harbour during the recent severe floods in the Hunter River Catchment area.

This was announced in Sydney today by Mr. W. H. Brotherson, President of the Maritime Services Board, who said that the Board has commissioned the Public Works Department to undertake a section of the restoration dredging and, in addition, the Westminster Dredging Company's large trailer suction dredge "Seven Seas" is already being used.

Mr. Brotherson pointed out that the "Seven Seas" had been commissioned by the Board to proceed to Newcastle to widen the steelworks channel but in order to expedite the restoration of the depth of 36 feet previously available in the Port, it has been diverted to the silt removal work.

He said the estimated total cost of restoring the channels to 36 feet is of the order of \$750,000 and the million tons of material will have been removed in about five months time.

Following this work, the "Seven Seas" will commence widening of the steelworks channel to permit the passage of ships 800 feet long to the B.H.P. Wharves. (The Maritime Services Board of N.S.W.)

"Queen Elizabeth" Arrives

Hong Kong, 15 July: — The Queen Elizabeth, now renamed Seawise University, arrived in Hong Kong this morning after her long journey from the Everglades in Florida.

The Massive 83,000-ton passenger liner, launched in 1938, will undergo a five-month refit which is expected to cost up to HK\$27 million (£1.8 million; US\$4.5 million). She will then be used as a floating university.

Seawise University was purchased in September 1970 by Hong Kong shipping magnate C. Y. Tung, who controls one of the largest shipping fleets in the world. (The Week in Hong Kong)

Test Shipment in Van

Tokyo, May 31:—The second phase of experimental container shipments get under way when OCL (Oevrseas Containers Limited) carried a 20 foot container loaded with 235 16 mm film projectors in cartons from Yokohama to London recently.

The projectors were sent from Japan Cine Equipment Mfg. Co., Ltd.'s Higashimurayama factory in the suburbs of Tokyo right through to Bell & Howell's London Branch.

Customs inspection was carried out at the plant in Tokyo, the cartons were then packed as a full container load (FCL) and, aboard a container chassis, drayed to Yokohama. There the container was loaded into P&O's m.s. "STRATH-BRORA" for the voyage to London. P&O, together with Blue Funnel & Glen Line, are among the British Liner Companies who formed O.C.L., a container consortium, in September 1965.

The loading of Japan Cine's container was carefully supervised by Swire Mackinnon's personnel including their Packing & Handling Supervisor, Mr. T. Muramoto.

Officials of Japan Cine Equipment's Export Department were also on hand to observe the shipment. Export supervisor, Akira Suzuki, expressed his company's pleasure over the advantages of containerization: "Factory-to-ship-

Asia-Oceania



An OCL container being packed with cartoned projectors prior to sealing for shipment.



16 mm projector of the type shipped to London by Japan Cine Equipment Mfg. Co. Ltd.

board procedures are greatly simplified, eliminating warehousing and lightering. Most important, handling costs are only one-sixth as compared to conventional shipments. The fact that customs inspection can be carried out at our factory is another invaluable factor. With the additional guarantee of freedom from damage and pilferage during shipment, I speak on behalf of my firm when I express my hope that OCL will expedite its full container service on the Japan-Europe route, and the sooner the better." (OCL Press Release)

1st "Fortune" Ship

Tokyo, Japan, June 16:—The 21,-500 DWT "Attica", the first Fortune ship built by IHI (Ishikawajima-Harima Heavy Industries Co., Ltd.) for Faros Shipping Co., Greece, was made open to overseas and domestic shipowners, shippers and other people concerned at Harumi Wharf in Tokyo Port on June 15.

The Fortune ship is a multipurpose single deck dry cargo vessel developed jointly by IHI and G.T.R. Campbell (International) Ltd., Canada, to be mass-produced to the standardized design. IHI put this vessel type on the market in April 1970 as a second series of mass-produced ships, following the 14,800 DWT Freedom ship, and has since received orders for a total of 24 Fortunes.

Construction of the first Fortune ship began in July 1970 at IHI Tokyo Shipyard and was completed about a year after. Various performance trials were conducted and the test results of the first ship will be reflected in the design of subsequent ones. From the second ship on, full scale construction en masse will begin at the No. 5 berth in the Tokyo Shipyard, at the rate of 12 ships a year.

The Fortune can carry all normal dry bulk cargoes including ore with alternate hold loading arrangement, automobiles, semi-finished steel products including long articles, containers, and light weight cargoes requiring large hold cubic capacity. In view of increasing car export trade, the ship also is designed for convenient car transportation with added car decks.

It is the optimum size for transport through the St. Lawrence Seaway, with a very shallow draft of 9.74 meters ensuring the ship's versatility as a multi-purpose vessel. Each hatch is provided with a set of 10-ton Universal cargo gear specially designed for the Fortune. The extra wide and long hatch openings permit the loading of many kinds of cargoes and ensure easy cargo handling.

The main propulsion machinery is an IHI-SEMT Pielstick 16PC2V type medium speed heavy oil



PORTS and HARBORS

burning geared diesel of 8,000 PS maximum continuous rating which drives the propeller via single reduction gear. This engine is specially designed to produce 500 PS per cylinder—nearly 17% larger than the original output of such type engines.

Principal particulars of the "Attica" are:

Length, o.a. 164 m Length, b.p. 155.45 m Breadth 22.86 m Depth 13.56 m Draft 9.74 m Deadweight 21,500 tons Gross tonnage 14,200 tons Main engine 8,000 PS IHI-MEST Pielstick 16PC2V type diesel engine Service speed 15 knots Complement 27

New Dredger

Penang:—The Penang Port Commission recently awarded a tender to an Australian firm for the construction of a dredger. Delivery is expected to be made in early 1972.

The dredger is to replace the existing 2 smaller dredging units which have been in service with the Commission for a long time and have come to the end of their useful life. The new dredger will also enable the Commission to undertake the additional dredging work at Butterworth Wharves without any difficulty.

