

# PORTS and HARBORS

June, 1969 Vol. 14, No. 6

Port of Boston (Massachusetts Port Authority)

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# PORTS and HARBORS

#### Forum on Port Problems:

### The Seaports of the Future

#### By Stanley Johnson

Managing Director British Transport Docks Board

Paper presented at IAPH Melbourne Conference, March 1969

Port history was made in 1968 when two new ports were commissioned-one a man-made sea-island. two miles from the coast of Kuwait in the Persian Gulf, the other an island platform, only 1,000 feet from the shore, at Bantry Bay, southwest Ireland. Linking the terminals is the tanker Universe Ireland, the first of six constructed for the sole purpose of transporting crude oil from Kuwait to the one million ton European storage centre at Bantry Bay. From there the oil will be shipped in 100,000 ton tankers to refinery installations as far apart as Scandinavia and Southern Spain. Only twenty years ago a 28,000 d.w.t. tanker was described as a "super tanker". The Universe Ireland is rated at 312,000 deadweight tons: with a maximum loaded draught of 79 feet, she is 1,135 feet long and 175 feet wide and is the largest ship in the world. She is unlikely to stay so for long.

What is the significance of this event to the seaports of the world? It is that for the first time a ship has been commissioned which cannot, when fully loaded, enter any of the world's major ports, other than the two which have been specially tailored to receive her. And we may yet see a further escalation in size of tankers, brought about by major oil companies forming joint enterprises for the transport of crude oil. A rapid development of monobuoy mooring techniques with submarine pipe lines could then be expected to replace conventional tanker loading and discharging jetties. Sheltered bays, providing 100 feet of water and within a reasonable transhipment distance from refineries, are, however uncommon, and transhipment at sea for distribution to refineries could well be the next stage of progress towards the 750,-000 ton tanker which is already on the drawing board.

The annual tonnage of oil being shipped has now reached 1,000 million tons. Most port authorities failed to foresee the future demand for deepwater facilities for tankers, and left the oil industry to provide its own. The result was that oil throughput figures make an impressive addition to port authorities' tonnage statistics but little, if anything, to port revenue.

Is crude oil a "special" product or could the same pattern repeat itself on other trade routes and with other commodities?

Let us take a brief look at the market and the growth potential. In 1950 the world population was estimated to be 2,500 millions. In 1975 it will probably reach 3,800 millions and the projected figure for the year 2000 is 6,300 millions. All have to be fed, clothed and housed, and their other material wants must be satisfied. World sea-borne trade which exists to meet these needs amounts today to 1,800 million tons and volume has doubled twice during the past twenty years.

Of the 800 million tons of dry cargo now carried annually by sea, 400 million tons is transported mainly in bulk carriers, the most important single commodity --- almost half the total-being iron ore. New ore fields discovered in recent years in Australia, Labrador, Venezuela and Liberia could only be exploited if transport costs to steel producing countries could be dramatically reduced, and this has been done by bringing ore to the coasts in 10,000 ton train-loads and shipping it in large bulk carriers which have now reached the 90,000 ton size. The newest harbour in Europe for the import of iron ore is now being completed at Port Talbot in South Wales. It will accommodate bulk carriers up to 150,000 d.w.t. and will enable the British steel industry to purchase ore from anywhere in the world and significantly lower steel production costs.

Grain, at 76 million tons a year, is the second largest dry bulk traffic to be shipped increasingly in larger carriers up to 65,000 tons. This trend will continue, with concentration at fewer loading and discharging terminals.

Although coal production is declining in most countries it is third in tonnage terms in its importance to the seaports. Only those countries which can export coal in carriers in the 45,000/65,000 ton range are likely to retain a share of declining markets in competition with other fuels.

The movement of other bulk commodities - bauxite, phosphates, sugar and softwoods - is unlikely to lead to any significant growth in size of carrier in the future as traffic volume is smaller and transport distances shorter in comparison with other bulk commodity trades. It is expected, however, that the current trend, to ship softwood in packaged form in 30,000 ton specialised ships, will continue with a concentration of imports at a relatively few major storage and distribution terminals capable of accommodating this class of vessel.

It is, however, the changes taking place in the sea transport of 400 million tons of general cargo an-

nually which will decide the shape and pattern of the seaports of the future. Never in the long history of sea-borne commerce has the implementation of a basically simple idea, containerisation, had such wide reverberations round the globe. Enormous sums of capital are involved. Competition is fierce and will become more so. The prizes are great, and the race, as always, will be won by the swift and sure-footed. There are many shippers who believe that long established customs and trading practices will continue, as witnessed by the powerful opposition to the introduction of a combined bill of lading and certificate of insurance. They may retard but they cannot stop the growth of the through transport concept. The year 1969 marks the point of no return.

The idea of consolidating a vast variety of miscellaneous cargo into standard containers and shipping the containers in specialised cellular ships has been hailed as a great technological break-through. The break-through has not been one of technology. Although the newlydesigned container ships and container handling equipment are techimpressive, the nically breakthrough is in the emergence of the "through transport operator", who will accept responsibility and liability for the goods being carried from an inland point in the country of origin to an inland point in the country of destination.

Why has this not occurred before? Because shipowners for decades have held to the minimum limits of liability imposed by the Hague Rules, and cargoes have been tallied at a fixed point—the ship's rail. Enshrining this transfer point in international legislation meant that there virtually became no other way of shipping general cargo other than piece by piece. However, there was an escape clause, and Sealand found it and acted upon it, with what result we all know.

The through transport operator need not necessarily be a shipowner. However, a recent study undertaken by the O.E.C.D. Maritime Transport Committee has shown that 55/ 60% of through transport costs on cargo shipments between Western Europe and North America is accounted for by ocean freight, and this percentage will be higher on longer distance trade routes. The shipowner will thus almost certainly be the dominating innovator. The capital and organisational resources required to mount a through transport operation, and the volumes of traffic required to sustain a service of sufficient frequency, are of such a high order that many shipowners are combining together in joint enterprises to exploit the new concept. The effect of this concept on ports is already remarkable, and will become more so. There will be a disappearance of traditional breakbulk cargo vessels in short sea trades within a very short period of time. Many of the deep-sea trades-Europe/North Atlantic, Japan/North Pacific, Europe/Australia, Australia /Japan-will, by 1972, be fully containerised. Other trade routes will follow, and those ports which cannot attract a sufficient concentration of general cargo to support a container ship service will find themselves in the role of providing feeder services only.

The great virtue of the standard container is the facility with which it can be transferred from one mode of transport to another. Road, rail or barge are equally suitable for the inland movement from or to port terminal. Rail will have an unexpected opportunity to regain a prominent position in inland distribution and also in the development of inter-continental land bridges.

Compared with the developments I have briefly described, the development and growth of air freight or of other transport media, such as the hovercraft, will, I believe, have little impact on seaports in the foreseeable future. The noise problems associated with the new giant aircraft is already holding back progress in air transportation in favour of speedy and silent ships.

The growth of international longdistance air travel has, of course, already made deep inroads into the passenger liner trades. Passenger movements from the United Kingdom by sea have declined by onethird over the past 10 years whilst air movements have quadrupled. The Queen Elizabeth 2 is probably the last great passenger liner to be constructed. No new port passenger terminals will ever be built except to serve the short sea traveller.

Despite the growth of international trade there will be a worldwide growing surplus of conventional port capacity. Cargo transported in containers will require, at a conservative estimate, one ship instead of five; one berth, instead of five; one man for every five now employed. There will be fewer pilots, fewer tugs, less demand for port services of all kinds. A labour intensive industry will become capital intensive, employing a relatively few skilled technicians and equipment operators.

Documentation, at present complex and timewasting, will become enormously simplified and rapid with international computer links providing the information and control mechanism over containers and cargo. Port managements, at present responsible to a bewildering variety of shipowners, cargo owners, inland transport and governmental agencies will become answerable to the through transport operator with whom they will develop an increasingly close association, particularly in the field of market research.

In conclusion, I would emphasise that seaports will continue to have major roles to play in the affairs of maritime nations. The freedom of the seas has traditionally extended to the seaports of the world. They are open to ships of all nations, without discrimination, to find shelter from the elements, to discharge and load their cargoes, and to victual, store and bunker before proceeding on their lawful occasions.

We in the ports industry should face the future with confidence. If we share each other's problems, and borrow each other's ideas; if we adopt the best of the new and adapt the best of the old; if, instead of becoming lazy and rigid we become energetic and flexible, we shall achieve-and deserve-the national and international fame that awaits the great seaports of the future. If we accept the challenge that a rapidly changing world is presenting we shall have the satisfaction of making a major contribution to the growth of international commerce and the raising of standards of living throughout the world.



Mr. Edward J. King

One of the primary objectives of the Massachusetts Port Authority since its activation 10 years ago has been to increase the utilization and stature of the Port of Boston waterfront facilities. To achieve this end, a number of aggressive and successful steps have been undertaken.

Foremost among these efforts has been the constant reminder to shippers that Boston is 200 miles and one day closer to Europe than any other major North Atlantic port.

But only by constant vigilance against discrimination by outside forces-such as efforts by railroads to charge customers using the port with loading and unloading charges at Boston, while they absorb these same charges at other ports; and attempts by a number of steamship lines and conferences to consolidate their operations by skipping Boston and shipping New England cargo overland from New Yorkhas Massport been able to maintain and develop its operations on a larger and more attractive scale than ever before.

The battle is still continuing, but now that Boston has its first written labor contract with the longshoremen in 10 years, won only through a record 102-day strike, it can move ahead in stabilizing the Port and developing its facilities.

The Port section of the Massachusetts Port Authority operates and maintains a number of waterfront facilities in Boston Harbor. Commonwealth Pier in South Boston, and Hoosac and Mystic Piers

### Port of Boston, M.P.A. Catalyst for Northeast Commerce

By Edward J. King

Executive Director Massachusetts Port Authority

Special to "Ports and Harbors"

in Charlestown are owned and operated by Massport.

Four piers in East Boston are owned by the MPA and leased to the Penn Central Railroad. The civilian portion of the Boston Army Base is leased by the MPA and operated by Port Terminals, Inc., while the Massport-owned Castle Island Terminal is leased by Wiggin Terminals, Inc.

Through an aggressive promotion and development program, The Massachusetts Port Authority has been endeavoring to increase the use of these waterfront facilities. In March 1969, it opened a one million cubic foot freezer on the lower level of Commonwealth Pier. Boston's only dockside freezer occupies almost the entire outer half of the pier, and has a railroad siding, truck loading docks, government inspection facilities, automatic fire and burglar alarms, and the most modern blast freezing facilities. Perishables are maintained at minus-10 degrees Fehrenheit.

Massport has been moving out to meet the impact of containerization on international shipping. Although a private container crane for Sea-Land Service was completed in 1966 at Castle Island, the first container ship has yet to use the facility. In the meantime, the Port Authority is moving ahead with plans to develop a 45-acre site in



Busy Boston Harbor...Closer to Europe, by one day, than any other North Atlantic port.



Charlestown purchased last summer as a public container facility.

New pier shed doors, security cages, perishable holding rooms, truck loading docks, increased patrols of Massport piers by state police, and a myriad of other smaller improvements have combined to make the Port of Boston a much better place for the shipper to use.

In keeping with its role as the state's Catalyst for Commerce, the Massachusetts Port Authority has proposed that the deteriorating, 71year-old South Station railway terminal in Boston be replaced with the modern New England Trade and Transportation Center.

When constructed, the 23-acre site will contain a major transportation terminal for trains, buses, taxis, limousines, rapid transit and private cars; a 300,000 square feet World Trade Center Office Building for port-related tenants, a 5,000car parking garage, a 500-room motor hotel, retail shops and a trade mart for exhibitions, meetings and showrooms.

The largest facility operated by the Massachusetts Port Authority is Boston-Logan International Airport, the world's eighth busiest airport in terms or origin/destination passengers. Through 1972, the MPA will have spent or committed over \$250 million in improvements at Logan.

