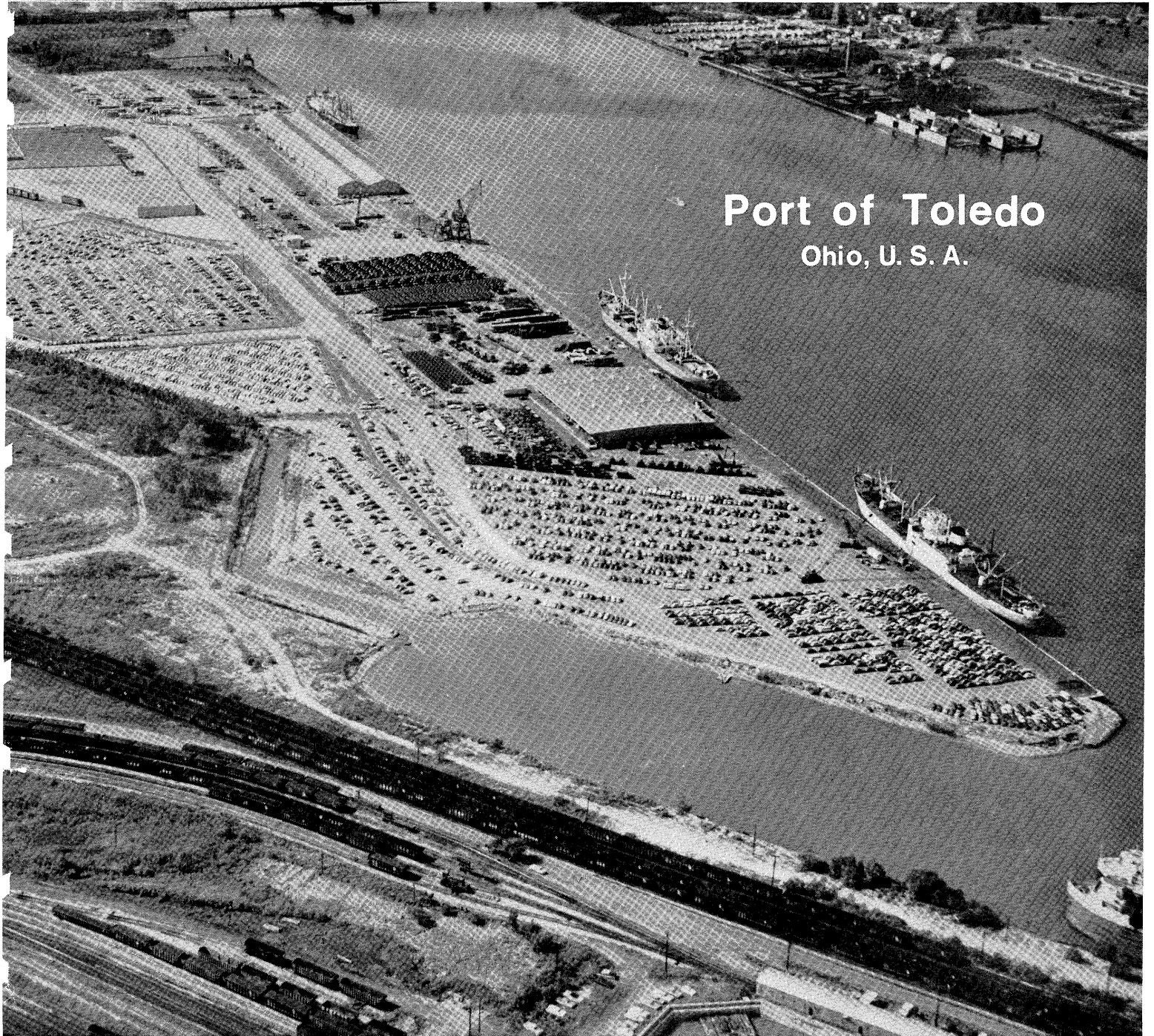


PORTS *and* HARBORS

March, 1970 Vol.15, No.3

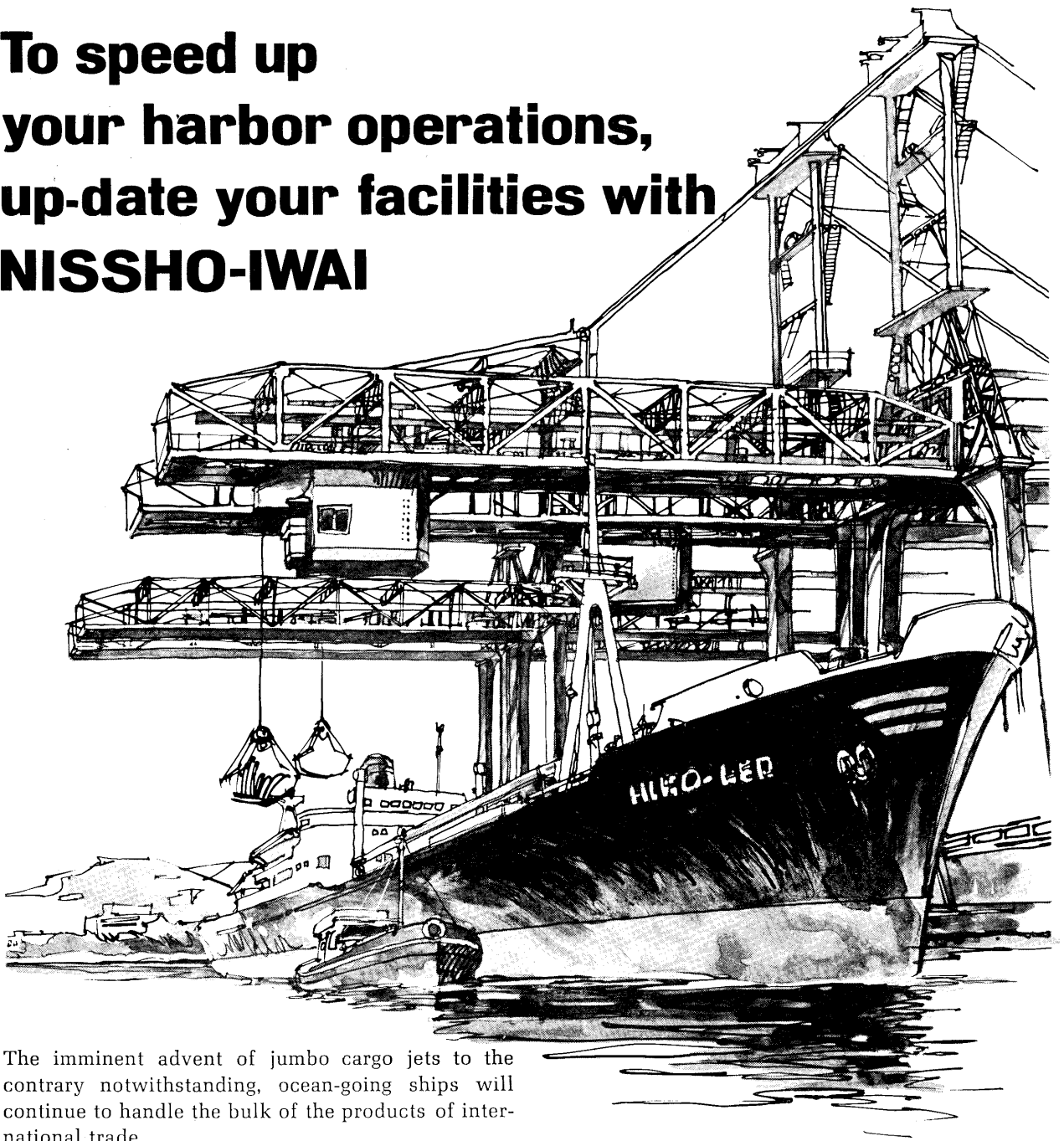


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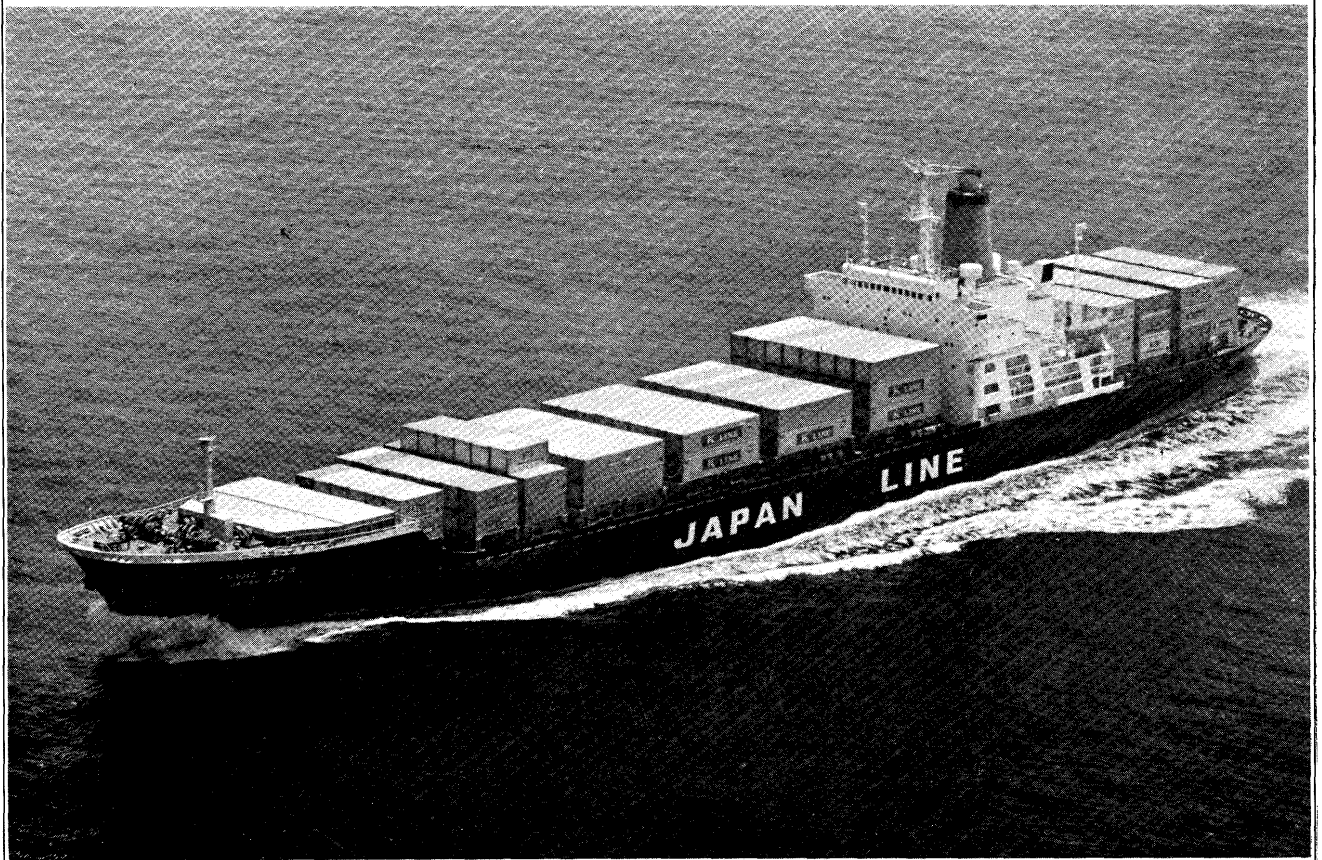
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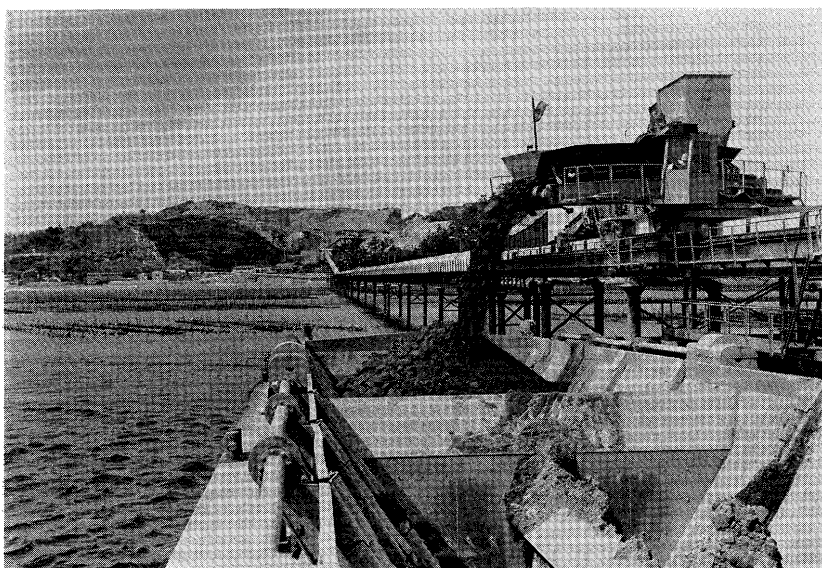
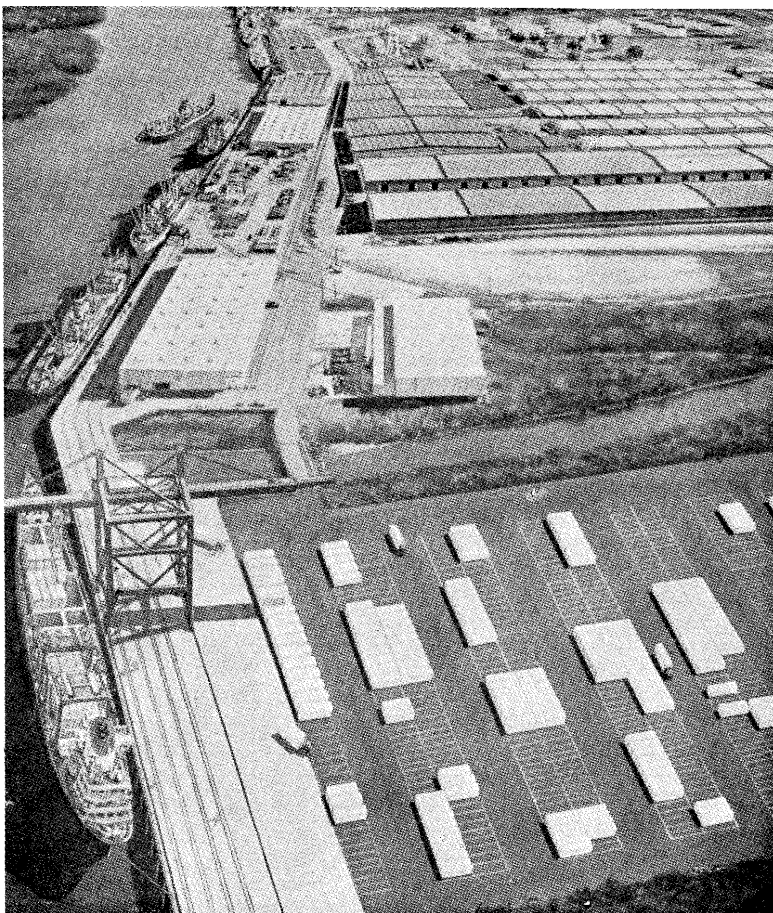
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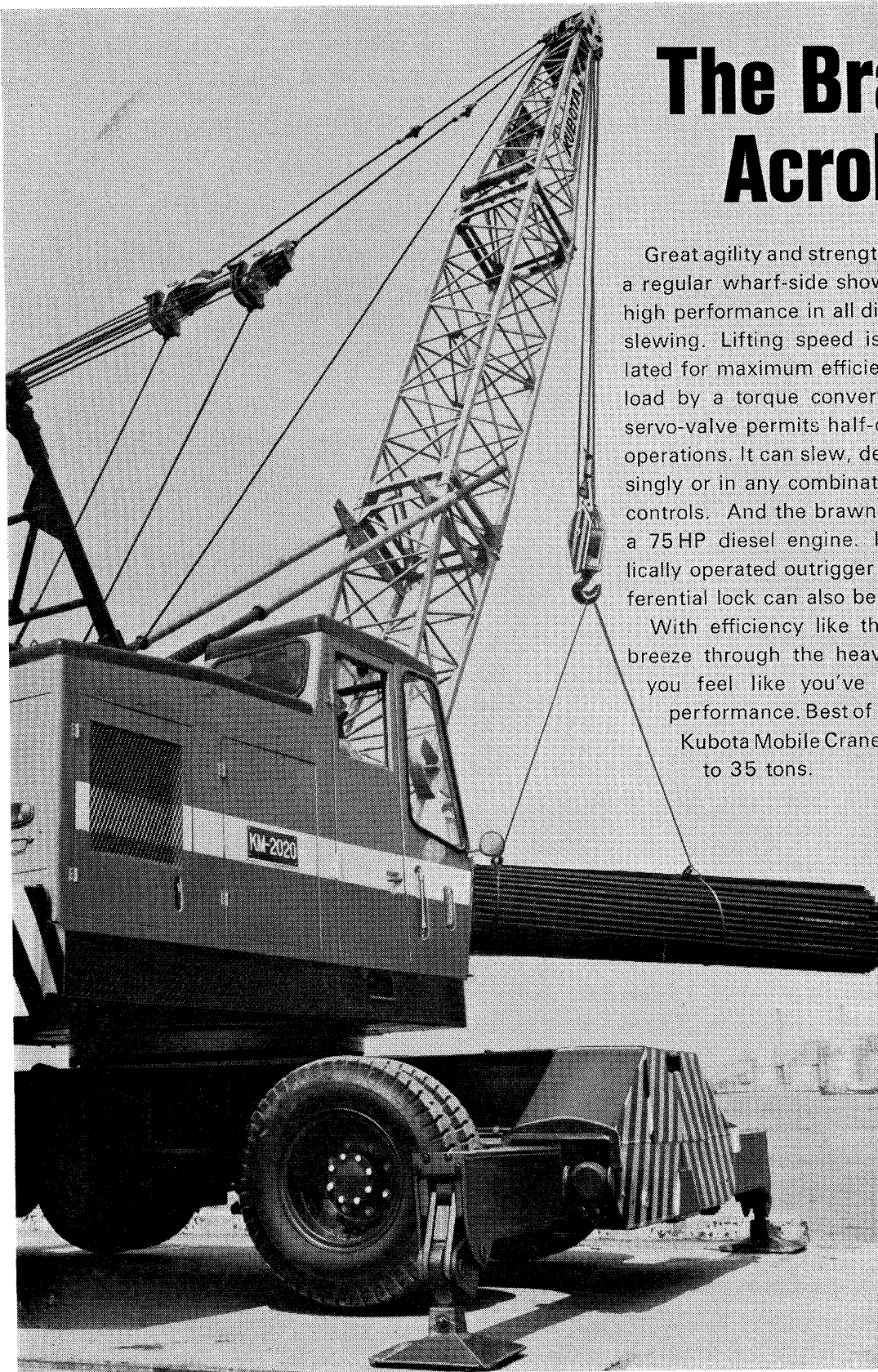
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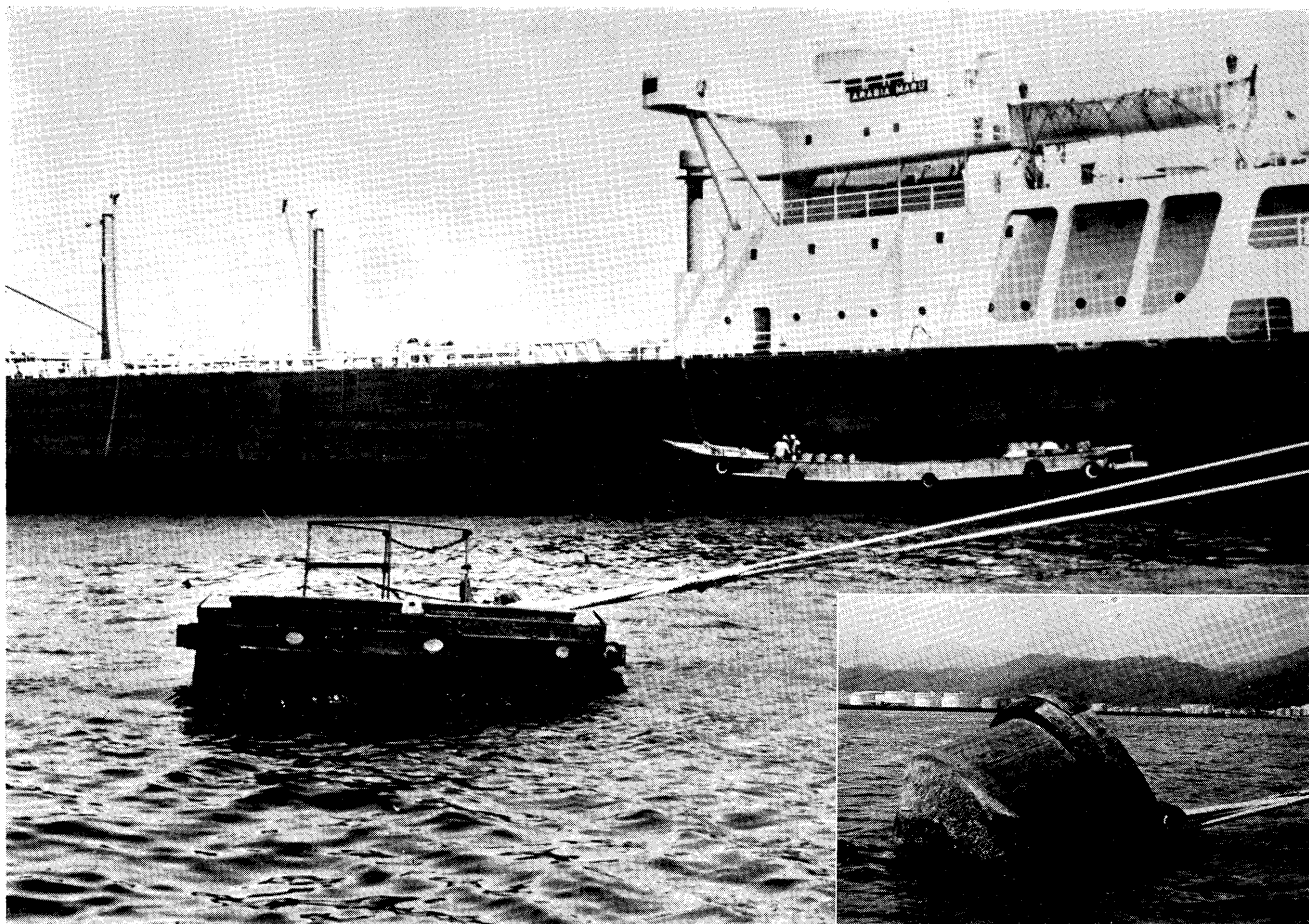
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Editor: Yoshio Hayashi

March, 1970 Vol. 15, No. 3

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The Cover: Port of Toledo

The Port of Toledo's overseas cargo center encompasses 125 acres. Two stevedoring firms, a bulk liquid tank farm, and the Great Lakes' first foreign trade zone are located on the site. Large back-up areas directly behind dockside are ideal for storage of containerized goods as well as automobiles and other vehicles.

PORTS *and* HARBORS

Forum on Port Problems :

Address by
Howard A. Mann
Chairman
National Harbours Board of Canada

to the 43rd Annual Convention
The Automotive Transport Association
of Ontario (Inc.)
at the
Royal York Hotel, Toronto
at 2 : 30 P.M.
Monday, November 24, 1969



Mr. Howard A. Mann

Canadian Ports and the Container

We are in an era when just about everything is being questioned. What has been done in the past rarely meets today's criteria. Indeed we are in an era of experimentation to find new methods of performing tasks, methods which have not changed in many generations.

This is, of course, due to the rapid technological changes which are taking place in every facet of our lives. There is not much risk in predicting that there will be even more questioning in the future.

The vast changes that we have seen in the transportation industry in the last few years are perfect evidence of this. You in the automotive transport industry know only too well the massive investments required to even keep up with new advances in technology which are continually being thrust at you.

The same situation, indeed, faces us in the management of ports. Cargo-handling methods are changing and investments to keep pace with these changes have become

massive.