A twin screw self-propelled hopper grab, it is mounted with twin 2.4 cubic yards grab with a capacity of 400 cubic yards. The dredger is 147 ft. long, 35 ft. wide, draft 8 ft. when fully laden and has a designed speed of 11 knots. Under normal operating conditions it is capable of clearing 1,200 cubic yards of silt in eight hours.

According to the Commission's Engineering Department, when the new dredger is in operation, the dredging time at the Wharves will be greatly reduced. The dredger will also have spare capacity to undertake additional work within the Port. (Berita Pelabohan, April)

1st Full Containership

Auckland, N.Z., July 1:---The Auckland Harbour Board's new



The \$1 million Portainer Crane at work for the first time at the Auckland, New Zealand, container terminal. The Columbus New Zealand, on her maiden voyage to Australasia in June, was the first fully cellular container ship to visit the country. (Auckland Harbour board)

Container Terminal began operating late in June, with the arrival of the Columbus New Zealand, the first fully cellular container ship to call at New Zealand. A total of 410 containers were exchanged and the Auckland Harbour Board was highly satisfied with the first test of the facility.

"The exchange was made at a net rate of 28 containers an hour," said the assistant general manager of the Harbour Board, Mr D. N. Morgan. "This figure is calculated on the actual time during which the portainer crane and the ship's gantry crane were working. It does not include time for such work as lifting and replacing hatch covers, or meal-breaks."

"As a first trial of the portainer crane and other equipment, we believe that the handling of the ship was an excellent effort by all concerned," he said. Mr. Morgan said the Board expected the rate to improve as operators became more familiar with equipment, and as further equipment on order became available. Additional tractor-trailer units will be operating when the next container ship ACT 3, arrives at the Port on August 23.

The Board's portainer crane shifted 65% of the containers which were exchanged for the Columbus New Zealand and its availability meant that the whole of the ship could be worked. The gantry crane on the ship is not able to work on the most forward hatches or on the hatches aft of the superstructure.

Of the 12 ships which are to work the East Coast North America container service, nine do not have gantry cranes, and the portainer will be needed to handle all containers carried on those ships.

Asia-Oceania



Its twin-lift capacity and cycle of operation will permit a net handling rate of up to 60 containers per hour.

Mr. Morgan said that having completed this first exercise, the Board was confident it had an efficient container terminal with a design that was in every way up to the Board's expectations of what it could achieve for the Port, the shipping lines, and the country as a whole. (Auckland Harbour Board News Release)

Tanker Mooring Buoy?

New Plymouth:—Preliminary investigations for an offshore mooring buoy to handle oil imports for the New Plymouth Power Station are being made by the Taranaki Harbours Board.

The work is being done by the board jointly with New Zealand

Electricity Department, who are meeting the cost, but the department's project engineer, Mr. P. M. Denton, emphasises that investigations are very tentative.

Such a buoy could have several applications in relation to the project. The station is at present designated as an oil and/or gas fired station. Whether gas is used as the primary fuel depends on the Government reaching agreement with the discoverers of the Maui offshore gas field, Shell B.P. and Todd Oil Services Ltd.

If this takes place the station will still require oil as a standby fuel and as the main fuel for the first few years of operation until gas can be brought ashore.

It is generally recognized that the earliest the Maui field can be developed is 1975, while the first turbine at the power station is to be commissioned during 1973.

The present facilities at Port Taranaki can adequately handle tankers of 20,000 tons but if oil is to be imported to the extent of the 700,000 tons required annually for complete oil firing larger ships would provide more economic transportation.

It is vessels of between 50,000 and 60,000 tons which the electricity department now envisages.

"We still have a lot of homework to do," Mr. Denton says, "but it may be economic to install a buoy even for five years."

Investigations to date have included a survey of the sea bed by harbours board divers. The next stage will be further underwater work in an area near the power station and along a possible pipeline route to a point 7000 ft. offshore as indicated in the accompanying illustration.

This survey is expected to be completed before the end of April and results will be assessed during the work.

The board chairman Sir Henry Blyde, points out that a buoy unloading system would be an offshore extension of the port. The cost of the pipeline and buoy is tentatively estimated at between \$4 million and \$6 million. (Taranaki Harbours Board port news, March)

New Wharf

New Plymouth:—The first deck beams for Port Taranaki's third wharf—named Blyde Wharf after the board chairman—were lowered into place on March 11.

Contract pile driving began early in 1970 and at the same time concrete pile caps, deck beams and deck units have been produced and stockpiled in the board's own yards.

A number of pile caps at the shore end of the wharf had to be cast in place and this work began early this year. When a complete sequence of concrete placing is in train board engineers hope to advance the decking by 30 ft weekly.

The first of the two berths should be available for use by shipping early in 1972. (Taranaki Harbours Board port news, March)

Forest Fortune

Whangarei, N.Z.: — Northland Harbour Board has acquired 1000 acres of potential forest land, close to the Port of Whangarei, and is planning to plant 300,000 pinus radiata trees this winter.

Spokesmen say the Board is looking ahead to the future when a major industry may be developed in the district as an ancilliary to forestry.

Board members envisage, in the future, the export through the ports of Opua and Whangarei not only of logs and timber but also of processed timber products.

The Chairman, Mr. R. K. Trimmer, told Points North: "We were influenced in our decision by our belief in the future of afforestation in Northland.

"This initial scheme will enable our staff to acquire experience in forestry for the years ahead, when the Board may wish to take part in afforestation in a more substantial way."

The land is part of the Salmon property between Whangarei and Onerahi — less than two-and-ahalf miles from the Northland Harbour Board offices and within four miles of Port Whangarei's export wharves.

It runs besides Awaroa Road to Mt. Tiger Road and is bounded on the east by the Whangarei City water reserve of native forest.