Specific recent improvements at Logan speak for themselves. The first phase of a soaring new North Terminal building was completed in 1967, and houses United, Northeast and Trans World Airlines. With the plaza area, and completion of the second levels of the finger piers in the early fall of 1969, a total of \$20 million will have been spent on the North Terminal facilities.

A 3,169-car parking garage was opened in 1968 — with convenient access to all terminal areas. Designs for its expansion are currently under way. Runway and taxiway extentions and rehabilitations are running well into the millions of dollars.

A new \$18 million Southwest Terminal complex, to be occupied by Eastern Airlines, is expected to open in July 1969. Construction will start before the end of the year on a new \$60 million South Terminal, which will be one-quarter mile long and have seven miles of singlelane roadway. Design work is well under way on a new International Terminal Complex.

But even as Boston's Logan Airport is being developed to its optimum capacity—with ready adaptability to the coming breed of Jumbo aircraft and none of the serious air congestion problems of other major Northeast Corridor airports, studies are well under way into the need for a second major air facility for the Greater Boston area.

A comprehensive consultant's study designed to project air transportation potential and facility requirements for the metropolitan



Dockside Freezer (Commonwealth Pier, Port of Boston)

area through 1990, including the possible need and location of a second major air carrier airport, was completed in the summer of 1968. The report was prepared for the MPA as its partial contribution to an overall study by several government agencies by the nationallyrecognized airport consultants of Landrum and Brown of Cincinnati.

Foremost among the report's recommendations was that a second major air carrier airport is necessary to supplement Logan if the air service needs of the people and

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businesses of the area are to be served. It recommended a primary site approximately 13 miles southwest of Boston and four alternative sites south and west of the Hub.

The report also recommended that Boston-Logan be developed to its optimum capacity and that a series of general aviation airports to fill the requirements and provisions for private business aircraft also be developed.

When it was activated, Massport was handed the challenge of maintaining and improving several of the most important transportation facilities of the area. This was to be done as a revenue bond authority, without pledging the credit of the state or costing the taxpayers a single cent.

One has only to look at a few of Massport's accomplishments during the last decade, not to mention the many plans which are still on the drawing boards, to realize the high degree of success with which this mission has been accomplished.

## A New Major Deep Water Port Development on Canada's Eastern Seaboard

#### By James Addison, President

New Brunswick Development Corporation Fredericton, New Brunswick Canada

Ports and Harbors Panel at First Far Eastern International Transportation Conference Tokyo, Japan, February 16–18, 1969

Mr. Moderator, Gentlemen:

I feel greatly honoured to be invited to this conference as a panelist. As president of the New Brunswick Development Corporation, I do not feel out of place in such a distinguished company of Transportation experts, for transportation is one of the keys to Industrial Development. The present revolution in transportation compels the most serious consideration of all government and corporation executives who are responsible for future planning and development, especially in relation to location of new plants.

I should like to take a few minutes to tell you of the effects of changes in transportation on my own Province of New Brunswick.

New Brunswick is one of Canada's Atlantic Provinces; our largest City and port is Saint John on the Bay of Fundy; well-known as an important world port for two centuries, and of prime importance to Canada from a strategic and commercial viewpoint: — that is, until about two decades ago, since then traffic has gradually declined and we now have a port which is only busy in the four winter months when the St. Lawrence Seaway is closed.

We cannot complain; shippers found cost advantages in routing via the Seaway to the industrial heart of Canada and the United States, centred around the Great Lakes. This was the object of the Seaway —to facilitate the movement of materials to and from the centre of the continent — the effect on the Port of Saint John and other Atlantic Ports was adverse, but this was progress and was right for our country and the United States.

However, the transportation picture has changed rapidly in the last three years, especially in the worldwide transportation of bulk commodities.

The trend to larger and more highly utilized ships and transportation units for bulk commodities came to my attention approximately one and one-half years ago.

At that time, the oil industry was rapidly increasing the size of tankers and had control of total transportation systems from oil well to final destination of the refined product. Within three years the size of the largest tankers increased from 107,000 D.W.T. to 312,000 D.W.T. This approach to their transportation problem was necessary due to the rapidly increasing volumes of oil moving each year and to the increase in haul distances. Savings of up to 50% in total transportation cost have been achieved.

A similar revolution is taking place in the movement of dry bulk commodities but development has been slower due to the lack of ports with the necessary depth to accommodate large vessels and with handling equipment of sufficient capacity to turn the ships around quickly. Also the development of unit trains or other landward transportation modes, as an integrated part of the system, has been more difficult than the simple pipelines necessary for liquid bulk. Despite this, the growth in the world dry bulk carrier fleet has been enormous, from 3.8 million D.W.T. in 1958 to 46.4 million D.W.T. in 1968.

In order to take advantage of this "quiet revolution" the New Brunswick Development Corporation carried out a survey of the Fundy Coast of New Brunswick to identify locations which would meet the following essential requirements for a Deep Water Port:—

- a). Unobstructed sea approaches giving ample manoeuvring area for large bulk carriers and supertankers.
- b). Deep water, close inshore (100' plus).
- c). Acceptable marine and weather conditions.
- d). Large area of level, lowcost backland.
- e). Good landward transportation links.

An ideal location meeting all the requirements was found to be at Lorneville, approximately six miles west of the Port of Saint John. This is to be the site of our new Deep Water Port to be named CAN-PORT-Saint John.

In June 1968, the New Brunswick Development Corporation was granted \$250,000 by the Provincial Cabinet to carry through the final planning stage, leading to the establishment of the Deep Water Port. Additionally, the Provincial Government agreed to make available, as and when necessary, 8,000 acres of land adjacent to the site for development of the port and its associated industries.

The final planning stage will be complete by the end of April 1969 and is being controlled by the New Brunswick Development Corporation. Five consultants are at present employed and the project is being guided by an Advisory Committee including my fellow panelist Ian Ross, whose company as you know are consultants for the Roberts Bank Deep Water Port near Vancouver. Also represented by their vice-presidents are both C.P.R. and C.N.R. We have a very close liaison with principals of Europoort and Medport; it is necessary for this new generation of Deep Water

(Continued on Page 14)



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#### (Continued from Page 12)

Ports to be complementary, for we are not only considering a port but a total system.

The 8,000 acres referred to is a small peninsula approximately four miles long and three miles deep, being relatively level at  $100' \sim 200'$  elevation.

On the landward side it is bordered by the main highway to the United States approximately seventy miles distant, also by the Canadian Pacific Railway. A new joint CP/CN rail access is planned.

A water depth of seventy feet occurs about 750' offshore and 100' depth at 1400' with these contours running approximately parallel to the shoreline.

Currents are also parallel to the shore and run at approximately  $1\frac{1}{2}$  per second in both directions depending on the tide.

Extensive studies indicate good weather and sea conditions, these have been checked out with owners and operators of some of the largest ships in the world. The prevailing wind is from the southeast and whilst wave conditions are good (waves of over 6' occur at  $21/_2$ % requency) it is recognized that with such large capital outlay in ships, the owners cannot afford delay, for this reason, all berths will be protected.

The site is perhaps unusual in that the shoreline is rocky and the cliffs rise  $80 \sim 100$  feet above low water. The rock is a granite type and is ideal for formation of breakwaters and for use as armour stone.

It is intended to quarry the rock down to the +60' level and to form the breakwater as shown with the excavated rock. The development will be staged as required by volume and type of commodities, the stages being shown on 1, 2 and 3. Each stage has one berth with 65' depth at low water being a dolphin type structure and one berth with 100' depth at low water on the inside of the breakwater. The deep berths will serve for oil tankers whilst the 65' berths will be adequate for dry bulk for quite a few years. Facilities will be available for smaller ships at the closed end of the harbour, with berths having approximately 50' and 35' of water.

Should it be necessary to have even deeper berths in the more distant future, it can be seen that this can be achieved by angling the breakwater away from the shore, or by berthing, unprotected, on the outside of the breakwater. To give a berth depth of 100' as shown, the breakwater must be approximately 160' high, having its centreline in 125' depth at low water plus a 25' tidal variation plus 10' above high water.

The rock volume of Stage I would be approximately  $5\frac{1}{2}$  million cubic yards — each further stage would add approximately  $2\frac{1}{4}$  million cubic yards.

The basic marine works for the first three stages will cost approximately \$15 million.

The port area will have two functions:—

- 1). Transshipment of commodities
- 2). Location for primary industry

Commodities such as coal, grain, potash and oil products will move outward, whilst iron ore, bauxite, phosphate rock, manganese ore and oil will be the main inbound materials.

We have serious enquiries from transportation and commodity companies for annual movements of over 12 million tons of material through CANPORT within five years.

Volumes of bulk commodities entering and leaving North America are enormous and show substantial growth rates. Reasonable short term forecast of the main items are shown on Table 1.

Table 1

Short Term Projection North American Imports & Exports

(Millions long tons) IMPORTS

	Crude	Iron	
	Oil	Ore	Bauxite
1970	175	39	20
1975	210	46	30
EXPORTS			
	Grain	Coal	

1970		61	40	
1975		82	45	
D .1	*1			

Both rail companies will serve the site. Transfer from ship to rail or onto smaller ships will be by high capacity handling equipment.

Very close liaison exists with both



#### PROPOSED FIRST STAGE CANPORT --- SAINT JOHN EASTERN DESIGNERS & COMPANY LIMITED SCALE : 1" = 600' 6810-20 FEBRUARY, 1969

C.P.R. and C.N.R. who are actively engaged as part of our team in planning the landward haul of materials in highly utilized unit trains.

The site is an ideal location for primary industry due to the availability of large areas of low cost land; the low transportation cost of bulk materials and the low cost of electrical power.

The power will be produced, on site, at a large (750 megawatt) oil fired power plant. Bunker C fuel for the plant will be available from a simple refinery fed by low cost crude in large tankers.

Additionally, we are in discussion with our Federal Government regarding duty and tax incentives similar to those offered in many socalled Free Trade Areas. We have serious enquiries for over 25% of the area.

Why New Brunswick for such a port development? This is due to

a gift of nature. CANPORT has deep water close inshore, and is clear of ice year round, it meets all other requirements mentioned earlier and we are fortunate in being located centrally on world trade routes.

I believe no other site, having these advantages, exists on the Eastern seaboard of the continent, which can be developed at anything like the same cost. Controlling depths in Eastern Ports are approximately as shown on the list, most of these cannot be appreciably deepened even at very great cost.

There will probably be three Deep Ports in North America— Roberts Bank at Vancouver, CAN-PORT on the east, and a port at or near New Orleans in the Gulf.

To cover such a large subject in a few minutes is of course impossible, but I hope I have at least given (Continued on Next Page Bottom)

### Queen Mary To Become Museum of the Sea

#### By Les H. Cohen. Director

The Museum of the Sea Long Beach, Calif., U.S.A.

#### (Address delivered before the Faculty of the University of Southern California, March 13, 1968.)

I appreciate the opportunity to talk to you today about an exciting project that stirs the imagination and challenges the best of creative talent-the conversion of the great ship Queen Mary into a unique personal experience for millions each year-a human adventure in the discovery of the wonders and significance of the world's oceans.

We call this project the Museum of the Sea and it will be constructed out of a blending of three basic ingredients: the sea itself, which has fascinated and challenged man since the beginning of time; the Queen Mary, which today is probably still the greatest achievement in the history of ship construction; and, finally, a storytelling approach to the substance of man's knowledge of the sea.

I should like to touch briefly on these three ingredients before I

you some idea of our most exciting port development. I shall be pleased to answer your questions of a nontechnical nature and will endeavour to get our Engineering Advisor, Mr. Ian Ross, to assist me on the more technical points.

#### Table 2

Approximate H	arbour Depths
North America	a East Coast
Port	Depth (ft.)
St. Lawrence Seav	vay 27
Montreal	35
Quebec	35
Halifax	50
Boston	40
Portland	45
Baltimore	42
Newport News	45
Philadelphia	40
New York	38~45
Norfolk	34~45
CANPORT	100 PLUS

describe our plans for the blending of them into a dramatic presentation of the story of the sea.

