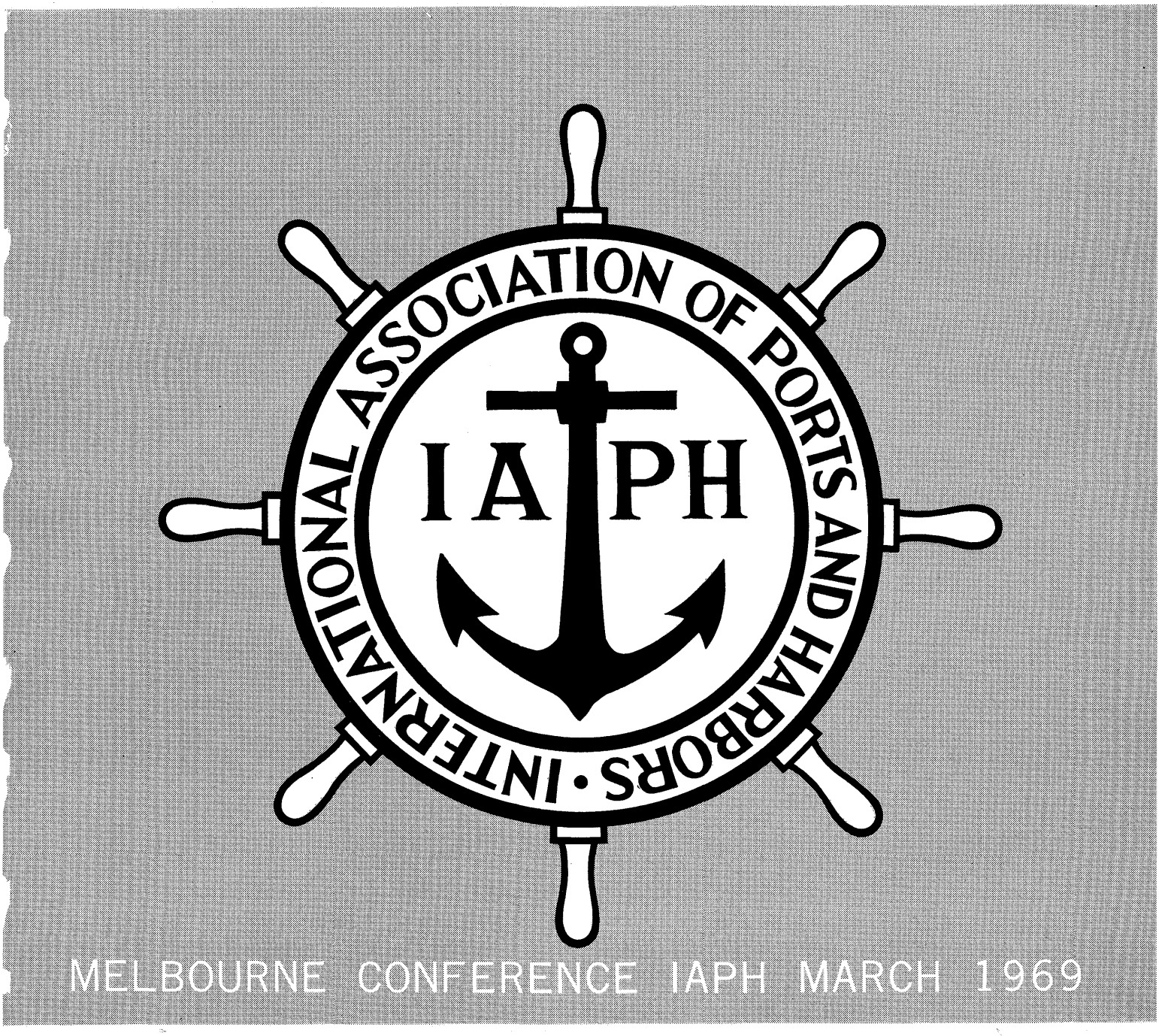
PORTS *and* HARBORS

May, 1968 Vol. 13, No. 5



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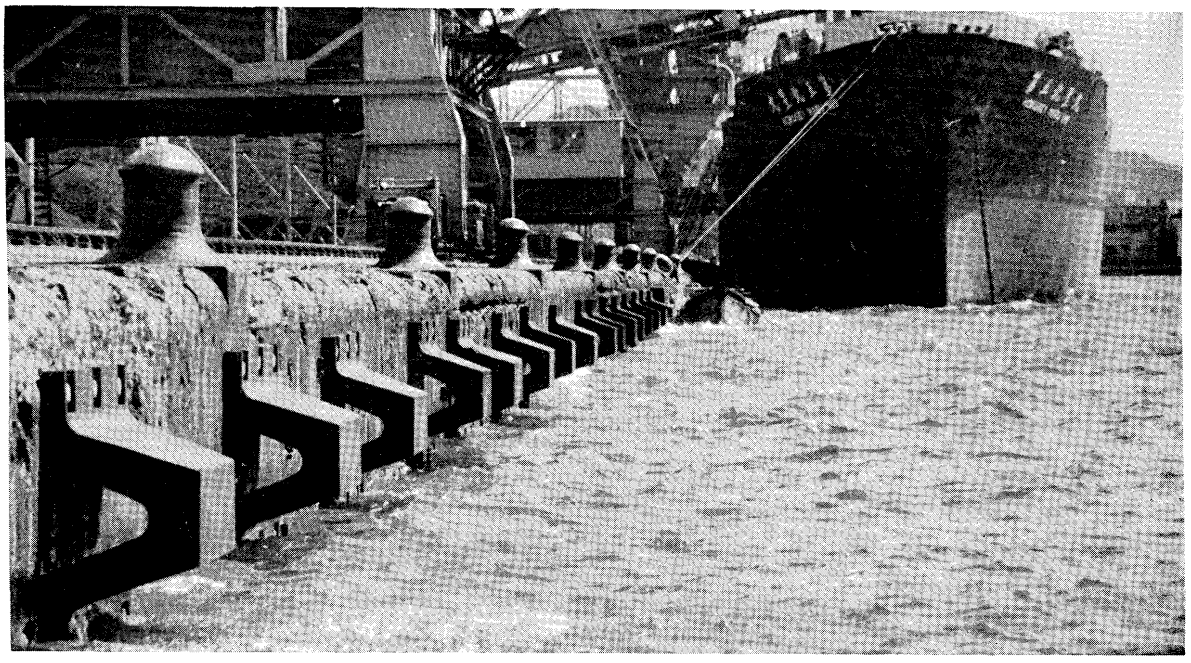

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Kotohira-Kaikan Bldg.,
1, Kotohira-cho, Minato-ku, Tokyo, Japan
Telephones: Tokyo (591) 4261
Cable Address; IAPHCENTRAL TOKYO

PORTS and HARBORS

Published monthly by
The International Association of Ports and Harbors
Consultative Status, N.G.O., United Nations, IMCO

Head Office:
Kotohira-Kaikan Bldg.
1, Kotohira-cho, Minato-ku,
Tokyo, Japan
Tel.: TOKYO (591) 4261
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PORTS and HARBORS

Forum on Port Problems:

International Convention on Containers

(at Genoa International Fair)

Compendia of Speeches

October 19 and 20, 1967

(Press Releases)

Series II

"Customs Problems of Transports by Containers"

Dr. Crescenzo Crispo, President of the National Centre of Customs Studies

The "container" is a vehicle, a system of transport and as such not subject to duties, while the Organs of the Italian State still consider it a "container package," subject, therefore, to temporary import and export. This is absurd. The "container" system does not lend itself to inspections during the journey: the customs verifications can be carried out only on departure of the goods inside the exporting Country, and on arrival at the final destination in the user Country. It is an indispensable condition that the container have standardized characteristics, such as to make tampering impossible.

The type towards which the standardization is oriented is the ISO one (International Standard Organization) cat. 1C. (20 × 8 × 8, with a volume of 80 cubic meters and a gross capacity of 20 tons.).

Today the prevailing concept is that the Customs, although remaining the fiscal organ charged with levying certain duties, must carry out its tasks with methods and forms facilitating the quick flow of the goods. Italian legislation also draws its inspiration from this concept (bill 26/6/1964 No. 695 A).

The customs matter for the containers is regulated by the Geneva Convention of May 18, 1956, stipulated within the United Nations and ratified by Italy with law 3/11/1961 No. 1553. But at present this convention appears to be obsolete: it is necessary to arrive at the concept that the "containers," once tested and matriculated, are admitted to free circulation in the Countries adhering to the Convention with the only obligation of a periodic revision.

The Meeting in Genoa should formulate the following requests:

a) **in exportation:** the filling of the containers, the drawing up and the release of the customs documentation and the sealing of the containers will have to take place, without particular economic burden, at the seller's premises or at the gathering centres; from that moment until the exit from the boundaries the customs verification will have to be limited only to the checking of the integrity of the customs sealings and to the checking of the indentification data;

b) **in transit:** transportation in containers will have to be free from formalities (except for the checking of the customs sealings and of the indentification data);

c) **in importation:** having acknowledged the validity of the customs documents of departure and of delivery, having checked the regularity of the customs sealings, the container will have to be free to go to its destination, where the customs operations will be carried out without particular economic burdens.

Just in relation to this regime of confidence and of fluency which is invoked, extremely severe panalties will be foreseen for transgressors: only in such a way, in fact, the States will accept such daring reforms.

"Containerization — A Dynamic Method for Economic Expansion and Development"

Mr. R. L. Hardin, General Manager Transportation, U.S. Steel.— Pittsburgh

The dynamic development of containerization has created a vital stimulus in the handling and distribution of goods, which derives from the "unitisation" of loads (so many small containers in one single large container), and is the key of the new system of integrated sea-rail-land transportation, based on the fundamental principle of the unified load in order to reach a more rapid, safe and less costly delivery at destination.

Because of its flexibility, containerization is in continuous expansion—it offers a drastic reduction in handling (it is less costly to handle one large container than several small ones) more rapid forwarding, protection against damage, the elements and pilferage, and reduces insurance costs.

There are several types of containers:

a) pallet containers, built for standardized transports;

b) cargo or van containers; conceived for versatility, the vans can be adapted to a variety of applications both for standardized loads and for cumbersome loads; they can have side flap openings or openings on the top for cumbersome or liquid cargoes; some are suitable for carrying refrigerated cargo. (It is estimated that at present there exist about 80,000 non state-owned containers).

As the use of the containers spreads, more adequate and up to date systems for forwarding the containers are adopted; however, the cost of some of these systems is so high that it eliminates the advantage of the use of the container; therefore it will be necessary to choose the most adequate, simple and convenient system.

The cost of distribution is one of the most expensive components of the price of the product—containerization, with its higher degree of efficiency and productivity can make a decisive contribution towards reducing this cost, while contributing towards more rapid and safe delivery.

Of the three transportation systems (sea, road and rail) that by sea has shown more interest towards containers, and ocean shipments by containers have increased by at least 200 thousand tons per year; it is estimated that in 1975 almost 13 million tons will be reached. To meet this increment, many shipping companies are building container ships which permit a drastic reduction of the number of ships in ports. However, it will be necessary that the ports adapt themselves to the new system by building terminals specially designed and equipped (the Port Elizabeth terminal—700 acres — will be able to receive 24 container ships).

In addition to the containers, industry is preparing to supply equipment and machine tools, such as forks, cranes, container cars, etc. But the expansion of the container system is only possible by means of standardization on an international level, without which the exchange of containers from one country to another would be impossible.

One problem that interferes with the use of containers is customs inspection which, in the new system, will have to be performed inland and not only, as is now done, in the port.

In the meantime, more advanced techniques are coming to the fore. Among these is "L.A.S.H.", proposed by Prudential Lines. Planes are also preparing to accept containers.

In addition to standardization, one obstacle to the expansion of containerisation is "one-way" travel, defined "unbalanced cargo movement." Undoubtedly the problem of the "return cargo" is one of the most complex. Considerable coordination between carriers will therefore be necessary in order to take full advantage of containerization. Another obstacle is bureaucracy, which will have to be simplified.

It is estimated that in 1975 the demand for "L group" containers for sea and land transport will be in the range of 525,000 units (versus 54,000 units in 1967 and 183,000 in 1970). At present only 5% of transatlantic traffic is containerized but this could and should soon reach 80%.

"The Use of Containers to and from Tropical Countries"

Mr. George Downie, Head of British Delegation to the International Standards Organization

The Tropical Zone comprises more than 70% of the world population with an outstanding future in terms of economy and trade. The imported goods in this area consist predominantly of industrial and semi-worked products. While the exports consist predominantly of agricultural products (the area produces the world total of cacao and rubber, more than 95% of the sugar cane, coffee and tea together with the major part of the production of peanuts and oil seed). An active commerce takes place within the tropical area for manufactured goods, rubber tires, parts of electrical equipment mounted locally, perishable goods, etc. . . . , that require the use of interchangeable containers with leasing agreements centrally controlled.

Bananas and pineapple are presently the most important tropical fruits to enter the world market. The recent introduction of cartons for bananas, ideally suited for storage in containers, has determined remarkable advantages in the reduction of costs, deriving from losses and from their handling, besides an extension in the zones of distribution. Recent experiments have demonstrated the possibility of abandoning the sacks traditionally used for products like cacao, coffee, peanuts, and their transportability in containers over distances greater than 4,000 miles without any deterioration.

The climatic conditions of the tropics are extremely variable, for which there are special problems which it is necessary to face and resolve, bearing in mind the climatic variations that the transport of certain products can run into during the trip in various periods of the year and the effects of these variations on the goods transported be it on ships or inside vehicles and during the storage (excesses of heat and cold, high or low degree of humidity, combination of high temperature with high humidity): great care must therefore be taken in the packing and in the "isolation" that is obtained.

The use of a great quantity of refrigerated containers is not economical when goods are being transported towards the Tropics; likewise containers with thin walls suitable for some imported goods are absolutely unsuitable for goods departing from the Tropics; the best results can be obtained by the introduction of a container that can serve the double purpose of transporting great quantities of tropical products from the area of origin and of packet products towards the Tropics. Such a container requires a reasonable degree of thermic isolation and should be constructed in such a way as to permit the loading of the tropical products from the upper part and their unloading through existing hatches. (I.S.O. regulations) of twenty feet with 1,000 cubic feet (28.3 cu. m.) of internal isolated space (cost one thousand sterling or of 2,800 dollars FOB factory in Europe) with a life expectancy of ten years.

The transport of goods in the

tropical zones in standard containers—though not a cure-all for all this—is presented as a possible solution, and it has already been demonstrated that a large series of goods (salts, peanuts, cacao and similar products) can be transported in mass for distances over 4,000 miles without any sign of deterioration.

For the trade between Japan and the United States (in the Pacific) six ships each one of the capacity of 700 containers will be in operation in 1968; in 1972 the needs of the commercial route USA-JAPAN will be twenty one ships each one with a capacity of 1,000 containers. The creation of an important "terminal" for "feeding" ships in the Mediterranean has also been taken into consideration and should become an important part in the service Europe — Far East. Other services will follow in a future not too distant, thus creating the era of the container in the tropical zones, an era that could be of enormous economic importance. Hence the urgency for the interested nations to study the problem of transport in a coordinated manner.

"Use of Containers in the Transport of Perishable Agricultural Products"

Dr. John Clayton, Chief Transportation Research Branch of the U.S.A. Agriculture Department

The use of containers for the transport of perishable agricultural produce in spreading above all in the United States. The containers used in such transports must be able to maintain the necessary environment for the particular products carried: the temperature must be kept at suitable levels; air must circulate through the cargo to remove the heat of the respiration and the heat of the field not dispersed by pre-cooling, as well as the heat passing through the van walls; it must be possible to check the humidity inside the container to prevent the produce from drying excessively. These requisites become more important with the increase in the duration of the journeys.

The systems of cooling and air distribution inside the container must be suitable for frozen and non frozen produces, and be suitable for any kind of transport (by road, rail, by water, air): the adaptability for an absolute integration of the transport will increase the utilisation ratio and will reduce the time of transit.

To allow the lowest possible costs per unit of cargo carried, the containers will have to be loaded in both directions to keep to the lowest level the empty journeys and therefore permit a better utilization of the same.

Different tests have been carried out in the United States to compare the advantages obtained with shipments of perishable produces by containers versus conventional systems. These tests permitted to submit to the operators come suggestions to obtain the best results: it has always been found that the shipments by containers are cheaper, faster, free from theft and tampering.

The U.S.A. Agriculture Department has under way advanced studies for the realization of a *multitask van container :* the extreme versatility of this van will help to avoid empty return trips and periods of inactivity to the system. The multi-task van container can be utilized indifferently for the transport of frozen or non frozen perishable produce and of dry cargo. In the latter case, the van diminish its tare and will increase the payload, as the wheel frame and the refrigeration system with compressor and condenser will be removed from the container, while for the covering it will be possible to use plastics and other light materials and the insulation itself will be much thinner than that used in the standard vans.

A feature of the multi-task van is represented by the air circulation refrigerating system. The 40' feet van version is equipped with eight cooling coils, each one formed by 10 feet sections: by such arrangement, the van can be divided into four of 10 feet compartments, each one of which can be maintained at a different temperature, thus making possible to transport products requiring different temperatures in the same container. The air exchange to depurate and cool separate zones in the cargo space, represents another feature of the van container. The most serious studies presently under way concern the realization of a system to separate the cooling group and the power feeding from the van.

"Ports and Containerization"

Dr. Umberto Nordio, General Director of Soc. Italia di Navigazione Genoa

The adaptation of the ports to the needs arising out of the development of the containerization will impose:

a) a gradual transformation of the traditional function of gathering, parking and clearing centres of the goods bound from inland to overseas and vice versa, into points of passage, with the transfer from the port area to internal areas of much of the administrative customs, control, gathering and distribution of the cargo operations;

b) a widening of the port "hinterland," so that every port will be subject to the competition of all the others and its hinterland will lose the function of compulsory transit area, for determined traffic currents;

c) pre-eminence of the land installations and infrastructures over the sea ones, so that inland from the ports it is necessary to prearrange the areas suitable for the movements of the cargo and the infrastructures for linking port and hinterland, to attain a rational synchronization between maritime and land phases of the transport, with a consequent continuity in the traffic flow. Thus ports will become passage points for the goods ("portless ports").

Priority problem: the choice of *a few* ports to be equipped for containerized traffic, providing, if necessary, for the specialization of single ports for particular traffic currents, in order to permit a more regular flow and downflow of the containerized traffic thus obtaining an orderly sequence in time of the arrivals and departures of the ships, at the same time avoiding to have heterogeneous equipment for the single ports.