The Board's attention to its potential for pine was drawn by neighbouring land where 16-yearold trees are now being milled by P.T.Y. Industries for export through Whangarei.

The Board has engaged Mr. A. N. Sexton, former Conservator of Forests in Auckland, as its Forestry Consultant. He has confirmed that the soil type is excellent for forestry.

Whangaroa County Council and Hokianga County Council are among other Northland local bodies involved in afforestation. Mr. Joe Williams, a Northland Harbour Board member, is also a member of the Hokianga council, and Mr. A. W. Leslie is Deputy-Chairman both of the Board and of the Whangaroa Council. (Points North, July)

Commodore Anwer Saeed

Karachi: — Commodore Anwer Saeed, T.Pk., P.N., Chairman, K.P.T., who had proceeded abroad on 3rd June, 1971, to attend the Seventh Biennial Conference of the International Association of Ports & Harbours at Montreal, Canada, has returned on the 25th instant. The Conference commenced on the 6th June and lasted for a week.

The Chairman, K.P.T., is a Director of the above Association, representing Pakistan.

After the Conference, the Chairman left for New York to attend a joint Review Meeting between representatives of the International Bank for Reconstruction & Development, the U.N. Development Programme authorities and the Karachi Port Trust. The Review Meeting was held at the invitation of I.B.R.D. to assess the status of Feasibility Studies for the Development of Western Backwaters Complex in Karachi Harbour under the Third Project of Karachi Port.

Mr. Aftab Alam, Engineer-in-Chief, K.P.T., also proceeded to New York to assist the Chairman at the joint Review Meeting referred to above. (K.P.T. News Bulletin, July 1)

More Infrastructure

Antwerp: — An actual start was made in March 1969 with the materialization of a fresh scheme whereby the infrastructure of the port is to be improved.

This scheme deals with the junction of 5th Harbour-Dock with Amerika-Dock, to be followed by the building of a new lock named "Boerinnesluis" together with a swinging and waiting basin at the upper head of that lock.

Work, as schemed, has a twofold aim:

1. Facilitating traffic in the port, both ashore and on the water, by offering a second itinerary for shipping traffic, as the new junction is bound to be an indispensable duplication of the much overburdened Junction-Channel between Albert-dock and Leopold-dock. 2. The promotion of inland navigation thanks to the availability of an additional lock, as a result of which the rotation of barges and lighters in the port will become accelerated; needless to stress that same is to improve the passing to and from the River Scheldt and that it will likewise be fostering the movement of pushed convoys.

Main items amongst the work to be done: eastward extension of 5th Harbour-Dock; laying-out a wide bridge channel; construction of a bridge with 3 spans, the central one of which is movable; building a new lock comprising a swinging and waiting basin at the upper head of it; quay-walls and embankment work; laying-out an adequate network of roads and railway lines, including access slopes, ramps and railway dams.

A future vision of this new infrastructure is conveniently provided by the "Artist's Impression" on page 7.

The whole of the work is schemed to take place in four stages.

In October 1968, tenders were invited for the first stage, which comprises the extension of the quaywalls of the 5th Harbour-Dock, the connection to the bridge channel and the construction of a double tunnel for cabling and ducts in way of the channel; the work involved was awarded to N.V. Aannemingsmaatschappij C.F.E. This portion of the work is almost completed.

The second stage comprises the building of dams and quaywalls for the birdge channel proper and the connection of the swinging and waiting basin, the construction of the abutment-piers and piers of the 2 permanent and 1 movable spans of the elevated bridge across the channel, the lay-out of access roads for road and railway traffic, including a small railway bridge, together with all that is required in the way of road coating, sewage system and tracks. The same stage equally includes: the electro-mechanical equipment, the high-tension lines and the signalling of the 2 movable bridges across the central span. Tenders for this second stage were invited in January of this year, in consequency of which it may be anticipated that work is still to start during this twelve-month.

The building of Boerinne-lock with all its outbuilding work such as rolling gates, movables bridges, electro-mechanical equipment, office building, etc.-though minus the access channel on the side of the river-constitute the third stage, which also comprises the roads and road-connections around the lock. This stage is now the object of studying and, by way of example, the filling system of the lock is being gone into in detail in conjunction with engineers of the Hydraulic Laboratory of Borgerhout. The fourth, or finishing stage, includes the lay-out of the access channel of Boerinne-lock, the location, making-out and shaping of which already received full thoughts, working on models, on the part of the said laboratory, also the finishing touch to the swinging and waiting basin. All this is not a matter of digging and building alone: dredging too will have to be done by and by, as the various quaywalls and dams are progressing, in one of more stages; furthermore, adaptation work will be necessary to part of northern quaywall of Amerika-Dock and the pulling down of the southern tongue of land between the aforesaid dock and Lefèbvre-Dock. (Antwerp Port News, March)

Vehicle Appointment

London, 12th July:—In conjunction with the shipping companies concerned the Port of London Authority are to introduce two more vehicle appointment schemes for vehicles with exports through the India & Millwall Docks. The new schemes are as follows:

For services of Harrison Line and Saguenay Shipping (U.K.) Ltd., to Barbados, Trinidad, Surinam and Guyana loading at No. 27 shed India & Millwall Docks, beginning with opening of receiving period for the m.v. 'SUNFRANCIS' on July 29th.

For services of Harrison Line and KNSM to Granada, Antigua, St. Kitts, Montserrat, Guadeloupe, Dominica, Martinique, St. Lucia and St. Vincent from berths in India & Millwall Docks beginning with receiving periods opening on July 30th.

These two schemes now mean that all berths and services Import and Export in the India and Millwall Docks are covered by vehicle appointment schemes and PLA have produced a special pocket sized brochure giving full details.