First, the sea itself. The sea means many things to many people. To the student and historian, the sea means a highway rich in the history of world exploration; to the scientist, it means a challenge for new knowledge to overcome man's dismaying ignorance of one of the great natural forces in the human environment; to the men of the sea, it is a way of life, a love and a livelihood; to the weekend sailor, it is solitude and enjoyment; to the scuba diver, it is the adventure of personal discovery; to the surfer, it is the fun of physical challenge. To all of us, the sea is mysterious and beautiful, at times terrifying, at other times reassuring.



- A .....HOTEL
  - в

7.

- R..... RESTAURANT 8.
- D.....MUSEUM 9.

PORTS and HARBORS

#### QUEEN MARY SITE PLAN



#### LONG BEACH HARBOR

And yet it is more than all of these. Together with the earth and sun, it is one of the fundamental sustainers of life and man's psychic ties to the ocean are profound. Think for a moment about your own personal feelings of the ocean and I believe you will agree that here is a subject so rich in appeal to the imagination that the Museum of the Sea has one basic ingredient for success.

The second ingredient in the project is the Queen Mary itself.

The Queen Mary has been described in myriad ways. The Ultimate Ship. The Queen of the Seas. The Grey Ghost. On a voyage from New York, the famous British actress Beatrice Lillie said: "When does 'this place' get to England?" But to millions of Britons and Americans she is best and, affectionately, called just "The Mary."

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Once the biggest and fastest of the world's luxury liners (the Queen Elizabeth is a few feet longer, the U.S.S. United States a little faster), she has always been, since her launching in 1934, the proudest ship afloat, reigning over the high seas in peace and war.

I am sure that you have found as I have—that the Queen Mary is more than a ship. It is more than a luxury liner which made 1,000 transatlantic crossings and carried 800,000 troops in World War II. The Queen Mary — as its worldwide publicity testifies—evokes nothing short of a vibrant personal emotion.

To bring you up-to-date on the Queen Mary, I am sure that you read where the ship sailed into Long Beach Harbor December 9, 1967, while more than a million persons watched from the shoreline. They saw a ship the sum of whose parts are awesome indeed. One-fifth of a mile long. 12 decks tall. Three smoke-stacks, each large enough for three locomotives to pass through abreast. 2,000 portholes. Her 140-ton rudder weighs about what the Mayflower did.

The Queen Mary's four propellers weigh 35 tons each and extend 18 feet from tip-to-tip. She had three acres of deck space for recreation, six miles of carpeting. Each time the former owner, the Cunard Line, painted the vessel, they ordered 30 tons of paint. It could generate enough power to light a city of 150,000.

I joined the ship on its final voyage at Acapulco and, despite what you may have read, I never felt in danger of being assaulted by rats or cockroaches. The ship, designed for Atlantic service, did, at



MUSEUM OF THE SEA ABOARD THE QUEEN MARY

- STORAGE AND MAINTENANCE 1.
- 2. PHENOMENA THEATER
- FWD. LOBBY, ADMIN. AND ENTRANCE з. 4 HERITAGE
- HIGHWAYS
- times, get uncomfortably warm in the tropical latitudes. But, for the overwhelming majority of the 1,200 passengers, the Queen Mary's final ocean voyage was a memorably enjoyable experience.

The ship spent six weeks in the drydock of the Long Beach Naval Shipyard for repairs below the waterline and the application of a special hull preservative which will eliminate the need for subsequent drydocking for twenty years or more. The Mary is now at Pier E in Long Beach Harbor for interior conversion work. Then it will be towed to nearby Pier I, a new manmade peninsula, where it will be opened to the public.

The city's plans for Pier J are exciting in themselves. Proposed are a 4,000-boat marina, an international commercial and recreation pavilion, and ocean cruise ships operating from the pier. The completed development of Pier J alone has been estimated at \$40 million.

Also planned is the creation of one of the most dynamic, integrated ocean-oriented complexes in the World. This would be accomplished by linking the Queen Mary and Pier J with the Pacific Terrace development across a short span of harbor on the downtown Long Beach shoreline. The proposed Pacific Terrace development would

- HORIZONS 6. QUEEN MARY STORY
- 8 ENGINE ROOM
- STORAGE 9
- TEMPORARY EXHIBITS 10.

include the present Long Beach Arena, a major hotel, an exhibit hall and convention center, as well as the remodeled Long Beach Auditorium and boating and swimming lagoons. The key feature and the crown jewel of this entire development will be the Queen Mary itself.

The Diners Club was awarded a 25-year contract by the City of Long Beach to develop the commercial areas of the ship into one of the finest entertainment, hotel and restaurant facilities in the world. While preserving the external integrity of the ship, Diners will spend \$4.5 million in converting certain interior areas.

Three decks of the ship will be rebuilt into a luxury hotel, surrounded by a public restaurant complex which is to include the spacious Queen's Dining Room and other restaurants. In addition, there will be banquet facilities, numerous lounges and a large convention center. Areas will be created for shopping and commercial shows. The commercial areas comprise about one-third of the total ship space.

As an indicator of the continuing magic of the Queen Mary, the City of Long Beach has done studies which show that each weekend since the ship arrived in Long Beach Harbor some 60,000 people have driven down to see the Great

11. AFT LOBBY, SNACK BAR, SHOPS AND EXIT

- AUDITORIUM 12.
- 13 PROPELLER DATA LIBRARY 14
- AFT STEERING STATION 15,

Lady.

On December 12, three days after the Mary sailed into Long Beach Harbor, the City of Long Beach signed a 40-year agreement with the California Museum Foundation for development and operation of the museum and for the operation of guided tours on the ship.

The California Museum Foundation has more than a decade of highly successful experience in museum development and in pioneering fresh exhibit design techniques.

A non-profit corporation, the California Museum Foundation is affiliated with the Museum of Science and Industry, the Space Museum and the Hall of Health, all located in Exposition Park, Los Angeles.

Under the leadership of Chairman J. Howard Edgerton and a 36member Board of Trustees, attendance at the Exposition Park museum complex has grown from some 400,000 in 1956 to some 1,800,000 in 1967. The key to the approach of the California Museum Foundation is the involvement of leading national corporations in the sponsorship of high quality exhibits. It offers corporations the opportunity to participate in an educational public service which reaches and informs millions of visitors each year

and at the same time acts as an important vehicle for corporate identity or, as it is sometimes called, institutional public relations. More than \$5 million in funds from private sources has been raised by the Foundation to make the Exposition Park museum complex a leading educational and cultural attraction of Southern California. Among participating corporations are IBM, Pacific Telephone, General Motors, Southern California Edison and the Southern California Gas Company.

It was on the basis of this experience that the City of Long Beach selected the California Museum Foundation as best qualified to plan, develop and operate the Museum of the Sea aboard the Queen Mary. While the initial start-up costs are being defrayed by the City of Long Beach, the Foundation is obligated to raise \$2.5 million for the development of exhibits. However, we plan to raise upwards of \$5 million to insure that the museum will be of the highest quality.

The third basic ingredient in our project is the presentation of the story of the sea through dramatic exhibit design techniques. One of our most difficult problems is explaining to people that the term "museum," while it is the best available in the English language, just doesn't describe what we plan to build.

Most people when they think of a maritime museum or museum of the sea think of something like a display of dried starfish and whale bones dangling on wires behind a plate glass window, or a row of dummies wearing the uniforms worn aboard the U.S.S. Constitution. Nothing could be farther from what we have in mind and are currently planning.

The Museum of the Sea, as we visualize it, will be a "storytelling" museum with emphasis on dramatic effects and visitor involvement. It will utilize advanced exhibit design techniques, including graphic and audio-visual innovations, animated models, mechanical devices and simulated environments.

It will attempt to put the visitor into an educational atmosphere, an exciting frame of reference, and to create interaction between the visitor and the exhibits that will encourage the enjoyment of personal

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discovery on the part of each visitor as he makes his way through the story of the sea.

Those are the three ingredients in our project: the fascination of the sea; the Mary; the storytelling approach. Now let me take you through the Museum of the Sea which will occupy more than 100,-000 square feet of exhibit space below R Deck in an area longer than three football fields and with ceilings about 50 feet high.

We will attempt to tell the story of the world's oceans in five major exhibit areas: an environmental theater on the phenomena of the sea; Heritage Hall depicting the rich history of man's attempts to conquer the oceans and the impact on civilization of ocean exploration; Highways of the Sea Hall devoted to the evolution of ocean navigational charts and instruments; Horizons Hall which will emphasize the importance of ocean science in contemporary times and in the future; and, finally, the dramatic story of the Queen Mary itself.

The environmental theater, which is one of these five major areas, is being designed as a unique experience in which, by motion picture projection on multiple screens and on the floor, by special lighting and sound effects, the museum visitor will be virtually transported over, on and underneath the ocean.

From a circular platform 12 feet high, the visitor will be bombarded with rapidly changing ocean experiences from the mood of a calm sea to that of a violent storm, from simple fishlife and vegetation to strange creatures of the deep.

The purpose of this complex of striking visual images is to condition the visitor for his museum experience, to awaken a sense of wonder and interest in the sea, so that his exploration of the museum proper will be more educationally meaningful.

As the visitor leaves the environmental theater, he enters the world of the past, the days of the galleons and clipper ships, of early international trade by water, of the folklore and legends of the sea, and the accomplishments of the world's great seamen.

The interior of this area of the museum will create an old world atmosphere of deck-like floors and teak railings, of canvas and ship's riggings.

Featured in the heart of the hall will be a full-size, squarerigged ship typifying the manner in which men went to sea before the introduction of steam. This ship within a ship will serve to highlight the striking changes in ocean transportation within the past few centuries.

Visitors will be able to board the square-rigger and explore it from stem to stern. Contained within the ship will be educational material explaining important aspects of ocean transportation and shipboard life of that era as men sailed these tiny craft to the edges of the world.

To portray dramatically the story of ship development, we plan a "carousel" of ships-a huge circular water tank through which models of ships, characterizing various stages in the improvement of ship design, will parade past the visitor in continuous fashion. As this chronological flotilla passes, a synchronized narration will point out each ship's historical significance in the improvement of seaworthiness, speed and load-carrying capacity. Adjacent to the carousel, additional exhibits will deal with techniques of construction, methods of maintaining watertight integrity, and the evolution of hardware, sails, engines and instruments.

Also featured in the heritage area will be an exhibit on early underwater exploration. We call this exhibit "Iron Men" because it traces man's attempts to survive below the surface of the water—from Aristotle's crude diving helmet to the deep sea diving apparatus of the pre-Cousteau period. Several of these iron men will be programmed to rise slowly out of a water chamber to hang dripping in space until they descend again below the surface.

Although the entire museum will be designed to intrigue all age groups, we plan a special Children's Museum in Heritage Hall. There will be surface and undersea craft to climb on and examine; fossil caves to explore; color, scents and sounds of the sea to experience; and engaging educational games to teach basic sea science.

These are but a few of the exhibits we plan in the heritage section of the museum. Others will depict famous men of the sea, battles, mythology, folklore, maritime law and traditions.

Linking Heritage Hall and Horizons Hall will be the striking twolevel exhibit, Highways of the Sea.

To dramatize the problems of navigation, Storm Deck, an exciting walk-in theater, will transport the visitor to the bridge of a ship during a hurricane and into New York Harbor in dense fog.

Surrounding Storm Deck, numerous exhibits will deal with the development of the compass, sextant, radio beacons, radar, depth sounders and navigational satellites. Man's changing ideas of the dimensions of the seas as illustrated by the efforts of early cartographers comprise a special exhibit.