Back in 1961 the National Harbours Board sponsored the first Canadian seminar on containers here in Toronto. We had an extremely good attendance; a lot of people, it seems, were curious about what was then a relatively new development. But we had trouble convincing people in our follow-up that they might get together with us to explore what applications the "magic box" might have in Canada.

That day in 1961 seems like a long time ago now. Since that time container fever has gripped practically everyone in the shipping world. Shipping lines are spending hundreds of millions of dollars to equip themselves with container vessels; container cranes are sprouting all over the world and the manufacturers of containers and container handling equipment are enjoying a heyday.

Some of these developments are well thought out and many of them will survive and prosper. But, unfortunately, as is so often the case when there is a headlong rush into something new, there will be casualties. Among them will not only be

shipping lines but also some ports. We in the National Harbours Board will try to do our best not to be numbered among these casualties.

But a port can become a casualty also by **not** moving into the container age. Or by not being able to do so because of its location or some other characteristics such as scarcity of land.

Let me assure you that among the port authorities of the world there is a lot of soul-searching today. Going into the container game is, in some respects, more risky for a port authority than it is for a shipping line.

For the shipping company the investment is primarily in ships and their containers. This is a relatively mobile investment. If a particular service does not pan out, the vessel might be switched to another route, if that is possible, or it might be sold to another steamship line, probably at some sacrifice.

For the port authority the situation is somewhat different. A container terminal is a stationary facility. The port authority provides a berth, paved back-up land, buildings, and in many cases, the container cranes which come in at approximately \$1 million each. Once the decision is made to

provide a container terminal, much of the investment in it is there to stay for a relatively long time. All the more reason, therefore, why the port authority should at least keep its eyes open before it jumps into the container ring.

More and more information on the implications of containers in the Canadian context will become necessary. I am pleased that the Canadian Transport Commission is now conducting a study into containerization with a view to developing a better statistical and analytical base from which decisions can be taken. Whether or not it will be possible to develop a National container policy in Canada is not certain. To quite some extent it will always be necessary for us to have regard to the competitive pressures which our ports experience from U.S. ports and the competitive pressures which we can exert on U.S. ports. To quite some extent, therefore, we must have regard to the views which shipping companies have of locations for container facilities in Canada which best suit their particular transport system.

It is significant to look at what is already happening with regard to container movements.

The essence of the establishment of container services is speed. We all know that time is money and the aim of the shipping lines is to make the utmost utilizations of their ships. These ships are designed for a rapid transport system and those now in service travel at speeds of more than 20 knots. As an example, sailing time between Manchester and Montreal is 6½ days and turnaround time at the Montreal terminal is less than 48 hours.

Although it is too early to talk definitively of movement patterns for containers on the Canadian West Coast, two systems are developing at our Eastern ports which we describe as direct and tangential.

The services penetrating the St. Lawrence River to Quebec and Montreal are direct, that is, there is only one North American port-of-call involved in the system.

The tangential system appears to be developing on the East Coast where Halifax and Saint John can

serve as major ports-of-call for services across the North Atlantic to Canada, the United States and beyond.

What about the Lake Ports in the container Age?

While such port locations as Belleville, Oshawa, Toronto, Port Credit and Hamilton are practically within shouting distance right in the heart of Canada's major markets and each have excellent expressway and rail services at their doorstep, there is no evidence that any cellular container ships of the type serving Montreal, Quebec, Halifax and Saint John, are being planned for Great Lakes Service. There is little doubt that the necessarily slower speed to ships moving through the St. Lawrence Seaway lock system would tend to inhibit the shipowners' goal of maximum utilization of container ships. In addition, the container ships now in service have a draft in excess of Seaway dimensions when fully loaded and perhaps the economics dictate that these ships operate at full capacity.

However, both CP Rail and Canadian National have developed major container distribution terminals here in Toronto with the required specialized equipment for the handling of the "big boxes". Existing conventional facilities in the Port of Toronto are also being used for the transfer of containers being landed at eastern ports and moved in overland.

The initial success of the Montreal terminal has been quite amazing. Manchester Liners originally planned to place three cellular ships on this service but since have ordered a fourth ship to provide more frequent calls. The Manchester ships carry 500 containers and call at Montreal every 6½ days winter and summer. When the fourth ship enters service the frequency will be every five days.

The Montreal terminal can easily handle 1,000 containers a week at present. The addition of a second crane at the terminal next year will obviously increase this capacity and also is expected to cut the ships' turnaround time to 24 hours.

Dart Containerline, a Canadian-British-Belgium Consortium, has be-

gun an interim service to Halifax, with its own 1,500-container cellular ships to be in operation next year at the same time as the container terminal with its cranes is completed.

CP Ships has a temporary service to Quebec with full operations in 1970 when both the terminal and containerships capable of carrying 750 containers are in year-round service. Head-Donaldson Line has also announced a service to Quebec for next year using facilities at Beauport Flats through la Société d'Arimage des Battures de Beauport, a lessee of the National Harbours Board.

Recently CP Rail, McLean Kennedy and A.C.T. announced plans to provide a service to Saint John, also to start next year pending the establishment of a full container terminal at this New Brunswick port.

A consortium of six Japanese lines is to start a service through Vancouver in 1970. N.H.B. is installing a container crane at Centennial Pier to provide an interim facility until a full container terminal is developed.

We, at N.H.B., are rather proud that all the planned and existing overseas container terminals are located in ports under our jurisdiction. This, of course, places N.H.B. in the forefront of container movements in Canada. And the value of facilities to be used by container lines in N.H.B. ports will be in the vicinity of \$35,000,000.

An interesting type of container terminal is the one at Montreal. Its consolidation shed of 35,000 square feet has 20 container doors and there are 12 bays for trucks. It is estimated that the turnaround time of a truck loading two 20-foot containers averages little more than 20 minutes. Some of these are flat-bed trailers which are then put on the railways' piggyback service.

The Montreal terminal, now one year old, handles containers for both door-to-door service and break-bulk. Some of the door-to-door business is hauled by truck, although the greater part moves by rail. Conversely, much of the break-bulk is received and delivered by truck. The tendency to increasing door-to-door service is quite evident.

The typical container terminal

has between 10 and 15 acres of backup land for each ship berth. This is all fenced and lighted, adding to the security of handling by container. The entire area is paved and, as an example, the Montreal terminal has four straddle carriers to transport the containers from the crane to the loading area or the consolidation shed. In addition there is a railcar straddle loader.

Besides the consolidation shed, there is an office building, a garage for repairs to equipment and, in the case of Montreal, a snow-shed to make life just a little easier in inclement weather for both the containers and the crews working the equipment.

Cellular container ships should not be confused with the large liquid and dry bulk carriers now being built or envisaged around the world. Most container ships are of relatively low tonnage and hence do not require extreme water depths. The ships on the St. Lawrence River trade are all of drafts which make most ports on the river easily accessible to them.

Typical of the container cranes being used in world ports is the one now on order for the Port of Vancouver. It will have a 40-ton capacity, with an outreach of 135 feet and a backreach of 40 feet.

The loading and unloading cycle is intended to be about three minutes, that is, one container being stowed and another being landed in the one cycle. The Furness Withy operation in Montreal regularly reaches this target.

It is interesting to note that there has been little use in Canada of 40-foot containers. Most have been of the eight - by - eight - by - twenty classification. However, some cranes now on order will have capability of handling either size.

The railways, which seemed to be embattled by aggressive trucking organizations in the fifties and early sixties, now seem to have got their second wind and have come up with great advances in their thinking and in equipment in more recent years.

This is especially true in the field of containers. First was the introduction of the piggyback service which was a natural forerunner to

container services. Now the railways are becoming involved in sophisticating the unit train system.

The ideal unit train concept is that of a full train of continuously coupled, special-purpose rail cars. This involves regular high-speed operations, on a point-to-point basis, without marshalling, over standardized high-volume routes. Specially designed terminals with high-speed handling equipment act as the efficient interface with other modes of transport.

There was a British study made in 1967 on containerization which showed that the application of the unit train concept results in very high utilization of capital equipment insofar as it concerns bulk cargo. The same unit train concept could be applied to general cargo transportation, the study said, with the key requirements being the standardized container, high volumes and high-efficiency interchanges with other modes of transport.

The study showed that the cost of road transport was less sensitive to development of container services than other modes. It said the cost advantages to road transport of a standardized container are limited with regard to improved utilization, citing as a main problem the lack of control over the public highways so that container movements become slowed and irregular due to road congestion resulting from a highly-variable traffic density. It also said that road transport could not take advantage of economies of scale because of limitations to the size of vehicles restricting the productivity of both labour and capital.

The key advantage of road transport, the study concluded, was its flexibility to operate on any route. This was of prime importance when many routes must be used but of reduced importance when standardized routes were involved.

The study cited the congestion on the New Jersey Turnpike as a hindrance to moving containers from the Port Elizabeth container complex of the Port of New York Authority. It is interesting to note that Port Elizabeth has no direct

rail capability.

In contrast, here in Canada, all the container terminals now operating or being developed have involved the railways directly with the shipping lines in the system planning. The shipping companies have so far been predominantly rail-oriented in their Canadian container services.

I am not aware of any situation at N.H.B. ports where a trucking group has been as directly involved in the planning of a container terminal, although there are truck access routes at the existing and developing terminals.

I hope you will not think me presumptuous if I suggest that the trucking industry get plugged into the developing container movement more directly if it wants a share of the pie.

Should one of your committees become involved in studying containers, you can rest assured of the wholehearted co-operation of the National Harbours Board in your research.

Of course, everyone in the container business is asking questions as to the future. We in Canada might ask many questions ourselves.

In relation to Canada's trade, should there be further proliferation of container terminals in Canadian ports?

How much Canadian import and export general cargo will be break-bulk? What advantages or disadvantages exist between break-bulk containers, palletized cargo, roll-on roll-off and other forms of cargo-handling? And what are the possibilities of the B.O.B. (Barge-on-Board) or L.A.S.H. (Lighter-aboard-Ship) concept?

What will the effect of containerization be on international trade in routing cargo and pricing the product delivered to the consumer?

How far should government go in financing container terminals?

Indeed, there is no doubt that you in the automotive transport industry should have an important input into the future of the "magic box" insofar as Canada is concerned.

The “DEPOLLUTION BOAT”

a solution to the problem of massive pollution by hydrocarbons

(Reprinted from “French Technical Bulletin”

No. 4 1969.)

Of the many services rendered to man by the oceans, there is one that has gone almost unnoticed by man until the ‘fifties, namely that of using the sea as a huge dustbin, with impunity, until the day when a state of unbalance was reached between the amounts of crude hydrocarbons discharged at sea and the biodegradability capability of the sea to deal with them.

The **massive pollution** of the oceans is essentially caused by hydrocarbons. Nonetheless, pollution by radioactive waste and the increasingly concerning pollution of estuaries by that of rivers should be remembered. Here, we shall only be dealing with pollution by hydrocarbons, to which there are two aspects: continuous or accidental pollution.

Continuous pollution is caused by the method of “de-gassing” tankers which have to clean their tanks during the return trip, in ballast. The final stage of this cleaning method consists in simply discharging the polluted washing water into the sea. About 5 million tons of crude are thus deliberately discharged every year into the oceans of the world. Happily, there are several reasons for hoping that this tonnage will quickly fall off:

—first, the effects of an international agreement are beginning to become felt:

In 1954, a convention was to control discharges of hydrocarbons; it was considerably amended in 1962 to strengthen the acts forbidden and means of prevention. This amended convention came into force in May 1967 and its provisions can be summarized as follows:

- vessels with a deadweight tonnage of over 20,000 tons built

after 18th May 1968 can no longer discharge hydrocarbons into the sea;

- the zones in which discharges are forbidden have been considerably increased: they cover the waters situated less than 100 miles from the coastline and comprise a considerable part of the North Atlantic.
- the techniques for treating the tank washing waters and for recovering the crude have advanced considerably. Mention can be made of the SEREP system of static settling and the “top on load” method;
- lastly, the dimensions of the supertankers are such that there is an unquestionable economic advantage to recovering the crude petroleum (in all 5 M tons).

The risk of **accidental pollution** has always existed (particularly during the war when tankers were torpedoed), but was particularly underscored by the “TORREY CANYON” incident, which was the first tanker in the world of over 100,000 tons to be wrecked.