Specially designed to assist hauliers and drivers the brochure carries a diagram of the docks showing road routeings, lorry parks, refreshment points etc., as well as lists of important telephone numbers and information on how to obtain maximum benefit from the appointment procedures. Copies of this brochure are freely available from the Docks Manager, India & Millwall Docks or the Lorry Control Points in the docks. (News from PLA)

Offices Merged

London, 9th July—In a further stage of the rationalisation programme announced in their policy review last April the Port of London Authority have now re-organized dock offices in the Royal Group of Docks. With effect from Monday July 12th the import ledger offices in these docks will be reduced to two principal and one subsidiary offices.

All import documents, delivery orders, transfer orders, documents of title etc., for import cargo handled by PLA will be processed through the new offices as follows:—

Royal Victoria Dock Ledger Office will service the Royal Victoria Dock and the North Side Royal Albert Dock.

King George V Dock Ledger Office will service King George V Dock and South Side Royal Albert Dock.

The subsidiary office at No. 4 shed South Side Royal Victoria Dock will remain to handle documentation only for Glen Line services from that berth. The Ledger Offices on South Side Royal Victoria Dock and North Side Royal Albert Dock will be closed.

PLA have circularised shippers and hauliers with leaflets giving details of these new arrangements and a diagram of the docks showing the locations of offices. Further copies may be obtained from the Dock Manager, Royal Docks. (News from PLA)

New Director-General

London, 30 June:—At a meeting of the Board of the Port of London Authority today, under the chairmanship of Lord Simon, and attended by Lord Aldington who becomes Chairman tomorrow, Mr. John Lunch, now Acting Director-General, was appointed Director-General from 1st July 1971, and co-opted as a Member of the Board. He succeeds Mr. Dudley Perkins who retires on 30th June, on medical advice.

From 1st July 1971, Mr. N.N.B. Ordman, now Director of Planning is appointed an Assistant Director-General. Mr. William Bowey, who was appointed an Assistant Director-General in September 1969, continues in that appointment.

On his appointment as Director-General Mr. Lunch said:

"Building on the foundations laid by Lord Simon and Dudley Perkins, I believe we have a great opportunity under our new Chairman, Lord Aldington, to increase the trade of the Port of London, continue the reshaping of the port to meet changes in transport technology, and build a truly profitable future for the PLA."

"It has always been my conviction that public business should be run with the same efficiency, and the same management methods, as private business."

"Every individual is most important. By continuing our policy of communication, and the involvement of people right down the line in our aims and achievements, we want to make sure that every individual who works in the Port of London can make his full contribution to our future prosperity."

"Frankness about our future plans, and close co-operation with the trade unions in these plans and implementation, is essential and provides the basis of good industrial relations."

"I see the main role of the Director-General as leadership—the captain of a team. Management team work in the PLA has never been better then today. I place great faith in the combination of devolved management and good team work." "We must keep complete flexibility in our approach. Everything must be dealt with on its merits."

"In the last few years PLA has done much to adapt itself to meet the current revolution in transport techniques. Substantial new opportunities are opening up for the PLA in the field of bulk traffics and unit loads, and it is management's job to see that these are exploited to the full. At the same time the action we have taken in the past in rationalising our dock system has made large areas of freehold land surplus and we must ensure that our real estate opportunities are fully grasped."

"Put simply, my personal philosophy is:

- 1. Increase profitability
- 2. Improved service to port users
- 3. The involvement of every individual employee in the affairs of the Port
- 4. The attainment of the full business potential of the PLA."

John Lunch, VRD, FCA, FCIT, Director-General, Port of London Authority

Mr. Lunch, aged 51, has wide experience in transport and has also been in business in the City.

He is a Lieutenant Commander, R.N.R.; in the course of his service in the War he ran an oil and general cargo port as harbourmaster, and was an accredited pilot of merchant ships.

Qualifying as a chartered accountant after the War he entered business as assistant managing director of a company in the City and became a director of several companies, including a large road haulage group and a hotel group. Joining the British Transport Commission, he spent 13 years with them mainly engaged with road and rail transport.

He joined the PLA in 1961 as Chief Accountant, and became Director of Finance in 1965. From 1966 to 1968 he was also Director of Commerce. Besides modernising the financial and economic work of the PLA, Mr. John Lunch has become known for the introduction of modern business attitudes and methods, and particularly for shaping the business development of Tilbury Dock to meet the container and packaged-timber revolution. In 1968 he handed over his marketing responsibilities to a full-time Director of Marketing so that he could concentrate on strategic business planning, particularly new developments in the estuary of the Thames including a new deepwater seaport at Maplin. He had already played a leading part in the extension of the PLA's port limits in 1964.

In September 1969, he was appointed Assistant Director-General, with general management responsibility for the Authority's docks and harbour, deputising for the Director-General in his absence.

He is chairman of the PLA Port Users' Consultative Committee, which he founded in 1966.

Keenly interested in people, he believes in the importance of the individual, and has encouraged frankness and the involvement of people right down the line in the plans and achievements of the PLA.

He qualified by examination for membership of the Chartered Institute of Transport, and he is a Member of the Institute of Marketing, and the British Institute of Management. He is a Member of the Council of the Institute of Chartered Accountants in England and Wales.

He is a Freeman of the City of London, and of the Company of Watermen and Lightermen of the River Thames.

His leisure interests are sailing, motoring and numismatics.

Mr. Lunch is married with two sons and lives in Chelsea.

N.N.B. ORDMAN, B.Sc., C. Eng., F.I.C.E., Assistant Director-General, Port of London Authority

Since 1968, Mr. Ordman has been Director of Planning of the Port of London Authority.

He joined the Authority in 1948 and spent some years in the engineering department before moving into planning and management. He has overall responsibility for several functions, including corporate planning, engineering, the computer department and the Maplin (Foulness) deepwater seaport development.

A former pupil and university bursar of George Heriot's School, he took an honours degree in civil engineering at Edinburgh University and worked for a short time with Sir Robert McAlpine and Sons before joining the Admiralty in 1943. He was concerned with a number of maritime works overseas and in the United Kingdom and was for a time resident engineer on the construction of the Royal Observatory at Hurstmonceaux, Sussex.