In the adaptation of the ports to the new technique of goods dis-

placement, primary importance will be given to the "terminals," that is to the single berths equipped to receive the containerized traffic, with dimensions such as to guarantee the full functionality and operation of the traffic itself in the two directions, to the needs of the largest tonnage ships and to the foreseeable developments of the container movement, bearing in mind that the area for the terminals must be in strict relationship with the potentiality of the infrastructures of communication between port and hinterland, in which the road and rail connections will have to be such to permit a ready interchangeability between the two means of transport, and to be as near as possible to berthing space.

Such terminals will be special areas of common use (public terminals) in the already intensely exploited ports, or separate units (private terminals) in expanding ports of call interested in the aquisition of new users and in the construction of the port installations that the public administration would not be able to realize.

"Present and Future of Road Container Traffic"

Dr. Giacomo Sarzina, Regional Delegate for Pedmont and Val d'Aosta of ANITA

The motor transport must become a part of the process of the technological revolution of the transport by containers under pain of its decay. Also for motor transport, the use of the container offers enormous advantages: it reduces to a few minutes the time needed for the loading of a trailer-truck, increasing its economic performance and obtaining a greater safety in circulation. The container will contribute to solve the extremely serious problem of the "overload" (thanks also to the increase in payload of the industrial vehicles), and will oblige the motor transport firms to merge and to join, eliminating the present pulverisation ("atomization"), with the result of creating organic units for which it will be less difficult to establish a common tariff discipline. Moreover the use of the container will make the bilateral agreements for the granting of the authorizations in two different States useless, with a consequent facilitation of the international trade.

The transport of goods by road, compared with the transport by railway, presents the advantage of the delivery and redelivery of the goods "from door to door," and with greater rapidity and lower cost.

The transport of goods by road by means of "containers" should be the presupposition for better relations between road and rail: provided that the promptness and diligence shown by the Italian Railways in conforming to the new system, do not reveal themselves an attempt to take as a monopoly and by indirect coercion, a service which promises a great development and which would give the railways an undoubted supremacy on the motor transport, which on the other hand is already in a position to carry out any service by container and to meet any need of the users by suitable means, enterprises, structures.

The ISO containers (10', 20', 40' feet) fall exactly as concerns height and width within the loading-gauge established by art. 32 of the Highway Code. As to length, on the other hand, the 40' feet container (m. 12,20) could be transported in Italy only with the authorization foreseen by Art. 10 of the Code for the exceptional transports of "indivisible goods" (if the container is such, on the contrary the goods it contains are almost always divisible, so that it is uncertain whether such transports can be authorized). For what concerns the weight, the motor vehicle at present more suitable for the transport of two 20' feet containers, is the trailer truck with six, seven, eight axles, while the articulated truck has the carrying capacity for the transport of one 20' feet container and of a 10' one, or of one 30' container.

A trailer-truck 18 meter long—the maximum length permitted by the Highway Code—can transport two 20' feet containers, one on the tractor and one on the trailer, but with a great waste of space.

The foreign carriers are in a position of great advantage compared with the Italian carriers, as they have the 15 meter articulated truck, and vehicles having a carrying capacity greater than that permitted for Italian vehicles. Moreover in Italy there is the obligation of two drivers for the driving of the trailer-truck, while the foreign articulated truck can be driven by only one driver for trips up to 150 km.

The conditions of technical inferiority of the Italian carriers will be eliminated with the approval of the bill on the modification of the rules contained in art. 32 and 33 of the Highway Code: the weight per axle of industrial vehicles will be increased from 10 to 13 tons; the length of the articulated truck from 14 to 15 meters. The increase in the carrying capacity of the vehicles and in the length of the articulated trucks, and therefore in the carrying capacity, will permit, among other things, to absorb at least in part the amortization costs of the containers and will permit Italian carriers to face the competition of foreign carriers in conditions of parity.

The development of the new system will request an "international contract of transport" with uniform rules for all countries in order to regulate in a single way the motor transport of containers. Anyway each carrier will have to know the rules on the responsibility deriving from the use of the "containers" in the different states.

"Plans and Projects for Railway Container Traffic"

Prof. Leone Armando, Chief Inspector of the Commercial and Traffic Service — Ferrovie dello Stato

The "container" is a structural element of the means of transport. The European Railways accepted within the U.I.C. the technical characteristics of the ISO standardized containers, whose width and height permit to transport them on normal rail cars (however in Great Britain it was necessary to adopt special rail cars with a lower floor).

At present we are witnessing two distinct processes of development of the containerization phenomenon: one linked to the appearance of the container-ships imposing the or-

ganization of containerized land transports to connect the port with hinterland (sea-land combined transports); the other one arising from an autonomous need peculiar to land traffic, analogous but not indentical to that of sea traffic (road-rail combined transports). In both cases it is the realization of the principle of *integrated traffic* based on the presupposition of the rigid functional and economic interdependence of the goods traffics by containers, both among the different ways of transport and among the different countries.

According to an American forecast, in the next ten years about 80% of the present traditional traffic will be replaced by the system of the containerized sea transport, while within 1970 26 American container-ships and 10 European ones will ply between America and Europe, with a total capacity in both ways estimated at about 800,000 containers, corresponding to a volume of almost 20 million tons of goods.

The Italian internal traffic of sea containers is not conditioned by the affluence of the ships to the national ports, as the containers can come also from foreign ports (as it already happens in reality with the T.E.R.R.E. system). The F.S. (State Railways) are studying technical and economic solutions to equip certain calls with the transfer means necessary to the traffic of single containers or in group (extremely expensive 30 ton elevators). It will have to be seen which traffic currents of isolated containers it will be convenient to take into consideration in the company's interest. It will be necessary to suggest a limited number of calls to be equipped with suitable transfer means in relation to the perspectives of profitable services.

The forwarding of maritime containers by complete trains, at high speed and at blocked composition, improves the profitability of the means used.

For the moment there are two initiatives:

a) weekly realization of complete trains between Antwerp-Rotterdam and Milan characterized by the system of *side transfer* of the containers (Flexi-van). For the rates a special convention with guarantee of a minimum payload for each train is applied. From the customs point of view, the railways have been granted the T.I.R. regime also for the inflowing and outflowing road circulation.

b) realization of three weekly trains for the Italo-British traffic, with connection in the continental port of Zeebrugge, by the use of standard rail cars specially equipped, and with vertical system of loading and unloading with gantry crane. The F.S. are already providing for the necessary adjustments and equipment in the landing of Rogoredo.

In case the existance of noticeable traffic currents beyond Milan reveal themselves the continuation of the containers by groups of cars will be organized hooked to other high speed trains, or by special trains when the amount of traffic permits it (an indispensable condition for such continuation within the railways is the availability of suitable terminals in the stations beyond Milan, and something is already being planned for the large stations of Florence, Rome, Naples).

On the European plan (U.I.C.) the Railways are developing the constitution of an European Company (Intercontainer) having the function of coordinating every effort for the acquisition of traffic to the railway on a continental plan. The Company will attend to the construction of the terminals, of the rail car, of the containers and of the road vehicles for terminal services, and to initiatives of commercial type (rates, advertising, etc.).

In the meantime a temporary office (Transcofer) with the task of providing for the first coordinated initiatives on European scale for the acquisition of traffic by large containers, coming from or bound overseas, has been established in Paris.

The geophysical conformation of the peninsula lends itself magnificently for the organization of fast services with complete trains on long distances. The Railways are studying the connection, by container trains, of Trieste with the Danubian Countries, of Venice with countries of Central Europe, of Northern Italy with Spain, Greece, Yugoslavia (as regards Russia the difference of gauge represents a serious handicap).

As to internal traffic, the main routes taken into consideration are: the Milan-Naples (Km. 835) with intermediate calls at Florence and Rome; the Naples-Reggio Calabria (for the connections between the North and Sicily); the Milan-Bari, Brindisi, the Turin-Genoa-Rome-Naples, the Turin-Venice-Trieste. Meanwhile the terminals are being equipped with infrastructures for the transfer, the loading and unloading of the containers, at Milano Rogoredo, at Firenze Castello, at Napoli Smistamento. Studies are under way to equip the terminals of Turin, Venice, Bari. For the port terminals, of which the construction of a limited number is foreseen, they will be equipped, in addition to a specialized berth and a deposit area of 5/6 hectares, also with tracks for connection with the railways system.

The containers coming from abroad—as well as these loaded for the return—will use for the moment cars equipped by foreign railways (SNCB); later special cars of European standard, constructed by and at the expense of the newly formed U.I.C. Company, will be utilized.

The hoped reduction of the working costs deriving from the realization of the system of container-trains can be taken into consideration only when the realization has taken place on a sufficiently wide scale: anyway it will be possible to quote prices mediately more favorable than those offered by the traditional transport. The new rate leaves the nature and weight of the goods out of consideration, taxing only the empty or full containers according to their length and to the distance carried.

"Engineering Development of a Container System"

Dr. Hans Kirschning, Technical Director of Klockner-Werke AG, Duisburg

While international standards have already been established for the containerization in the maritime

(Continued on Next Page Bottom)

Port of Bergen— Doorway to Norway

The Bergen Port Authority

Welcome to Bergen

Just two hours sailing from the outermost islands, and you are in Bergen — the "Doorway to Norway."

How did this bay ringed by seven hills become a large and busy port? For there are many other bays and inlets all along the west coast, on which the lot could equally well have fallen. Was it the fishing, perhaps, or the wealth of game in the forests round about?

Perhaps the prevailing winds compelled the old-time sailors to put in here, on their coastwise voyages northwards or southwards. But these are only theories. What is certain is that there was a pleasant harbour here, with grassy meadows among the seven hills, and that the Viking King Harald Harfagre (Fairhair), uniter of Norway in A.D. 872, built himself a palace here.

That was the first historical mention of Bergen, or Bergvin as it was called then—"the meadow between the hills."

Most people think of the Viking period—about A.D. 500~1000—as an expression of the Northmen's warlike aggressiveness, and this, it is true, was the main driving force behind the Viking raids. But there were other reasons too, particularly for the raids based on the western fjords.

About A.D. 400~500 there was a migration of the people from the valleys of southern Norway, up to the fjords of Vestlandet, caused by the pressure of poverty on a growing population.

At that time such difficulties could be solved by opening up new territory. Iron tools were beginning to come into use, and with their help, and an improvement in the climate, people were able to spread northwards up the broad valleys of the eastern part of the country and carve out a better life for themselves. But in the mountainous west this was not possible, yet still the wanderers came — up from the south-eastern valleys to the fjords, and from the fjords out to the seacoast. Over-population and the pressure on resources thus led to the Viking raids, and Bergvin was but one of many bases from which the raiders set sail. Opportunity beckoned from across the sea.

Trade followed the long ships. The Frisians, men from the mouth of the Rhine, traded with Norway, and much of this commerce, the Vikings discovered, they could take over themselves.

When King Olav Kyrre (the Peaceful) founded the City of Bergen in 1070, on what was then the royal estate of Bergvin, the place was already a centre of trade. Fishing, in particular, was a thriving industry, and the town was the chief northern market for goods from northern Norway, Iceland and Shetland, as well as from southern and central Europe. New light has been shed on this commerce, and its economic and cultural importance for Norway, by the extensive excavations at Bryggen in Bergen.

The sea-faring peoples of the

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area (standardization of the containers, of the ships, of the harbour wharfs, etc.) the movement of containers from and to the berths, both by road and by railway, has not yet been standardized: the gantry cranes, the berth movable cranes, the fork trucks and the gantry trucks, are used indifferently.

The fork trucks are handicapped by their limited power and by the variety in the size of the fork cavities already in use. The other types of equipment are extremely expensive, difficult to manoeuvre, and almost always prove unpractical for use out of the port area.

The studies of Klockner-Werke concentrated on the realization of an economic transport means, simple to build, of limited cost, suitable for any type of container measuring 20′ × 8′, adaptable to all the phases of containerization on ship, road, or railway. After discarding various systems, the company concentrated on a method after which the container is made to slide sideways between the rail car and the road vehicle, installing it directly on a trailer or truck chassis, eliminating the intermediate and expensive phase of the "piggy-back." By this method, the transfer of a standard container from the rail car to the road chasis can be carried out by a single man (the trucker) in two minutes, by effecting a series of small automated manoeuvres. Started first by the Canadian Pacific, this system has then been adopted on a vast scale by the Canadian National Railways and at present is largely used by numerous companies for road transports as well as by industrial vehicle yards. In the United States it has been adopted exclusively versus all the other methods: the Railway Express Agency Inc. supplies containers and the equipment to handle the containers all over the USA; in the meantime tests have been initiated on the Australian Railways. Thus the need of expensive hoisting equipment, seldom available far from a port, has been completely eliminated.

A 20 ton sideways transfer unit costs about one tenth of 20 ton fork truck and about one twentieth compared with the cost of a straddle carrier. The cost of each single transfer by this system is always lower than the high cost of the gantry cranes, whatever the importance of the operation may be, and offers greater flexibility and selectivity.

world have left many traces of themselves here — buildings, place-names, usage and traditions. Today, as you sail up the Byfjorden and see the characteristic outlines of Haakon's Hall and the Rosenkrantz Tower, you are entering not only a great modern port but also a place with a long seafaring tradition, a window to the outside world since long before the days of the Hanseatic merchants.

Bergen Harbour

Bergen Harbour serves Norway's second largest concentration of population. The city lies on the west coast on the 60th parallel, only 23 sea miles from the outer islands. The approach-channels are well covered by the skerries, and the Gulf Stream keeps the port and its approaches ice-free in the winter— a fact appreciated by international shipping. There is little rise and fall, so tides raise no navigational problems.

The approaches to Bergen are well buoyed, and there is plenty of water in the harbour basin. The harbour, 30 km² in area, is bounded on the north by the line from Stromsnes to Danmarksnes, and on the west by the line Gjerdingsnes— Storbunes.

The inner basin divides naturally into three parts: the north-east part, Sandviksbukten; the central harbour, Vagen; and to the south, Puddefjorden with Nostebukten and Damsgardssundet. In the Sandviksbukten area there are moorings capable of taking a direct strain of 110 tons, and in the southern and central sections—for small ships.

There is no difficulty in coming alongside the quays under power. Bergen has the country's most active local shipping as well as coastwise and foreign-going traffic.

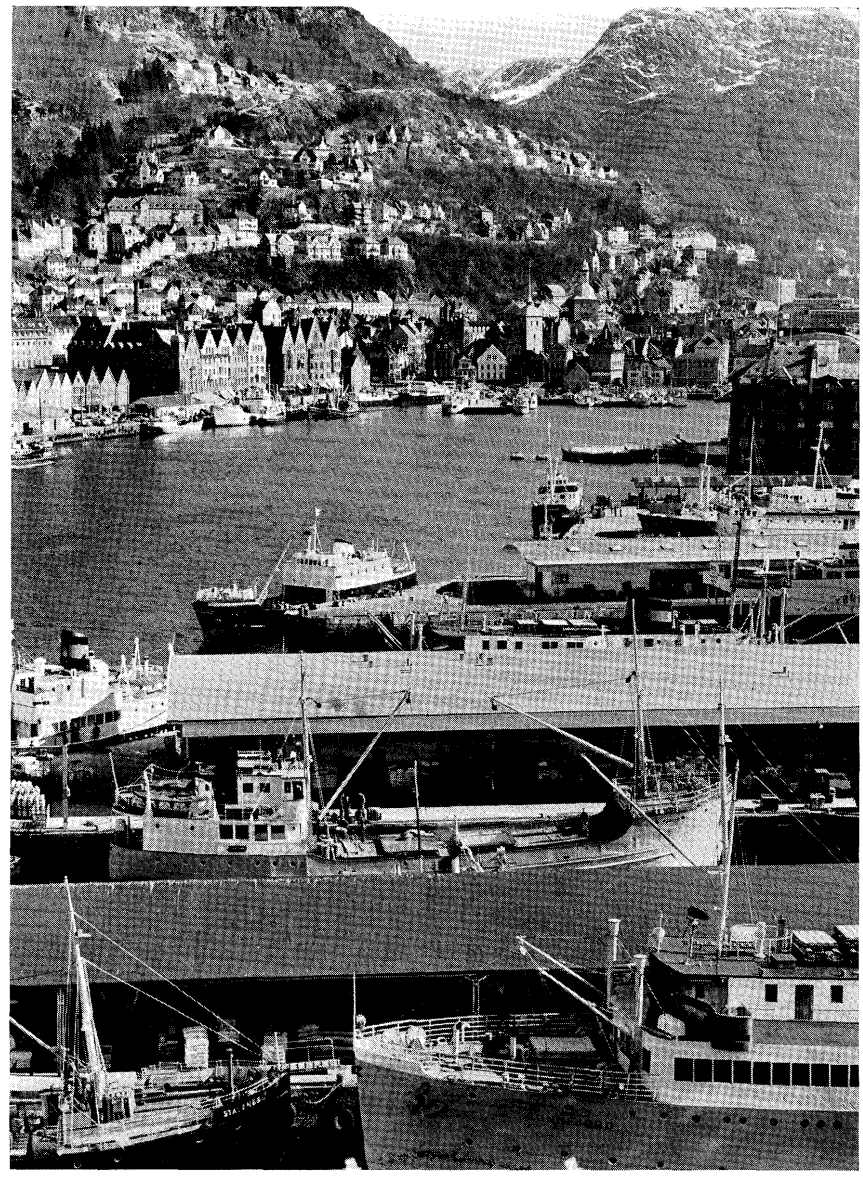
An all-electric line to Oslo gives Bergen access to the European railroad system, with all that this implies for the efficient transport of goods.

The airport at Flesland gives the city all the advantages of national and international air transport, with connections to all the most important foreign airports.

Located within the harbour area are two ship yards, one of which builds ships up to 40,000 tons d.w.

Also, there are two large and several small ship repair-yards, three dry docks and two floating docks accomodating ships up to 22,000 tons d.w., together with numerous smaller slipways.

At Laksevag, in the western part of the harbour, there is an oil cleaning plant for cleansing ships from oil and oily water.



Part of Vagen (the Bay) in Bergen with Norway's liveliest local traffic. In the foreground a part of the "fjord terminals" is seen.