Furthermore, it should be pointed out that in addition to tankers being wrecked or intercepted, there are other risks of massive pollution: these come from tankers which sunk during the war with their cargo intact and which may be freed some day by slow corrosion. However, more than anything else, pollution may result from offshore drillings, where uncontrolled “blow outs” occur even more frequently than they do when drilling on land: such was the case for the “tide of oil” at Santa Barbara, off California.

The “TORREY CANYON” incident provided a good occasion for observing the behaviour of crude petroleum and trying out a number

of methods of combating it: the conclusions were that new methods of combating oil pollution on an appropriate scale with the accident had to be conceived.

The following was remarked during this accident:

- crude petroleum remained in a considerable thickness and as a concentrated mass for a long period: the first 30,000 tons to escape remained some 10 days in the area of the accident;
- three weeks went by before the first point on the French shore was reached, and only after 50 days did the “second wave” come in;
- the crude rapidly formed an emulsion with the seawater under the effect of swell. Very quickly, the emulsion reached a stable form which contains 80% seawater; it then resembles a brown froth. Its density approaches that of seawater, which explains the tendency for slivers of emulsion to sink and remain suspended between the two layers of water and then to reappear a few hours or a few days later;
- the emulsions or the crude petroleum form slivers of widely varying size (from a few tens to several hundred metres in length). These slivers become elongated in the direction of the wind which it appears of greater consequence than the currents, contrary to what might have been thought.

The parameters which affect the behaviour of the crude are essentially linked to its characteristics (density and viscosity) and the weather conditions (wind, swell, temperature of the sea and the air).

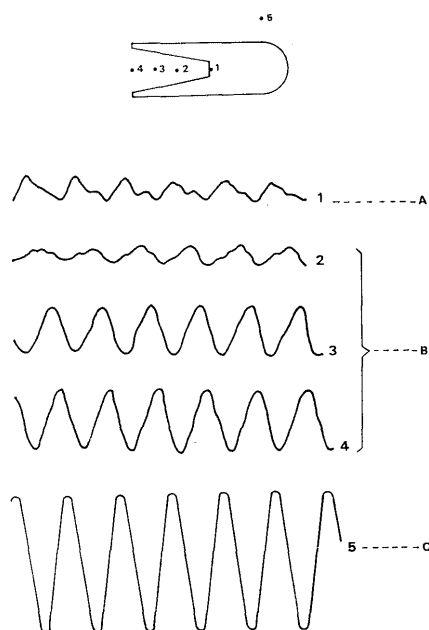
In the face of this accidental massive pollution, several methods of combating it were employed and can be classified into two types:

—chemical means:

the detergents used, the purpose of which is to disperse the crude so as to increase the area offered to the action of the bacteria which “eat” it, turned out to be more harmful than effective owing to the direct destructive effects they had on the flora and fauna.

The coagulating products intended to cause the petrol to

Figure 1



- A. Displacement of valve
 B. Dampening of swell
 C. Swell $h=4$ m. $T=8.5$ sec.

Schematics of the dampening effect on a 4 m and 8 second swell obtained at points 1, 2, 3 and 4.

sink or to make it easier to pick up, only shift the problem to another plane;

As for fire, started by products such as pyraxon, this can not be maintained owing to the very rapid evaporation of the light products and the cooling effect of the mass of seawater;

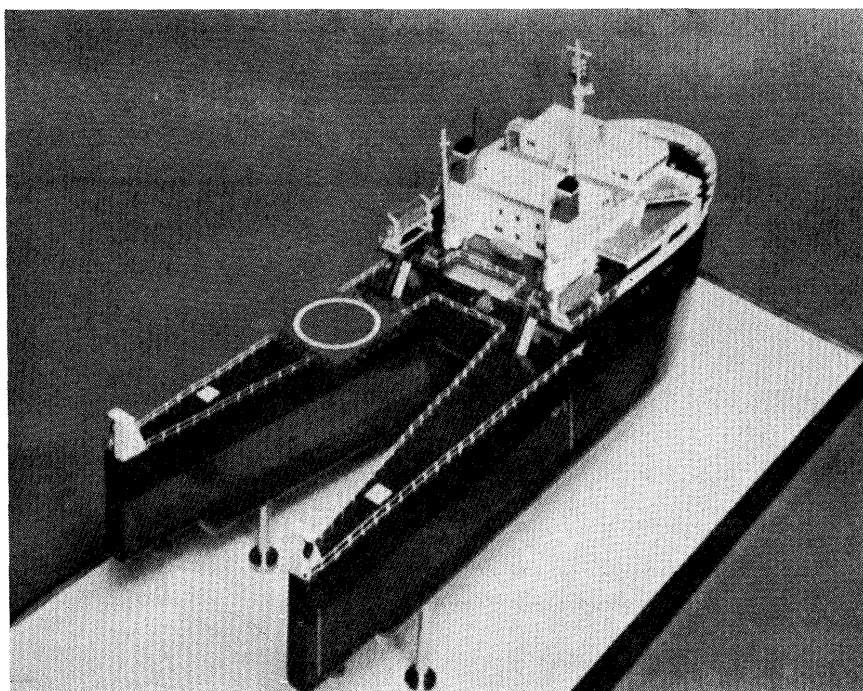
—nor were mechanical means any more successful:

The use of dams also only defers the solution of the problem; in any event, most of the dams turned out to be very fragile and of little effect.

Seeding the slicks with straw or coagulating products (chalk, etc.) and then picking it up is very inefficient.

Direct pumping was attempted by the French Navy from the PETROBOURG, a 3000 ton coastal tanker. 1200 tons of crude were recovered in this way under good working conditions (a thick layer and in favourable weather conditions).

In order to draw a conclusion from this "imposed" experiment, one may say that to combat the effects of the accident, considerable efforts



Mock-up of the "depolluting boat" which is to be used to combat heavy pollution by hydrocarbons. (Société Technocéan)

were deployed, but none of the methods used turned out to be on a par with the scope of the phenomenon and that even by improving or increasing these methods, no solution was in sight.

What is therefore needed, is a specific method on a scale comparable to that of the accident.

Using this method, it should be possible to collect let us say 500,000 tons of emulsion (representing for instance a thickness of 10 cm over an area of 5 km²) within a maximum delay of 20 days, beyond which the efficiency of the operation decreases too much.

Assuming that the 50% of the time is spent on effective work, the rest of the time will be devoted to seeking out for oil slicks, and getting into position, and assuming that work at night is of less efficiency, there will be 250 hours of work available.

We have designed a vessel adapted to this type of work, which will have to fulfil the following three functions:

- pick up a mixture of seawater/emulsion (or in the optimum case, crude petroleum);
- process this mixture to enrich it and extract the crude petroleum;
- store or destroy the crude petroleum recovered.

Naturally, the first function is

the most difficult to fulfil: we have observed that the various mechanical methods such as pumping, direct discharge, the "skimming roller", the absorbant belt, etc. operated satisfactorily in calm water, but very quickly became unusable immediately the surface of the water was agitated. We have therefore sought to create conditions of calm water, and it is the idea of creating an artificial harbour in the open sea that has led us to design a very wide ship's hull, the rear section of which divides into two hulls forming a catamaran.

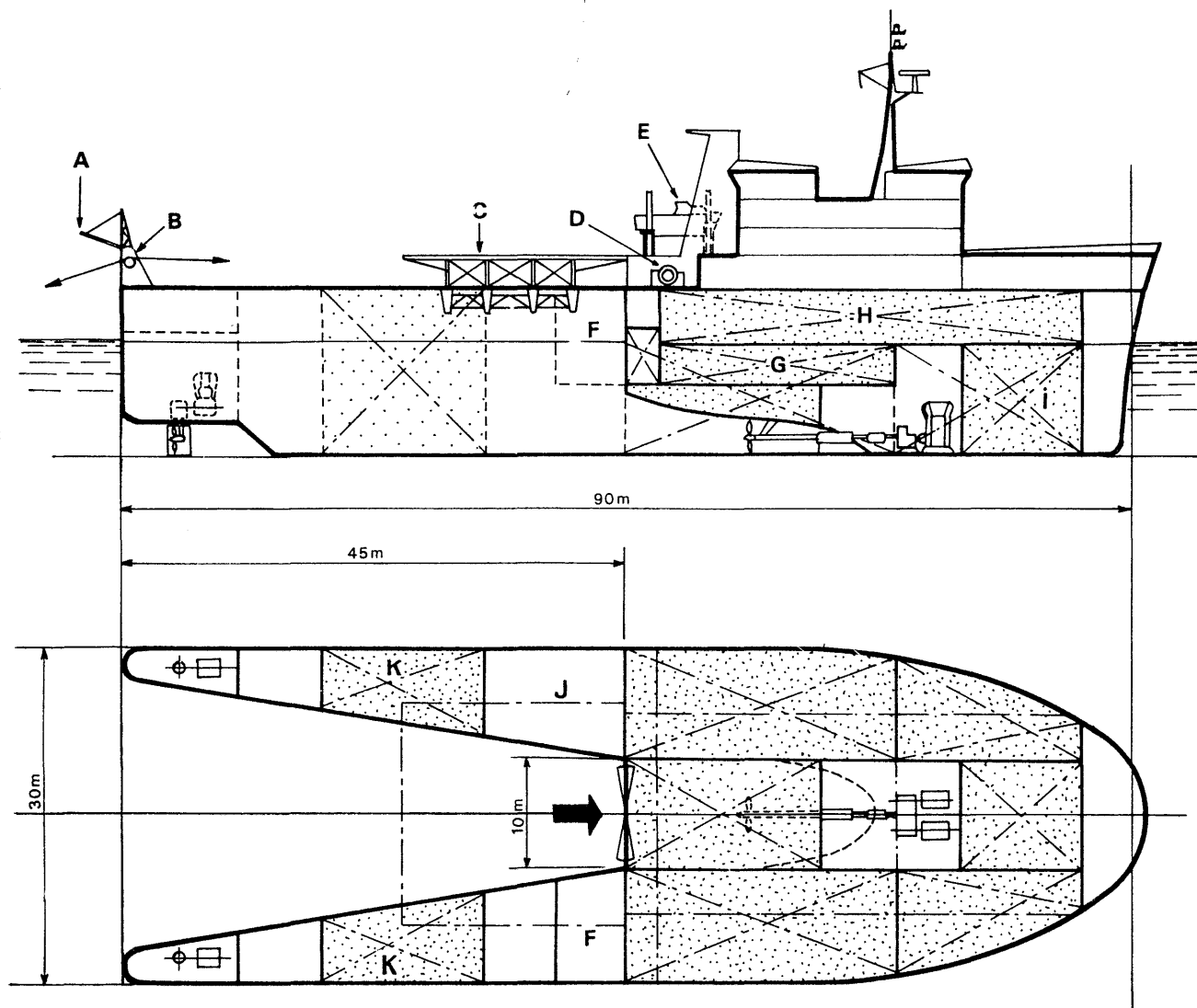
Stern on to the swell, stopped or slowly running before the swell, this vessel cuts off the area of sea between the two hulls from the surface agitation. In the centre of the boat, where the two hulls come together, a direct inlet valve is installed; its dimensions can be adjusted to suit the pollution problem. Its movements (it is connected to the boat) are low, since it is near the centre of rotation; this being so, it will be easy to servo-control it to make it follow the residual movements of the surface with relation to the vessel in this area.

Thereafter, the size of the hull had to be decided, allowing for set conditions, in particular the need to pick up 500,000 tons of emulsion

(Continued on Page 13)

DEPOLLUTION VESSEL

Figure 2



A - Beak for picking up towing cable
 B - Towing cable failead
 C - Helicopter platform
 D - Net winch

E - Motor skiff
 F - Pump chamber
 G - Settling

H - 5 000 m³ settling tank
 I - 7 000 m³ holds
 J - Generator room
 K - FO 1 500 m³

in 250 hours. Assuming an average pick up efficiency of 20% this would amount to 2,500,000 tons, i.e., 10,000 tons of mixture per hour to be picked up, containing an average of 400 tons of crude oil.

We have made the vessel as wide as it can be made compatible with the laws of naval architecture, so as to sweep the largest possible surface; the lens shape of the slicks of crude facilitate this method of collection, as also the conicity of the two rear hulls helps to increase the thickness of the layer picked up.