As the visitor leaves Highways of the Sea and enters Horizons Hall, he enters the new world as contrasted to the "old ship" atmosphere in Heritage Hall. One hundred seventy feet by eight-five feet and nearly fifty feet high, Horizons Hall is bright and modern, featuring huge geometrical structures, designs of up-to-the-minute contemporary modes, and architectural elements which create an air of science and progress.

Here are some of the ways we plan to present the broad and rapidly advancing field of oceanography and related sciences.

Sea-Scan is the name we have coined for a huge simulated descent sphere which will take some 200 visitors at a time on a trip to the ocean floor. A geodesic-like structure, Sea-Scan hovers over a pool of water. On the outside it is surrounded by historic descent vehicles —some real and some simulated such as the bathyscaphe in which Houet and Willm descended over two and one-half miles below the surface. One of these vehicles will rise and descend with its powerful searchlight scanning Horizons Hall.

On the inside of Sea-Scan, through the use of simulated techniques and motion picture projections on the center floor, and rear projections on what appear to be portholes in the vehicle, visitors will be able to observe what oceanographers have seen with their eyes and instruments in the eerie and forbidding regions of the deep.

We also plan a unique view of live sea life in a huge composition of individual transparent containers built in the form of a multi-level maze. Called Habitat, this maze allows the visitor to explore sea ecology by climbing, descending, stooping and stretching to observe fish and vegetation in their recreated environments. In some cases, underwater periscopes will allow closeups of small creatures or illuminated views into dark interiors. Recorded underwater sounds will supplement the visual story to provide the visitor with an educational and entertaining first-hand experience of sea life.

We think we have another new and exciting exhibit which will explain fundamentals of the ocean environment much as a planetarium presents the story of the stars and planets. Called Oceanarium, it will show how ocean currents affect the sea's great life cycle in providing food for the sea birds, fish and mammals, in determining their breeding places and, in great measure, dictating the routes sea life take in their long migratory patterns.

Oceanarium will also show in graphic form some of the exciting phenomena of the sea, the wonders of a salmon run, a pod of whales moving northward along California's coastline, and exotic fishing grounds, such as in the Sea of Cortez.

There will be many, many other exhibits in Horizons Hall-exhibits on the future of man and the oceans, desalination, satellite oceanography, fish farming, sea mining, aquaculture, protein production, hovercraft, hydrafoils, submarine freighters and satellite navigationbut let's move on now to the last major exhibit I would like to discuss briefly. It is the history of the Queen Mary itself with all of its drama and glamour which will be portrayed in what promises to be one of the key visitor attractions of the Museum of the Sea.

This exhibit will be developed in a spacious area directly above the aft engine room with a panoramic view of the ship's engines 30 feet below. The exhibit will bring to life the romantic history of the ship from the start of construction in 1930, through the period when it was the fastest and most luxurious ship in the world, its fascinating years of wartime service, and its final conversion into a museumhotel-convention complex.

From the exhibit area visitors will be able to descend into the engine room below to watch the ship's mammoth machinery in motion. Walking further aft, they will be able to look through huge glass windows and watch one of the ship's spectacular 35-ton, 18-foothigh propellers slowly revolving.

And so ends our brief tour through the Museum of the Sea. We believe that with the three ingredients—the sea, the Mary, and the storytelling approach—the museum will become a great educational and cultural attraction.

A fascinating prediction of the future success of the Queen Mary was made by the leading astologist of Europe, Mabel Fortescue-Harrison, on the day the Queen Mary was launched. She forecast, and I quote:

"Most of this generation will be gone, including myself, when this event occurs. However, the Queen Mary, launched today, will know its greatest fame and popularity when she never sails another mile and never carries another paying passenger."

The Museum of the Sea has charted an ambitious course ranging over the broad spectrum of the lore and science of the oceans of the world: to capture a sense of the grandeur of the sea; to depict man's attempts to conquer it; to illustrate its impact on the development of civilization; to explore its vast but little-known resources for human life and progress; and to explain the thrust of science as it probes the mysteries of the ocean for the future.

The Museum of the Sea is destined to be unique. No other major sea museum in the world is located aboard a ship that is itself an historic monument to man's achievements in ocean transportation. No other museum in the world has ever attempted to tell the "story" of the sea by utilizing dramatic audienceparticipation techniques of simulated environments and experiences, visual impact, sound, color, motion (Continued on Next Page Bottom)

# **Orbiter Probe**

#### IAPH News: Thanks to Melbourne

The last issue of Ports and Harbors was made the Melbourne Conference Special Number (48 pages), and in order to make up for lost time over the Conference, it became necessary to make it at the same time a Combined April-May Number. We plan eventually to issue future issues on or about the 20th of the month, for example, September issue on August 20, etc.

You may have noticed the change in the paper quality of the magazine. It has been made a little lighter. We are still looking for a lighter paper which produces equally good photographic quality. Further, we are studying means of expediting dispatch of the magazine to our readers. You will hear from us on this score very soon.

We trust those photographs in the Melbourne Conference Special Number were helpful in your getting the idea of the Conference. If you had been there, they probably helped you recollect key moments. Had it not been for the staff photographer Brian Lloyd and his assistants whom the Harbor Trust assigned for being ubiquitous around the clock, we would have had no photos, as we had relied on them wholeheartedly.

All the photos of Melbourne were taken by them, of course. Those of Canberra and Sydney? Yes, again; Brian Lloyd was seen clicking his heavy camera even at

I hope that you may agree that the development of a museum which attempts to capture all of this—the sea's beauty, history and science — is an adventure in itself worthy of the quest for understanding and mastery of the sea that has challenged the best of men to go down to the sea in ships, to fix on a star, and to dream of the farthest horizon. the West Head Lookout north of Sydney. The  $8'' \times 10''$  photos, 277 of them all counted, were DP'd, annotated, with all the personal names scribbled on the back, and airmailed to Tokyo. As you have seen, we could insert only 41 of them in the magazine, counting the cover photo. One other photo, of platypus, was a sole exception. It was provided through the courtesy of the Australian Embassy in Tokyo.

Melbourne has also given us verbatim transcription of the Conference sessions. These and the Conference photos will go into the minutes of the conference now being compiled by the Head Office.

#### S. G.

• Mr. Toru Akiyama, the Secretary General, received a formal invitation from Mr. James G. Craig, Jr., President, Mr. Robinson A. Reid, Vice President, the Board of Commissioners and Mr. Charles L. Vickers, General Manager, the Port of Long Beach, California, U.S.A., to meet Mr. Thomas J. Thorley, the incoming General Manager, at cocktails and buffet from 18.00 hours on May 15 (Thursday), 1969 at Golden Room of the Palace Hotel, Tokyo.

• Mr. C. A. Faulds, Secretary, Fremantle Port Authority, Australia, visited the IAPH Head Office Thursday, April 10 afternoon and met the Secretary General, Mr. Toru Akiyama. He was on a vacation cruise of the Orient, accompanied by Mrs. Faulds and her widowed elder sister.

#### Shippers' Guide

National Cargo Bureau, Inc. of New York, N.Y. has issued a pocketbook-size brochure captioned "Shippers Guide for proper stowage of intermodal containers with emphasis on ocean transport". The handy, 24-page illustrated book

#### Help Wanted at UNCTAD

A vacancy exists in the Secretariat of UNCTAD for an economist to work on the economic issues involved in the development of ports in developing countries. The duty station is Geneva, but frequent missions may be expected. The man appointed is likely to be a graduate in Economics and to have several years experience working in a port (or airport) on either general administration or development plans. He will join a team headed by a systems analyst and including an engineer and an economic geographer; the whole team works under the overall supervision of a senior economist. Salary in accordance with age and experience on official UN scales. The appointment may be for a fixed term of two years or on a probationary basis with the possibility of a career appointment. Fluency in English is essential. French or Spanish highly desirable.

For further particulars and application form please write to Office of Personnel, UNCTAD, Palais des Nations, Geneva.

says in its first page, "This guide has been prepared in an effort to further the successful carriage of cargo intermodally in answer to the requests of shippers. This method of shipment has untold advantages -but like everything else, it has to be done right. We believe if care is taken, claims can be reduced far below their present level and in many cases eliminated. It has been compiled for complete intermodal transport door to door shipments which include rail, highway and ocean".

Additional copies of this Guide may be obtained in lots of 10 by writing to:

National Cargo Bureau, Inc.

99 John Street

New York, N.Y. 10038

U.S.A.

10 to 99— 50 cents each 100 and over— 25 cents each The above charges are subject to handling and shipping costs. An invoice will be sent with the shipment.

The foregoing information has

and mechanics.

#### The Americas

been obtained from Mr. Harold Jackson, Chairman, Cargo Loss Prevention Committee, International Union of Marine Insurance, 111 John Street, New York, N.Y., 10038, U.S.A.

#### Containers in Latin America

San Francisco, Calif.: — As the technology of containerization develops and more and more commodities become "containerizable," the changes demanded of ports as well as vessels will be costly in the extreme.

Unless some of the less-developed areas of the world are able to keep pace with the demands that intermodal freight technology will be making on the world at large, they're liable to retreat into a "primitivism" achieved largely by simply standing still while the rest of the maritime world moves ahead.

It is unfortunate that the greatest need to improve port facilities exists in areas with the least financial capability to fulfill that need—that is to say, in many of the nations of Latin America.

This aspect of the "containerization boom's" effect on world shipping has not been lost on Felipe Herrera, president of the Inter-American Development Bank (IADB), who discussed the problem at the recent meeting of the American Association of Port Authorities (AAPA) in Curacao.

Reporting on the IADB's investments thus far (\$40 million in loans) for port improvement projects in Latin America, Mr. Herrera said that "much remains to be done . . . to put our ports at the efficiency level of those of other countries in the world."

He feels, however, that containerization is "economically feasible" at the ports of Santos and Rio de Janeiro in Brazil, Buenos Aires, Callao, and Barranquilla and Santa Marta in Colombia.

Because agricultural products (mainly coffee and bananas) are the major cargoes moved from Latin America to the United States, he said, containers won't be economically feasible until a solution is found to "technical problems in-

#### **On Melbourne Conference**

By Sir Clifford Dove, C.B.E., E.R.D, Director General, Mersey Docks and Harbour Board Liverpool, U.K.

Every IAPH conference is memorable and one invariably goes away with lasting impressions of some kind or other. Always, there is the impression of great kindness and hospitality, combined with organisational efficiency and a number of extremely well presented papers.

The Melbourne conference was all of these things for me. The organisation was magnificent, the sunny hospitality of the Australian people will always be remembered.

For me, however, there will be an over-riding personal impression.

Before I joined the Mersey Docks and Harbour Board, I spent a number of years in Nigeria, latterly as Chairman of the Nigerian Port Authority. An important aspect of my work was to select and train people to take over the port. It was fairly natural, I suppose, that port authorities in other African states came to me with their problems also, some of which hinged on personnel.

And so I had some small part in the appointment in the 1950s of several young Africans to senior positions.

Imagine my delight to look around the IAPH conference room in Melbourne, thousands of miles from Africa, and see the faces of a number of these men, all now holding down top port authority positions, and more importantly to hear them making a major contribution to the floor discussions.

The opportunity to chat with them and to feel the glow of pleasure which always comes from having made decisions that were obviously right was another thing, but no less memorable.

It it undoubtedly true that a major highlight of the entire conference was the breadth of representation and the spread of contribution. Intermingled with people we had met at previous conferences and in the normal course of doing business with the world's ports were people from every continent.

To me it was a fascinating experience to listen to port leaders from Ghana and Great Britain, Portugal and Pakistan, Singapore and Spain, Italy and Iran and dozens of others all of whom face exactly the same problems, differing in dimension perhaps but basically identical.

In itself this confirms the importance of IAPH conferences in which, despite my impending retirement at the end of this year, I hope I will have the opportunity to participate in future years.

volved in transporting such commodities."

For the smaller Latin nations, the problem is particularly acute, owing to the rapid pace of technological advance worldwide and the relatively static pace of their individual economies.