He serves on several committees concerned with transport, planning, engineering and research, including the Docks and Harbour Authorities' Association's Research Sub-Committee, of which he is chairman, the National Ports Council's Research Committee and the British National Committee of P.I.A.N.C. He is a member of several committees of the Greater London Council concerned with the development of London related to the River Thames and also serves on the London and Regional Affairs Committee of the London Chamber of Commerce. He is also a member of the Board for the International Simplification of Trade Procedures and is chairman of the Group responsible for A.D.P. and Coding.

A Fellow of the Institution of Civil Engineers, Mr. Ordman serves on the Institution's Maritime and Waterways Engineering Board and the Transportation Engineering Group Committee.

He is the author of several papers on planning and management research. (News from PLA)

Annual Report on 1970

London, 15th June: — Extract from the letter to Stockholders by the Chairman of the PLA, the Viscount Simon.

"Many of the problems which developed in the closing months of 1970 continued into 1971 and led to a further loss in the first quarter. However, we introduced substantial charges increases on convention-

Europe-Africa

al general cargo in March, and so far, I am glad to say, it has had little adverse effect on traffic.

I am pleased to be able to tell you that we are now trading at a profitable rate, but it is too early to say whether we shall show a profit on trading for 1971 as a whole. Moreover, we shall, as explained in the report, need to allow for substantial severance payments. Following the latest review of our five-year plan we have set in train a series of measures aimed at further cast savings. The reducing tonnage of conventional general cargo will be concentrated through fewer berths and as it is berths handling this type of cargo which make the heaviest manpower demands, we anticipate a reduction in the numbers employed by the PLA from 9,300 to 6,000 during the period. At the same time we shall be able to transfer many headquarters activities to office space released in the docks.

The fall in conventional general cargo will be more than offset by the substantial growth anticipated in containers, oil and other bulk traffic, and this should ensure a truly profitable future for the PLA.

This further rationalisation will release more land for redevelopment to add to the 880 acres already surplus in 1970. Since the end of the year we have negotiated surplus land sales amounting to some £2m., most of this coming from the 46 acres of the old East India Dock. A large part of our surplus land is included in the urgent and comprehensive dockland study commissioned jointly by the Secretary of State for the Environment and the GLC, about which you may have read in the press. The study is aimed at improving the quality of the environment in the whole of the Thames reverside area from the London and Surrey Docks eastward to Beckton. It should enable us to realise the full potential of our surplus land is these areas, although substantial sales should not be expected before 1973. In the meantime, we plan to realise the large potential in our Head Office and St. Katharine Dock House properties, which is being made available through the rationalisation referred

to above; these buildings are outside the dockland study area." (News from PLA)

New Container Crane

London, 20 July:—Installation of the 40-ton container transporter crane ordered by the British Transport Docks Board at a cost of £231,-000 from Clyde Crane & Booth Ltd., part of the Clarke Chapman group, for the new container terminal at Queen Elizabeth Dock, Hull, has been completed.

The training of drivers has now begun and is expected to take approximately three weeks, after which the crane will be brought into service.

The transporter crane, which has a 35-ton container payload, is equipped with a telescopic spreader beam enabling it to lift all containers up to 40 ft. in length. It has an 85 ft. maximum outreach, backreach of 70 ft. and will handle up to 40 containers an hour.

The container terminal, which can berth ships of up to 25,000 tons deadweight, has a total of 28 acres available for container marshalling. Containers discharged from ship by the crane will be landed on the quay within the portal to be picked up and taken to the stacking areas by straddle carriers. A total of five straddle carriers have been provided for this work and for the loading of road vehicles.

Other shore equipment at the terminal includes two tractors and 12 articulated trailer units for internal dock movements to unpacking sheds, customs examination bays, or hazardous cargo areas.

The container park has been provided with a control room to record the receipt, stacking position, transfer and despatch of containers; and to speed up container movements, the whole quay surface is marked out with guide-lines for straddle carrier routes, lorry routes, loading bays, container stacks and access aisles. A special repair and maintenance building for the straddle carrier fleet has also been provided at the terminal.

Two customers have already announced their intention to operate regular container services from the terminal. North Sea Ferries, who plan to run five sailings a week from Queen Elizabeth Dock to Rotterdam in addition to their regular roll-on/roll-off ferry services from Hull, are to bring their first container vessel "Norbank" into service in October, followed by a second early in 1972. The "Norbank" will accommodate 91 standard 20 ft. containers, or a mix of 20 ft., 30 ft., and 40 ft. sizes.

In the meantime, the terminal will be used by the weekly Hull-Rostock service of the East German Deutsche Seereederei, whose container ship "Dierhagen" will transfer from her temporary berth in Albert Dock.

The Queen Elizabeth Dock container terminal is the eighth specialized terminal provided by the Docks Board at Hull for unit load traffic and will undoubtedly give added impetus to the already impressive growth of this traffic. The port at present offers no fewer than 30 specialized unit sailings every week to six countries in Europe and with the five additional sailings from the new terminal, and the prospect of more to come, it stands extremely well-placed to increase its present 1,048,000 tons annual total of unitised cargo if Britain finally opts to join the Common Market. (British Transport Docks Board)

Toting Quayside Cranes

London, 16 July:—A team of engineers from the British Transport Docks Board port at Cardiff have developed what is believed to be a unique method of discharging quayside cranes from a floating pontoon into a "ready for use" position on the quayside.

The problems of installing fully constructed quayside cranes without the necessity of dismantling or use of heavy lift equipment arose following the recent purchase by the Docks Board of eight Stothert and Pitt DD2 electric cranes from the Port of London Authority's Surrey Commercial Docks.