It might also be considered that the draught of the catamaran hulls is an important dampening factor, but tests in hydraulic tanks have not confirmed this.

The shape adopted stems from a number of special arrangements: to maintain good manoeuvrability during depolluting operations, which take place when moving astern, we have installed two propulsion units at the end of each catamaran hull. These "SHOTTEL" or "VOITH" type propulsion units enable the ship's heading to be held even under poor conditions.

Another, conventional, propulsion unit is installed in the tunnel beneath the valve; it enables the mass of seawater which lies beneath the layer to be picked up and is trapped between the two hulls and which otherwise would be thrust towards the surface layer by the vessel to be taken in astern and discharged ahead. In addition, when moving forward (when approaching the working station), the power of this propulsion unit is added to those of the two others.

When moving forward, the vessel will make 12 knots, whereas when working astern, the speed can vary from 0 to 4 or even 6 knots, depending on the pollution case encountered and the state of the sea.

The second function to be fulfilled is that of processing the mixture picked up.

Operation of oil fields raises similar problems and separation techniques have long since been developed; it is also possible to extrapolate

the devices which enable the washing water of tankers to be purified.

A number of tests on various types of crude showed us that most of them settle by gravity in half an hour. Aboard the depollution vessel, a 5000 m³ settling tank was thus set aside. Just as on the oil field in production, it is planned to use demulsifying agents.

When this stage is over, the crude oil obtained must then be got rid of.

Storage and subsequent recovery of the crude is a solution which would enable the operation to be profitable. However, the volume necessary raises a problem. 6 to 8000 m³ of "buffer" stock can be kept aboard, which would represent from 10 to 20 hours of depollution work. This is not sufficient time to requisition and bring in empty tankers to take over the load. It has therefore been planned to carry aboard flexible tanks which are long neoprene-coated cigar-shaped objects with a unit capacity of over 1000 m³ and which would be filled at sea and then recovered by towing to a tanker port.

Another solution is to destroy the crude recovered. By burning this in boilers, this would present among others, the advantage of supplying more than enough heat to re-heat the mixture already purified from its water and speed up the settling process.

Among the various plant on this boat, mention may be made of devices for distributing chemical products and for laying and storing nets and barrages.

In general, the vessel has been built along the lines used for tankers which gives it the possibility of being used for "trempling" petroleum products.

Similarly, it should be pointed out that the shape of its hull makes it usable as a service vessel or tender for an oceanography vessel (bathyscaphe, "argyronète", etc.).

Although the cost of this vessel has not yet been worked out, one can say that the present rival methods offering the same possibilities are much more expensive.

Finally, it should be mentioned that a contract from the General Secretariat for the French Navy has enabled feasibility tests to be carried out in the Carène Basin in Paris. These have led to the following conclusions:

—firstly, the movements of the liquid surface with relation to the inlet valve are in the one metre range (± 0.5 m) for all cases of swell and that as a depollution facility, this type of boat is perfectly well suited to the objective set;

—secondly, the artificial harbour effect is effective for a range of swells corresponding to well defined seas, such as the Mediterranean or the North Sea. Also, for other frequencies, the use of structural appendices and certain other parameters such as the speed astern, enable the range of frequencies providing an advantageous dampening of the swell to be shifted.

J. PICARD
Engineer in Chief
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Economic Activity in 1968 and its Influence on the Port Economy

*(Extracts from a Port of Marseilles
Authority publication "traffic in 1968")*

The economic year has been more marked by the French internal situation than by international political events, the influence of which is obvious in certain sectors, without ever being determinant.

IN THE WORLD

International conflicts continued without finding any solution, both in the middle East, where the closure of the Suez Canal was consequently prolonged, and in Viet Nam. This latter conflict has a considerable impact on the American economy as well as the economies of other Pacific countries, who have a slight tendency to disregard their trade with Europe. The end of hostilities will make an important production capacity and a powerful commercial fleet reavailable.

In Europe, the Czecho-Slovak crisis had no deep repercussions on our trade with the Eastern European countries, and if the Black Sea traffic arouses much hope for the future, it remains very limited at present.

Franco-Algerian trade, always narrowly linked with the political situation, is very vulnerable. Goods traffic has again decreased. Nevertheless the agreements concluded recently on the entrance and work of an Algerian labour force in France are a positive element for the Port of Marseilles which should see an increase in the number of passengers.

IN FRANCE

The French economy was made up of contrasts. Beginning uncertainly with the application of the new purchase tax, the economy underwent a period of recovery during the spring, when the events of May and June called it in question again, with work entirely at a standstill for one month in most sectors.

The consequences were diminish-

ing when the November monetary crisis started, and although quickly put to rights, the repercussions on the 1969 economy will still be felt.

Production

Internal production recorded an increase of about 3,5%, which is a rate nearly 2% inferior to forecasts. The investment programmes established by industrialists remain important despite difficulties encountered in 1968, and this is a favourable element for the future.

Employment

Unemployment, at the end of December, was diminishing for the third consecutive month, but has not yet returned to the April level. Let us note that in May there were 245.000 out of work, and that this figure reached 285.000 in June and dropped to 254.000 at the end of November.

Prices and Incomes

On the whole, and due to efforts made to limit it, the rise in prices has been considerable but not to the extent feared by many.

Incomes were increased 10% on the whole, following the Grenelle agreements. On an average, purchasing power increased 8,9% for the whole year, resulting in a 4% rise in consumption.

FOREIGN TRADE

Foreign Trade—Geographical Areas—

French foreign trade showed a 12% rise on exports, while imports recorded an increase of 13%. It should be noted that the highest increase concerns trade with the Common Market Countries, while trade with the Franc Zone is increasing far less than the overall trade average. This trend, which has been constant for several years, is a rather unfavourable factor for the ports and the Port of Marseilles in particular.

IN THE REGION

Vital Statistics and Employment

The fall in the birth rate continues, and nevertheless the population is increasing rapidly, as the region attracts immigrants from the other French provinces or foreign countries.

From the point of view of employment, the regional situation is a difficult one. At the end of October, the total unemployed stood at 36.682, including 13.404 skilled workers. Although it has been decreasing for 2 months, the number of unemployed remains at 3.000 more than at the period preceding the strikes. The presence of a considerable number of skilled workers amongst the unemployed is a factor which should make for a more rapid recovery, as any new industry is certain to find at least part of the skilled labour necessary.

Industrial and Agricultural Production

The trend is quite favourable. However, our region falls short of the increases recorded at the national level.

(in million francs)

| Period Zones | Imports | | | Exports | | |
|---------------------------------|---------|--------|--------|---------|--------|--------|
| | 1967 | 1968 | 68/67% | 1967 | 1968 | 68/67% |
| Europe | | | | | | |
| Common Market Countries | 26.657 | 32.697 | +22,7 | 23.223 | 26.965 | +16,1 |
| Other European Countries | 10.326 | 11.156 | + 8,0 | 14.069 | 14.731 | + 4,7 |
| Overseas | | | | | | |
| the Franc Zone | 16.759 | 17.779 | + 6,1 | 11.107 | 12.915 | +16,3 |
| Countries within the Franc Zone | 7.509 | 7.531 | + 0,3 | 7.799 | 8.202 | + 5,2 |
| Total | 61.251 | 69.163 | +12,9 | 56.198 | 62.813 | +11,8 |

Despite production losses due to months of strike, certain sectors are reaching a good level and making considerable recovery, particularly the metal industries, naval construction, with well filled order-books, has extracted itself from the delicate situation of the preceding years. Other sectors are also making progress: electrical and mechanical construction, chemical and petroleum industries (+8%).

The production level of building materials has been maintained, as well as that of cement, partly due, moreover, to exports. This trend should be maintained, as the number of unsold appartments has much decreased, the demand having been for greater than the number of new appartments on the market.

In the food industry, the oils and fats industry is making progress, in the wheat industries there are different trends and, if the semolina factories have seen a 20% drop in production since 1965, the manufacture of Italian paste products records a tonnage increase of 12 to 15% compared with 1967. The position of the canning industry is, as always, favourable.

In the sugar industry, results show a slight increase in comparison with 1967. The bad climatic conditions prevented the farmers of the region from enjoying a good harvest. Hence tomato and rice production decreased by 20 to 25%.

Transport

From October 1967 to October 1968, the transportation indexes are analysed as follows:

| | 1967 | 1968 |
|-------------------|-------|-------|
| Exports | 114,5 | 111,6 |
| Imports | 123 | 132 |

For the SNCF (National Railways), last year's level has been reached, despite the considerable losses during June, which amounted to 10% of annual traffic.

On the other hand, passenger traffic is decreasing sharply (-30% on Paris - Marseilles line).

Over 11 months the growth of air passenger traffic was 2-3%. Freight remained at last year's level.

New lines from Marignane towards Barcelona, Genoa, Geneva, Prague, Rome and Tangiers were opened for service.

Road traffic, the statistics for which are less exact, is similarly on

the increase, with a rise of 8% in the quantity of motor-fuels consumed.

EUROPEAN PORT ACTIVITY

On the whole and even in certain French ports, despite the social disorders, European port activity was favourable in 1968. From the first figures known, the situation seems to be the following:

Rotterdam: remains the first port in the world, and handled about 155 million tons of goods, which represents an increase of 14 million tons compared with 1967.

Antwerp: established a record for traffic: the figure of 72 million tons is anticipated, that is, an increase of 10 million tons compared with 1967. Transit statistics showed a rise of 32% on in-traffic and 55% on out-traffic. The 36% increase on container traffic is noteworthy, and a growing balance between container - carried goods entering and leaving the port is tending to replace the considerable unbalance recorded the preceding year.

London: has maintained its traffic with 60,1 million tons as against a little less than 60 million in 1967. Its container traffic has improved.

Genoa: considers that its increase on traffic in 1968 presents an aspect that is both usual and unaccustomed; usual, for the advance of petroleum products, although the port is at present set aside from the great achievements in this field, unaccustomed for the increase in general goods and passengers.

In fact, it appears that the May-June events in France diverted this traffic towards Genoa, especially, numerous passengers taken there by coach so as to embark in Italy.

Le Havre: also recorded growth in traffic, appreciable as regards petroleum products, and noteworthy as regards general goods and coal. One of the essential causes of this advance is the excellent return from the England-France car-ferries.

Hamburg: had a record traffic of 37.300.000 T, including the remarkable figure of 12.800.000 T, of packaged goods, on the increase by 10,5%. Container traffic improved.

Bremen: handled a record 19 million tons, an increase of nearly 10%, including 10,44 million tons of general goods, which is remarkable.

Amsterdam: with 17,7 million tons has a traffic growth of more than 4 million tons, compared with 1967.

Dunkirk: has seen its traffic increase by 7,8% compared with 1967, a rise due essentially to petroleum products (+7,30%), ores (+10%) and sands (+250%). General goods traffic rose slightly and reached 842.633 T.

Nantes—Saint-Nazaire: has maintained its traffic, which places it fourth in France, with 11.554.000 tons.

Rouen: recorded a slight traffic increase, but there seems to be a trend towards a certain stagnation.

Bordeaux: noted an increase of 6,57% owing especially to its estuary traffic. However fears have been expressed locally on the value and the continuing possibilities of this traffic and the absence of a heavy industry in the region has been stressed.

Development Work and Prospects for the Future

The first developments opened in the Gulf of Fos drew attention during the past year, but important work has started or continued in the basins as a whole.

At MARSEILLES, important construction works on the Léon Gourret wharf continued, with the construction of the Western Quay; this quay will be 598¼ yards long when the first section is completed in 1970. The end of the works undertaken to widen the entry to the dry docks, in order to accommodate the large ships is forecast for 1969.

The entry of dry dock n° 2 is under preparation. A folding gate is substituted for the existing ship gate and the removal of the steps, which was the classical method for repairing hulls in dry dock, will permit ships of larger tonnages to be docked.

As regards the northern extensions to the port, in the bay of Saumaty, dredging and removal of

rocks was finished in 1968; the quays along which will be placed the auxiliary machines and where the fishing boats will tie up, will be finished in 1969.