Technical Facilities

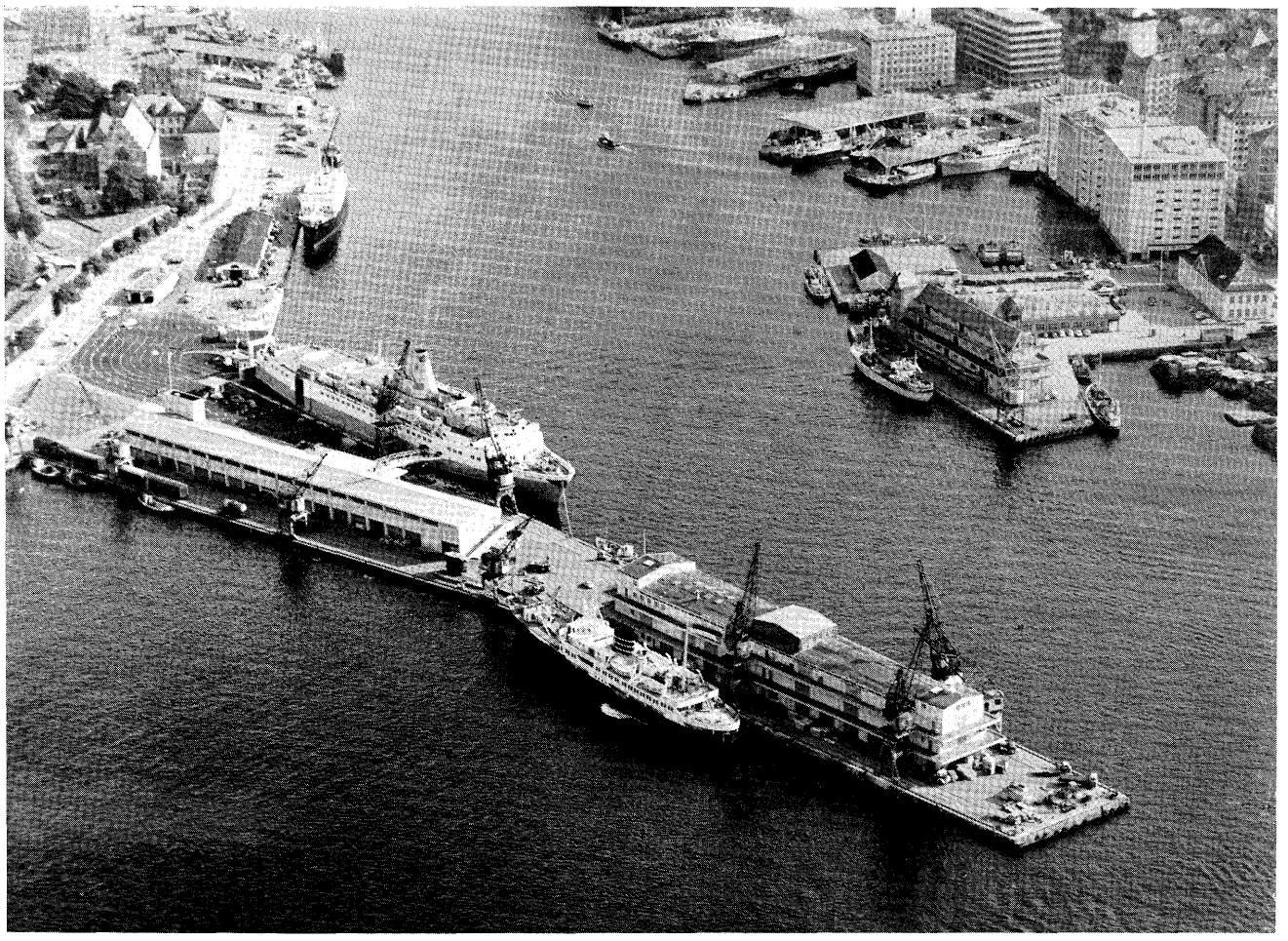
A port is an extensive machine for the distribution of goods: the more efficient the machine, the smoother and more effective the commerce that depends upon it.

Bergen has not the hinterland of other great seaports, but by continual new extensions, rationalization of loading and unloading methods, the port of Bergen has become a sophisticated instrument for the transport of goods and an important factor in the economic life of town and country.

Within the 30 km² of the harbour basin there are 8,000 meters of public-owned quay and a further 7,500 meters privately owned. Cargo sheds total 50,000 square meters in area. The port has 21 modern portal cranes of between 1½ and 6 tons lifting power, besides two 5-ton travelling cranes.

The port has a large number of tugs and lighters, the largest of 1,050 h.p., with short nozzle rudders to step up their power by 25%.

Cargo shifting is of a high standard of efficiency, aided by many fork trucks; this is particularly use-



The entrance to Vagen with the Skoltegrunnskaien and the terminal for overseas car ferries.

ful in specialized local traffic.

The public quays described below are all modern, with adequate depth of water and well equipped with sockets for electric current to ships, telephones and water. The stated depth of water is measured at the low-water mark.

Dokkeskjaerskaien

Length:	910 m
Area:	45,000 m²
Depth of water:	20~34 ft.
3 cargo sheds:	6,000 m²
Travelling crane:	5 tons

9 modern portal cranes: 4~6 tons
Modern cargo sheds and warehouses.

Rail connection with the Bergen Railway.

Landing platform for heavy goods of up to 170 tons.

The quay will take ships of up to 50,000~60,000 tons.

Skoltegrunnskaien

Length:	720 m
Area:	15,800 m²
Depth of water:	24~29 ft.
2 cargo sheds:	5,000 m²

1 transport bridge, axle weight 13 tions, 10 modern portal cranes, capacity 1½~6 tons.
Modern cargo sheds and passenger terminals, and terminal for overseas car ferries. Up-to-date refrigeration sheds for fish cargoes, closely linked with Bergen Fiskeindustri Co., Ltd.
Rail connection with the Bergen Railway.

Festningskaien

Length:	440 m
Area:	13,900 m²
Depth of water:	14~20 ft.
2 cargo sheds:	1,400 m²

This quay is used by ships in the coastal passenger and carrying trade.

Vagen
(mainly used by local and coastal traffic; includes Bradbenken, Dreggekaien, Bryggen, Torgutstikkeren, Zachariasbryggen and Strandkaien).

Length:	1,350 m
Area:	17,800 m²
Depth of water:	10~20 ft.
6 cargo sheds:	2,200 m²

Tollbodkaiene

Length:	620 m
Area:	12,200 m²
Depth of water:	20~23 ft.
2 cargo sheds:	3,000 m²
2 portal cranes:	6 tons

The quays are used by ships in the coastal and overseas trade.

Nostebukten
(including North Nostekai and Noste Pier No. 1).

Length:	510 m
Area:	8,500 m²

3 cargo sheds: 1,200 m²
2 transport bridges: 10~13 tons
The quays are used by ships in the coastal and local service.

Mohlenpriskaien

Length: 120 m
Under construction: 150 m
Area: 5,800 m²
Depth of water: 16~21 ft.
1 cargo shed: 170 m²
This quay is used by smaller ships and cargo vessels.

Other Quays

include Ludebryggen and Skutevikskbryggen in Sandviken, Sukkerhusbryggen on Nostet, and Arstadkaien in Solheimsviken. These are used by fishing smacks and other small boats.

The Port of Bergen has Many Special Facilities, e.g. for

Grain: 1 grain- and feeding stuff silo, quaside depth 30 ft., discharging capacity 100 tons an hour.

Feeding stuffs: 2 silo quays for discharge of feeding stuffs and fertilizers.

Refrigeration: 4 large refrigerator stores and cool stores; quayside depth 15~24 ft.

Herring meal and herring oil: 1 large herring-meal and fish-meal factory, also producing herring oil and fish oil; quayside depth 24 ft. max.

Fish-oil refineries: 1 large refinery for fish and herring oil; quayside depth 21~24 ft. Special arrangements for discharge of large tankers and whale factory ships.

Salt: 2 salt silos, and storehouses for imported salt; quayside depth 30 ft. max.

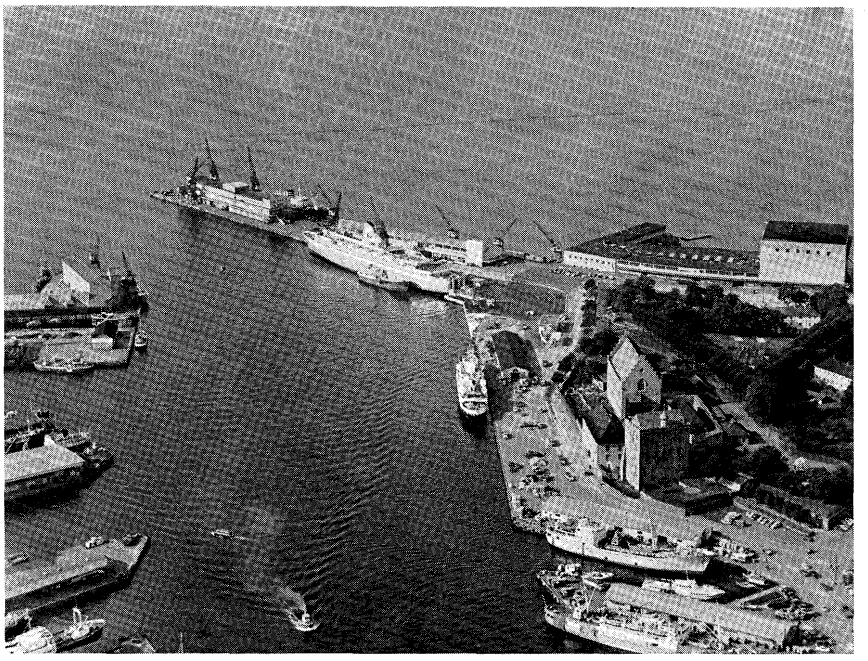
Iron: 5 special facilities for unloading of iron; quayside depth of 30 ft. max.

Cement: 2 silos for bulk discharge of cement.

Oil: 5 large tank plants for bunkering oil, petrol etc.; quayside depth 36 ft. max. 1 small tank plant for servicing coastal ships.

Coal: 2 coal bunkers; quayside depth 22 ft. max.

Further there are a large number of plants for storing and treating of stockfish, codfish, herring, fur, hide, colonial produce, timber, building materials, together with canning factories and other indus-



View of Skoltegrunnskaien and Festningskaien with Tollbodkaien to the left. To the right the ancient Bergenhus Castle with the Haakons Hall and the Rosenkrantz Tower. Behind the castle one of the largest refrigeration plants of Northern Europe.

The Dokkeskjaerskaien with warehouses and rail connection with the Bergen Railway.

trial enterprises.

The Fjord Terminals

These installations, embodying the latest in transport technology, merit more detailed description. Of recent years, the Bergen Port Authority has made every effort to streamline the quayside handling of cargo, and in this the Fjord Terminals play an important part. The Terminals embrace four quays. Holbergskaien, Munkebryggen, South and North Nykirkekai

Length:	950 m
Area:	14,900 m²
Depth of water:	13~30 ft.
1 cargo shed:	1,200 m²
3 open cargo sheds:	2,800 m²
1 cargo shed, under construction:	860 m²

The development of the fjord terminals was started in 1948, with the construction of Sore Nykirkekai, with cargo shed. Later followed the construction of Munkebryggen ("Monk's Wharf") with its cargo shed, the filling in of the inlet between the Holbergskaiene, the construction of Petanebryggen, and later the filling in of the inlet between the Nykirkekaiene.

This development project has hitherto cost about 7 million kroner. The estimated cost of the cargo shed to be built on the Holbergskaiene in 1967~68 is approximately 1.7 million kroner. When completed, the fjord terminals will represent an investment of almost 10 million kroner.

Six roll on/roll off bridges have been constructed in connection with the terminals, to permit vehicles to be driven from the quay onto the stern of vessels. These bridges are dimensioned for axial pressures from 10 to 13 tons.

The first of these transport bridges was built in 1947, and was the first of its kind in Norway. The last two of these bridges to be completed were taken into use in 1964~1965. The bridges are equipped with automatic regulating devices for variations in tide and trim.

The principle behind these bridges is that the most efficient form of cargo movement is an unbroken chain. The cargo, loaded on standard pallets, is driven direct from quay to ship with fork trucks.

Additionally to this system, the truck-to-truck method is also used, goods being off-loaded from a truck on the quay, through an opening in the ship's side, on to another truck on board.

The shipping lines using these Fjord Terminals have acquired a number of stern-loaders which use this transport system. These modern stern-loaders carry freight to all parts of Western Norway, safely and speedily, and maintain connections daily, or several times a week, in the area covered by the service.

In addition to loading and unloading via the transport bridges considerable numbers of private cars are transported to and from the districts surrounding Bergen.

In the summer the fjord terminals are the points of departure for a brisk tourist trade to Sunnhordland, Hardanger, and Sogn og Fjordane, some of the loveliest regions of Norway.

Trade and Commerce

Fish and fisheries have been the hallmark of Bergen's economic life since the dawn of history. The fishing industry is still the city's economic stand-by, particularly now with improved and modernized methods of refining and preservation.

But commerce today rests upon broader foundations of trade and industry. Within the city itself a number of mechanical and electrical industries have been set up, and have grown to international status.

Since before the war, Bergen and the surrounding district have been more and more the centre of the Norwegian textile industry.

Industry in general has developed by leaps and bounds since 1945, side by side with an increase in hydro-electric power.

Bergen financial interests have been influential in the growth of industry throughout Vestlandet, as well as in the country as a whole.

Shipping, too, is a principal economic factor in Bergen's life, in accordance with her long traditions. The merchant marine registered in Bergen was in 1965, 488 ships of 100 tons or more, with a combined tonnage of about 1.88 million g.r.t. On the number of ships of 100 tons or over, registered here, Bergen heads the list of Norway's seaports.

In 1964, Bergen was responsible for 3.7 per cent by value of Norway's gross national product, and this leaves out of account a number of firms located outside the actual city boundaries.

Bergen's largest industrial enterprise is BMV, or A/S Bergens Mekaniske Verksteder to give it its full name. Together with A/S Stord Verft, BMV belongs to Norway's biggest factory complex—the Aker Group. With a labour force of some 2,000, BMV builds ships, diesel engines and marine equipment.

Warehouses and Cargo Sheds

The port of Bergen controls a number of modern storehouses and cargo sheds. On Dokkeskjaerskaien, for instance, there is a warehouse with 24,000 square meters under one roof. Part of this serves as a bonded warehouse where goods can be stored duty-free for subsequent clearance and sale on the Norwegian market. Sea-going vessels can come alongside on three sides of the warehouses and use dockside cranes for unloading cargo, with substantial saving on loading and discharging costs.

In the warehouse, everything is done to speed the handling of cargoes; such facilities include nine freight elevators, two of which are 8 meters long and have a lifting capacity of 10 tons.

The Port Authority

Vagen was the harbour of the palace of Alrekstad long before King Olav Kyrre (the Peaceful) founded the city in 1070. Thus the harbour is older than the city, and the first port regulations are found in the city law of 1276, carried over from earlier enactments. Bergen was already, at that time, one of the biggest trading centres of the north; a royal decree of 1302 lays it down that Bergen shall have 200 dock workers, which shows that by the standards of that time it was a sizeable port.

It is not known with certainty when an administrative port authority was first set up, but the regulations included in the city law of 1276 show that the port has been blessed with good order, a clear policy and responsible management

from earliest times.

The Bergen Port Authority thus has a long tradition behind itself in its day-long work of controlling and developing traffic to and from the docks.

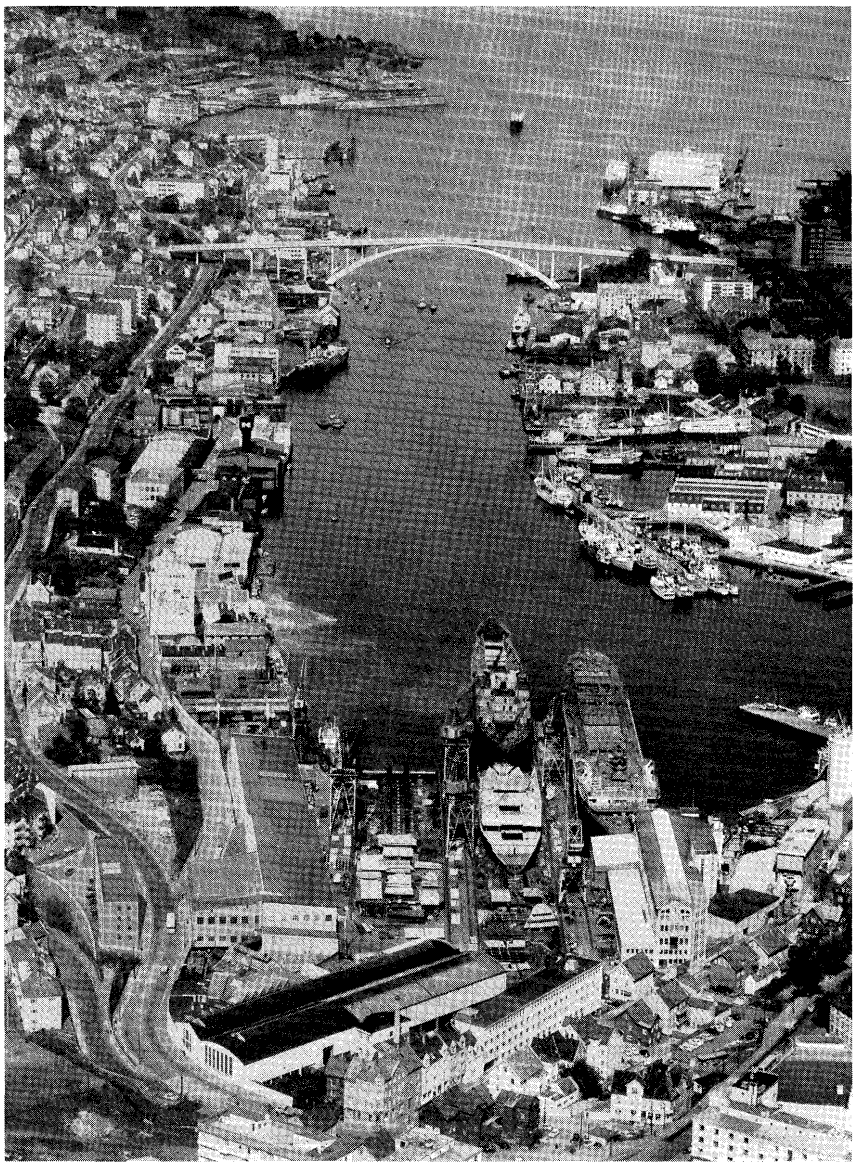
Modern patrol boats with the latest technical equipment, and central radio stations also aid this work.

The port's technical department has exploited the natural advantages of the terrain to create modern docks with facilities for ships drawing up to 34 feet, for the most part with no need for the help of tugs.

Since 1945 public funds to the tune of approximately 40 million kroner have been invested in the reconstruction, modernization and development of the harbour. Most of the work done has been carried out by the port technical department.