The conventional method of discharge using a floating crane was ruled out at Cardiff where the port's own floating crane, the "Simson III", although having the capacity for making the 100-ton lifts required, had insufficient headroom to clear the cranes. Instead a scheme was devised to utilise the cranes' own electric power and drive them off the pontoon across a link-span onto a temporary trackway linked to the port's quayside crane track.

The loading operation at the London end was comparatively straightforward. Using the P.L.A.'s floating crane "London Samson", the eight cranes were hoisted aboard the Ulrich Harms pontoon MULUS 3 onto specially prepared tracks at either side of the pontoon's deck. The jibs of the cranes were lowered to the deck and lashed down and two Argus class tugs were engaged for the three-and-a-half days' journey to Cardiff.

On arrival at Cardiff the pontoon was firmly anchored to the quay wall by three $2\frac{1}{4}$ " diameter steel screws attached to anchorages concreted into the wall and brackets welded to the deck of the MULUS III.

A time clause in the transport arrangements made it essential that the stability of the pontoon would allow discharging to continue under the most difficult weather conditions.

The link-span was designed to allow for flotation and was secured to the pontoon by means of housings welded to the deck and a journal integral with the bridge permitting rotation in the housings. One bridge section was aligned to each of the crane tracks and had to be capable of carrying a load of at least 25 tons.

The movement of the pontoon during discharging operations was a critical factor throughout buy by careful and accurate ballasting the rise and fall was kept well within acceptable limits.

Electrical power was supplied to the cranes and the jibs raised to the high position. The first crane was winched off to enable engineers to gain experience in levelling the pontoon. The remaining seven cranes were run off under their own power and the entire operation was completed in just under 30 working hours.

A spokesman for the British

SEPTEMBER 1971

Transport Docks Board said "We were delighted with the success of the operation which resulted in considerable savings in both time and money. All sections of the Cardiff Docks engineering staff were involved and they deserve the highest praise."

Mr. W. H. Lloyd, Docks Engineer, and Mr. S. F. Williams, Assistant Docks Engineer (Mechanical and Electrical), Cardiff, were in overall charge of the operation. (British Transport Docks Board)

Wild Animals Landed

London, 2 July:—The Clan Line motor vessel "Clan Maciver" (7,413 tons gross) sailed from the British Transport Docks Board's Millbay Docks at Plymouth this afternoon (Friday 2nd July) after a record discharge of a consignment of wild animals which she had brought from Mombasa.

Unloading of the animals—27 elephants, 10 giraffes, 8 eland, 9 wildebeest, and a rhinoceros, consigned to Mr. J. Chipperfield of Longleat—began at 8 a.m. today and was completed by 12.30 p.m.

Mr. Chipperfield, who witnessed the operation, said afterwards that the discharge was the fastest he had known for any of his animals at any port in the world.

Under the scrutiny of officials from the Ministry of Agriculture and the R.S.P.C.A., the animals were unloaded at the port's West Wharf direct to road transport to be taken into quarantine. The rhinoceros and elephants will spend the quarantine period at Knowsley Park, on Lord Derby's estate near Liverpool, the remaining, clovenhoofed animals going to nearby Plymouth Zoo.

Agents for the shipment were Coast Lines Ltd. (British Transport Docks Board)

Managing Director of Liverpool

Liverpool, 8th July:--Mr. George W. Brimyard, the Director of Operations and Marketing of the Mersey Docks and Harbour Board, who has been involved in public transport for 22 years in a variety of Management roles, will become Managing Director of the new Mersey Docks and Harbour Company which is to be established if the Board's Bill, now before Parliament, is enacted.

Before joining the Board in March, 1970, as Joint General Manager, Mr. Brimyard had extensive commercial and marketing experience in several appointments with British Railways, and was Freight Manager, London Midland Region, the largest of the Railway Regions, from 1968 until his appointment to the Dock Board.

He is 45 and a native of North Staffordshire. Educated at Wolstanton Grammar School and, after service in the Royal Navy, Selwyn College, Cambridge at where he graduated with Honours, he entered the service of London Transport Executive in 1949. In 1951 he was appointed Personal Assistant to the Member of the Executive responsible for operational and commercial matters. In 1954 he took charge of the Southern Section of London Transport's Public Relations Office.

He joined British Railways in 1957 as Public Relations Officer, Great Eastern Line, and in 1960 became District Commercial Officer, Norwich. Mr. Brimyard was promoted to be District Passenger Manager, Manchester, in 1962 and Divisional Freight Manager the following year. He returned to London in 1965 as Freight Marketing Manager, London Midland Region, and was appointed Passenger Manager, London Midland Region, in 1967.

Mr. Brimyard is married with a son and daughter and lives in Gayton, Wirral. (Mersey Docks and Harbour Board)

Papers Available

Bordeaux, France:—The following brochures are available of the Proceedings of the International Colloquium on the Exploitations of the Oceans, held in Bordeaux March 9/12, 1971:

- Theme I. Industrial Development of the Seacoast (2 volumes: 40 Francs)
- Theme II. Marketing of Marine Products and the Development of (Continued on Next Page)

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I.H.C. Holland Publication BIV-7

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The contribution which trailingsuction hopper-dredgers can make

(Continued from Page 39)

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- Theme IV. The Exploration of Ocean Great Deeps and the Possibilities of Exploration (2 volumes: 40 Francs)
- Theme V. Measurement Systems at Sea for the Analysis and Forecasting of Environmental Conditions (2 volumes: 40 Francs)
- The volume presenting the allocutions of the opening session, the concluding reports, and the list of participants (20 Francs)
- The entire set of the eleven volumes (200 Francs)

For ordering, please write to: Secretariat d'Organisation de Colloque de Bordeaux, c/o CNEXO-B.P. 107 — Paris 16 eme-France. to the efficient execution of waterway improvement schemes is becoming ever more widely recognized. This type of dredger has already become indispensable in meeting the demand, created principally by the stupendous increase in the size of tankers and bulk carriers, for the provision and maintenance of deep water berths and approaches to them.