Work on the superstructure has allowed, in the Marseilles basin, the equipment of the open stowage areas J1-J2 and J2-J3 with the construction of storage sheds for traffic equipped for horizontal handling.

A storage shed of 9.520 sq. yards metres for general goods traffic has been opened on B-C wharf.

Maintenance and renovation of port equipment continues.

As regards work to be undertaken in 1969 for pleasure craft, apart from the big development schemes outside the limits of the Port Authority, the construction of a wharf in the Old Port, including a rectangular quay for pleasure craft, will be undertaken.

In the GULF OF FOS, development work was as follows at the end of 1968.

On dock number 1, the quay for the accommodation of one-carriers was put into service in August 1968. Similarly the accommodation of 220.000 T tankers has been ensured, since last December, at berth number 2 constructed on the breakwater.

During the year, work, such as the opening of the full width of dock n° 2 and the levelling off of corresponding industrial sites, was undertaken.

With the extension of the ore quay, the container quay will soon go into service (length 274½ yards, depth 47¼ feet). The specialised travelling-gantry crane is being assembled.

Work on tanker accommodation continues. The construction of berth 0 will be finished at the beginning of 1969. This berth is reserved, for re-expedition of refined or crude products.

This equipment will be completed during the year by the opening of a second petroleum berth capable of accommodating ships of 240.000 T; the main basin will be deepened to -72,17 feet and the entry channel to -75, 2/3 feet.

These are only short term prospects, as development works will continue for several years.

Work on the superstructure pro-

Salt Processing Plant And Other Industries Being Brought to New Orleans

(Port of New Orleans)

New Orleans, La., November 6:—The Dock Board today reported that its drive to bring new industry to the port area is underway with the first company group scheduled to occupy a 30-acre site in Gentilly, close to the Public Bulk Terminal.

A large portion of the site will be converted into a complete salt processing plant, and other portions will be developed into a warehousing and distribution center for imported dinnerware—all by the same firm.

The buildings and land were vacated about three years ago by the

Bestwall Gypsum Division of Georgia-Pacific Corporation.

Robert R. Barkerding, Sr., Executive Director and General Manager of the revitalized port authority staff, reported today (Thursday) that the Carey Salt Company of Hutchinson, Kansas, a wholly-owned subsidiary of Interpace Corporation, has exercised its option to purchase land and buildings in Gentilly adjacent to the huge Public Bulk Terminal.

Bankerding, the former President of the Dock Board and previously Executive Vice-President of Ameri-

ceed at Fos at the same time as work on the infrastructure. Work on bulking shed of 3.177 sq. yards, a storage area of 11 1/5 acres, and a 45 T travelling gantry crane for the handling of containers at dock n° 1, has begun.

The material needed for the equipment of the berth for refined petroleum products and the installations for crude-oil distribution, has been ordered.

In the Port Saint-Louis basin, work has continued: extension over 131 1/3 yards of the Switzerland quay of 26½ feet draught and the completion of the infrastructure of the fishing port of Carteau equipped with a 98½ yards quay with a draught of 14 1/8 feet.

The new quay at Port-Saint-Louis will be provided with 2 cranes.

The southern bank of the Caronte canal following preparation work will accommodate bulk chemical products over an area of 19 3/4 acres.

1968 has then marked a decisive stage in the future of the Port of Marseilles, and especially in adapting itself for its role of Southern

EUROPORT.

The arrival of the first large ships at Fos indicates not only that port is adapting its installations to the needs of modern ships but above all that, the great industrial zone directed by the port is under way, this zone which is a remarkable working machine and holds possibilities for France and for Europe.

1969 appears already as a new year for important development schemes: disposal of the first building sites in the zone, arrival of the first barge-carriers from the U.S.A., which thus establishes the role of Marseilles-Fos as an estuary port, reception for the first time of container carriers at Fos (previously they were received at Mourepiane), calls of fully loaded 240.000 tonners, and the distribution of petroleum shipments towards other ports.

There is no hindering the difficulties of this transformation of a former colonial port into a fully European industrial and maritime metropolis, but there are so many favourable factors, that one cannot but hope for spectacular increases in traffic within the next decade.

ca's largest steamship agency, resigned to take over full-time direction of the port effective October 1. At that time, he stated that the Dock Board was going to wage "an all-out effort to bring industry to the area to give the port the back-up business it must have to develop to its potential."

Carey Salt will establish a salt processing plant on the site. The company will move rock salt from its deep Cote Blanche Island mine in St. Mary Parish, by barge via the Gulf-Intracoastal Waterway to the Public Bulk Terminal, which is owned and operated by the Dock Board. There the salt will be moved from the barges by conveyers directly into the largest of four structures, which will be converted by mid-1970 into a complete salt processing plant.

The new salt facility will refine and process rock salt into a varied line of products for municipal, industrial and agricultural markets, with application for snow and ice removal, chemical processing, textiles, rubber, oil, paper, meat packing, water softening and feed stock supplements. Products will be packaged, warehoused and distributed from the facility, which will become a major United States center for the company.

Barkerding said, "This acquisition is a natural for Louisiana. It will supplement an existing Louisiana industry and give many jobs and a fine payroll to the state."

Just how many jobs are involved, and the annual payroll, were not disclosed. A Carey Salt Company executive informed the Dock Board that it is working on its program for the plant and will announce details at a later date.

Hugh F. Kennisen, President and chief executive officer of Interpace, said that the property will be purchased from the Georgia-Pacific Corporation for approximately \$1,000,000, and the transaction includes about 30 acres of land and four buildings. The Act of Sale will be passed next Wednesday in the law offices of Monroe & Lemann, attorneys for Georgia-Pacific. Carey will be represented by Aycock,

Horne, Caldwell and Coleman of Franklin, and Adrian Duplantier of New Orleans. At the same time a tripartite agreement concerning the services of the Public Bulk Terminal will be executed by Carey, Georgia-Pacific and the Dock Board.

The buildings on the tract include (1) a two-story structure with 141,500 square feet of space, (2) an office building with 5,000 square feet, (3) a change house and laboratories with 3,200 square feet, and (4) a storage shed with 17,500 square feet of space. The storage facility is served by conveyers from the Dock Board's Public Bulk Terminal.

Kennisen reported that approximately 40,000 square feet of space will be converted into a warehouse and distribution center for imported dinnerware, which will be brought here first from Japan and later from England. The dinnerware will be brought to New Orleans in containers, and it will be warehoused and distributed throughout the nation by Interpace's Consumer Group.

The Dock Board has started construction on a container facility, the first specially planned here for the container trade, and Barkerding said this will help serve the newly acquired industry.

He said, "The containers with dinnerware from Japan and from England will be unloaded close to the company's operations. It will give the company tremendous efficiency and flexibility. The container facility, which will be the first in the Gulf, will serve as a magnet for other business as well. It's all good news for metropolitan New Orleans and Louisiana."

Salt products and the dinnerware will move out of New Orleans by rail and trucks.

Although impressive totals are involved, the exact tonnage of salt that will be put through the plant and the quantity of dinnerware to be moved through New Orleans were not reported. However, Kennisen said that the proposed salt processing plant "will permit Carey to realize fully the production capacity of the Cote Blanche Island mine," which is located about 130

miles west of New Orleans on the Gulf-Intracoastal Waterway.

Barkerding said the acquisition of the Interpace operations "is just the start. We're on our way. We are determined to develop labor intensive industrial and commercial back-up for the port, and this is the beginning. The Dock Board is going all out to attract industry to the metropolitan area. Last year in this country \$5 billion was spent on capital construction on water frontage. We've got plenty of water frontage, and we are determined to get our share of such construction. We are planning to bring in other industries and businesses to give new job opportunities and a continuing spur to our economy."

Under an agreement with the Dock Board, the Carey Salt Company will use the unloading services of the Public Bulk Terminal to supply the processing plant.

"We can handle this and many other items we've never handled before. We're broadening our scope and our abilities to handle many commodities successfully," said Barkerding.

Interpace Corporation is a mining and manufacturing company, serving the construction market with concrete and clay pipe for water and waste water transmission. It also manufactures high voltage insulators for power transmission, and provides the consumer market with tablewares from its own plants and through imports. For the industrial market, Interpace furnishes numerous beneficiated non-metallic minerals. In 1969, Interpace sales totaled \$162,000,000.

The Dock Board's Public Bulk Terminal was opened in 1963 to handle imported and exported dry bulk commodities. It is equipped to transfer cargoes between ships, barges and rail cars and has both closed and open storage areas.

The terminal has three ship berths; three gantry-type unloading cranes, a ship loader, a rail car station, a rail car dumping pit, 10 storage tanks, two open and one closed storage pads, an automatic trimming device, truck scales and high speed conveyers.

400 t/h Pneumatic Unloader

Built by IHI

(IHI Bulletin, September, 1969)

The astounding Japanese economic growth of recent years has entailed a radical change in the dietary life of the Japanese people, with the result that demand is rising sharply for various kinds of imported grains to be used as food as well as feed for livestock.

Among them, the greatest in demand are such grains as corn, soybeans kaoliang, and for their transportation gigantic bulk carriers which substantially cut the freight cost are being put to use in increasing numbers.

In the wake of this trend, construction is proceeding rapidly of integrated facilities which would allow easy mooring of giant specialized bulk carriers and which would insure speedy feeding and storing of the grains into large ground silos. At the same time, in order to insure stabilized demand, large cereal processing complexes having large pneumatic unloaders are being established one after another in the country's coastal industrial areas.

IHI manufactured three units of the 300-t/h pneumatic unloader for Toyo Menka Co., Ltd. in 1967, two units of 300-t/h capacity for Chiba Cooperation Silo Co., Ltd. in 1968, and two units of 400-t/h capacity for West Japan Grain Center Co., Ltd. in the same year.

These gigantic pneumatic unloaders reflect IHI's years of rich experience in this line of business. To improve the unloader efficiency, working range of the unloaders by IHI engineers have widened the adopting horizontal and vertical extension mechanisms.

Also, automatic control systems have been adopted to reduce the number of operators, and these unloaders are designed on a large scale so as to benefit from the high efficiency and low power consumption.

Incidental facilities linked with

the unloaders, such as grain carrying-in equipment, storage silos and grain carrying-out equipment, are all fully provided with dust collectors, fumigators and ventilators.

Moreover, as these complexes are situated in food-processing areas, the greatest care is taken to prevent noise and air pollution.

In the following paragraphs, a description will be given of the 400-t/h pneumatic unloader of the world's largest class capacity, which IHI has delivered to the West Japan Grain Center Co., Ltd.

The recent trend to use ever larger bulk carriers has entailed the construction unloaders of huge capacities. For these unloaders, it is necessary that the different between maximum capacity and average capacity be as small as possible to insure rationality and high working efficiency. As the capacity increases, power consumption increases proportionally, requiring it to be held at minimum.

In this respect, IHI engineers have designed highly rationalized unloaders of gigantic scale by drawing on their years of rich experience and brilliant achievements.

Main Specifications

Number of units:

Type: Electrically driven, steel reinforced, portal type, of 2 nozzles.

Suction capacity: (Per unit capacity on wheat basis) 400 t/h (200 t/h per nozzle)

Conveying distance (max.):

Long boom; Horizontal 28 m
vertical 21.3 m

Short boom; Horizontal 23 m,
vertical 21.3 m

Air source 250 kW Roots blower.

Rail gauge: 9 m

Rail length: 160 m

Main incidental equipment:

Receiver slewing device Hori-

zontal extension mechanism

Vertical extension mechanism

In the following paragraphs will be given a description of the main structure and characteristics of this unloader. It is to be noted that the vertical extension mechanism (automatically operated) was used for the very first time with this unloader.

Adoption of a large nozzle of 200 t/h capacity is the very first attempt of its kind in Japan. To suppress power consumption at minimum, IHI engineers drew on their years of experimental research experience and brilliant past achievements, and successfully designed this huge pneumatic unloader of unusually high efficiency.

To design an unloader with small power requirement, it is imperative that the air velocity in the pipes be most suitably matched to the kind of grain being handled (as confirmed through experiments), and the piping system designed for minimum loss of pressure.

Consequently, this unloader was designed with the following structural characteristics.

a) Suction nozzle with high efficiency.

To obtain better suction efficiency, the internal surfaces are throttled.

b) Pipe bends with least pressure loss.