The conventional method of building, solid natural stone quays, has been rationalized to a very considerable degree by the technical department. Solid quays have recently been built in concrete blocks instead of natural stone. Conventional building methods have not been used to the exclusion of other building methods, where the latter have been considered suitable. For instance, the recently completed extension of Skoltegrunnskaien, with its ferry terminal, is built as a pile quay, the foundation being concrete-filled steel piles with cathodic protection.

A natural harbour, modern techniques, maritime skill, and efficient handling of port traffic-to say nothing of a desire to give good service-that is what The Bergen Port Authority has to offer to shipping.



The Damsgardsundet with view of shipyards and mechanical workshops. The Mohlenpriskaien and the Dokkeskjaerskaien in the background, to the right.

Future Plans

Since the war, Bergen has been an actively growing port; from 1945 onwards a tremendous amount of building has been going on — reconstruction and modernization of old buildings, as well as the erection of new quays, cargo sheds, forwarding and dispatch offices, and other special facilities.

All told, about 125 million kroner (£6¼ million, or $17½ million) of public and private investment have gone into the development of the port since the war, and its capacity and efficiency have been greatly increased.

This work still continues. A recent example is a ferry berth at Skoltegrunnskaien for a large new car-ferry plying between Newcastle and Bergen. Other plans beyond the drawingboard stage and accepted in principle include the linking up of the Mohlenpriskaien with the Dokkeskjaerskaien, and further a large quay at Kristiansholm in Sandviksbukten, one which will be able to take the biggest ships and contribute in no small degree to strengthening the position of Bergen as a seaport and a centre of economic growth.

Push The Transformation of Ports

By Luis E. Palacios
Executive Director

Empresa Puertos de Colombia

(from Boletin Infomativo No. 22, August, 1967)

Since its present development programs were launched, the problem of port has been one of the most serious burden to the country. With a view to drastically solving this problem, an Empresa Puertos de Colombia was established by the Government, whose duty it is to carry out largescale programs for the development of ports, and thanks to its efforts, the situation is gradually improving.

During the last two decades, the administration of maritime ports, through which the country's trade was carried out, has been left to deteriorate; the inadequate installations and their state of serious disrepair in Buenaventura frequently caused costly congestion of ships; due to sandbanks accumulated at the mouth of the harbor of Bocas de Ceniza, navigation to and from the port of Barranquilla has been continuously interrupted; trade through Santa Monica, a terminal of the Atlantic Railway, stagnated due to shortages of berth space of its piers; the terminal in Cartagena was seriously handicapped due to inadequate facilities of yards and warehouses; the inadequacy of cargo handling equipments, the lack of workshops for the maintenance of equipments, the deterioration of pavement of yards, unpaved ground of warehouses, and to cap it all, the archaic methods of operation and administration plagued all ports in the country.

This is an accumulated result of complete unconcern of the authorities responsible for the administration of ports and harbors. The resultant physical and administrative deficiencies naturally caused costly delays of ships in ports; the slow and uneconomic handling of cargoes, frequent breakdown and losses added to the direct and indirect costs for the exporters and national consumers. Such an incompetent operation of ports constituted a serious stumbling block to the country's economic development.

Generalities of the Port Rehabilitation Program

Each port has been the object of a special study, and a particular attention was paid to its own peculiarities in reorganizing them to meet their present and future needs; facilities were expanded to facilitate an easy and smooth communication with overland transport; the existing warehouses were enlarged and new ones were built, equipment maintenance shops are being constructed or planned, and cafeteria for workmen and administrative building are being added.

A competent assessment was made by a specialized firm on which to base these programs, all these programs have been duly approved by the National Planning Bureau and the Inter-American Development Bank, which granted credits to finance these programs.

Foreign Credits:

For the purpose of financing these vitally needed projects, we obtained loans in foreign currency: US$15 million from the Inter-American Bank and Florins $7.5 million from an Official Dutch Bank. The Empresa is required to provide, out of its own sources, not only for the payment of interests and redemption of these loans, but also for a counterpart fund in local currency in an equivalent amount.

Improvements made so far:

The first period of implementation of this important program covers the more difficult but perhaps the more important tasks, though less materially appreciable.

These initial tasks comprise of a definition of the program to be executed, getting the approval of the various national and foreign organizations concerned, securing the necessary funds, obtaining import licenses, and putting the program in action. In view of the desperate condition of the port of Buenaventura, a priority foreign loan was granted one and a half years ahead of those for Atlantic ports, and the rehabilitation work on this port is well in hand. Having already met all the prior requirements, the works on Atlantic ports also have begun and are in progress.

Main Works being executed in the various ports:

The first fundamental work the Empresa Puertos de Colombia has completed and handed over to the national Government is the one at Bocas de Ceniza. We have thus solved an old and complicated problem which had cast a shadow of uncertainty over the effectiveness of the port of Barranquilla.

For almost half a century many worthwhile efforts had been made to build up the port, but they tended to be haphazard and ill-directed. During the course of this effort, a dredger called "Barranquilla' was obtained. Upon taking charge of the management of the project, Puertos de Colombia invested $48 million and managed to complete a big breakwater stretching out into the sea, thus narrowing the estuary of Rio Magdalena. As a result, the increased speed of the current added a greater hauling force and carried the sediments towards the ocean abyss, the sediments that otherwise, as happened previously, were settling at the estuary of the river and forming sandbanks which blocked navigation.

The narrowed estuary of the river produced splendid results, for, during the past two years since the work was completed, the depth of the canal remained unchanged, sufficient for normal navigation.

As an integral part of the project of Bocas de Ceniza, a dredger specially designed to withstand the violent condition of the sea at Bocas de Ceniza by an expert consultant firm of Sir Alexander Gibb and built at a Dutch shipyard,

which represented one of the most advanced of this type of ship was commissioned. The construction of this dredger was supervised by the same consultant firm at the cost of two and a half million dollars, and it has just arrived at Bocas de Ceniza and is expected to go into operation within the next few days. The dredger was given the name of "Draga Colombia."

Today, thanks to the breakwaters, there is no problem of insufficient depth of the canal of Bocas de Ceniza, and the dredger will be immediately put to work for enlarging the narrow spaces of the maritime terminal of Barranquilla. In this terminal, the work of paving the yards and roads, of closing the walls surrounding the port area are progressing satisfactorily. With the improvement made on these facilities, the capacity of the port continues to increase markedly.

Port of Buenaventura:

The second-most acute problem, which we have tackled with success, is the port of Buenaventura. Due to neglects over a period of many years and continuous rains and humidity, the condition of this port was rendered practically worthless, creating thereby not only a burden on the nation's economic development but also one of the biggest national disgraces. We must not forget that fifty per cent of the nation's foreign trade is carried on through this port. Thus the reconstruction and expansion of this port's facilities is a pressing public necessity both for the economic development and the good name of the country.

In the old sector of the port area, warehouses have been built and enlarged, workshops are going up, and this reconstruction work will continue till the following year. Amongst the many improvements that are being made, special note should be taken of the cargo handling on land by rail or truck under concrete marquees, which represent a fundamental improvement under conditions of continuous raining in this region. Those who have seen the new construction now in service or nearing completion will appreciate the high quality of the work done and the improved conditions befitting as the Port of the country. The enlargement of terminal both longitudinally and toward the bottom end, entailed removing 1,200 lacustrine huts which clog the waterfront. As those huts are situated below sea level, they had to be filled in in order to extend the pier. The whole sector, when refilled, will provide space for the construction of new roads leading to the terminal, which will alleviate the congestion of the narrow street, now clogged by heavy traffic to the port area. In this way, the urban zone of the island of Buenaventura has been duplicated, enabling an immediate construction of one half of the city with complete modernity.

The first phase of the reconstruction of the port included the dredging of the bay and the hydraulic refilling of the area and raising the level of all the installations. This first phase has been already finished, and at present the construction of general service buildings and pavement of roads and yards are under way.

Port of Santa Marta:

The construction of new piers which, when completed, will promote this port to a principal terminal of the Atlantic Railway, is progressing satisfactorily. The project is expected to be completed by the end of this year. A big newly built warehouse began its service a short time ago and another is nearly completed together with pavements of yards and buildings for general service.

This reconstruction project is necessary to improve as much as possible the land and water lines of communication between the three major Atlantic ports which are located in close proximity to one another, so that they can be integrated in one single port, which will be greatly beneficial for the development of the whole region.

A sum of one million dollars has been invested, or in the process of being invested into port machineries and, when completed, they will contribute much in lessening the burden on national economy caused by the poor conditions of port facilities.

Better methods of port operation:

Revolutionary changes are taking place in the methods of transport in the world today, so that more tonnage of freight is being moved at a cheaper cost from the point of manufacture to that of final consumption or utilization. In parallel with these changes, the maritime ports must also adjust themselves to accommodate the changed methods.

The old concept of large piers with ships laid alongside it for extended period of time, unloading tediously, package by package, is being superseded by a new concept of cargo handling in bulk or in uniform unit of pallets and containers which permits a drastic increase in the speed of operation. The tonnage of cargoes are increasing by the day, so to speak, and instead of unloading the cargoes into the warehouses, the new method of cargo handling move them directly from the ship to the land carrier, thus saving substantial amount of handling cost and increasing the security of cargoes.

Under the old concept, a pier or a landing place is justified economically by handling 50,000 to 80,000 tons of cargo annually, but under the new concept, a same pier or landing place cannot justify itself by handling less than 300,000 tons annually for the general cargoes and much more for the bulk cargoes. All these ideas are being incorporated in our planning. All the ports are being equipped with modern system of cost analysis, statistics, invoicing, personnel control, etc., and they are beginning to function efficiently under the vigilance and responsibility of competent officials of the national government.

Cost of the works:

In addition to the works of Bocas de Ceniza, in which the Empresa has invested a sum of $48 million and two and a half million dollars for the new dredger, financed by the loan granted by a Dutch bank, we have contracted two more credits amounting to a total of $15 million from the Inter-American Bank to finance other works now in progress, which required us to invest an equivalent counterpart fund in national currency. Therefore, the cost of the entire program now being carried out is the sum total of all these figures mentioned above. All this is being done with-

(Continued on Next Page Bottom)

Deep Water Wharves at Butterworth

Penang Port Commission

Malaysia

Introduction

The Penang Port Commission's bid for the construction of six deep water wharves at Butterworth and ancillary port facilities in the Five-Year Plans covering the periods 1961-1965 and 1966-1970 has been accepted by the Federal Government. It is estimated that the cost of the scheme will be of the order of $57 million and that the new wharves will handle one million tons of cargo per annum.

The new wharves will be located between Pengkalan Sultan Abdul Halim ferry terminal at Butterworth and the North bank of the Prai River and will involve the filling and reclamation of about 150 acres of mangrove swamp and seabed.

Historical

This scheme has been under consideration for many years. Sir George Trimmer, the then Chairman of the Singapore and Penang Harbour Boards, drew up the first plan for deep water wharves at Butterworth in the late 1920's, but nothing was done to implement this scheme due to the economic depression in the early 1930's, followed by the war and the period of rehabilitation after the war. The necessity for additional port facilities in Penang, however, came prominently to notice during the period of the Korean War in 1951-1952 when cargo through Penang seriously over-taxed the then existing port facilities.

The project for mainland wharves was examined in great detail by the Federal Ports Committee in 1952. This Committee concluded that there was no immediate necessity for the construction of deep water mainland wharves but recommended that the Penang Harbour Board, replaced in 1956 by the Penang Port Commission, should re-examine the project and take into account an alternative proposal for the construction of deep water wharves to the South of the Prai River, the main argument at that time in favour of the Prai South scheme being ease of rail access.

The relative merits of port development at Prai South and at Bagan Luar were the subject of reports by consulting engineers in 1955. They concluded that on grounds of cheapness and of efficiency in layout, the Bagan Luar

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out prejudice so that we may negotiate for additional credits when needed.

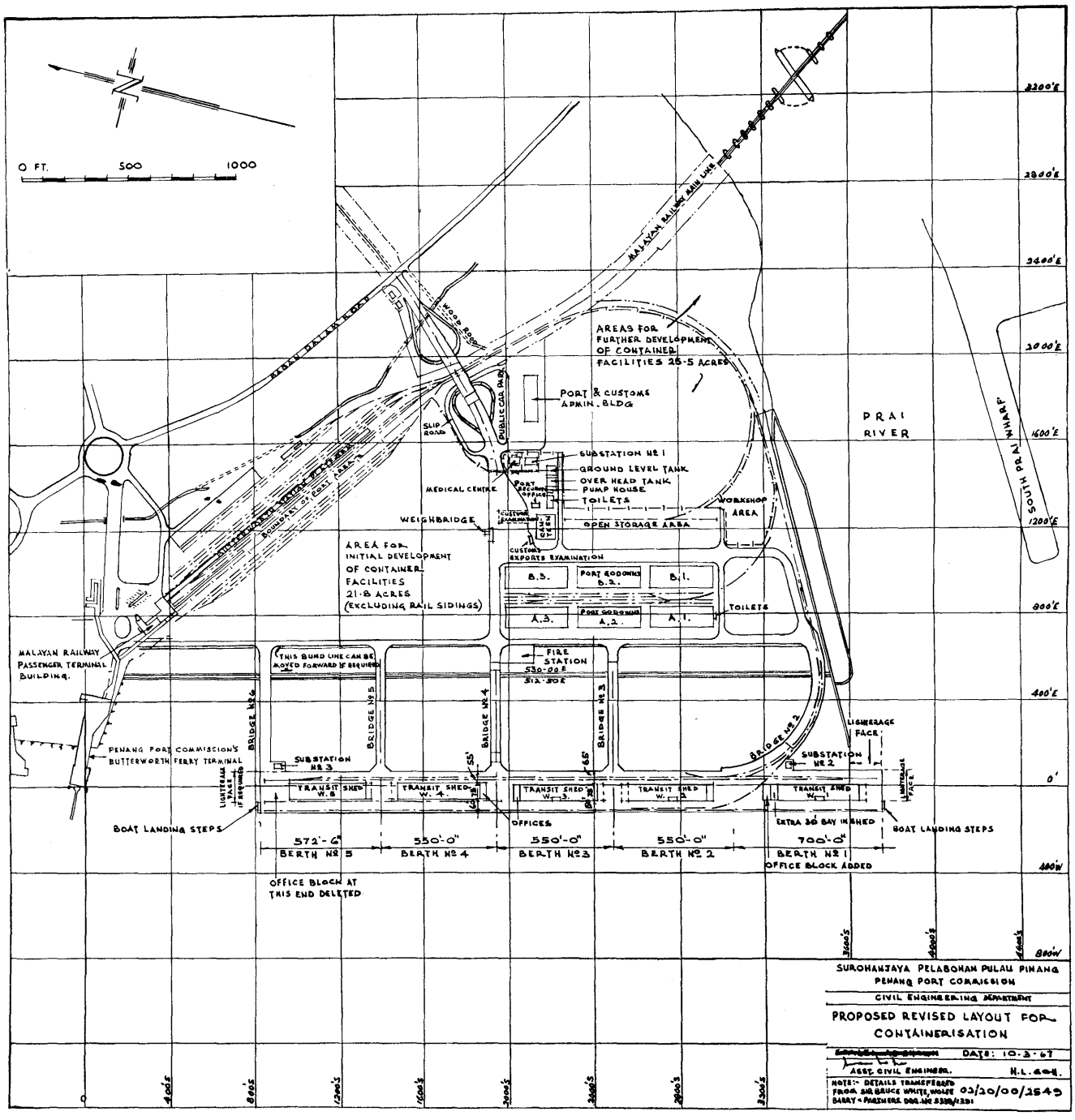
Programs for the smaller ports:

The conditions of the loan we have contracted stipulate that the revenues accruing from the operation of these reconstructed bigger ports—the income that constituted the financial base of the Empresa—must be necessarily and exclusively invested in their respective ports. Up to now, we have been unsuccessful in our various approaches made for a joint financing scheme for the more important smaller ports, but we are continuing our efforts for this particular project. Undoubtedly, it is true that in order to contribute to regional development, a small port installations must be built by forming land space in the gulf of Uraba, Bahia Solano, Guapi, Rioacha, to name a few, but so far, we have only been able to assign priority to these pending programs, or, as in the case of the ports of Tumaco and Leticia, contracts have been awarded to a certain company for the rehabilitation of these ports.

Supplementary works required in the execution of programs for ports:

The reconstruction and rehabilitation programs for the maritime ports will greatly accelerate the development of the international trade of this country, thereby reducing the costs of transport of exports and imports and enabling our businesses to export their products at cheaper prices in large quantities, which so far have not been able to compete with other country's products or have been in precarious position in the international market. But our country will not be able to derive benefits from these improved port facilities unless such investments are fully coordinated with the improvement projects of the roads and railways. One of such program is the enlargement of the Canal de Cienaga-Rio Magdalena, in front of Barranquilla, building a loading dock for freight cars in Cienaga or extending the railway track up to the right bank of Magdelena, in such a way as to enable the port of Barranquilla to operate as a second terminal of the Atlantic Railway by means of the easy and economical ferry-boat.

The other vital work is the deviating of the Pacific Railway from Yumbo to Loboguerrero through San Marcos tunnel, a work that will put Valle del Cauca, Caldas, Risaralda, Quindio and Cauca in the way of the strategic maritime traffic to the Pacific ocean. This work of deviation will be the best and the only means of carrying economically to the new port of Buenaventura a yearly turnover of more than 500,000 tons, which are already about to begin, of sugar, honey, cement, meat, soya beans, corn and others, in addition to the present exports and imports which are now filling the capacity of the present railway running across the Cordillera Occidental whose equipments have already become obsolete at the end of the last century.



site was to be preferred. In any case the area of seabed which would have been required for wharves in the Prai South scheme has now been taken up by the construction of a deep sea oil terminal and the decision to extend the Malayan Railway across the Prai River to Butterworth nullified much of the argument in favour of Prai South, i.e. convenience of rail access.

Location

The future development of the Port of Penang was considered by a sub-committee of the Penang Port Commission in 1956 and 1957 and the conclusion then reached was that additional deep water wharves should be built in Butterworth. In the meantime the Commission's consulting engineers were authorised in 1957 to undertake a tidal model study of deep water wharves at Butterworth and their report was received in 1959. The study, apart from indicating the best alignment of wharf, also produced the conclusion that no serious tidal, navigational or dredging problems would be likely to arise from the construction of deep water wharves at Bagan Luar.

The Commission's consulting engineers submitted a project report in 1961 after carrying out extensive soil tests in the proposed port area.

Trend in Trade

Meanwhile, the trade of Penang continues to grow. During the period 1950-1960 the general cargo of Penang (excluding bulk oil and iron ore) increased from 1.25 million tons to approximately 2 million tons, or by 60%. Cargo through Penang will undoubtedly continue to increase and it is considered the port must be equipped to handle 3 million tons of general cargo by 1970. This figure allows for the

possible inclusion of the State of Kelantan within the hinterland of the Port of Penang as a result of improved road communications with that State and also the tonnage of cargo which may be expected to arise from heavy Government spending under its Development Plans.