Like the vessels whose needs they serve, dredgers have steadily increased in size in recent years. From the economic point of view, a large dredger is to be preferred, since it affords a lower cost price per unit of spoil. However—and here there is a suggestion of a vicious circle—the utilization of really large dredgers is limited by lack of adequate water depth.

With her 9,000 m³ (11,770 cu yd) hopper, the Prins der Nederlanden, built by I.H.C. Holland for the Bos & Kalis/Westminster Group of Dredging Companies, is indisputably the largest trailing hopperdredger afloat. At maximum draught, with a fully laden hopper, she can carry 18,000 tons of spoil. This enormous quantity can be dredged in one hour and discharged in just one-twelfth of that time. Shifting it by road would require a fleet of 10-ton lorries stretching nearly ten miles and requiring something like a month to load from a single supply point. The effect on the move would be catastrophic!

Accommodation is provided for a crew of 60 and this is situated in the after part of the vessel. All cabins are served by an air-conditioning system affording control of temperature and relative humidity.

The provision of a helicopter deck at the stern reflects the importance placed on rapid communication with the shore for the rapid transfer of men and materials.

The wheelhouse, which spans practically the entire width of the vessel, contains every modern navigational aid, including gyro compass, Decca Hi-Fix apparatus, radar and echo-sounder. Adjacent to these are the control consoles and instrument panels associated with dredging operations. The vessel is equipped with an autopilot. On the main deck, aft, are refrigerated stores with a total capacity of 23 m^3 (850 cu ft) at a temperature of—10°C, and cool stores of similar capacity at a temperature of



PORTS and HARBORS



$+4^{\circ}C.$

A 20-ton electric crane mounted on the main deck serves for hoisting aboard spare parts and stores, and for carrying out repairs to suction tubes or pumps. The rails on which it runs extend from the deckhouse aft to a point above the pumproom. The radius of the jib can be varied between 8 and 15 metres (26-49 ft). This crane and the spacious workshop in the fore part together enable maintenance and even repair jobs which would otherwise require shore facilities to be carried out on board.

Machinery

The total output of the machinery installed exceeds 21,500 horsepower, of which nearly 17,000 hp are employed for propulsion. The propelling machinery comprises two M.A.N. type V8V 40/54 veetype diesel engines each with a maximum continuous rating of 8,440 hp at 400 rev/min. At the after end, each drives a 4,600 mm diameter KaMeWa controllable pitch propeller via a reduction gearbox giving a propeller speed of 125 rev/min. At the forward end, each engine drives one of the two main generators supplying current for the dredge pump motors. These generators have a rated output of 2,300 kW, 1,000 V D.C. at 400 rev/min. The engines are suitable for operation on heavy fuel oil. Electricity at 415 V for the ships main supply is provided by three 520 kW 3-phase alternators, each of which is driven by an 816 hp diesel engine.

The suction tube winch motors are powered by two 240 kW D.C. generators driven from power takeoffs on the propeller shaft gearboxes.

Current for harbour and emergency purposes is supplied by a 160 kW generator driven by a 250 hp diesel engine.

Principal Particulars

Length o.a.	$143~{ m m}$	(469' 2")
Length b.p.	$131\mathrm{m}$	(429'10")
Breadth, moulded	$22\mathrm{m}$	(72'2")
Depth, moulded	$12 \mathrm{m}$	(39'5")
Dredging depth	$35\mathrm{m}$	(114'10")
Diameter of twin		. ,
	1 0 0	1 100

suction tubes 1.20 m ('.48") The vessel was built under the supervision of Lloyd's Register of Shipping and conforms to the requirements for classification 100 A.1 (Hopper dredger). She also conforms to the regulations laid down by the Board of Trade and in the British Factory Act.

200 Container Ports

Bremen: — The figure has now nearly reached 200 in respect of those ports throughout the world which either possess handling plants for the container and roll-on/rolloff traffic, or are planning to have such installations in the near future. Of these, alone 27 are located

Europe-Africa

in Europe, whereof 40 are in Great Britain; this information is gathered from the sources of the Institute for Maritime Economy, Bremen. The most important European ports for this combined traffic across the are: Amsterdam, Antwerp, sea Bremen/Bremerhaven, Felixstowe. Genoa. Gothenburg. Hamburg. Le Havre, London-Tilbury and Rotterdam. 42 containerports are located in North-America i.e., 36 in the U.S.A. and 6 in Canada. Of the 18 ports in Asia, 6 are situated in Japan. 11 ports were named in Australia and 6 in the Pacific area. Incidentally 8 of the Australian ports only handle local container traffic. Up to now Africa counts 3 and South and Central-America together, 9 overseas-container-ports. (Bremen Air Mail, June)

12 Container Bridges

Bremen/Bremerhaven:- Over a thousand prominent guests from many countries were present on April 23rd 1971, when the 'container-crossroads of the north' were put into commission at Bremerhaven; on the occasion of the greatest container plant to be situated at the sea on the European side of the Atlantic becoming operative-with the berthing of the full-container ship" Encounter Bay" of Messrs. Overseas Containers Ltd.,--within the framework of the Australia-Europe Container Service. The 'container crossroads of the north' initially comprise of one berth, which is 350 metres long, two container bridges and a storage area of some 200,000 square metres. Two further berths, each similarly of 350 metres length, will be available for full-container ships in the Australian, Far-East and USA trades in the Autumn of this year and the Spring of 1972 respectively. A fourth berth is planned. By this time—Spring of 1972—there will already be a total of six containerbridges and 450,000 sq. metres storage area operational. This will result in the total container handling capacity of the Bremen ports being increased to eight berths of more than 2 kilometres in length; 770,000 sq. metres of storage area-and 12 container-bridges. (Bremen Air Mail, June)

INTERTRAFFIC '72

Hamburg: — INTERTRAFFIC '72 is the title of the 3rd International Exhibition for Integrated Transport which will take place in Hamburg from 29th February to 4th March 1972. It is aimed at shippers and carriers and all fields of the transport industry. INTERTRAF-FIC '72 will be broader in scope than the first two container exhibitions which were staged in Hamburg in 1968 and 1969.