The cross-sectional shape of pipe bends are so designed as to allow the grains being handled to pass these parts at minimum speed and with least pressure loss.

c) Receiver slewing device.

Its horizontal sections are free of bending parts and direct charging into the separator is possible from any angle of the boom.

d) Vertical and horizontal pipes.

The speed of the grain in the pipes is determined at the minimum speed at which the pressure loss would be minimum.

As the bulk carriers get larger and larger, the horizontal and vertical grain conveying distances naturally become longer proportionally, and the range of unloading work becomes ever wider owing to the need to handle the loads of all kinds of vessels from larger bulk carriers to small ships. In view of this re-

quirement, the vertical and horizontal pipes are respectively equipped with extension devices.

When guiding the material being handled into the gravity tank (receiver), the use of flexible pipes would certainly cause bending parts along the line in view of the derricking and slewing of the boom, with the result that more pressure loss would be required and greater crush would be caused to the material being unloaded.

To prevent such a situation, the receiver is made to slew so that the material being unloaded can be charged directly into the receiver regardless of any derricking or slewing angle of the boom.

The rotary feeder below the receiver is interlocked with the receiver and therefore moves together with the receiver, so there is no need to provide an air-tight part between the receiver and the feeder.

From the standpoint of environmental sanitation, bag filters are used to eliminate as much dust as possible from the exhaust air.

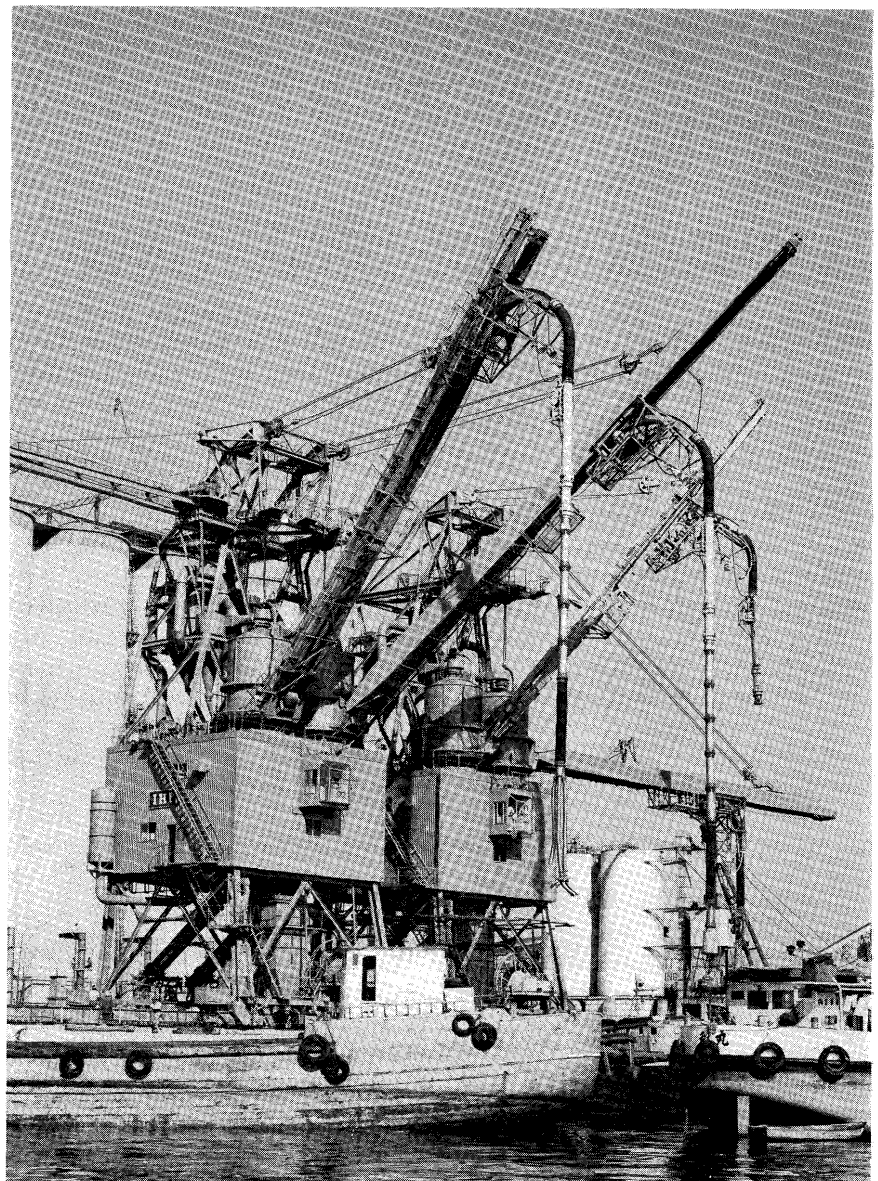
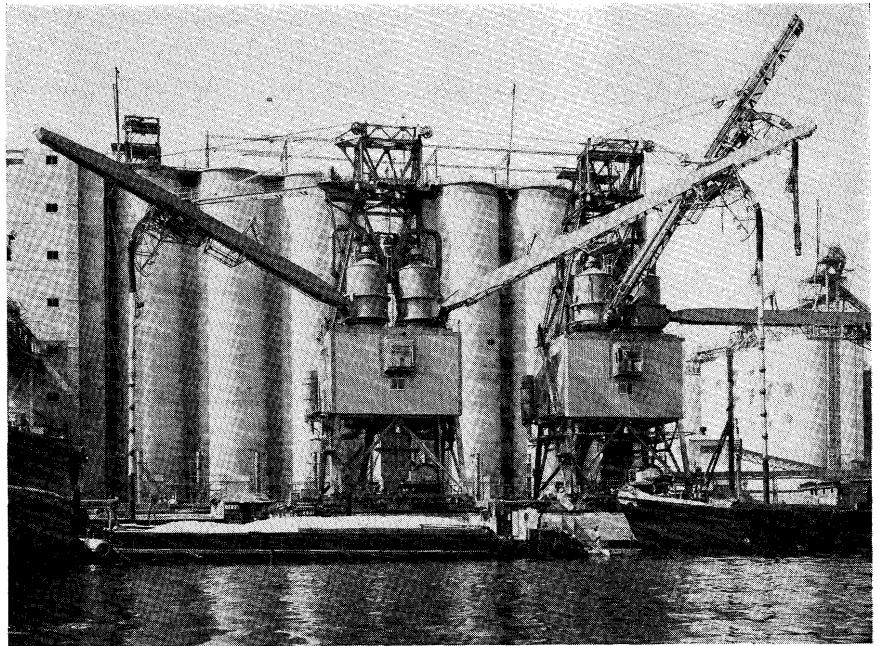
In case of ordinary pneumatic unloaders, dust separators are used in the first stage and second stage cyclone in order to protect the blower. As a result, the fine dust particles elude the cyclone in the cyclone and are discharged in the atmosphere. To cope with this situation, bag filters have been used in this unloader to collect all the dust.

To achieve rationalization of unloading facilities and to reduce operating costs, it is necessary to adopt automatic control systems as a means of cutting down on the operating crew. At the same time, the operators must be protected from hazards by use of safety devices.

This pneumatic unloader is fully equipped with safety devices and is operated by an automatic control system. Predominant safety devices include, (a) devices for the detection of, and protection from, excessive suction force, (b) devices to prevent the rotary feeders from meshing foreign materials and (c) devices for the protection of the blower from excessive vacuum.

All of these are controlled automatically. Moreover, operation is by pushbuttons, and sequential

(Continued on Next Page Bottom)



Virginia State Ports Study Commission Chairman Speaks

*(From Virginia State Ports Authority Sailing Schedule,
November, 1969)*

Senator Edward L. Breeden Jr., chairman of the recently appointed Governor's Ports Study Commission, outlined the efforts of this group and their findings thus far when he spoke to the Hampton Roads Foreign Commerce Club in October.

It was the first time a member of the commission had discussed at a public function the mission assigned them by Governor Godwin.

For our readers who were unable to attend the luncheon meeting, following is Senator Breeden's text:

I am flattered that the Hampton Roads Foreign Commerce Club has invited me to speak at this luncheon meeting, but as the old saying goes, it is truly "carrying coals to Newcastle" for me to undertake such an

starting and stopping of the operation can be done automatically.

One of the leading features of the automatic control system is the device for automatic control of the suction nozzle. Should the grain carrier happen to be a remodeled ship, the suction work is done through the manhole on the deck and, in case of rain, the suction work is achieved through the suction hole provided above the hatch.

In this case, the operators cannot see the nozzle suction level, making the operation difficult. This, however, is taken care of with the use of the system for automatic control of the suction work. The pressure difference formed inside the pipe when the suction nozzle tip lies inside or outside of the grain pile is detected, and vertical extension of the nozzle occurs automatically when the nozzle tip departs from the grain pile. Should the extension stroke attain its full length of 4 meters, the boom elevation angle is decreased to allow the extension stroke to be restarted from zero.

assignment. My only qualification is the work I have recently been doing as chairman of the Virginia Ports Study Commission.

The other ten commission members and I have had a concentrated crash course in our ports and their operation, and if we have learned nothing else we have learned that our ports are one of Virginia's greatest natural resources and economic assets: that jobs generated by their operation create employment for one out of every eight Virginians; and that right from our waterfront here we have a direct trade route to nearly every free nation in the world.

When Governor Godwin appointed this commission in June, he handed us a challenging assignment. . . . "To determine the feasibility of unifying the port development function in the Commonwealth under one single port agency, and if so, how?"

We have been studying this problem for four months now and have followed several avenues of investigation to find an answer. We have had the very best of cooperation from the various ports authorities within and without the state. We have heard the voice of our maritime industry through public hearings, which, incidentally, drew encouraging and surprising support for the concept of unification. We have traveled to Newark to learn of the operation of the New York Ports Authority's Maritime Giant. We sought the professional help of a management consulting firm.

Governor Godwin appointed a dedicated or talented group of men (present company excepted) to this commission. Each has brought to its ranks an expert knowledge of the field in which he works. And each has given unhesitatingly of his time and energies. The membership of

the commission has been most faithful in attending its meetings regardless of its members' business, professional, or personal pressures. They are to be commended for their service to the commonwealth of Virginia, and I am proud that I could have been a part of this effort with such distinguished gentlemen.

Much careful thought undoubtedly went into these appointments. He selected three State Legislators who represent the three major port cities . . . Senator Moody from Portsmouth, Delegate McMurren from Newport News, and myself from Norfolk. Transportation is strongly represented on this commission by two giants in the field. . . . Herman Pevler, president and chairman of the Board of the Norfolk and Western Railway, and J. Harwood Cochrane, president of Overnite Transportation Company. For views on economy and finance we were fortunate in having Dr. Pierce Lumpkin, vice president of the Bank of Virginia; Ralph Beeton, President of First Virginia Bankshares Corporation; and Shirley T. Holland, who is a retired banker and a former member of the General Assembly from Windsor. The state's largest industries were represented by Erwin Will, Chairman of the Board of Virginia Electric and Power Company, and Richard Robertson, vice president of American Safety Razor Company, owned by Philip Morris, Incorporated. And last, but not least, Agriculture was represented by Charles Wampler, a former State Legislator, a poultry farmer and until recently chairman of the State Board of Agriculture.

It's difficult to realize, as we look at our brisk port activity today, that up until World War I our overseas business was relatively unimportant. Portsmouth was restricted entirely to domestic trade and only a very few vessels in foreign trade were operated out of Newport News and Norfolk.

We had been in the port business, so to speak, since the first tobacco was shipped from Jamestown to England back in 1612. But, Virginia didn't really get into foreign trade in a big way until World War I. About that time the Federal Government built the old Hampton Roads Army Terminal, the Norfolk International Terminals of today. Uncle Sam built a vast warehouse complex

on the C&O tracks in Newport News, the Hiden Warehouses of today. Other facilities were built or renovated for the movement of military cargoes through Hampton Roads. The Military, in fact, opened a few eyes as to what our ports were truly capable of doing.

When World War I ended, commercial activity resumed and we expanded into overseas trade. Surplus war-built vessels were placed on various trade routes and foreign flag lines jumped in to meet the competition. Supplies and materials were shipped out for the rehabilitation of wartorn Europe. And foreign countries began exporting products to America thru Hampton Roads.