It seems unlikely that these nations will soon generate containerizable cargoes. And even if they did, massive port improvement projects would be necessary before they could begin to handle vans with any degree of efficiency.

In one area, however, the outlook is healthy, indeed. That is the "Puertos Amigos" program conducted jointly by the AAPA and the Organization of American States, on which a report was made at the Curacao convention.

The program provides on-the-job training in (1) port operations per se, and (2) such specific fields as cost accounting, engineering, ware-housing, maintenance and executive skills.

Puertos Amigos is worthy of the active interest of port authorities throughout the world. It won't give Latin America the modern facilities it needs, but will provide efficient management to oversee existing operations (Pacific Shipper, December 16, 1968)

#### Impressions on Melbourne Conference

By E. Q. Okletey, Technical Adviser, and E. S. Ackah-Yensu, General Manager Ghana Cargo Handling Co., Ltd.

Tema, Ghana

As delegates from Ghana, a country which is ten hours behind in time from Melbourne, our visit to Australia has been a very unique experience in many respects. We took the opportunity to attend the Melbourne Conference to make a round-the-world tour of as many ports as we could visit en route-Dar-es-Salaam, Bombay, Bangkok, Singapore and of course, Mclbourne and Sydney. Then came Hong Kong, Tokyo, Oakland, a brief stop in New York and Hamburg from where we finally emerged from freezing snow to have the bright hot sunshine of Ghana again. All these in about five weeks with the fastest jet planes, but it was most enjoyable though somewhat telling on our energy, what with the very lavish hospitality we received from Ports Authorities, other organisations and individuals at almost all the places we visited.

We are most grateful to have attended the Conference at Melbourne, partly for some of these reasons. For the Conference itself, our only complaint which goes with the fullest credit to the Melbourne Harbour Trust Commissioners as well as the Commissioners of the Maritime Services Board of New South Wales and their respective staff, the Tourist Boards and Airlines, particularly Ansett-ANA is that everything was organised with such precision in timing and smoothness that it was virtually impossible to find oneself in any difficulty. We enjoyed every bit of their excellent efforts.

The papers read on various aspects of ports operation and the informal discussions that followed were of highest quality that we have so far

#### **10th Anniversary**

Ottawa, March 17, 1969: — The Expo Islands have been selected as the site of the keynote celebrations to mark the 10th anniversary of the St. Lawrence Seaway. heard at Conferences of this nature. The emphasis was again on containerisation and while we found the various accounts and reasoning for its rapid developments in many ports, we were gratified that a relative balance was maintained in the attention given to some of the problems of the small ports, such as ours, for the further development of other suitable unit loads which still offer some effective solutions in the shipping trade in those lesser developed areas.

There was so much to do, see, sample and drink that it is now difficult to single out any special impressions outside the Conference itself. We particularly enjoyed the parties, all of which we attended with only one unavoidable exception, because we could not "divide ourselves into four" between two similar parties taking place at the same time. We found the Australians great believers in lots of good food and their wines are equal to the best that we have tasted anywhere.

We were also impressed with the relaxed and informal temperament of those Australians we met and the ease with which friendships were established. We were taken home to dinner by a young family in Melbourne and it was most surprising to learn how much we had in common though we have lived in places virtually poles apart. That gesture by Mr. & Mrs. Pat Crombie of Ansett Airlines impressed us most and it is because of this that we have taken this unprecedented step to mention their names.

The tours were well organised and the coach captains, as they are called, most competent. The visits to the natural reserves in Victoria, where we

The public commemorative ceremonies are scheduled to be held on June 26 at the islands' Place des Nations, within sight of St. Lambert Lock where, ten years ago to that date, Queen Elizabeth II and President Eisenhower of the United

saw kangaroos, wallabies and the enigmatic koala bears, the trip to the camping resorts around Canberra during which we saw sheep shearing in action, wood chopping and boomerang throwing and then the full trip to the seaside resorts north of Sydney, were some of the social activities we enjoyed most.

We found Melbourne of rather subdued temperament, Canberra the finest city as far as planning and cleanliness go, and Sydney down to earth, relaxed and practical. We wished we had some more time to explore what makes the "Kings Cross" suddently alive very late at nights.

The Conference and Tours gave us a very rare opportunity to increase our knowledge of port matters, both from the official sessions and from informal discussions with the concentration of port and other experts from all over the world. The lively free discussions of common problems in a full international atmosphere was, we consider, the greatest achievement of the Conference. It was through such discussions that we later toured the Port of Oakland, U.S. upon the kind invitation of the Board of Port Commissioners, a group of men with the most youthful outlook on port development.

Finally, we were impressed with the considerable amount of interest and goodwill shown in Ghana's developments by many participants and we shall certainly take up the challenge to ask some of them over as and when we require their assistance.

We take this opportunity to thank our hosts in Melbourne, Canberra and Sydney who spared no efforts to make our visit to Australia very useful, interesting and most enjoyable.

States officially inaugurated the Seaway.

Other events are also being planned by provincial and municipal governments, government agencies, ports and private organizations to celebrate the first decade of the

#### The Americas



Austin J. Tobin (left) Executive Director of the Port of New York Authority, is appointed a member of the National Defense Executive Reserve by A. E. Gibson, Maritime Administrator, U.S. Department of Commerce. Mr. Tobin will be assigned to duty as area Port Controller in the event of a National Emergency.

waterway. (The St. Lawrence Seaway Authority)

#### For More Aid Grains

Buffalo, N.Y.: — Three Buffalo representatives: Arthur J. Fallon, Executive Director of the Niagara Frontier Port Authority, Francis Dee Flori, Manager of Trade Development for the NFPA, and Edward Brick, World Trade and Transportation Director of the Buffalo Area Chamber of Commerce, recently met with Washington officials in a two day effort to promote business for the Port of Buffalo.

Their Capital City agenda included a meeting with Agriculture Department officials to insure that Buffalo gets its share of handling foreign-aid grain shipments, a breakfast meeting of the Council of Lake Erie Ports and a meeting with Vincent F. Caputo, Director of Transportation, office of the Assistant Secretary of Defense. Here they were accompanied by Rep. Thaddeus J. Dulski who said that concentrating on the Ports of Toledo and Milwaukee, the Defense Department will conduct a test from August 1 to November 1 of the economic feasibility of generating more shipments of overseas military cargo directly from Great Lakes ports via the St. Lawrence Seaway.

Mr. Caputo said the Defense Department will use two contract vessels for the test and that these will stop in Buffalo to pick up shipments of military cargo of at least 1500 tons. (Port of Buffalo Progress Bulletin)

#### Port Everglades 1968

Hollywood-Fort Lauderdale, Fla., April 24: — Annual report of Port Everglades for 1968 is now being distributed. The 16-page booklet summarizes highlights in waterborne commerce, cruise activity and harbor development. Copies may be obtained by writing to: Michael K. Tewksbury, Port Manager, Port Everglades, Florida 33316. (Port Everglades News)

#### **Model Studies Needed**

Los Angeles, Calif., March 14:-Future development of the Port of Los Angeles cannot continue until the United States Corps of Engineers completes its model study of the Los Angeles-Long Beach Harbors, according to California Congressman Glenn Anderson.

Anderson stressed the urgency for implementing the study at a Washington briefing held yesterday (March 13) with other Southern California congressmen and congressmen from the state, who are members of the Public Works and Appropriations committees. "There is an urgent need to know the results of the Corps' study, not only by the Port of Los Angeles and the Port of Long Beach, but also by the United States Navy," Anderson said.

Los Angeles Harbor's Chief Engineer, Lawrence L. Whiteneck, and Long Beach's counterpart, B. N. Hoffmaster, attended the briefing and Whiteneck was called on to make a presentation to the legislative group. Whiteneck said that all available waterfront for commercial cargo port facilities is presently occupied, or design and construction is in process for its use. "For the past 20 years, the ports of Los Angeles and Long Beach have constructed an average of four new berths per year to provide facilities for the expanding foreign commerce," he said. He pointed out that foreign trade for the State of California in 1967 contributed \$250 million to the nation's favorable balance of trade. "But additional port development cannot continue until a hydraulic model study of San Pedro Bay is completed by the U.S. Corps of Engineers," Whiteneck said.

A resolution of the House of Representatives, Committee on Public Works, adopted July 10, 1968, provides authority for building the model. Whiteneck urged the legislators to do everything in their power to make sure enough funds are appropriated by Congress to enable the U.S. Corps of Engineers to build and test the model immediately.

"It is imperative that it be built," he said, "in order to determine how the U.S. Navy, as well as the ports of Los Angeles and Long Beach, may continue development and construction programs, thus meeting the needs of the entire local community, as well as the foreign trade and shipping industry."

The U.S. Corps of Engineers will testify at a hearing this week before the Appropriations Sub-committee for Public Works. Congress is requested to appropriate \$900,000 to proceed with the model project. Whiteneck said the present investment in harbor development by local interests is about twenty times the present investment of the Federal Government. The resolution of the House of Representatives calls for model studies "as necessary to establish an efficient layout of the port complex and the design of navigation facilities." The Corps of Engineers has determined that model studies are necessary. (Port of Los Angeles)

#### **Ocean Cruise Port**

Los Angeles, Calif.: — Los Angeles Harbor is well on the way to becoming the most important ocean cruise port in the United States, according to Los Angeles Mayor Sam Yorty.

"A change of concept in ocean transportation, effected during the past few years has found the Port of Los Angeles in the unique position of having planned for such a development," Mayor Yorty said.

The Port boasts some of the finest and most modern seagoing passenger facilities in the world. Nearly 1,000 Los Angeles sailings of ocean-going passenger liners and cargo-passenger ships will handle approximately 62,000 outbound passengers during 1969, according to estimates of Harbor and passenger service officials. An estimated 60,-000 more will arrive at the Port.

"Cruising" is the new word for ocean-going passengers and from Los Angeles Harbor there are cruises available for everyone, from an overnight cruise to a three-day cruise to nowhere or a trip aroundthe-world or "anywhere under the sun." And the concepts and schedules make all of them very, very tempting. (Port of Los Angeles News Release)



The MS SKAUFAST loading the world's record cargo of coal at the Norfolk & Western Railroads coal pier in Norfolk, Virginia. The 95,000 long tons of coal is destined for discharge at three ports in Japan, and will arrive at the first port about March 18, via the Cape of Good Hope. The ship is under a trip charter to Mitsu & Company, Ltd., and the coal for steel mills of Fuji Iron & Steel Company, Ltd. It took one week of mile-long coal trains to accumulate the coal for this ship, which loaded it in only a day and one-half. (Virginia State Ports Authority)

#### Import Car Center

Los Angeles, Calif., March 12:---Negotiations are nearing completion for the construction of a milliondollar imported automobile distribution center at Los Angeles Harbor, according to Los Angeles Mayor Sam Yorty. The Board of Harbor Commissioners today (Wednesday, March 12, 1969) authorized the Engineering Division to prepare plans for the development of a 15-acre facility at Berths  $135 \sim$ 139.

Mayor Yorty said plans include a 68,000-square-foot warehouse at the center to be used for the storage, processing and distribution of Japanese-made Datsun automobiles. Port general manager, Bernard J. Caughlin, is now in Tokyo completing the terms of the agreement with Nissan Motor Co., Ltd., manufacturer of Datsuns.

"For some time Los Angeles Harbor Department representatives have been working with the importers and distributors of Nissan automobiles to provide a new import automobile service center at the Port," the Mayor said.

Nissan is presently shipping approximately 2,500 to 3,000 vehicles per month into Los Angeles Harbor, but they have been moved across several wharves at different locations within the Port. The new distribution center will consolidate the operation. A portion of the land, now occupied by Sun Lumber Company, will be cleared for the auto facility. The lumber firm will acquire approximately 20 acres of land for the storage of inbound lumber, immediately adjacent to the company's existing lumber storage area. (Port of Los Angeles)

#### **Cargo Increase**

New Orleans, La.:—With a record movement of general cargo over port of New Orleans public facilities during calendar year 1968, endof-the-year tabulations of all cargo crossing the port's public docks show general improvement over the previous 12 months.