Financing the Scheme

The project is being financed by a loan of $44.3 million from the Federal Government including the loan of $16.3 million obtained through the Kreditanstalt Fur Wiederaufbau of the Federal Republic of Germany. The Commission will have to provide the remaining sum of $12.7 million to make up the total of $57 million required for the project from its own internal resources.

On the basis of the estimates and the anticipated incidence of capital and land charges, it is calculated that the scheme will be financially self-supporting and allow for the repayment of interest and capital and the establishment of an adequate Renewals Fund at port charges corresponding fairly closely to those in operation at the present time and, so far as charges paid by importers and exporters are concerned, no greater than the existing costs of handling cargo by lighterage through Permatang Pauh.

Containerization

The project was originally designed to provide six conventional general cargo berths and associated storage facilities, however, the recent swift advances in the field of containerization have made the Commission review the project in some detail. This review involved a study of containerization itself, a study of the imports and exports of this port and discussions with most of the major shipping companies who use this port, both through local agents and with principals.

As a result of this review, the Commission has decided to make substantial changes to the project to cater for container traffic when it does come to Penang.

Summary of Changes

Reference should be made to the attached drawing showing the revised layout of the project. The main features of the changed project are:—

1. Five Berths

The Commission has decided to reduce the number of berths from six to five by not building the northernmost berth at present. The decision has been taken because the berths, if used as container berths, should be capable of quite easily handling 500,000 tons per annum per berth. Thus even with only 7% of the port's general cargo in containers the amended project will still be able to handle the same tonnage as six conventional berths. The capital investment which is saved by not building the sixth berth is used to make two of the other berths suitable for containerisation.

2. Container Berths

The three southern berths will be completed as planned. These berths will have transit sheds and, as originally designed, will have the deck strength to carry containers on most type of trailers. Thus any ship arriving in Penang with a few containers may be allowed to unload these at the southern berths using its own gear for lifting. The two northern berths will be modified so that the structure is capable of taking a large 50' track container crane. Transit sheds which are planned for these berths will be moved back 10' to give a 60' apron and will be built so that they can easily be removed later. When container traffic develops sufficiently to justify it the transit shed will be removed from berth 5 and later from berth 4 and the berths used for containers. A container crane will be purchased when demand justifies it. The project will thus have, initially, five conventional berths, of which two may easily be converted to container berths with a combined capacity of up to 1.5 million tons.

Depending on future trends, expansion of the project would take the form of either conversion of berth 3 to a container berth or the building of berth 6 either for container or conventional use.

3. Access Bridges

Because of the need to obtain good traffic flow to container berths, an additional access bridge (access bridge 5 situated between berths 4 and 5) will be built. The access bridges have 35' wide roadways and are thus suitable for two-way traffic.

4. Land and Storage Areas

The Commission had originally planned to build six port godowns each 30,000 sq. ft. situated one behind each berth and other areas were provided provisionally for future godowns which may be operated by private traders. Until the position and future needs of containerisation are clarified, the Commission has decided to leave substantial areas open for development and has therefore planned to situate its six port godowns in two rows of three behind the southern berths. As will be seen from the sketch, the area behind berths 4 and 5 and the areas behind the godowns on the southern side have been left open for future container development. If, by the time the second half of the project is nearing completion, there is no indication of need to use the areas for container traffic, temporary godowns could be erected on part of these areas.

If there is a large amount of container cargo into the port it is generally felt that the area behind No. 4 and 5 berths should be largely for marshalling areas and the other area for packing and unpacking of containers. The two areas are connected by a sliproad under the entrance bridge.

All of these changes have been introduced with a view to retaining maximum flexibility until the position on containerisation is much clearer.

Phases of Construction

The project for the deep water wharves is divided into three phases, the first phase comprising the reclamation of a total area of 84 acres involving the placement of 1.6 million cu. yds. of fill and the dredging of about 800,000 cu. yds. of the seabed adjacent to the wharves. This phase is now completed. The second phase comprises the actual construction of the deep water wharves and access bridges. The tender for the construction was

(Continued on Next Page Bottom)

Report on Study Tour

of Container Ports Terminal Operations and Containerisation

By Loh Heng Kee, Director-Operations and Chen Nee Sian, Traffic Manager

The Port of Singapore Authority

on U.N. Fellowships, September/November, 1967

(Italicised notes were inserted by Editor)

SECTION I

Fellowships awarded under U.N. Technical Assistance (Training and Fellowship Programmes Section, Bureau of Technical Assistance Operations)

to

Messrs.

Loh Heng Kee—Director-Operations

Chen Nee Sian—Traffic Manager

of

The Port of Singapore Authority

Field of Study: Port Facilities—Containerisation

Tenure of Award: From 10 September 1967 to 19 November 1967

Itinerary:

U.S.A. Honolulu, San Francisco, Los Angeles, New York, Washington

United Kingdom London, Felixstowe

Europe Antwerp, Rotterdam, Amsterdam, Genoa, Rivalta Scrivia

Japan Tokyo, Yokohama, Kawasaki, Osaka, Kobe

SECTION II *(spared)*

This is the longest section of the report. It gives a chronicle of visits and observations, punctuated by photos and a diagram.

SECTION III

Cargo Handling Systems

It is our impression that container terminal operations are, by and large, straightforward.

There are various container handling systems all of which are equally efficient. However, each system has its own merits and demerits and, to a large extent, is evolved to satisfy operational requirements and local conditions as well as the pattern of trade in the region. There is no guarantee that a system, which has been successfully applied in one port, will meet with equal success in another port. Any attempt to import a highly successful container handling system from one area for implementation in another without taking cognizance of local requirements and conditions, may jeopardize the entire scheme.

In our opinion, all six systems referred to in the following pages merit consideration although the degree of capital outlay varies. On the other hand, by the nature of trade and modus operandi, greater capital investments can be justified by the terminal operators concerned. Container terminal operations are largely Management orientated. It is, therefore, essential that any system adopted must be able to satisfy the requirements of Management and then prevailing local conditions.

The container handling systems mentioned in this report are:—

(1) Straddle Carrier System
(2) Chassis System
(3) Forklift System
(4) Travel-Lift System
(5) Container Bridge System
(6) O.C.L. System

In Singapore, we would recommend a modified system incorporating the trailer/truck for hauling of containers and suitable stacking equipment for operation in the Container Yard.

Straddle carriers are efficient but they are expensive machines and the maintenance cost is also very high. The truck/trailer method is economical and can easily supplement the straddle carrier as a means of moving the containers to and from the ship. For stacking, delivery and receiving containers at the Container Yard and Freight Station, any

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awarded in July 1965 and work commenced in August. It is expected that the first three berths will be ready in the middle of 1968 with the remaining two berths to be completed in 1969 or early 1970.

The third phase comprises the construction of shore facilities such as storage godowns. Tender for the supply of materials for the construction of the transit sheds and storage godowns has been awarded, and fabrication of the godown materials is in hand. Delivery of the godown materials is phased with the completion of the whole project in 1969, and of the commencement of operations of the first three conventional berths in June 1968. Meanwhile, tenders have been awarded for the electrification of the port area and also for the construction of the Port Administrative Office Building. The successful applicants for the work on the salvage of wrecks in the vicinity of the deep water wharves have been issued with tender documents so that work on the clearing of the salvage could be completed in time for the commissioning of the deep water wharves. With the completion of the project, the Butterworth deep water wharves will be the first in this region to be capable of handling containerised cargo. (1st May, 1967)

modern and efficient equipment, such as the straddle carrier, travel-lift, side-fork, etc., may be introduced.

Container Berths

Preferential use of container berths by shipowners/agents may be considered if sufficient cargo volume is assured. However, there should also be common-user facilities.

Container Yards Freight Stations

Appropriation of Container Yard and Freight Station facilities could be considered if the need for such arrangements is justified.

This section goes on to analyze cargo handling systems as follows (each with a flow chart and several photos or illustrations):
Straddle Carrier System (Matson)
Chassis System (Sealand)
Forklift System
Travel-Lift System
Container Bridge System
O. C. L. System (operation early 1969)

SECTION IV

P.S.A. Today

The Port of Singapore Authority is handling an increasing number of I.S.O. 20-ft. containers. These are carried in conventional freighters which have their own lifting gear. With sufficient cargo volume, it is likely that combination ships will be used in the future.

There are no obstructions, such as quay cranes, on the marginal wharves of the P.S.A. Combination ships can, therefore, be handled at any of the deep-water berths without difficulty.

Container Freight Station (C.F.S.) operation is being carried out with ad hoc freight station facilities within the wharf area.

Container Yard (C.Y.) operation involving 20-ft. containers commenced in September 1967. To-date, 180 containers have been delivered to importers' depot using the truck/chassis system.

This section is accompanied by six photos depicting a container stacking area, a semi-trailer and truck, a detached semi-trailer, door-to-door service vans, scene of hooking up a container, and a heavy crane lifting a 20-ft container on to a truck.

SECTION V

Containerisation—Past, Present and Future

U.S.A.

1. In the United States, containerisation on a commercial basis was introduced 10 years ago. Two major organisations (Matson and Sea-Land) in 1956 started to containerise their cargo on certain captive trade routes within the United States. Matson sailed their ships from the Pacific Coast to Honolulu and Sea-Land from the Atlantic Coast to Puerto Rico. Grace Line Inc. in 1960 began to operate combination ships to Colombia and Venezuela in South America.

2. In 1958, Matson containerised 60% of the general cargo they handled. By 1963, this figure was increased to 90%. Their ships carry manufactured goods to Honolulu in 24-foot containers and on the return voyage canned pineapples and other small items are shipped. To offset the low utilisation of the containers on the homeward voyage, bulk cargo (e.g. sugar) is carried.

3. A wharfage or minimum tonnage guarantee to the State of Hawaii each year was accepted by Matson for priority use of a stretch of wharves in Honolulu. In 1960, Matson's profitability fell short of the guaranteed sum. As a result of careful planning and research and a break-through of archaic concepts and methods of both authorities and entrepreneurs, coupled with increased and improved ship and shore facilities, Matson, in 1966, had a revenue surplus which far exceeded the guaranteed payment.

JAPAN

4. Such success achieved has spurred Matson on to further ventures. Recently, they concluded an agreement with N.Y.K. of Japan to operate a container service across the Pacific. The first converted C3 ship left Tokyo for San Francisco on 20 September 1967, but only 20 odd loaded containers were lifted in Japan. This is understandable as Japan is still not ready for a full container service. It will take time but the Japanese are confident that by 1975, 50% of the total general cargo trade between Japan and U.S.A./Europe/Australia will be containerised.

5. Initially, converted ships are used by Matson, but N.Y.K.'s new cellular vessels (2 in no. 18,000 tons 750 containers of $8' \times 8' \times 20'$) will be operational in 1968. The extension of Matson service across the Pacific made it clear that other shipping lines will have to provide similar facilities. O.S.K./Mitsui, Japan/Kawasaki Lines, Shinnihon/Yamashita Lines, Prudential Line, A.P.L., Pacific Far East Line, Isbrandtsen Line, etc., are now in a rush either to build new container ships, operate combination vessels or introduce some form of unit load system to meet the needs and requirements of their customers. Prudential and Pacific Far East Lines have decided on LASH ships.

EUROPE

6. Sea-Land have also extended their sea routes to Europe. After many years, this company is beginning to show a profit in their container business. The time is, therefore, ripe for them to compete in other areas.

7. Mr. Malcolm McLean, a trucker in the United States operating a firm called the McLean Trucking Company, acquired the Pan Atlantic Steamship Line in 1956 with the intention of extending his trucking business to the sea. He founded Sea-Land Service, Inc. and introduced the Chassis System which involves putting every container on a semi-trailer whether it is awaiting shipment or delivery. McLean is so successful that he now has 27 ships and 25,000 35-foot containers. Eight container ships are under construction. The U.S. Government requires Sea-Land to transport military equipment to South Vietnam in containers, so McLean has to curtail his business in Europe until his new ships are ready.

MILITARY APPLICATION

8. The extension of Sea-Land service to South Vietnam and Okinawa may not be commercially viable but it is a military arrangement. To increase their activities, heavy canvassing efforts are being exerted in countries like Japan, Philippines, Hong Kong and Taiwan by Sea-Land to ensure that

at least the empty containers can be put to limited use on their way back to the States.

9. Containerisation and particularly the LASH System would appear to have military logistical advantages.

CONSORTIA

10. With the threat of Matson and Sea-Land, the established shipping lines in America, Europe and Japan, found themselves in a difficult position. To compete and satisfy the needs of their customers, they have to provide some form of container service even on a limited basis. This led to the formation of consortia such as the Atlantic Container Line consisting of six European shipping companies (A.C.L.), A.C.T., Japan/Kawasaki Lines, O.C.L., etc.

11. Stevedoring companies in America, Europe and Japan are also merging to ensure that sufficient capital is available for investment in shore facilities. There is now a scramble to try and get even makeshift facilities ready without delay to enhance their chances of a "share of the cake." In the process, it is certain that not all the shipowners, stevedoring companies or ports will benefit—there will be casualties.

SURPLUS SHIPS

12. Converted container ships have been in operation for some time in America. More and more converted or new ships are being commissioned. It might well be that in due course there will be a surplus of container ships on the main trade routes, i.e. U.S.A./Europe, U.S.A./Japan, U.K./Australia and Japan/Australia. They may then be diverted to the Middle East, Africa and South-East Asia not so much determined by economic factors but by the fact that surplus ships and containers have to be used.

SOUTH-EAST ASIA

13. Insofar as Singapore is concerned, for the next 5 to 10 years, it is likely that we will see more frequent shipments of containers carried by conventional ships, combination ships and converted container ships. After this period, the first generation specially-built container ships are likely to appear in South-East Asia whilst newer vessels replacing them would then operate in U.S.A., Europe, Japan and Australia. Parallel with this evolution, other concepts like the LASH System, palletised unit load, roll-on roll-off, side port discharge and the pusher barge system, will also have an impact in this region.

PALLETISED UNIT LOAD/ LASH SYSTEMS

14. Although it is common knowledge that containerisation is a means of reducing operating cost and speeding up turn-round time of vessels, many are still convinced that there are other methods equally superior depending on the areas and routes they operate without involving shipowners or ports in heavy capital investments. The Scandinavian countries, the Dutch and even the Americans are of the opinion that South-East Asia, geographically and economically, is not a region where full containerisation can be introduced immediately. The smaller palletised unit load system lends itself better to the smaller-sized commerce and economy of the developing countries where labour is cheap and capital expensive.

15. Fred. Olsen & Co. of Norway have made a statement that containerisation is the key to waste of money. A paper published in the Fairplay International Shipping Journal, 5 October 1967, made out a strong case in support of unitisation, roll-on roll-off and side port discharge.

16. Although in Rotterdam and Amsterdam container terminals are being set up, the Dutch do not believe that cellular ships are suitable for the Middle East, Africa or South-East Asia. The Americans too feel that for South-East Asia, unitisation or the LASH System is superior. It is less dependent on the availability of containerisable return freight. Existing port and road facilities in the developing countries need not be substantially modified entailing little capital investment.

SHIPPING TREND

17. Before 1975, containerisation will not alter substantially the routine pattern of trade in the developing countries. During this period, it is likely that Singapore will handle more combination ships discharging an increasing number of small consignments of containers. Therefore, all our berths are likely to be used to meet the demand.

18. It is true that container facilities must be provided as soon as possible to attract trade, but as has been proved in America, the high degree of container service developed over a period of 10 years cannot be realised in South-East Asia overnight.

19. It would appear that all we require for the next 5 to 10 years is a stretch of wharves, possibly with a container crane as an added advantage, and about 20 acres of supporting land. The sooner we get this ready the better, as it will put Singapore well ahead of other ports in this region. It is bound to arouse more interest in the field of containerisation. Shipowners and the business community will take advantage of the facilities. In return, Singapore's entrepot trade will grow as greater confidence is generated.

20. After 1975, the pattern may well change. By that time there may be a surplus of cellular container ships operating in Europe, America, Japan and Australia. Shipowners will then begin to think seriously of diverting them to the less economic routes. By that time, conditions in the developing countries too will lend themselves more favourably to containerisation.

CONTAINER TRADE ROUTES

21. The order of international container development can be summed up as follows:—

1st Stage (Between developed countries):

U.S.A.—Europe In Operation

U.S.A. (Pacific Coast)—Japan In Operation

2nd Stage (Between developed countries):

U.K./Europe—Australia

Japan—Australia

Japan—Europe

Japan—U.S.A. (East Coast)—Europe (Land-bridge concept)

3rd Stage (Between developed and developing countries):

Likely to have a surplus of container ships for diversion to other less or even non-economic routes — e.g. Middle East, Far East and South-East Asia. Stages 1 and 2 involve highly developed countries where an interchange of large volumes of

containerisable general cargo and well developed land transport conditions exist.

22. The pivotal port concept is sound but there are political implications which could impede implementation of such a scheme.

23. The major U.K., European, American and Japanese shipowners are now heavily committed to servicing the Atlantic, Australian and Pacific areas. It is likely to be some years from now before they will give serious consideration to service the trade routes in the developing regions.

24. An international port strategically located, on the other hand, must not be slow in providing container facilities. It is a good investment provided the capital expenditure is not excessive. In America, no container terminal or wharf is operated by any private enterprise without a firm guarantee of utilisation by shipowners. It is the same in Europe where port authorities merely develop and provide the berths. Stevedoring companies who operate them will have to find the capital to purchase the equipment and provide the necessary installations. These companies invariably would not invest any money without a contract having been signed with at least one shipowner. It is also true to say that in America some port authorities have provided container facilities and leaving them idle awaiting users.

SPECIALISED TEAM

25. To promote and accelerate the development of containerisation, a port must take an active part. Like the Port of New York Authority, it must maintain very close contact with the users — i.e. shipowners, exporters, consignees and manufacturers. There should also be frequent exchange of ideas and views with Government and public bodies as well as with other ports. A specialised team within the port organisation should be formed to carry out the necessary research and up-dating of information. They must try to sell the facilities and help the users to solve their problems and answer their questions.

26. In this way, the port would gather support and generate goodwill. In return, it will attract more cargo over its wharves either in the form of transhipment or local trade. Confidence and understanding is vital. Ports in South-East Asia and the Far East are becoming more and more competitive.