The Organizers and a body of experts have undertaken an intensive study of integrated transport in the light of the forthcoming exhibition. They soon realized after the first exhibition in 1969 that the initial phase of the need for information on containerization was over. This exhibition, therefore, will set out to show how containerization is linked with all other transportation systems.

The classified exhibits at INTER-TRAFFIC '72 have been arranged in the following groups:

- 1. Containers and swinglifts
- 2. Modules, box and stacking pallets, pallets
- 3. Container hardware and accessories/ancillary equipment
- 4. Container unit load and pallet locking and securing equipment
- 5. Container loading and unloading equipment
- 6. Container and vehicle maintenance, cleaning and repair equipment
- 7. Container and unit load handling equipment
- 8. Parts and accessories for container and unit load handling equipment
- 9. Container and load transfer systems
- 10. Vehicles
- 11. Vehicle parts and accessories
- 12. Shed and ramp equipment/
- Terminal equipment 13. Cargo securing
- 14. Organization Distribution -Information
- 15. Services

The First Container Exhibition, which took place in Hamburg in 1968, was attended by 130 exhibitors from 8 countries and covered an area of 156,000 sq. ft. The Second Exhibition for Containers and Combined Transport, in which 190 exhibitors from 13 countries participated, covered an area of 270,000 sq. ft. 15,000 visitors came to the first exhibition and 17,000 to the second, representing in all 36 different countries. One definite fact that emerged was that an unusually large proportion of the visitors to both these exhibitions represented heads of firms and top management in all fields of the international transport world.

The triple scope of the exhibitions which included exhibits, information and practical demonstration, linked with excursions to Hamburg's port and airport, will also determine the character of INTER-TRAFFIC '72. In this way, visitors will be able to find not only a vast array of exhibits but also see equipment, machines, vehicles and systems in action.

New Hapag-Lloyd Service

Amsterdam:-Hapag-Lloyd has established a new service running every three weeks between Amsterdam and Paramaribo, Surinam. The service will also call at ports in the Canary Islands and Northern Brazil en route. Milk powder from Friesland and foodstuffs from the Zaandam region are expected to be major cargoes from Amsterdam, while tropical produce, for which the port of Amsterdam is a major handler, will provide much of the return cargo. Wm. H. Müller & Co., are Amsterdam agents. (Amsterdam Newsletter)

Port of Quelimane

Lourenço Marques:—The Ports of Lourenço Marques, Beira, and Nacala, etc. which are constantly being praised by their users for the good services rendered, must sometimes give way to others. Today it is the Port of Quelimane which mars its presence. We would like to record a letter sent by the Sociedade Agricola do Madal.

"RE: n/m "SHIRRABANK", loading of 2,638 tons a cashew nuts.

We would like to thank you for the efficient way in which the work proceeded on the abovementioned ship into which 2,638 tons of cashew nuts were loaded in about 24 hours.

Please convey our thanks to all

While ordinary mooring buoys bob and weave, exposing their underside when pulled by a large vessel, our patented Non-inclining Buoys always keep an even keel regardless of the size of the tanker to which it is tied. This is because of an ingenious device in the buoyhead. The buoy is equipped with a movable arm and hinge anchored at the center of gravity of the buoy. To this arm is attached a base chain which assumes the proper radius the ship & moored rope require. Thus the chain inclines in place of the buoy, keeping the buoy always even since the buoy always faces in the direction of the pulling force. Non-inclining buoys are designed, manufactured and installed by Hamanaka.

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the staff, who gave us full co-operation in this matter, for the spirit of organization which they showed.

With our utmost consideration, We remain.

Yours faithfully,

---(Boletim Portos, Caminhos de Ferro e Transporte de Moçambique, September, 1970)

Maiden Voyage

Lourenço Marques:—The cargoship "Porto Amélia"arrived in Lourenço Marques after calling at Nacala and Beira having come from Japan where it was built for a Swedish shipping Company but later acquired by the National Shipping Company.

It will leave Lourenço Marques directly to Leixoes. Its routine trips are programmed for Lisbon, Porto, the North of Europe, Mozambique and in exceptional cases some of the ports of Angola.

This new vessel of the Portuguese Merchant Navy has a capacity of 12.500 cubic metres of cargo, of which more than 1.000 can be stored in deep freezers, and a maximum speed of 18 knots. Three of its deep freezers can freeze to 25 degrees below zero.

It is equipped with stabilizers which promote better sailing conditions in rough seas.

Loading cranes and other automatic equipment will make loading and unloading an easy task.

A reception was held on board and the guests visited the ship accompanied by the Captain, Commander Forbes Bessa, who gave them all the details in connection with the running of the "Porto Amélia". (Boletim Portos, Caminhos de Ferro e Transportes de Moçambique, September, 1970)

Harbour Jurisdiction

Lourenço Marques:—The Official Bulletin of the 12th September, published a Decree coming from the Ministry for Overseas Territories, which created jurisdiction areas in the Provinces that include the whole coastal strip corresponding to maritime public dominion, estuaries and all the ports of each Province.

The Decree states that this measure was taken as a result of the rapid increase of ports in the overseas Territories particularly in Angola and Mozambique, which has brought about the need for the expansion of land areas and imposes an up-to-date definition of jurisdiction areas and harbour areas the Administration will be in control, with as much autonomy as possible.

Until such time as the jurisdiction areas of the various ports Administrations have been defined, which is a task for the Mozambique Harbours, Railways and Transport Administration in accordance with the lines established by the Provincial Government, the Port areas will be the land which has been set aside for this effect by the present legislation. (Boletim Portos, Caminhos de Ferro e Transportes de Moçambique, September, 1970)



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