The port's tabulations show that a total of 6,170,466 tons of general cargo was handled at the public wharves, a 17 per cent increase over the 5,283,086 tons handled in 1967.

The complete total of all inbound and outbound cargo utilizing public facilities was 19,282,389 tons, a onehalf of one per cent improvement over the preceding year.

The greatest increase in tonnage handled at public facilities was at the Public Bulk Terminal, where the total inbound and outbound

#### The Americas



HARBOR PAGING DEMONSTRATION — Checking out a new pocket paging system is Michael Williams, operations manager for General Steamship Corporation, Ltd., San Francisco. To inaugurated April 1st at the Golden Gate harbor by the Marine Exchange, the new service will permit selective calling by voice message of water-front personnel, via the Exchange's 24-hour communications center. Granted the first of a new series of UHF frequencies for paging purposes, the Exchange will provide General Steamship Corp. and other members the means to instantly reach mobile staff members, regardless of location. (Marine Exchange of San Francisco Bay Region)

movement, including inland waterborne cargoes, was 1,820,038 tons, 33 per cent greater than in the previous year.

This terminal, located on the Mississippi River-Gulf Outlet two miles east of the port's Industrial Canal, handles the transfer, and in some instances the storage, of sugar, coal, coke, ores and various other dry bulk commodities.

Declines were recorded at public facilities handling grain exports, as well as banana and molasses imports. (New Orleans Port Record)

#### **Roll-on/Roll-off**

Camden, N.J.: — Additional container business for the Ports of Philadelphia will begin March 5th with the arrival of the full containership MS Caribbean Venture to inaugurate a new service to the Dominican Republic and Jamaica.

The 2300-deadweight-ton vessel, completed late in 1968, will provide a unique roll-on/roll-off cargo service. She will be on her maiden voyage from Germany by way of the Caribbean, and she will carry a cargo of 26 containers for unloading at Philadelphia. The ship has a capacity of 51 forty-foot containers.

The Caribbean Venture will call at either Pier 98 or 100 on its initial trip, according to a spokesman for Keystone Shipping Company, Philadelphia agents for the Caribbean Trailer Express Line.

The first two sailings will be biweekly, but it is expected that the service will be expanded to weekly in about a month when a sistership to the Venture, the Caribbean Enterprise, is delivered. Both vessels were built at Hamburg-Neuenfelde, Germany.

Vehicles are loaded onto the ships by way of a sterm ramp, formed by the stern doors, that leads to the main deck. For loading the weather deck, vehicles are placed on an hydraulically operated elevator and raised to the weather deck. The Venture has an overall length of 309 feet and a beam of 55 feet with a draft of 15 feet. Two Deutz diesel engines, each developing 2,000 bhp, give the Venture a service speed of 16 knots.

The idea of roll-on/roll-off operations is to give shippers and receivers of cargo the advantage of door-to-door service. A truck trailer can be loaded at a shipper's warehouse in the interior of one country and shipped either by rail or by being pulled by tractor over highways to a port. The trailer is then driven on board the vessel, the tractor disconnected and driven ashore. At destination, local tractors are used to discharge the vessel and pull the trailers to their final destination.

The system offers the advantage of reducing the risk of damage to cargo and pilferage, and also can reduce total distribution cost by lower packing costs, less handling and lower insurance costs. This particularly applies in the shipment of fresh fruit seafood and other perishables loaded into self-sustaining refrigerated trailers and delivered quickly under constant temperature without any reloading at the market place in the country of destination. (Delaware River Port Authority News Release)

#### '76 Port Meeting

Philadelphia, Pa.: — The Delaware River Port Authority and other organizations along the Delaware River plan to ask the American Association of Port Authorities to hold its 1976 convention in Philadelphia. The meeting would coincide with the national bicentennial celebration, which Philadelphia hopes to attract.

Gen. Allen F. Clark Jr., president of the Philadelphia Port Corporation, will make a formal presentation at the association's convention in Washington, D.C., on April 22.

Others joining in the invitation are the City of Philadelphia's Convention and Tourist Bureau, the South Jersey Port Corporation, and the Wilmington Board of Harbor Commissioners. (DRPA LOG April)

### "Bargain of The Century" S. F. Is Now A City Port

#### San Francisco Port Authority

The year 1968 was one of the most important in the Port of San Francisco's 106 years history for three outstanding reasons:

- Operating revenue surpassed the \$11 million mark for the first time and a record of \$2.2 million profit was reported;
- Cargo tonnage for the year was 5.2 million tons, highest level in several years;
- 3. Transfer of the port and its \$400 million in facilities from State to City of San Francisco control was voted by the state legislature and ratified by City voters.

For the fiscal year 1967~68, which ended June 30, 1968, both total revenue and net earnings were higher than any previous year in the Port's history.

The total for the year of \$11,096,-882 marked the first time revenue from port operations surpassed the \$11 million mark. Net earnings for the year were \$2,282,432, topping by \$444,000 the previous high set in fiscal  $1965 \sim 66$ .

With increases in foreign export shipments leading the way, cargo tonnage at the Port of San Francisco passed 5,200,000 for 1968, an increase of 400,000 tons over last year.

The Port Authority recently approved an operating budget of \$11,-847,115 for fiscal 1969~70, the first budget for the Port under city administration. Income for the year was projected to be \$11,930,000, which would leave a surplus of \$82,-885.

By a large majority, the people of San Francisco voted last November to accept control of the eight miles of piers and property and, at the same time, authorized an unprecedented expenditure of \$100 million for improvements over the next 25 years.

That change in control will take place on February 7, 1969, when some 400 port employees, headed by Port Director Rae F. Watts, move to the rolls of the city.

The five commissioners of the San Francisco Port Authority will increase their number by two and change their name to San Francisco Port Commission. Cyril Magnin, President, and Commissioners James Rudden, Dan London, Trevor Roberts and Sam Husbands will be joined on the Commission by State Director of Finance, Casper W. Weinberger and the State's Secretary of Agriculture and Services, Earl Coke. The two state officers will serve in an ex officio capacity under the terms of the port transfer act.

The change in control of the port was hailed in Sacramento by Governor Ronald Reagan and Assemblyman John Burton, who wrote the original transfer legislation, and San Francisco Mayor Joseph Alioto and Port President Magnin.

Said Magnin: "The transfer is an opportunity to improve port facilities and to strengthen San Francisco's competitive position in the fight for the world's foreign trade."

"Obtaining the Port of San Francisco is the bargain of the century for the city," he said. "It gives us the opportunity to go forward with programs for the benefit and health of the entire business community."

During 1968, the Port of San Francisco began a number of programs for improvement to piers and terminals, and started construction on new port facilities.

Responding to the demands of changing cargo technology, the Port Authority revealed a master plan for the development of a 200-acre container-cargo terminal at India Basin.

The plan calls for a nine-berth facility complete with all modern developments for a container terminal, including high capacity container cranes, concrete wharves, acres of open storage space for containers, freight stations, rail and truck accesses, and water depths of at least 40 feet.

Development of part of the area is already underway for the LASH (lighter aboard ship) vessels of the Pacific Far East Line.

The LASH terminal will include two berths to dock the big ships with concrete decking and large back up area for container storage; a long cargo transit shed and adjacent lighter loading berths; and an anchorage basin for lighters. The LASH terminal will be completed in time for the first PFEL ship late in 1970.

"The development of the India Basin area is based upon the findings of the Port's consultants (Arthur D. Little Company) that a large scale shift of San Francisco's cargo-handling activities from outmoded piers in the northern waterfront to the southern section must take place," said Port Director Watts. "We must provide 10 to 12 berths for containerization to serve the shipping industry," he said.

To increase its capacity for handling containers, States Steamship Company will move to larger terminal facilities at the Port's Army Street Terminal, which opened a year ago. The trans-Pacific carrier will have use of a 21-acre area, including two berths, a transit shed  $225 \times 1,000$  feet, and more than 10 acres of open storage area for containers, to more than double its present facilities at Piers  $15\sim17$ .

In January, the Port Authority is scheduled to award a contract of approximately \$750,000 for the construction and installation of a container crane at Army Street. The gantry-type crane will run on rails to serve the Islais Creek Channel wharf which includes five berths.

Also under construction at the Port of San Francisco, and to be completed in 1969, is a new grain elevator and grain handling facility.

Under a \$4.7 million contract to Homan & Lawrence Engineering Company, San Francisco, a new 1,000,000 bushel capacity grain ele-

#### The Americas

vator will be constructed to double the terminal's present storage capacity, and modern loading and handling facilities will be built to increase its loading capacity to more than 1,200 tons per hour. Existing facilities will also be modernized.

Operators of the terminal, Islais Creek Grain Terminal, which is part of the Pacific Vegetable Oil group, estimates that one million tons of grain will pass through the terminal when it is completed.

To help finance these new construction projects, the Port Authority has assigned all earnings from port operations to the harbor improvement fund.

In addition, some \$17.5 million in bonds will be sold. One bond issue, \$7.5 million of general obligation bonds, will be sold by the State Treasurer on January 7. Preliminary work is underway for the sale of \$10 million more in revenue bonds.

The Port Authority is moving ahead with plans for the commercial and industrial redevelopment of San Francisco waterfront property no longer needed for maritime purposes.

Far-reaching rejuvenation programs for the northern waterfront area, where commercial and recreational activities will be relocated in place of cargo piers, will mark a significant departure in the historic Embarcadero land use.

The Port Authority pointed out that such commercial developments are vital because of the growing need to find new methods of financing future maritime terminal construction.

A 50 percent growth in cargo volume in the next 25 years has been forecast, and additional terminals will be needed to accommodate the steady increases in foreign trade and expanded container cargo operations.

Retirement of older piers in the northern section is made possible by shifting steamship lines to the southern section of the waterfront and new terminal facilities as the Army Street Terminal and the planned India Basin Terminal.

#### Water Pollution Control

Portland, Ore., April 17:-Portland Commission of Public Docks' water pollution control program is getting high marks from Federal Water Pollution Control Administration authorities. FWPCA sanitary engineer James Willman described the control program, aimed primarily at oil pollution, as "effective" and "well supported and policed". Begun in 1960, the Dock Commissions' plan calls for daily inspection of all berths for oil spills by CPD security men, Coast Guard or Portland Police Department harbor patrols.

"This doesn't necessarily prevent accidental bilge, bunker or lubricating oil pollutions," says George Kephart, assistant operations chief at CPD. "It generally gives us pretty good evidence as to which ship was involved, though." Kephart, in charge of Dock Commission pollution investigations, says co-ordination among the three agencies is the most important single factor. "You can bet if we don't catch it, the Coast Guard or the Harbor Patrol will." Usually, spills come from bilge or bunker water-oily water in the bottom of all ships-which leaks or is pumped into the river. Kephart says the Commission always assumes the pollution is accidental.

When any of the three agencies spots an oil slick, the others are notified. Dock Commission officials and the Coast Guard begin checking what ships are or have recently been in the area. "Usually it is pretty evident which ship is at fault," Kephart says. In cases of doubt, or where the ship's captain refuses to acknowledge responsibility, oil samples from the ship and water are analyzed.

Kephart says ordinarily the Coast Guard boards a suspected vessel to collect samples of bilge and bunker water and lubricating oil. Harbar Patrol or Coast Guard officials also inspect the vessels for leaks or evidence of recent accidental discharge and talk to its chief engineer. If proven at fault, the ship must pay for the cleanup which can run as high as \$15,000.

Kephart says 99 per cent of Port-

land harbor oil pollution cleanup is handled by a local transportation company which has invested in pollution dissipating equipment. Emulsifiers, which break up the oil, or skimming devices, like hay, are used. Pollution, however, isn't the only reason for Portland's program. Oil soaked into pilings creates a fire hazzard. At CPD's Terminal 4, where many older "tramp" ships stop, daily underdock inspection is done. Periodic Harbor Patrol and CPD security force checks have taken care of Terminals 1 and 2, generally frequented by newer vessels.