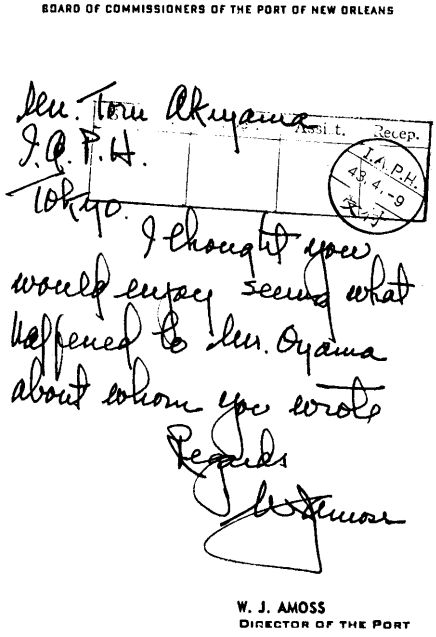
SECTION VI

Acknowledgement *(spared)*

Orbiter Probe

IAPH News:

Mr. Amoss Is Very Much Alive


BOARD OF COMMISSIONERS OF THE PORT OF NEW ORLEANS

Mr. Toru Akiyama
I.A.P.H.
Tokyo. I thought you would enjoy seeing what happened to Mr. Ogawa about whom you wrote
Regards

W. J. AMOSS
DIRECTOR OF THE PORT

In many hearts, Mr. Amoss is still very much alive. His signed memo reproduced on this page was received at the Head Office April 9, attached to a report on the port tour involving a Japanese engineer introduced by Mr. Toru Akiyama.

All of a sudden it dawned on Mr. Akiyama that the handwriting was so new that it was hard to believe the signer was now dead despite all the news saying so. Definitely, it was Mr. Amoss' last handwriting to Mr. Akiyama, and to IAPH.

Death Claims Amoss

New Orleans, La.:—W. J. Amoss, director of the port of New Orleans since 1960, died April 6 at Ochsner Foundation hospital following a brief illness. He was 69.

Amoss was a well-known figure in world trade, having often represented not only New Orleans but all American ports at meetings from Tokyo to London.

He was immediate past president of the American Association of Port Authorities and was a member of the board of directors of International House, chairman of the board of the Foreign Relations Association, director of the International Association of Ports and Harbors, past president of the Gulf Ports Association and a member of Tau Beta Pi honorary scholastic engineering fraternity.

Born in Baltimore, Amoss grew up in New Orleans and earned a B.S. degree in civil engineering at Tulane University.

He was first employed by the Board of Commissioners in 1919 as a surveyor on construction of the Industrial Canal. Other engineering jobs led to a 21-year association with New Orleans Public Service Inc., a utility company, beginning in 1931. He rose to the position of executive vice-president of the company.

From 1949 to 1955 he served as executive vice-president and director of Valentine Sugars Inc. He served as director of the port of New Orleans in 1955~56, leaving this post to become president of the Cuban Electric Co. in Havana. From 1957 to 1960 he was also vice-president of American and Foreign Power Co. Inc. He returned to his leadership of the port in 1960, after Castro took over the Cuban government.

Amoss served with distinction in

Obituary Notice

The Board of Commissioners of the Port of New Orleans deeply regrets to advise the many friends of the Port of New Orleans of the death on April 6, 1968, of its port director, Walter James Amoss, who served the port, his community and his state with great distinction.

both world wars. He was decorated many times by foreign governments for his work in world trade, and he was active in many civic and charity organizations.

He is survived by his widow, a son and a daughter and nine grandchildren.

His son, W. J. Amoss, Jr., is vice-president, traffic, of Lykes Bros. Steamship Co., Inc., based in New Orleans. (New Orleans Port Record, May)

Membership Directory 1969

The IAPH Head Office is planning to issue a new Membership Directory 1969 this fall. New entry forms will soon be mailed out to all members, for confirming old entries and inserting changes and additions. Solicitations for advertisements in the Directory will also be sent to all member ports, manufacturers and business companies the world over.

Both for entries and for advertisements, the deadline will be set on July 15, by which date to arrive at the Head Office. It is requested that all entries be sent in well in time for the deadline, as after July 15 it would become difficult for the office staff to give adequate insertions for late-comers.

IMCO Program

1968

Apr. 1~5 Working Group I of the Legal Committee—2nd session
Apr. 8~11 Sub-Committee on Radiocommunications—4th session
Apr. 23~26 Working Group on Stability of Fishing Vessels—7th session
May 7~10 Sub-Committee on the Carriage of Dangerous Goods—14th session
May 14~17 Council—20th session
May 21~24 Sub-Committee on Subdivision and Stability—8th session
May 27~31 Working Group I of the Legal Committee—3rd session
Jun. 10~14 Legal Committee—3rd session
Jun. 25~28 Sub-Committee on Bulk Cargoes—7th session
Jul. 2~5* Working Group on Facilitation—2nd session
Sep. 17~20 Sub-Committee on Safety of Navigation—6th session
Sep. 23~27* Ad-hoc Sub-Committee on revision of Simla Rules
Oct. 1~4 Sub-Committee on Ship Design and Equipment—2nd session
Oct. 8~11* Working Group II of the Legal Committee—2nd session
Oct. 21~25 Maritime Safety Committee—18th session
Oct. 29~Nov. 1* Joint IMCO/ILO Committee—1st session
Nov. 5~8* Sub-Committee on the Carriage of Dangerous Goods—15th session
Nov. 12~15* Legal Committee—4th session
Nov. 25~29* Assembly—4th Extraordinary session Council—21st session
Dec. 3~6* Sub-Committee on Fire Protection—8th session
Dec. 9~16 Sub-Committee (and Working Group) on Oil Pollution—5th session
Dec. 17~20* Working Group on Stability of Fishing Vessels—8th session

* Tentative

Land Bridge U.S.A.

New York, N.Y., Apr. 25:—Shipping time between Japan and European cities may be cut in half by use of a fast rail route across the United States instead of the all-water route.

The Santa Fe and Penn Central Railroads are seeking to form an overland service to speed cargo across the United States between Pacific and Atlantic overseas cities.

The roads say the special freight trains, utilizing containerized cargo, will be cheaper and faster than hauling goods halfway around the globe by ship.

Some railroad spokesmen say the fast freight service could cut the non-stop 27-day Japan-Europe water route via the Panama canal by as much as two weeks.

The concept of using the United States as a bridge between the Pacific and Atlantic oceans for Pacific-Europe cargo is called the Land-bridge concept in the trade.

It envisages unloading containerized freight — cargo packed into huge box-like rigid containers of equal size—from ships at Atlantic or California ports to be loaded onto special trains. After a trans-continental train trip, the containers then would be loaded on ships again for a second ocean voyage to their destination.

The initial announcement said the Santa Fe and the Penn Central would tie in at Chicago, but each road said it would look for additional partners.

John S. Reed, Santa Fe president, said the plan called for an 80-car

train capable of carrying 160 40-foot or 320 20-foot containers coast to coast on a schedule of about five days each way.

The charge would be $144,000 per train, he said, round trip, subject to a minimum of 25 trips per year. There would be no switching or stopoffs, and shippers would provide flatcars and containers. The containers would be loaded and unloaded outside the U.S.

The Santa Fe said it had received no definite commitments by any of the 20 steamship groups to which it made its proposal.

A Penn Central spokesman said studies "indicated the volume of traffic is very indefinite, but it is believed the business would be sufficient to warrant several trains a week across the nation."

One estimate placed Japan's exports to Britain, Germany and the Netherlands at $538 million for 1967.

A spokesman for the Canadian Pacific Railway said it was studying such a landbridge concept for Canada but felt such a proposal was premature. (Shipping and Trade News)

Seaway Notice

Ottawa, March 26, 1968: — The St. Lawrence Seaway Authority, in a notice to shipping today, has announced that the Lachine and Cornwall Canals will close to navigation permanently at the end of the 1968 season of navigation.

The shallow-draft canals, once important links in the old St. Lawrence Canals system, have become increasingly uneconomic in the face of rising operating costs and diminishing traffic resulting from the opening of the Seaway in 1959. The 11 million tons carried by these canals in 1958 had diminished by 1967 to 338,000 tons on the Lachine and 100,000 tons on the Cornwall.

Two parts of the Lachine Canal —the eastern entrance and a 4000-foot long section just west of the eastern end — were closed in 1965 and 1967 respectively. The western end of the Cornwall Canal was closed in the final stages of construction of the Seaway.

Both canals will open to shipping on April 15 and close for the last time on November 30.

The closing will not require any adjustment to the supply of water used by industries along the banks of either canal. (The St. Lawrence Seaway Authority)

Two Ways to the Sea

Baltimore, Md.: — Baltimore, among the oldest and very largest of United States seaports, also is the only one with two separate outlets to the sea.

From the Port of Baltimore, ships can steam 150 miles down the Chesapeake Bay, the natural outlet to the Atlantic Ocean.

But to the northeast, via the man-made and toll-free Chesapeake and Delaware Canal, the distance to the sea is 113 miles.

Far from the open ocean? Yes, but also much closer to the rich agricultural and industrial heartland of the mid-Continental U.S.A. At no other East Coast seaport can steamships travel so far inland.

This ideal geographic location and the "shortcut" waterway provided by the C&D Canal give the Port of Baltimore a decided advantage in the coming age of containerized cargo, with its increased emphasis on fast ship turnaround and quick overland connections.

The C&D Canal route saves 115 miles between Baltimore and North Atlantic European ports and cuts 150 miles from a voyage between Baltimore and New York, a half-day's sailing.

Only 14 miles long, the C&D Canal connecting the Upper Chesapeake Bay with the Delaware River is the world's busiest waterway in terms of transits, according to the U.S. Army Corps of Engineers, which maintains the toll-free facility.

Opened in 1829 by private interests with aid from the states of Maryland, Delaware and Pennsylvania, the canal was purchased by the U.S. Government in 1919 and reconstructed as a sea-level waterway 12 feet deep and 90 to 150 feet wide. Later, it was dredged to 27 feet deep and 250 feet wide.

Currently, the canal is undergoing a mammoth widening, straightening and deepening project costing well over $100 million and involving removal of more than 100 million cubic yards of earth.

When completed within the next few years, the shipping channel will be 35 feet deep and 450 feet wide at the bottom, accommodating today's huge container ships and permitting two-way traffic. Authorized by Congress in 1954, this tremendous project has been underway since 1962.

Some 75 percent of the 20 million to 25 million tons of waterborne foreign cargo handled each year at the Port of Baltimore arrives and leaves on ships using the convenient waterway.

And, as the number of container ships carrying the world's expanding trade continues to grow, more and more of them will call at the Port of Baltimore's modern terminals— via the C&D Canal.

Roster of Commissioners

Los Angeles, Calif.:—Mr. George D. Watson has resigned as Commissioner of the Board of Harbor Commissioners, Port of Los Angeles, effective January 22, 1968. On April 1, 1968, Dr. Robert Fenton Craig was appointed as a new member of the Board of Harbor Commissioners to fill the vacancy created by the resignation of Mr. George Watson.

The current roster of the Los Angeles Board of Harbor Commissioners is as follows:

President:
Mr. Gordon G. MacLean
Vice President:
Mr. Taul Watanabe
Other members of the Harbor Commission are:
Mr. Robert A. Day
Mr. Victor M. Carter
Dr. Robert Fenton Craig
(Board of Harbor Commissioners, City of Los Angeles)

Deputy Directors Named

New Orleans, La.: — The Board of Commissioners of the Port of New Orleans has announced that its two deputy port directors will guide affairs of the port until a successor is named for the late W. J. Amoss.

Amoss, director of the port for

12 years, died on April 6 after a brief illness.

J. Melton Garrett, board president, said Edward S. Reed, will serve as acting director in administrative affairs, and Col. William H. Lewis, will be acting director in engineering and construction matters.

"The position of director of the port is one of the most important posts in the state," said Garrett. "The economy of all Louisiana is affected by activities at the Port. Mr. Amoss achieved national recognition for his excellent administration of the port's business. It would be a disservice both to his memory and to the people of the state if we acted to name his successor without the most serious consideration.

"We intend to look carefully both within and outside our organization for professionals capable of meeting the highest standards for the position. We must consider such qualities as administrative ability, knowledge of finance and eigineering, and experience and understanding of sales and public relations. Background in these fields must be considered in view of where our emphasis will be needed in the years ahead. These deliberations will take some time." (New Orleans Port Record, May)

Against Protectionism

The following message was sent to the full membership of the Senate Finance Committee (of which Senator Russell Long is chairman) and of the House Ways and Means Committee (of which Congressman Hale Boggs is a member, and to Senator Allen Ellender and Congressman F. Edward Hebert.

It is suggested that those receiving a mailed copy of this wire give consideration to action of a similar nature, and either write or wire their opposition to the flood of protectionist bills expected to be introduced in the near future.—James W. Martin

APRIL 10, 1968

THE BOARD OF COMMISSIONERS OF THE PORT OF NEW ORLEANS IS GREATLY ALARMED OVER REPORTS OF MANY LEGISLATIVE MEASURES NOW BEING INTRODUCED IN CONGRESS PROPOSING QUOTAS AND OTHER NON-TARIFF PROTECTIONIST BARRIERS AGAINST IMPORTS. THIS PORT AUTHORITY, CHARGED BY LAW WITH THE DUTY OF DEVELOPING FOREIGN COMMERCE, LONG EXPERIENCED IN THE PRACTICAL ASPECTS OF SUCH COMMERCE, AND HAVING HAD FULL OPPORTUNITY TO OBSERVE AT FIRST HAND THE MULTIPLE BENEFICIAL ECONOMIC EFFECTS OF HEALTHY INTERNATIONAL TRADE, IS FULLY CONVINCED THAT SUCH LEGISLATION STRIKES AT THE BASIC INTERESTS OF OUR COUNTRY, DISREGARDS AMERICAN CONSUMERS, IS CONTRARY TO THE TRADITIONAL SPIRIT OF AMERICAN COMPETITIVE ENTERPRISE, WILL NEGATE ACHIEVEMENTS OF THE KENNEDY ROUND NEGOTIATIONS, INVITES RETALIATORY MEASURES BY FOREIGN COUNTRIES AGAINST OUR EXPORTS THUS ENDANGERING FAVORABLE BALANCE OF TRADE, MAKES SALES IN FOREIGN MARKETS MORE DIFFICULT FOR AMERICAN MANUFACTURERS, STRANGLES FREE FLOW OF INTERNATIONAL COMMERCE TO THE DETRIMENT OF THOUSANDS OF WORKERS WHOSE JOBS DEPEND UPON PROSPERING MOVEMENT OF EXPORT IMPORT CARGO THROUGH THIS AND ALL OTHER UNITED STATES PORTS. THIS PORT AUTHORITY RESPECTFULLY URGES YOUR STRONG OPPOSITION TO ALL SUCH MEASURES WHETHER INTRODUCED AS SEPARATE LEGISLATION OR ATTACHED AS RIDERS OR AMENDMENTS TO OTHER UNRELATED BILLS, SUCH AS OCCURRED LAST WEEK WHEN THE TEXTILE QUOTA BILL PASSED THE SENATE AS AN AMENDMENT TO A DOMESTIC EXCISE TAX MEASURE.

JAMES W. MARTIN
DIRECTOR OF TRADE DEVELOPMENT
BOARD OF COMMISSIONERS
PORT OF NEW ORLEANS

Quiz Time

New Orleans, La.:—Just for fun, and with tongue-in-cheek, since there is no possible way to be certain, what would you say are the ten greatest ports in the world?

We know how New Orleans ranks in the United States (second), but how does this port compare with other world ports?

Being interested in this kind of thing, we tried to find out recently. We didn't succeed, but we came up with an educated guess and some interesting comparisons.

There is an annual directory called "Ports of the World," published in London, which gives descriptive information and trade figures for around 2500 ports all over the world. Many of these ports publish their own annual commerce reports, and, using a little of this and a little of that, we have come up with a list of ten great ports, combining all available information on import-export tonnages and ship arrivals.

All this is using rounded-off figures, of course, since some ports have reported information for 1965, some for 1966, some for 1965-66, and some deal in short tons while others deal in long tons. Some ports confuse the issue altogether by not bothering to report ship arrivals at all (Rotterdam), and one port (Helsingborg, Sweden, with 116,258 ships counted) apparently counts the ferry boats every time they come and go. Also, let's not count Saigon.

Here, then, is an alphabetical list of our ten great ports, with two other ports thrown in that don't belong on the list at all. How would you arrange them from one to ten? Check below and see if your guess agrees with ours.

- Antwerp
- Hamburg
- Kobe
- Liverpool
- London
- Marseilles
- New York
- Osaka
- Philadelphia
- Rotterdam
- Tokyo
- Yokohama

As for New Orleans, we show up about 20th on the list of all 2500 ports. That puts us well into the

top one per cent.

Some ports will not or have not published much information about themselves. There is no available data that we know about Lisbon, Barcelona, Istanbul, Leningrad, Odessa, Vladivostok, Rangoon, Shanghai, Calcutta or Haifa.

Some of the famous ports that we appear to be pretty well ahead of, both in tonnage and ship arrivals, are Bangkok, Bombay, Amsterdam, Dublin, Sydney, Honolulu, Bordeaux, Pireaus, Oslo, Rio de Janeiro, Copenhagen and Capetown.

So much for speculation, but it's interesting.

1. Rotterdam 6. Osaka
2. New York 7. Marseilles
3. London 8. Hamburg
4. Yokohama 9. Tokyo
5. Antwerp 10. Liverpool

(New Orleans Port Record, April)

Chairman Elected

New York, N.Y., Apr. 11:—The Commissioners of The Port of New York Authority today elected James C. Kellogg, III of Elizabeth, New Jersey, as Chairman and Joseph A. Martino of Manhasset, Long Island, as Vice Chairman, and re-elected Howard S. Cullman of New York City to his fourteenth term as Honoray Chairman. The elections were held at the Commissioners' Annual Meeting at 111 Eighth Avenue this afternoon.

Mr. Kellogg, a Commissioner for the past thirteen years and Vice Chairman of the Board since 1960, succeeds S. Sloan Colt, Chairman since 1959, and a Commissioner for twenty-two years.

Mr. Martino has been a Commissioner since 1958. Mr. Cullman, a Commissioner since 1927, served as Vice Chairman from 1934 to 1945 and as Chairman from 1945 to 1955.

The Board of Commissioners of the Port Authority has twelve members, six of whom are appointed by the Governor of New Jersey and six by the Governor of New York for overlapping terms of six years. They serve without compensation.

It is customary also at each Annual Meeting for the Commissioners to elect the Executive Director and General Counsel of the bi-state agency.

Austin J. Tobin was re-elected Executive Director, a post he had held since 1942. He began his Port Authority career in the agency's Law Department forty-one years ago.