"Basically, whatever has been done has been by a system of underdock inspection, logging of each inspection, and fast followup in case of a violation. We've been successful because of the close cooperation between ourselves and the other bodies," Kephart says.

No ultimate answer to occasional harbor oil pollution is presently economically feasible, says Kephart. Some ports provide barges for pumping out bilge and bunker water. "Short of that expensive process, I know of no way to prevent these periodic problems."

FWPCA's Willman says Portland's program isn't perfect. "We've always got more to do in keeping our water clean. But, that most essential ingredient—local co-operation and support—is most evident in Portland. There are some other harbors I wish took as much serious interest in this problem." (Portland Public Docks News Release)

#### Visitor from Sister Port

San Diego, Calif.: — The port director of Nationalist China's largest commercial port believes the Port of San Diego is an "outstanding example" of a modern port that can meet the demands of future world trade.

Rear Admiral Lee Lien Chih (Ret.), Director of the Kaohsiung Harbour Bureau in Taiwan, China, made his comment after an inspection trip of the Unified Port District's facilities in late March. He currently is on a study tour of U.S. ports he considers outstanding.

The Port of Kaohsiung about two

#### Asia-Oceania

# Fremantle Container Terminal Is Already Operational

(The Fremantle Port Authority's Container Terminal was officially opened by the Premier of Western Australia, the Hon. David Brand, M.L.A. at 10.00 a.m. on Saturday, March 29, 1969. The following paragraphs are quoted from The Sunday Times, Perth, March 30, 1969.)

The Fremantle container terminal, opened yesterday by the Premier, Mr. Brand, maintains the reputation of Fremantle Port Authority throughout the world for modern facilities and efficient operation.

Immediately adjacent to the terminal is No. 12 North Quay, a new berth planned exclusively for use by container ships. From this berth the ships will unload and load containers to and from the modern

years ago entered into a "Sister Port" agreement with the Port of San Diego, a relationship which Admiral Lee said has given both ports a "distinct advantage" in the development of commerce between the West Coast and Nationalist China.

Accompanied by Port District Commissioners and staff personnel, Admiral Lee inspected maritime cargo facilities at San Diego and its plans for future growth. "San Diego's port is one of the most modern on the West Coast," he said. "I also believe your plans for the future will make the Port of San Diego the envy of all other ports on the west coast of United States."

After an official appearance before the Port District Board and an exchange of gifts with the Commission, Admiral Lee continued on his tour which includes six ports in United States as well as Hong Kong, Bangkok, Thailand, Singapore and Australia. (Port of San Diego Newsletter) terminal.

Container Berth No. 12 is part of the \$12.5 million development of the new, greater Fremantle Harbor.

The new berth is 900 feet long, and is the first completed in the current programme for a three-berth up-river extension of the Inner Harbor.

When the 27,000 ton container ship Encounter Bay berthed at Fremantle on Friday after its voyage from Rotterdam, it marked a development in long range plans to make Fremantle Harbor one of the biggest, safest and deepest in the world.

Just as Western Australia itself has developed in the past eight years far more than could have been envisaged even 10 years ago, so the Port of Fremantle development has been planned to keep up with and even ahead of the development of the State.

Fremantle Port Authority had to look ahead and plan ahead, to ships of a tonnage and draught almost undreamt of a generation ago. And modern ships have an efficient 'turn around' hardly imagined ten.

Encounter Bay is a modern container ship, designed to shift cargo with a minimum of cost, a maximum of efficiency, and a speed undreamt of only a few years ago. But to get the maximum efficiency out of the new type of cargo ships, there had to be special facilities at ports of call.

Fremantle Port Authority met the challenge of the Encounter Bay and other container ships by building the new container berth and terminal which is serving the Encounter Bay on her maiden voyage and will be used by ships from all major ports of the world.



Port of Fremantle Western Australia Container Terminal. Officially opened March 29th, 1969. Port of Fremantle Inner Harbour. Foreground shows No. 12 Berth, North Quay and terminal area especially constructed for the speedy handling of containerised cargo.



"Encounter Bay" berthed at the Port of Fremantle Container Terminal on her maiden visit on Friday 28th March, 1969.



#### Port of Fremantle Western Australia Container Terminal. Officially opened March 29th, 1969. Details of portainer crane:— Weight: 500 tons Height: (in operating position) 168 ft. Height: (with boom vertical) 218 ft. Maximum Lifting Capacity: 65 tons.

←



#### Darling Harbour, Sydney

Sydney: — The reconstruction of wharfage in the central section of Darling Harbour is nearing completion, as work on No. 10 Berth, the final wharf in the four-berth complex, is now well advanced.

The first of the new berths completed in this area was No. 7, with facilities for the roll-on/roll-off trade between Sydney and Tasmania. No. 8 Berth was commissioned in March, 1965, to handle unit, container and conventional type cargoes.

The single span transit sheds at Nos. 8 and 9 Berths have large loading docks at the rear and are the largest and most modern of their type in Australia. Each shed has a back-up area of approximately three acres, providing ample space for stacking cargo and manoeuvring large trucks.

No. 10 Berth is scheduled for completion in September, 1968, and will be similar in design to Nos. 8 and 9.

It is estimated that the total expenditure for the full complex in this section of the redevelopment programme will be a little more than \$10 million.

The Board has let a contract for the demolition of No. 6 Berth, Darling Harbour, as part of its programme to modernise wharfage

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facilities in the Port of Sydney. No. 6 was one of the older com-

mercial berths in the port and had been designed and used primarily for interstate vessels. Its demolition is part of the first stage in the further development of modern wharfage in the Darling Harbour area.

New wharfage similar to the berths recently provided at Nos.  $7\sim$  10 Darling Harbour will be constructed progressively in a northerly direction from No. 6 Berth (see plan), and will cater for modern cargo handling techniques. ("All a'Board", The Maritime Services Board of N.S.W.)

#### Largest Dredger

Tokyo: — IHI has received from the Special Dredging Co., Ltd. an order for a 6,600-DWT drag-suction dredger which will be the largest of its kind in Japan.

The dredger will have a mud hold capacity of 4,000 m<sup>3</sup>, which is double that of "Kaiho Maru" (built by IHI in 1964 for the Transport Ministry), the largest of its kind in service in Japan at present.

The large drag-suction dredger will be built to deepen the routes and to facilitate safe passage of vessels with deep draft in view of the navigation of large ships including tankers and bulk/ore carriers.

She will be equipped with two IHI PC diesel engines with a maximum output of 11,600 HP which will supply power for propulsion and dredging operation. Propulsion, steering and dredging will be remote controlled.

Besides being able to perform



6,600-DWT drag-suction dredger.

### Look Mah! No Visible Means of Support!



dredging at a speed of  $2\sim5$  knots, the vessel will be capable of land reclamation work by using the dredging pumps. (IHI Bulletin)

#### **1st LASH Ship**

Tokyo:—Uraga Heavy Industries, Ltd. launched the first 43,000-ton d.w. LASH Ship in the world, "ACADIA FOREST", for her owner, A/S Moslash Shipping Co., Norway, at our Uraga Shipbuilding Yard in Yokosuka on April 3, 1969.

The vessel will be the first LASH Ship constructed in the world when completed next September, and is now attracting everyman's notice.

The vessel will work under charter party with Central Gulf Steamship Corporation of the United States on a long-term charter basis, and will sail between the ports of the Mexican Gulf and Europe mainly to be engaged in the transportation of the products of International Paper Company of the U.S.

"Acadia", the first part of the ship's name, "Acadia Forest", is the former name of Nova Scotia in the southeast of Canada, the cradle of International Paper Company.

#### 1. The Outline of LASH System

LASH system consists of the ship component, the giant gantry crane component and the series of lighters. Briefly, the system may be said to be akin to containerization system in some points, the lighters with cargoes can be loaded and unloaded as they are—so they are floating containers, so to speak.

#### 2. The advantages and Special Features of the LASH System

- (1) Without necessity of using the pier, cargo-handling services can be done either outside or inside of the port, free of any inconvenience caused by other ships.
- (2) Therefore, the cargo-handling services are always

practicable, if the port is congested.

 (3) Cargo-handling services can be completed by only loading or unloading the lighters, thus contributing greatly to the saving of cargohandling time.
Above-mentioned features

minimize the port time, so that the vessel continues to operate incessantly on her primary mission of "running with cargoes laden". This can not help profiting shipowners very much.

(4) Transshipment, such as loading and unloading in containeryard, can be done without, and lighters can be directly sent to inland shippers for shipment and cargoes on the lighters can be delivered to consignees, via rivers and canals, so that door-to-door-service is more

Asia-Oceania

### **Bow Looks Normal**



#### promoted.

- (5) Cargoes can be assorted according to every one lighter, and assortment in warehouses become easier, so that efficiency of warehouses improves.
- (6) Lighters held in the LASH Ship can load every kind of cargo, such as refrigerated cargoes, miscellaneous goods, cars and so on, not to mention liquid, bulk cargoes and many other kinds of product.
- 3. Main Particulars of the LASH Ship

Owner: A/S Moslash Shipping Co., Norway Gross Tonnage: 39,000 T Deadweight: 43,000 LT Length (o.a.): 262.00 m Length (b.p.): 234.00 m Breadth (moulded): 32.50 m Depth (moulded): 18.29 m

- Draft (moulded): 11.25 m Main Engine: Uraga-Sulzer Diesel Engine 9RND90 MCR 26,-000 PS at 122 rpm
- Speed: Trial 20.4 knots Gantry Crane for Lighter Han-
- dling: 500 T 1 set
- Number of Lighters on Board: 73

Classification: NV

Hull No.: 918

Construction Date: Keel-laying: December 3, 1968 Launching: April 3, 1969 Completion: September, 1969 (Scheduled)

#### **Tokyo Tidings**

• Mr. Den Takase, President, Keihin (Tokyo Bay) Port Development Authority, Tokyo, Japan, died at the age of 70 at 5.20 a.m. Sunday, April 27, 1969 at Kyoundo Hospital in Ochanomizu, Tokyo due to malignant tumor in the left neck.

Mr. Takase was graduated from the law department of the Imperial University, Tokyo in 1923 and went into employment of the Railways Ministry. He was elected to the House of Representatives in 1946 and belonged to the Liberal Democratic Party; was appointed the first president of Keihin Port Development in 1967.

• Mr. Ken Harada, Minister of Transportation, appointed Mr. Yoshio Minami, president of the Keihin (Tokyo Bay) Port Development Authority on May 9, 1969 to succeed the late Mr. D. Takase. Mr. Minami was born in Ishikawa Prefecture on January 29, 1904, was graduated from the Imperial University of Tokyo; was appointed Minister of Transport, 1960.

#### Liquid Bulk Terminal

Karachi:—Commodore Mahmudul Hasan, Chairman, Karachi Port Trust, inaugurated on 27th December, 1968, the Bulk Liquid and semi-Liquid Terminal of the Pakistan House International United.

Mr. M. A. Rangoonwala, Chairman of the House in his welcome speech said that the need for the installation of one more bulk terminal was felt increasingly as the bulk facilities had been inadequate to handle the incoming and outgoing cargo. He said all edible oil imports from the U.S.A. used to come in drums with the result that the country had to spend a considerable amount of foreign exchange on drums, ocean transportation, handling, etc. He said the first consignment of approximately 15,000 tons of edible oil would save about Rs 50 lakh in foreign exchange. (K.P.T. News Bulletin)

#### **Off-Shore Oil Terminal**

Chittagong: — During the month of February, 1969 four Tankers, namely: "World Gallantry" (Liberian) "Alkaid" (Liberian), "Bomihills" (Norweigian) and "Porthos" (French) arrived at Chittagong Port Trust Off-Shore Oil Terminal to discharge 94,203 L/Ton of Crude Oil for the Eastern Refinery.

#### Europe-Africa

"World Gallantry" arrived on 13-2-1969 at 1500 hrs. with 20320 L/ Ton Crude Oil and sailed on 15-2-1969 at 1830 hrs., "Alkaid" arrived on 16-2-1969 at 1948 hrs. with 23154 L/Ton Crude Oil and sailed on 19-2-1969 at 0705 hrs., "Bomihills" arrived on 20-2-1969 at 1812 hrs. with 25319 L/Ton Crude Oil and sailed on 22-2-69 at 1720 hrs. and "Porthos" arrived on 24-2-1969 at 1050 hrs. with 25410 L/Ton and sailed on 25-2-1969. (The Chittagong Port Trust)

#### 'A Better Working Life'

Liverpool: — Every dock worker in the Port of Liverpool (including Birkenhead) has received the first issue of a Bulletin from the Local Modernisation Committee.

Introducing this Bulletin the Chairman, Mr. R. S. F. Edwards, who is also General Manager of the Mersey Docks and Harbour Board, has written a personal message, saying that he is convinced that many of the problems which arise between employer and employee need never happen if care is taken on both sides to make sure that each knows the others point of view and respects it.

Mr. Edwards' message is headed "Towards a Better Working Life". He says that he has accepted the Chairmanship of the Committee because he strongly believes in the need to get rid of the "us and them" attitude in the Port as soon as possible.

Mr. Edwards concludes, "Liverpool is a big port with a big reputation. We can only keep it so by working together. I am sure that everything can be provided to keep it so — new berths, new working agreements, new amenities and most important of all a new spirit amongst us." (Mersey Docks and Harbour Board)

#### Seaforth Dock System

Liverpool, March 12:—A further important step in the construction of the new £35 million Seaforth dock system at the Port of Liverpool, was reached today when the Mersey Docks and Harbour Board announced the award of a contract worth more than £2½ million to

Norwest Construction (Civil Engineering) Ltd. to build the entrance passage between the existing Gladstone Dock and the new Seaforth complex.

The passage, which will be cut in the North wall of the Gladstone Dock, will be 480 ft. long and 130 ft. wide. Ships using Seaforth will enter from the River Mersey through the existing Gladstone river entrance lock, which is 1,070 ft. long and also 130 ft. wide.

Work is now well advanced at Seaforth and the first of the ten berths to be provided will be in operation in 1971.

The overall scheme will provide 10 modern deep water berths for general cargo, specialised accommodation for packaged timber, bulk grain and installations for the mechanised discharge and handling of meat and other perishable cargoes. The whole of the north side of the dock will be developed for container ships. Considerable land areas have been made available for the reception and stowage of containers and further land can be brought into use as the trade develops.

The new dock system will enable the Port of Liverpool to improve even further its position as the major export port of the country, and one of the main import ports serving a large concentration of population and industry.

Full container facilities are, of course, at present available at the Gladstone Container Terminal. (Mersey Docks and Harbour Board)

#### 'Progress at the Ports'

London, April 28:—A total expenditure of  $\pounds 62.5$  million is planned by the British Transport Docks Board over the next five years on new developments and reconstruction at the 19 ports which it operates. This is in addition to the  $\pounds 55$  million which the Docks Board has already invested in port modernisation during its first six years of existence.

Details of the capital investment programme planned by the Docks Board for 1969~73 are set out in a 26-page brochure, entitled "Progress at the Ports" published by the Docks Board today.

The programme includes the extension of ocean container facilities at Southampton, where the Docks Board has long-term plans to provide up to 30 new deep-water berths as required, and the completion of such major projects as, at Port Talbot, the first ore terminal in Britain able to accept vessels of 100,000 tons, the  $\pounds 6.75$  million South East Extension to Hull's King George Dock, and the  $\pounds 5$  million deep-water tanker terminal at Immingham on the Humber.

"Progress at the Ports" contains five profusely-illustrated chapters dealing with developments by geographical region and by port, and is available, free of charge, from the Public Relations Office, British Transport Docks Board, Melbury House, Melbury Terrace, London, N.W. 1. (British Transport Docks Board)

#### **Dockers' Welfare**

London:-A new 150-seat restaurant and amenity block, the "Diana", last of seven built at Hull docks for the British Transport Docks Board and other licensed port employers at Hull in a £312,000 scheme to bring dockers' amenities into line with the Devlin recommendations, will be officially opened today (Tuesday, 22nd April) by Mr. G. E. Tonge, C.B.E., J.P., chairman of the National Association of Port Employers. The opening ceremony will be attended by Mr. Stanley Johnson, managing director of the British Transport Docks Board and invited guests.

The seven new dock restaurant/ amenity blocks — besides "Diana" there is "Harpooner", "Wilberforce", "Aurora", "Bounty", "Victoria", and "Humber Keel" — all bear the names of whaling ships that sailed from the Humber and serve to remind that Hull was once a great whaling port.

The buildings are constructed upon a modular basis, have an attractive appearance and conform to modern aesthetic standards. Spooners (Hull) Ltd., were the main contractors. Kitchens are equipped with the latest designs in food preparation and cooking facilities, refrigerators and stores. Meals are taken at four-seater tables and seating accommodation ranges from 150 persons to 250. Counters and display units are designed to facilitate quick service for the variety of menus and snacks available. Meals are available at various prices and a typical example would be: steak and kidney pie, Brussels sprouts and chips at three shillings, with soup, sweet and tea as optional extras bringing the total meal cost to 4s. 9d.

A large vestibule providing shelter during bad weather gives access to the restaurant and associated amenity blocks which are complete with cloakrooms with individual lockers, drinking water faucets, hot and cold showers, handbasins, electric hand dryers and toilets. Central oil fired heating of the premises aids the drying of the wet clothes left in the cloakrooms. Office and toilet accommodation has been provided for the staff.

The restaurants are operated by concessionaires under the supervision of Fortes & Co. Ltd., who were appointed as the Central Catering Authority. A Catering Liaison Committee consisting of representatives of the Hull Association of Port Employers, the Transport & General Workers' Union, Fortes & Co. Ltd., and the British Transport Docks Board has been formed and meet regularly to advise on the standards which substantially enhance the dock workers' welfare. (British Transport Docks Board)

#### Dredger 'Aberavon'

London:—A new £700,000 quadruple grab hopper dredger, the 'Aberavon' built by Ferguson Brothers (Port Glasgow) Ltd. for the British Transport Docks Board, was launched today (Thursday, March 6th) at Port Glasgow by Mrs. T. S. Roberts, wife of the Chief Docks Manager, South Wales Ports.

The twin-screw diesel vessel is joining the Docks Board's dredging fleet in South Wales and will assist in the maintenance dredging of the new £17 million tidal harbour at Port Talbot which is due to be operational by the end of 1969.

"The 'Aberavon' will be the largest grab dredger to operate in the U.K." said Mr. T. S. Roberts, "and it will have a vital role to play at Port Talbot once the 100,000 ton ore carriers start arriving."

The dredger is 235 ft. long b.p., of all welded steel construction, and has a speed fully laden of 11 knots. With a hopper capacity of 2,500 tons, the vessel's four diesel grab cranes are capable of handling the heaviest of materials from a dredging depth of 80 feet.

First class accommodation is provided in single cabins for four officers, and in two-berth cabins for 18 crew members. Facilities for offduty hours include a recreation lounge in the after deck house on the boat deck.

The 'Aberavon' is due to enter service in July, 1969. (British Transport Docks Board)

#### **Bremen News**

• As far as can be ascertained from the documentation at present available, Bremen-as heretofore-continues to lead in the Atlantic-container race. Provisional estimates for 1968 indicate that the containerterminals of Bremen and Bremerhaven handled a total of 46,550 van-containers on the Atlantic routes. Close behind came Rotterdam, with some 45~46,000 containers (although these include the small, less than 20' units); Antwerp follows with some 34,000 containers -which figure similarly includes the small units.

All in all (van-containers and those less than 20') the Bremen ports handled a total of 60,000 units in the deep-sea and short-sea trades. Some 500,000 tons of goods were transported in those 60,000 containers, - which represents 5% of the total general-cargo handled by the Bremen ports in 1968. Referring solely to the van-container traffic in the Atlantic trade outwards, the container-handling in Bremen/Bremerhaven in respect of the number of units increased over the previous year by 22%-and by 32% in respect of cargo quantity. • A new quay, which will provide berths for two large ships is to be constructed on the open Weser river, in front of the locks at Bremerhaven. It will be of great importance for the container shipping-lines, with their expensive container ships, because—by saving the locking-in time-they will accelerate still further the turn-round of the ships. Initially 49 million DMarks have been voted for the project. (Bremen Air Mail)

#### Computer System In East Africa

Nairobi: --- The management of the East African Railways and Harbours have been vitally aware for several years of the valuable part which computers can play in the efficient running of a large organization. The first computer ever used in East Africa was installed by the Railways Accounts Department to supplement the previous large punched card installation which had developed over a period of more than thirty years. The whole installation was replaced by an I.C.L. "1500" Computer in 1964 which is currently engaged on accounting applications, payroll and statistics. The Traffic Department had meanwhile begun to think of installing a small computer for use in operational applications but a decision was taken, early in 1967, to establish a central computing service for all departments.

After examining various proposals an I.C.L. 1904E computer was ordered with both disk and magnetic tape storage. This is now being installed at the Railway Headquarters in Nairobi and after a short period of dual operation the "1500" work will be transferred to the new computer. Railways and Harbours are soon to become separate Corporations and the new computer will be used solely by the new Railways Corporation. It will be the largest in use in East Africa, and will enable the Railways to develop computer systems benefiting all departments.

The first part of the programme to extend the use of the computer involved the establishment of a team to design and implement a system for controlling the movement of all rolling stock. This system will record the location of all rolling stock within a few hours of each movement and present reports enabling Railway staff to improve wagon utilisation and reduce delays in



# Nakagawa Corrosion Protecting Co., Ltd.

transit.

The systems design has now been completed and programme specification and writing is in progress. There is also a considerable amount of staff training and preparatory work to carry out and the introduction of the new system is scheduled to begin in October 1969. This will be the basis for future developments and will lead directly to better control of consignments, invoicing, the scheduling of maintenance, and inventory control. In addition, mathematical techniques will be employed to ensure that consignors receive the type of wagons when they require them, and at minimum cost.

Scientific and technical applications will also be undertaken to assist the design and implementation of permanent way projects. The existing accounting work is being developed in parallel, and will gradually be integrated with the new applications. All aspects of an organization are inter-related, and the Railways are no exception. The establishment of a central computing service has enabled plans to be made to integrate information systems for the various departments. Frequently, several departments require the same information, although each requires it to be presented in a different way. Duplication of effort will be avoided when the basic data is fed to the computer once only, and is then summarised and presented by the computer according mean that once the basic data has been verified as correct, information will be supplied accurately and in time for it to be used effectively.

The economic benefits to be gained from the better utilisation of resources can far exceed the additional costs of the new system. Contrary to widely held beliefs, the new computer system is unlikely to cause any staff redundancy. For example the better use of wagons will attract more traffic which will require more staff to handle it.

This is, of course, a very large and ambitious programme and the plans to implement it cover a period well into the 1970s. The management of E.A.R., an organization vital to the future growth and economic stability of East Africa, is being far-sighted in initiating a longterm programme of this kind. Together with other planned developments, there is no doubt that it will contribute materially to the efficiency of the service provided. (SPEAR)

#### **Genoa-Barcelona Ferry**

Barcelona:—This service, handling TIR trucks, private cars and deck passengers is enjoying an ever increasing success: Since it is a very quick service, only 20 hours from Barcelona to Genoa and vice versa and the rates are very convenient and within the public's reach, this vessel is well used by the tourists and traffic coming from northern countries to the south of Spain or vice versa.

This vessel makes two calls weekly but it is said that there will be an immediate change to three calls weekly and it is expected that before many months are out there will be daily sailings. (Puerto De Barcelona, Boletin Informativo)



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