Sidney Goldstein was re-elected General Counsel. He has been a member of the Port Authority's Law Department for thirty-four years and General Counsel since 1952. (News from the Port of New York Authority)

Regional Government

Oakland, Calif., March 4: — If some sort of regional government is eventually set up for the San Francisco Bay Area, it must be set up through a series of "checks and balances," says Oakland Port Commission president Peter M. Tripp.

Tripp recently outlined the Port's feelings about regional government at a meeting of Assemblyman John T. Knox's Joint Committee on Bay Area Regional Organization.

Tripp stated that if a multi-purpose regional government is to be created, then its functions should be limited to those activities which can be better performed by a multi-purpose agency.

Tripp said that independent studies conducted under the auspices of existing Bay Area governments should be made to determine which functions now vested in city governments, or which municipal proprietary functions, such as airport development, should be placed under a regional government.

Agencies under consideration for inclusion in a multi-purpose form of regional government should have a voice and a vote in the study, Tripp added.

Such studies should also determine whether it would be in the public interest for a particular agency to belong to the regional organization. Following such a determination, the Legislative authority affected could elect to join the multi-purpose agency.

Tripp said that if a function of municipal government was to be included, the electors of the city involved should have consent by majority vote.

"This is a complicated approach to a complex problem," Tripp said, "but we feel it is a series of checks and balances that would enable a regional system to function effectively and without bias."

Tripp said a regional government should not have the power of eminent domain over public lands and facilities, and that any study recommendations concerning ports and airports should clearly benefit the expansion of trade and movement of people.

Tripp said he felt charges by some members of the Bay Area community that competition by local ports and airports represented costly duplication of facilities could not be substantiated.

The commissioner pointed out that no port builds new facilities unless they are first economically justified by independent studies.

In the case of the Port of Oakland, which must rely on revenue bonds to finance new developments, Tripp said that private investors are not likely to risk their capital in backing facilities that would not guarantee a return.

Tripp pointed out that ports up and down the Pacific Coast, and in many parts of the world, because of their proximity to one another, are in direct competition and yet thrive.

"In addition," Tripp stated, "we have the California Association of Port Authorities, a self-regulating body, and the Federal Maritime Commission to ensure that ports do not engage in competitively destructive practices."

"If the spirit of competition had not existed between airports," Tripp said, "it is doubtful that Oakland International, which is filling a vital need in the air system of the Bay, would have been built." The Oakland air terminal last year handled 1.46 million passengers.

Tripp said any regional government would have to be careful not to artificially limit the natural flow of trade to certain areas. "Regional planning cannot cause a shipping line or terminal operator to locate in an area which is inefficient or uneconomical. Such action would drive the operation outside the region."

Tripp urged that any study proposing to regionalize a particular function should also determine the limits of the area in which the function is found, and then include all similar functions.

Port operations would be an example. Any study of shipping and port operations on the Bay would, by necessity, have to include the ports of Stockton and Sacramento, since they compete with Bay ports for cargoes passing through the Golden Gate.

Tripp said all such studies should not overlook problems of finances or the acquisition of facilities to be resolved at a later date. "If a study approach is adopted," Tripp said, "then the study should concern itself with the complicated financial transactions involved and propose a recommended solution to the questions of compensation and ownership." (Port of Oakland)

Towering Tonnage

Portland, Ore.: — Portland's harbor established an all-time record for cargo volumes in 1967, registering a total of 6,352,503 short tons of cargo, 12.7 per cent more than the 5,636,622 tons handled in 1966. The Merchants Exchange, in reporting the figures, noted that the total does not include petroleum. However, preliminary reports indicate this commodity also will establish a record, with more than 6,900,000 tons expected to be reported for the year. Total volume should approach 12,900,000 tons.

The Commission of Public Docks, which reports separate statistics for the four public terminals it operates, also set a record. Tonnage during 1967 was up eight per cent over the previous year, a total of 1,718,457 against the 1,591,090 tons recorded in 1966.

Ship calls showed a slight gain with 1689 vessels entering the harbor during the year compared with 1673 in 1966.

The greatest gains were in outbound cargoes which, for the harbor, jumped from 3,957,678 tons to 4,638,890. Inbound movements from Hawaii, other U.S. ports, and foreign sources showed smaller gains, rising to 1,713,613 last year compared with 1,678,944 in 1966.

Significant advances were made during the year in harbor facilities to improve the Dock Commission's cargo handling capabilities. Most important was the placing in service at Terminal No. 4 of a $1,355,000 container and general cargo terminal. This six-acre, two-berth facility, primarity for the use of Matson Navigation Co. but also available to any other user, will be fully equipped in May 1968 with the erection of a 33-ton capacity container crane. This is now being fabricated in Japan and will be arriving in mid-February for assembling and testing.

Another two berths will be added to the harbor late in 1968 with completion of the first phase of an addition to Terminal No. 2 in the central harbor. This facility eventually will be capable of handling containers as well as conventional general cargo with the eventual erection of a container crane similar to that at Terminal No. 4 and smaller gantry cranes.

In March, 1967 the Dock Commission acquired Albina Dock, a two-berth general cargo facility, which had been under private ownership for many years. Except for maintenance, the Commission has no plans to rehabilitate this terminal and anticipates its phase-out within five years or when additional cargo facilities are available in the harbor.

Ten Leading Commerce Nations

EXPORTS	
Japan	1,767,603
India	508,588
Korea	458,033
Philippines	401,141
Pakistan	245,883
Formosa	180,223
Italy	120,723
Indochina	117,367
Venezuela	98,227
Great Britain	48,183
IMPORTS	
Canada	535,008
Japan	297,802
Mexico	180,606
Virgin Islands	70,993
Australia	66,554
Italy	41,897
West Germany	22,648
Peru	22,064
Great Britain	17,581
West Indies	16,545

(Harbor News, Portland Public Docks)

Board Members

San Diego, Calif.:—The Board of Port Commissioners for the San Diego Unified Port District is now composed of the following:

C. A. Larsen—Chairman
W. A. Vestal—Vice Chairman
L. H. Ruehle—Secretary
RADM C. C. Hartman USN (Retired)—Commissioner
M. D. Bowler—Commissioner
D. D. McElfresh—Commissioner
C. R. Campbell—Commissioner

The Port Director is Mr. Don L. Nay. (R. W. Emrich, Assistant Director, Port of San Diego, March 12)

Terminal Project

San Diego, Calif.:—The Unified Port District's Board of Port Commissioners have recently approved developments at the 24th Street Marine Terminal which goes beyond the original work plan.

Both Phase I, which involves construction at the north end of the terminal, and Phase II, the southern edge, will benefit from the additional development.

Dollarwise, the largest development will be in the Phase I area with installation of utilities, rail trackage and storm drains. Much of the work is in preparation for a warehouse building at the terminal that has been scheduled for construction in fiscal 1969. Cost of the additional work, made possible by a balance of uncommitted funds in the terminal's bond fund, is estimated at $114,000.

The Board also authorized a change order which will permit additional dredging in the Phase II area of the terminal at an estimated cost of $39,600. The dredging will provide a uniform 35-foot water depth from the pierhead line to the apron wharf at the mouth of the future Sweetwater River Flood Control Channel. The wider area of deep water to be provided will be a convenient feature for ships entering the terminal area via the South Bay channel to be constructed by the U.S. Army Engineers.

The northern edge of the termi-

nal, Phase I, is expected to be in operational use before the end of 1968. (Port of San Diego Newsletter)

Cargo Liability Revised

San Francisco, Calif.: — Twenty-four nations, including the United States, have agreed to increase cargo liability limits. The decision, reached at a Brussels diplomatic conference last month, revised the 35 year old "Hague Rules" to reflect the expanded use of the container shipment.

Under the new formula, the liability ceiling is $662 per package or 90 cents a pound, whichever is higher. The old rules, which set the liability limit at a flat $500 per package, were considered unrealistic in view of the container revolution.

The $662 ceiling was proposed by U.S. shipper interests and backed by Matson Navigation Co., Sea-Land Service, Inc., and representatives of European nations. Other U.S. carriers, as well as insurers, reportedly favored a lower limit and sought to have the entire container designated as one package for insurance purposes.

The treaty, which must be ratified by the Senate, specifies that each package within a container, rather than the container itself, will be considered a separate package for the purpose of fixing liability limits.

State Department legal advisor, Alan L. Mendelsohn, one of two U.S. representatives at Brussels, said the United States won "a major victory"when delegates voted unanimously to revise the international treaty so as to establish liability on the basis of both weight and measurement.

The treaty becomes effective after it is ratified by 10 nations. Mr. Mendelsohn said Senate action on the treaty is expected by June. (Pacific Shipper, March 11)

Container Committee

Toledo, Ohio: — In an effort to determine the best course of action in its continued drive for container business, the Port Authority has formed a container advisory committe.

The committee, an adjunct of the port agency's Advisory Board, is comprised of 16 representatives of ship lines, truck lines, freight forwarders and stevedoring firms. Studies and recommendations of the committee will be referred to the Authority's Board of Directors.

Sam Dean, executive secretary of the Toledo Trucking Association, was elected chairman of the group. (Port of Toledo News)

Life Saving Awards

Melbourne:—Two members of the Port of Melbourne's Emergency service have been awarded Certificates of Merit by the Royal Humane Society of Australasia for the courageous rescue of two men in the waters of the port.

The two concerned are Emergency Service Men I. Lewington and D. Moodie, who received the award for their "unselfish action, courage and devotion to duty."

The rescue came about when cries for help were heard on the night of October 24, 1967 at Station Pier, the port's main overseas passenger terminal, coming from the water nearby. The Port Emergency Service was called and Emergency Service Men Lewington and Moodie went into the water. They swam round in the dark for half an hour before they located two men who had fallen from an overturned boat.

They then supported the men in the water for a further hour or more until the men were picked up by a launch from H.M.A.S. "Supply," a navy ship berthed nearby.

The Chairman and Commissioners of the Melbourne Harbor Trust sent letters of commendation to the Port Emergency men, shortly after the incident.

The Port Emergency Service is a small highly trained mobile force maintained by the Port Authority to deal with every type of Emergency which can arise in the 10½ sq. miles area of the port. The personnel is trained for fire fighting, salvage ashore and afloat, underwater work, pumping operations, rendering first aid to all persons within the port, policing safety regulations, and security.

The Service was first established during the Second World War as a security measure and now has a total strength of 108 officers and men, which includes the two specialist divisions of Port Security and First Aid, and equipment valued at more than $150,000. (Melbourne Trust Port Gazette)

Two Big Tankers

Sydney, April 5: — Two of the largest commercial vessels to enter the Port of Sydney since the "Queen Mary" and "Queen Elizabeth" were here during the War are due to arrive on Sunday, 7th, and Monday, 8th April.

They are the Shell Company tankers "Dorcasia" due on Sunday and her sister-ship "Dione" due on Monday afternoon.

Both are of 70,000 tons deadweight, 800 ft. long and 125 ft. wide and both will be drawing 43 ft. of water when they arrive in Sydney.

Commenting on this today, Mr. W. H. Brotherson, President of the Maritime Services Board of N.S.W., said that the dredging of the Western Channel of the Port of Sydney to a depth of 45 ft. at low water has made it possible for ships of this size to proceed under the Harbour Bridge and as far west as Gore Bay.

The deepening of the Channel was carried out for the Martime Services Board by a dredging contractor, Costain Blankevoort U.K. Dredging Co., Ltd., at a cost of $880,000.

The contract provided for the deepening of the Channel to a minimum depth of 45 ft. at low water, with further deepening in the vicinity of the Heads to 52 ft., where the ships are subject to wave action.

Work was commenced on the contract in late August, 1967, and was completed last month. (The Maritime Services Board of N.S.W.)

Association Chairman

Townsville, Queensland:—Mr. H. N. Whitaker, M.B.E., has been elected Chairman of the Queensland Harbour Boards' Association in place of Mr. L. E. D. Tomlins, M.B.E.

Mr. Whitaker is also Chairman of the Cairns Harbour Board. (H. J.

Taylor, Secretary, The Queensland Harbour Boards' Association, March 25)

Iron Ore Exports

Bombay: — A satisfactory feature of our export trade is that India's iron ore exports have been steadily expanding. In 1965, India's total iron ore exports came to the substantial figure of 11.31 million tonnes but this quantity was exceeded in 1966 when 13.31 million tonnes were exported. The exports are intended to be expanded to 25 million tonnes in 1971. But the world ore market is highly competitive and one of India's severe handicaps has been the lack of loading ports with drafts or mechanical loading facilities comparable to those available in India's competitor countries. The east coast chief export port of Visakhapatnam, although well served by a mechanical loading plant, is handicapped by a draft limit which is stated to be well below current international standards in ore trade. The new port of Paradeep has comparatively better draft and with increased exports of iron ore through this port, the competitive position of Indian ore is expected to improve. It is stated that overseas buyers have continued to express their concern on the fact that significant progress has yet to be made in installation of deepdraft and high-speed loading facilities in the ports of Madras and Marmugao. If India is to achieve the target of exporting 25 million tonnes of iron ore by 1971, it would be necessary to quicken the pace of work on providing our ore exporting ports with deeper drafts and improved handling facilities. (Indian Shipping, December)

Ports Survey Team

Tokyo:—The sixth annual world port survey team of Japan for 1968, sponsored by Japan Port and Harbor Association and composed of 12 Japanese port engineers and officials, is scheduled to depart from Tokyo May 8 on a 30-day survey tour of 12 important ports in the U.S. and Europe.

At the sponsor's request, Mr. Toru Akiyama, Secretary General, wrote to those ports giving the full details of the team and requesting cooperation. Besides the general questionnaire put to ports on managing and engineering fields, the team has specific curiosities in particular ports: Seattle; container and intermodal transport, Los Angeles; container transport and lease terminal operations, New Orleans; large-ship measures, New York; container transport, waste oil disposal facilities, large-ship measures, Amsterdam; new harbor mouth construction, Rotterdam; waste oil disposal facilities, large-ship measures, dredging, London; waste oil disposal facilities, container transport, roll-on roll-off system, Basel; barge transport, Genoa; Rivalta Scrivia terminal.

Arctic Service

Tokyo: — Two Soviet freighters will be put into service next July between Murmansk and Yokohama via the Arctic Circle, according to Japanese shipowners in operation on the Nakhodka route.

To be put into operation are two vessels of the same type as the **Giziga** (8,000-dw/t) now chartered and operated by Kawasaki Kisen Kaisha on the Japan/Montreal, Quebec route, it was revealed.

The two freighters are scheduled to depart simultaneously—one leaving Murmansk for Yokohama and another from Yokohama to Murmansk. The vessel to sail from Yokohama will have been taken to the port from Vladivostok or through a southern route.

Soviet Russia operated last August the **Novovoronesh** (4,000-dw/t) bound for Japan via the circle only once.

According to shipowners, Japanese trading firms are planning to import phosphate rock from Murmansk and therefore it is likely that Soviet freighters will continue to operate on the route via the circle after the July voyages. (Shipping and Trade News)

Surveying Malacca Strait

Tokyo:—The Transport Ministry will shortly call a meeting of representatives of three associations concerned to study how to finance its projected survey of the Malacca/Singapore Strait.

The three associations are the Japanese Shipowners Association, Petroleum Association of Japan and the Marine and Fire Insurance Association of Japan.

The strait's sea lanes and their water depths will be surveyed at the expense of Japan as a preliminary to an international effort to improve the passability of a huge vessel through it which was called for by the Inter-Governmental Maritime Consultative Organization (IMCO) last year.

In the ministry's estimation, the survey entails a cost of somewhere between ¥75 million and ¥100 million. The cost includes the per-day charterage of the **Koyo Maru,** a super-tugboat of Japan Ocean Tug Co. to be chartered as the surveyor. Besides, various data and surveying equipment will be purchased for the survey.

The ministry plans to start the survey in or around September.

It wants shipowners, oil refiners and hull insurers here to share in this cost because they all stand to profit directly or indirectly from the improvement of the Malacca/Singapore Strait passage.

Besides, the Japan Shipbuilding Industry Foundation will be called on to contribute its due share in this project.

A meeting of representatives of all the industries will probably be called by the end of this week to study a cost-sharing formula for the survey. (Shipping and Trade News)

Director General

Chittagong: — Commodore S. B. Salimi, S.Q.A., P.N., Director General of Ports and Shipping, Ministry of Defence, Government of Pakistan, arrived at Chittagong on Sunday, the 3rd December, 1967 on official visit. He visited the Juldia Marine Academy and Haji Camp on the 4th December 1967. On the 5th he held discussions with Commodore Mohammad Asif Alavi, S.K., P.N., Chairman, Chittagong port Trust, on port problems. He left for Karachi the same day. (Chittagong Port Bulletin)

The Port of Dunkirk

Foreground left: the general-cargo harbour
Background: The petroleum wharves and the sea-board dock no. 1 with ore-terminal
Right: the Outer-harbour and the two locks

Pilgrim Ship

Karachi:—The first ship carrying Pilgrims sailed for Jeddah on 7th January, 1968 from Berth No. 5 of the East Wharf of the Karachi Port.

The ship was carrying 2,602 pilgrims from Multan, Bahawalpur, Khairpure, Hyderabad and Karachi.

There were 166 passengers in the First Class 296 in Second Class while 2,140 were on the Deck.

The ship will reach Jeddah on January 13.

Safina-i-Hujjas berthed for embarkation at Berth No. 5 which began at 9-00 a.m. and was completed by 4-00 p.m.

Thousands of relatives and friends of intending Hajis had started assembling at the Wharf much before the pilgrims themselves. A good number of women clad in 'burqas' were also among the Hajis. Some were travelling all alone. Most of the Hajis were travelling light, carrying small bedding, 'lotas,' currency bags and jerry cans for storing water.

The ship's crew including the young Captain were all helpful and were guiding the Hajis all about the facilities which they could enjoy during their six-day journey. Volunteers of ANJUMAN-E-KHUDDAM NABI, Sea Scouts and others rendered service in helping and guiding the Haji embarking the ship.

The next sailings of the ship will take place on January 23, February 8 and 25.

Special arrangements were made by the Traffic and Watch & Ward Departments of Karachi Port Trust for the facilities of the pilgrims and

Capt. Ths. Jacobsen

the people who came to the port to see the pilgrims off. The Mercantile Marine Departments, the Port Haj Office and the Customs also made necessary arrangements on the occasion. (K.P.T. News Bulletin)

Training at Port

Bangkok: — Captain Mohammad Yacob bin Jafar, official in charge of the suction hopper dredger was sent by the Malaysian Government for a two—month training in maintenance dredging at the Port Authority of Thailand from February 6 to April 1, 1968.

The training begins with the orientation on a brief history, organization and activity of the Port Authority of Thailand. While his training is focussed on the maintenance dredging of the Bangkok Bar Channel, he will also observe some activities of the Marine, Personnel, Engineering and Port Operations Departments. He will spend one week each on the observation study on board the port dredgers Sandon 5, Rua Khut 1, Rua Khut 2, Sandon 4 and Sandon 6. (P.A.T. News)

Modern Cargo Handling in the Port of Oslo

By Capt. Thomas Jacobsen

General Manager
Oslo Port Authority

The introduction of the American container-system which has taken place on the transatlantic routes during the last years, has brought about a situation where most European ports of some size and importance have had to reconsider their present position and plan their future dispositions on the background of this system.

The idea of the system and the stated intention of the transatlantic container consortia is to limit the ports of call to a few, strategically located. The decisive and selective factor in this context is the combination of cargo-volume and facilities to handle it—efficiently. Obviously the ports in question will have to be in a position to serve and handle the exports and imports of densely populated and highly industrialized regions irrespective of national borders. The resulting consequences are that the by-passed ports are reduced to handle the feeder traffic to and from the terminal ports.

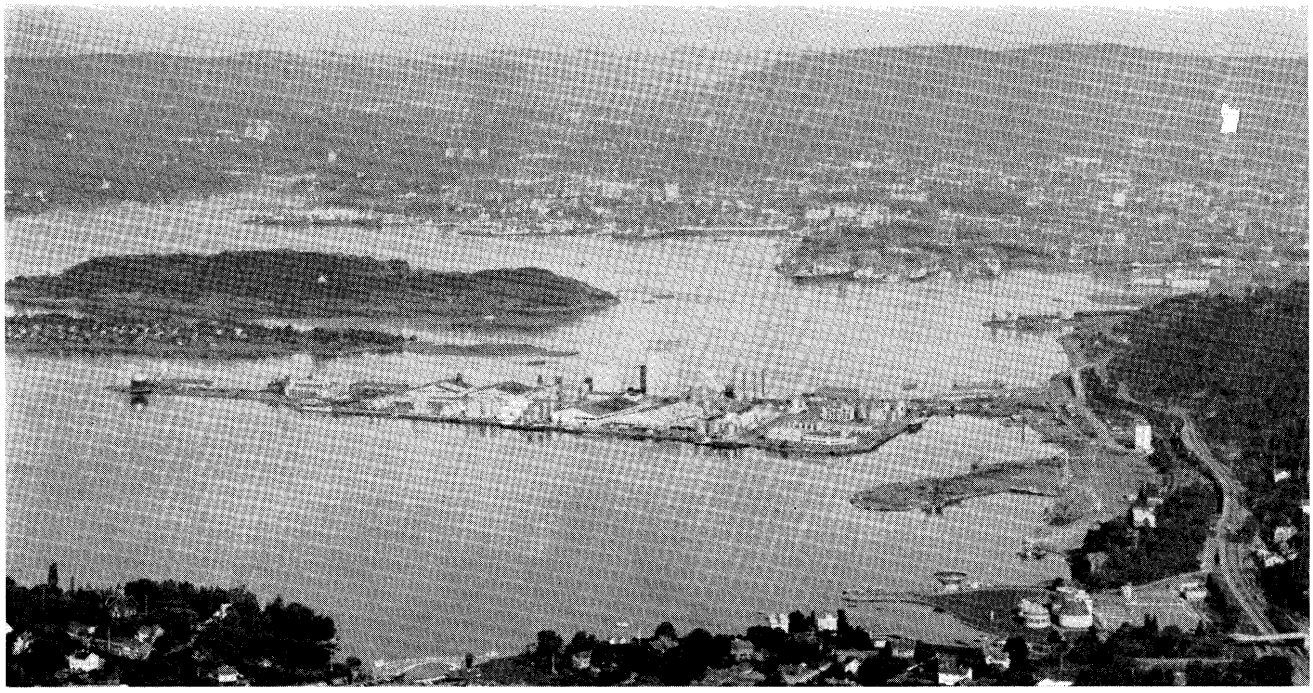
The important task facing these ports is to secure the trade which actually belongs to their port. As it is, the container-system combines the transport systems on land and sea, and on certain distances from the terminal port, containers may favourably be shipped to their final destination by road or rail and also use the same means for the return cargoes. With the growing use of containers, competition for the feeder traffic will also increase accordingly.

In order to keep its trade and position and prevent a switch of cargo to landtransport, the port must meet the competition with the right means. Modern port facilities and cargo handling equipment must be available for tackling any job speedily and efficiently and at a competitive cost. The cargo-handling must be subject to constant rationalization and made increasingly effective through modernization of existing port installations, construction of new ones in co-operation with the users and application of the required gear and equipment.

The container-system in general, offers a series of advantages, but is far from the only solution in all circumstances. There are cargoes which in volume and in form of the units see greater use and applicability in the pallet-system. As an alternative therefore, to the container, the pallet is being widely used in the Port of Oslo. In co-operation with Fred. Olsen Lines, which pioneered and has specialised in the Pallet-system, the Port Authority is constructing the Sorenga Pier. The pier will become the largest and most modern general cargo terminal in the Port of Oslo. Wherever feasible, the cargo will be handled palletized by truck-to-truck and through side-ports. No traffic will be allowed on the quay except the forklift trucks shuttling palletized cargo to and from the sheds or through to the parked pick-up or delivery trucks. The company has practised and improved on the system for several years on their European as well as Pacific routes, and their experiences are encouraging.

On shorter distances, the time element is often decisive. Several lines therefore offer fast and frequent ferry services to Danish and German ports based on roll on/off traffic. By this summer, Dutch

Port of Oslo



and English ports will also be linked with Oslo. The roll on/off system offers a range of possibilities for door to door services of most any kind of cargo units. The services offer practical and economical advantages as illustrated in certain instances where the need to keep large stocks were considerably reduced and almost eliminated, as new orders were executed from Denmark and Germany in less than 48 hours.

The Oslo Port Authority operates at present 4 roll on/off facilities at the following locations in the port:

Hjortnes Quay — where Jahre Line operates two ships between Oslo and Kiel, Germany.
Pier II West—where D.F.D.S. (The United Steamship Co.) operates two ships between Oslo and Fredrikshavn, Denmark.
Pale Quay—where Da-No Line operates one ship between Oslo and Aarhus, Denmark.
Paulsen Quay—for general, local traffic.

The demand for need for roll on/off facilities are increasing. New companies are established and long existing lines reshape their operations and bring in new and modern ships. The United Steamship Co.'s service between Oslo and Copenhagen will get two new ships this year, and on their terminal at Pier II East, facilities for roll on/off traffic will be established.

A newly formed company, The Sealord Shipping Co., Ltd., will in June this year start a service connecting Oslo twice weekly with Rotterdam and Great Yarmouth. For this service a new roll on/off quay is now under completion at Knippeskjaer Pier.

At about the same location, but as part of Sondre Bekkelags Quay, yet another roll on/off facility will be constructed this spring for Oslo Motorships A/S. The company will operate a smaller ship in coastal trade, principally for the distribution of imported cars, but also taking palletized cargo back to Oslo.

The Port of Oslo handles about 5 mill. tons of cargo yearly, and the volume has been increasing. The port is Norway's largest and it is ideally located to handle the imports and exports to and from the most populous and industrialized areas in the country. The increasing activity centered around the port, is reflected in the demand for more ground space—and new areas are being developed. Expansion in depth to widen the port area is limited by the City which is largely embracing the port and by the topography of the land itself, but existing possibilities are developed with a sense for maximum utilisation.

As an example, the new car-houses at Bekkelaget Quay are in many ways unique. Two five-story buildings, each covering approx. 4,000 sq. m., give together some 40,000 sq. m. floor-space capable of storing approx. 2,500 cars. The buildings are constructed in co-operation with Harald A. Moller A/S, representing Volkswagen and Ford Motor Company of Norway.

The major proportion of cars imported to Norway, is handled by the Port of Oslo. In 1967, 82,000 cars were imported to Norway. Out of these, 13,500 came to Oslo by rail/road while 52,500 came by ship. The import of cars through the port is expected to increase and on request from other car-importers, the Port Authority is considering construction of a third car house at the same location. The area with its present and planned roll on/off facilities for import-cars, is already getting known as Oslo's "Car-Port."

The present and future development of sea- and land-transport, will aggravate the demands to a modern port. The port is an im-

portant link between the two and must keep pace with the development and preferably a little ahead of it. The port has a variety of customers whose interests are served by conventional as well as more advanced cargo-handling methods. The port is expected to cater to all but its task is also to see ahead, judge trends and tendencies and be prepared when the tendency has become a fact.

The application of the new cargo handling- and transport systems where traditional thinking still prevails, is in a transition period which must be expected. No port is transformed in a day, but as the new methods and systems for cargo handling and transport are gradually applied and recognised by all its users, there is no reason why shipping cargo by sea-transport versus any means of land transport, should not succeed as the most practical and economical means of transport of all.

The Port Authority sees the port as a link in the service of domestic as well as foreign customers who in their individual services apply differing systems and methods. This is accepted by the Port Authority which is prepared to do its utmost for the various methods and systems to be applied in the best possible way.

Mr. Davidson

Glasgow, March 26, 1968: — I have pleasure in announcing that Mr. James P. Davidson, our General Manager, has been co-opted to serve as a Member of the Port Authority as permitted by Section 7(i) of the Clyde Port Authority Order Confirmation Act 1965.

This appointment reflects the outstanding contribution which Mr. Davidson has made to the work of the Authority during its first two years and is also in line with the modern practice of the larger Port Authorities of the United Kingdom.

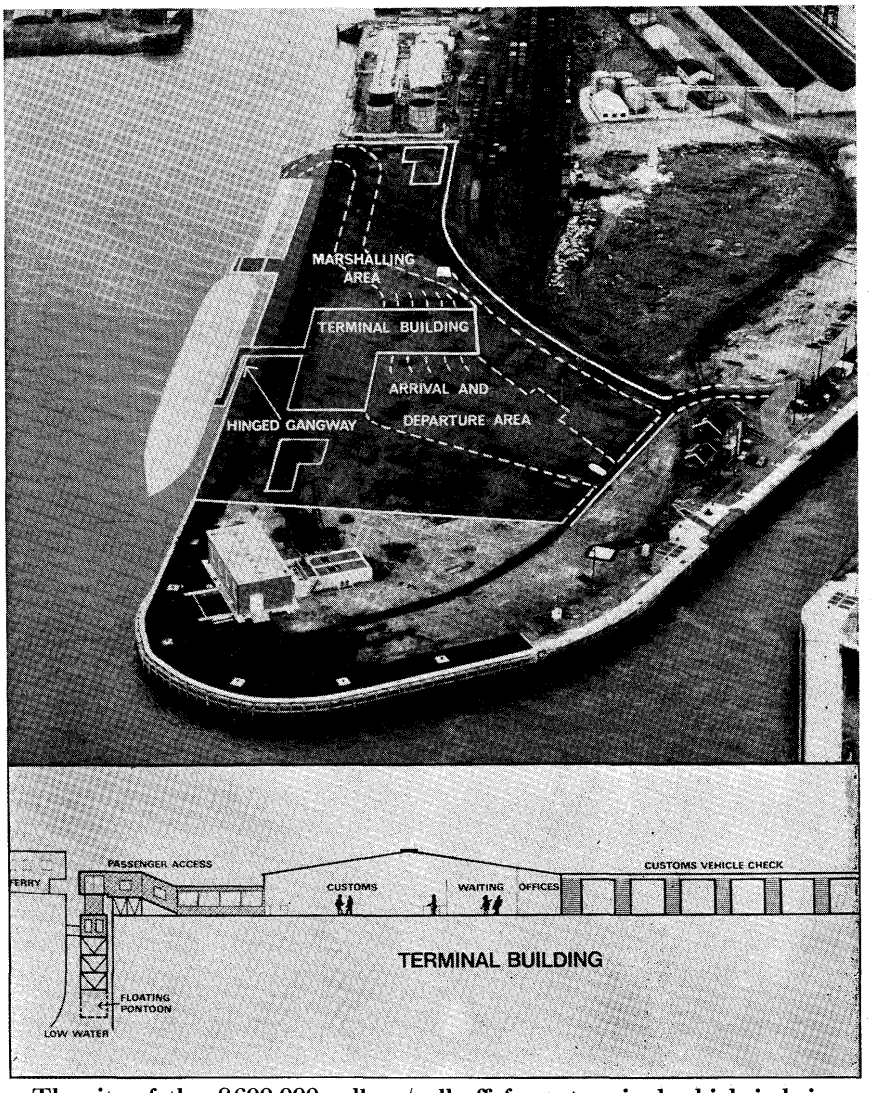
A. G. McCRAE,
Chairman.
Clyde Port Authority

New Cranes Orderd

Liverpool:—An order for twelve new 6 ton electric portal quayside cranes valued at more than £350,-000 has been placed with Stothert and Pitt Ltd., of Bath, by the Mersey Docks and Harbour Board.

This equipment is required for Vittoria Dock and Vittoria Wharf, Birkenhead, where a £1,750,000 scheme to provide four modernised export berths is under way. The main features of the development are two transit sheds each 600 ft. long and 200 ft. wide and each serving two berths. The new cranes will be erected on a 50 ft. wide quay margin.

New Swansea Terminal



The site of the £600,000 roll-on/roll-off ferry terminal which is being provided by the British Transport Docks Board on the River Tawe at Swansea. The new terminal is scheduled for completion by the Spring of 1969, when a passenger and cargo service to Cork will be inaugurated by B. & I. Line. It will include a 250 ft. hinged shore bridge enabling vessels to work at any state of tide; hardstanding areas and access roadway; and a combined Customs and Reception Hall provided with covered passenger access to the ship.

Other facilities will include a lorry park and dock workers' amenities. (Mersey Docks and Harbour Board)

New Side-Loader

Rouen: — The Rouen Port Authority has acquired a lateral fork-lift for handling heavy packages and containers. This engine, called "side-loader," 8 m long, 3.50 m wide and 4.50 m high, is equipped with a platform of 2.40 m width which can receive all types of con-

tainers. Its lifting side device, fork or lever, can stack containers three-high. The handiness is such that the handling is assured at the storing space as well as directly onto or from wagons or trucks. Also, this forklift can handle timbers and all of heavy packages.

This engine has been chosen for its ease of travelling (40 km/h), a very appreciative quality at Rouen where the port extends the length of the Seine. It can therefore arrive rapidly at places where work is required.

The handling operations off or to the ship are assured by the floating crane "Turney" of the Authority. This crane, with a capacity for lifting 30 tons at 20 m beam span, is equipped with two sets of motor screws for a mobility of 10 km/h, a handiness and an autonomy comparable to those of a forklift. The "Turney" can receive on its deck up to ten 20-ft containers at one time. The containers are then discharged on land where the "side-loader" takes the relay. This system can function at all the posts of the quay, pending the assignment of a quay for this type of traffic.

The coordinated force of these two engines thus permits the Rouen Port to assure a flexible transition from the classic system of merchandise transport to the generalization of container system. (Rouen Port Authority)

USL Container Service

Hamburg:—A most significant decision concerning North Atlantic container shipments was arrived at in mid-January: Hamburg will be the only German port of call in the United States Lines' all-container ship service between the US East Coast and Europe. This was announced by General Austin Montgomery on behalf of the United States Lines President, Alexander Purdon, at a joint press conference of the USL and the Hamburger Hafen- und Lagerhaus-Aktiengesellschaft in the Hanseatic City. The new service, with weekly sailings envisaged, will start in April after the first of the six USL all-container ships is commissioned. The vessels will be dispatched at the Burchardkai Container Terminal.

General Montgomery said his company's decision on Harmburg had been made after lengthy and careful investigations of the conditions and data, and he mentioned particularly the long and satisfactory cooperation between the United States Lines and the Hanse Town.

On the part of the Board of HHLA, Director Werner Schröder declared that this service of the USL would create an efficient bridge across the Atlantic to Hamburg with a fleet of the fastest all-container vessels ever flying the US flag. When the service is in full swing in fall 1968, Hamburg's Container Terminal will have doubled its capacity. Also, the opportunity to work a vessel with two container loading bridges simultaneously is not offered in any other European port in this form.

The advantages the Hamburg Terminal offers, Mr. Schröder continued, would benefit the shipping companies in particular. The centralized, though individual, dispatch of all full-container vessels also means a concentration of the in and out traffic, and would facilitate especially the feeder traffic by sea.

The President of the Hamburg Department for Economics and Transport, Senator Helmuth Kern, called the decision of the United States Lines "a milestone in the post-war history of the Port of Hamburg." With it, Hamburg had become a full member of the select club of European ports with regular all-container services.

By autumn this year, the Container Terminal Hamburg will have a total of four ship's berths, two for all- and two for semi-container ships, with 120,000 square metres of paved-in area on the quayside. In addition to the two container handling cranes (30 and 45 tons lifting capacity) several heavy lift cranes, Van Carriers, straddle carriers, mobile cranes and tractors as well as ample other gear will be available for loading and unloading the container vessels. (Ship Via Hamburg)

Barcelona in 1967

Barcelona: — The year that has just finished has been characterised by the fact that it has seen the finish of the work laid down for the First Four Year Harbour Plan.

The last items of this Plan have been started in 1967 and many of them have been completed. The most important works have been taken to an advanced stage so that the first modernisation phase will be completed by the end of 1968.

Planning-wise for 1968, the Second Four Year Harbour Plan was drawn up and its schedule was laid down in principle.

Practically all the paving works were finished since the last ones to be finished off are those situated behind the Deposito Quay and are already in an advanced stage.

23 new electric wharf cranes were put into service and another 24 are being prepared which will complete the handling equipment for the quays.

The new area being prepared in the inner Port has made great progress with some very important understructure work. The access channel to the inner docks has been dredged to a depth of 12 metres and butane gas is already being unloaded at the far end.

As far as leased out work is concerned, the South Esplanade of the Counterdike has been finished and the Natural Gas plant for the regasification of Libyan gas is making great strides. CAMPSA has also started some new work which is progressing rapidly on a new wharf for tankers.

The total sum invested in works by the Port Authority during the year has been 305,500,000 pesetas.

Traffic

The goods traffic figures reach 6,961,990 tons, of which 2,185,439 correspond to general cargo; 1,988,-822 to bulk solids and 2,787,729 to bulk liquids and petroleum products.

Thus it is seen that last year's traffic volume has not only been maintained, but even increased slightly.

The number of vessels entering the Port was 7,700 with a gross tonnage of 25,808,734. These figures are also slightly higher than those of last year. (Boletin Informativo, January)

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