During this time our port facilities sprung up without any particular rational pattern. They were built because of the needs and financial investments of private interests, primarily the railroads, the Federal Government and the cities themselves.

In retrospect, we might say we are where we are today, almost in spite of ourselves. I don't mean to imply that the tremendous efforts made through the years have been in vain. Far from it. If the C&O and N&W, back even before the turn of the century, had not built their coal piers, we would not be the world's largest exporters of coal. If these two railroads, plus the Southern Railway and Atlantic Coast Line, had not constructed general merchandise piers in the three major Hampton Roads Port cities, we could not possibly be as far advanced as we are in 1969.

The development of agencies to oversee the ports was almost as Helter-Skelter as the growth of the facilities themselves. The State of Virginia originally got into the picture in 1922 when the first Hampton Roads Port Commission was created by the General Assembly. I won't trace the history of the succeeding agencies because it gets rather involved, however in 1952 we came up with the Virginia State Ports Authority as we know it today. This authority, as with those preceding it, was given large responsibilities and limited operating funds and no state funds for the physical development of the ports.

Since lack of funds strangled the

state agencies, the cities took the lead in establishing their own groups to assure the continued growth of the ports. Norfolk took the first step at the end of World War I and that commission at one time operated the grain and general cargo facilities at Sewells Point, as well as the old Hampton Roads Army Terminal. In 1948 Norfolk created its own port authority. Newport News and Hampton followed suit in 1952 with the Peninsula Port and Industrial Authority which, in 1958, became the Peninsula Ports Authority of Virginia. Portsmouth formed its authority in 1954. Similar groups were also formed by Chesapeake, Richmond, Alexandria, and Hopewell.

We have today one of very few multiorganizational port systems in the United States. And, I might add, those other states have the same type problems we face.

There are two major pitfalls to this system . . . financing and unnecessary competition. I believe both the state and involved cities have finally realized that the state created a state ports authority on the one hand and almost simultaneously set up local agencies that compete with one another and lessen the effectiveness of the state in its work of over-all port development.

The municipal port authorities are financed by the individual city councils for the purpose of promoting the terminals which they operated. Because of the high cost of port construction, the physical development of these terminals requires the combined financial efforts of both the city and the state. The Hampton Roads cities have taken the initiative in recent years in building new facilities. The spur of competition sometimes carried these developments forward without having had confirmation of financial support by the state. The cities bore these financial burdens for new facilities until the state could come to their aid. The cities are to be complimented. If it had not been for the initiative of these cities, our ports would not be in the enviable position they are today. But this cooperative state-city port development system has now served its purpose and it is time for a new deal.

The cities have invested great

amounts of money in their respective terminals . . . is it not natural that they should be competitive with each other in attracting cargo through these facilities? Is it not also natural that they should compete with each other in getting as much state money as possible to help finance these terminals? How can there possibly be unity under such a system?

Up until the past few years the ports drew very little attention from other areas of the state. They were recognized as an important industry, but, since the state at that time did not contribute capital funds to their development, they caused very little interest among legislators. Containerization changed that picture. The General Assembly had to sit up and take notice. The steamship lines were merging, they were building new ships, the European Ports were preparing for containerized traffic and a North Atlantic container port was under way at Port Newark in the Port of New York. It was obvious that another East Coast container port would be needed and the port which moved the fastest would get the traffic. It seemed to happen overnight. The General Assembly recognized the pressing need for funds and in 1966 appropriated the state's first capital outlay for port development. It also set up a contingency fund for further container development. This was the beginning and it is at this point that the cities rallied to the challenge and provided funds to further the Hampton Roads development. From this point on we were in the race. Containerization grew and so did the ports of Hampton Roads. Just since March of this year we have averaged more than 4,000 containers each month.

But the battle was far from won. Other ports, Baltimore especially, were not sitting still. The competition grew keener as more container facilities came into operation. Virginia was fighting the budget, as well as its competition.

Port development in Virginia has received encouragement under Governor Godwin's administration, both because of his personal interest in the subject and by legislative appropriations which he has encouraged and approved. This has been brought about, in part at least, when

Governor Godwin in 1967 headed the state's first trade mission in Europe. Virginia was struggling to install container facilities in order to compete for this specialized cargo. In Europe the Governor saw what actually was transpiring in the way of container facilities of Antwerp. It was obvious that the ports on this side of the Atlantic which provided similar facilities would be the ones to which these European cargoes would be destined. The Governor began pushing for more funds for port development and the development of maritime trade.

Earlier this year Virginia opened its joint offices in Brussels for the promotion of Virginia Products, Virginia Industry and Virginia trade. Again the Governor had an opportunity to visit European Ports. He was impressed by the unity of their operation. Less than two months after he returned from that mission, Governor Godwin announced the need for a unification of efforts within our own ports and appointed our Ports Study Commission.

Reaching a recommendation for such a complex problem has certainly not been an easy matter. We have looked at the Ports in every light possible. We have studied their overall operation. We have seen their triumphs and their failures. We have reached the conclusion: "That one single ports authority should be created which will direct, develop, control, plan and regulate the activities of the deepwater Ports of Virginia and will derive its authority from the Virginia General Assembly."

Now that we have reached this conclusion, where do we go from here? The efforts made in determining our position are minor perhaps compared to what must yet be done in finding a way of accomplishing our goal of creating one single strong ports authority with commensurate powers.

To make further study of the preliminary report that has been made to us by our consultants, EBS Management Consultants, Inc., the study commission has been divided into task forces. One of these subcommittees will pursue the ownership and operation of the physical facilities necessary to carry on port business and the other will consider

The 6th International Seminar of Port Management in the Netherlands

April 13—May 19, 1970

The Sixth International Seminar on Port Management in the Netherlands is to be held from April 13-May 19, 1970 in Delft, Rotterdam and Amsterdam, according to an announcement dated January 3, 1969 by the NUFFIC (Netherlands Universities Foundation For International Co-operation, at 27 Molenstraat, The Hague, The Netherlands).

The programme offers a lecture period of two weeks, the first and the final week of the course, which will take place in Delft as part of the training offered in the International Courses in Hydrology and in Hydraulic and Sanitary Engineering.

During the remaining weeks visits will be made to the Ports of Amsterdam and Rotterdam (two weeks) and several days will be spent in visiting a few ports in France.

Participation in the seminar is limited to 25 persons who preferably should have a university background and several years of experience in a port management setting.

The full particulars of the Prospectus are reproduced below.

Introduction

The speeding up of the turnaround of ships in ports has been referred to by the United Nations' Conference on Trade and Development as being a vital problem in relation to world trade. Foreign port administrators, many coming

the financial aspects of the state's acquiring and operating unified deep-water facilities. I believe that if we can find a reasonable solution to these two questions, we can come up with a feasible plan for enlarging Virginia's maritime commerce to the great benefit of us all.

through the intermediary of the United Nations, have spent observation periods in Dutch ports. It is doubtful whether these studies have always yielded good results. A theoretical basis was lacking. It was easy to observe the techniques, but difficult to understand why they were applied. It also often proved difficult to adapt the knowledge acquired in the Netherlands to the situation in the observer's country.

For this reason the need was felt to organise a special seminar. The International Technical Assistance Department of the Ministry of Foreign Affairs, which gave its intermediary for study visits to the Dutch ports, took the initiative to combine individual requests by means of an international seminar. The Port Authorities of Amsterdam and Rotterdam, which have frequently been approached by individual visitors, were pleased to give their full support to this idea.

The scientific and organisational responsibility for the seminar is with the International Courses in Hydraulic and Sanitary Engineering at Delft. The 11-months' International (post-graduate) Course in Hydraulic Engineering given by this institution, which was held in 1957 for the first time, has been offering in its "tidal and coastal engineering branch" an all-round training to port-and harbour engineers. It is obvious that the same ground cannot be covered in a five-weeks' seminar as in the full 11-months' course; therefore the programme of the seminar does not contain a discussion of structural and hydraulic aspects but is confined to a thorough treatment of the organisation and management aspects of ports.

The former five Seminars on Port Management have brought

together 125 port administrators from 44 different countries. The discussions between them proved to be very valuable. Therefore each participant is expected to deliver a short statement on problems of special importance of his work in his country. Candidate-participants are requested to take material with them which they would like to present at Delft.

Subjects taught in the seminar

A. **lecture parts:** April 13th—18th and May 11th—19th, 1970, and possibly a few other dates.

1. General survey of problems of transportation and of navigation. Development in type and size of ships. Electronic aids to navigation in ports.

2. Port Management. The international character of ports and their dependency on local political context. Co-ordination between ports.

Diversity of port organisation, the port area and port function. Statistics and reports as tools of management. Operation and financing of a port.

3. Lay-out of port areas.

Master plan and design features of general and specialised berths. Road and railway connections of ports. Operational research as a tool in port management.

4. Cargo Handling.

Aids to quicker turn-round of ships. Causes of delay to output. Handling of roll-on roll-off and container cargoes.

5. Port labour, safety and health.

B. **programme of visits to and around the ports of Amsterdam and Rotterdam**

1. Amsterdam: April 20th—25th, 1970

Introductory lectures on the port, its history, organisation, operation and future.

Visits with explanatory lectures to:

The harbour entrance at IJmuiden and the locks and new breakwaters.

Theory and practice of handling a general cargo from various types of ships.

Handling special cargoes such as cereals, soft and hard wood, containers.

Freezing warehouses. Shipbuilding and repair yards.

Fishing port. Harbour police and fire brigade.

2. Rotterdam: April 27th—May 2nd, 1970

Introductory lectures on the port, its history, organisation, operation and future.

Visits with explanatory lectures to:

Various sections of the port with the large port extensions at Europort.

Stevedoring enterprises and warehouses. Port training institute. Handling of containers and of unit loads.

Mechanical trans-shipment and storage of general cargoes and cereals. Navigational radar stations.

C. study visit to a few ports outside the Netherlands:

May 4th—9th 1970

The organisers of the International Seminar on Port Management consider it of great importance that participants not only get acquainted with the ports of Amsterdam and Rotterdam, but that they also study a number of other ports. For the 1970 Port Seminar preparations are being made to visit a few other ports in the Netherlands and in Northern Germany.

D. participants' statements on conditions in their own countries.

Application and admission

The seminar is open to government officials and other qualified candidates who in their daily activities have been confronted with problems of port management for a number of years. Candidates should preferably have a university degree, although in special cases experience can replace a university background. No simple formula can be given for the conditions of admission and for this reason applications will be considered individually. In order to enable the organisers to judge the applications properly, candidates should fill in the attached application form as completely and clearly as possible and return it to the Registrar.

All candidates are required to submit a letter of recommendation from their employer. They are advised not to come to the Netherlands to follow the seminar before

they have received notice of admission. In order to promote a close contact between the lecturers and participants and to stimulate discussions, the number of participants will be limited to 25.

Duration of the seminar

The seminar will begin on Monday, April 13th, 1970 and close on Tuesday, May 19th, 1970. All participants are expected to arrive in the Netherlands on Sunday, April 12th, 1970 and to take part in the entire programme of the seminar. Therefore, those participants who have other business to attend to in the Netherlands, are expected to arrive a few days before the beginning, or to stay on after the end of the seminar. All participants are advised to obtain a visa for Germany before the seminar starts.

Language

Since the course will be given in English, a good working knowledge of this language is a prerequisite.

Fees and other expenses

The participation fee is Dfl. 2100,—, which includes the tuition fee, travel costs for the fieldtrips within the context of the course and the cost of lodging and breakfast during the period of the course. Participants are required to pay lunch and dinner expenses. Unfortunately it cannot be guaranteed that hotels will always have single rooms available.

The participation fee should be paid before or on registration day. Those preferring to pay in advance are requested to have the participation fee paid into the account of NUFFIC at the Amsterdam-Rotterdam Bank, 14, Wagenstraat, The Hague.

Fellowships

It is expected that a number of participants will be granted fellowships by their employers or by national or international fellowship granting organisations, such as the United Nations, the International Labour Organization (I.L.O.), or the Organisation for Economic Co-operation and Development (O.E.C.D.). Candidates who wish to receive information about financial facilities provided by the Netherlands to candidates coming from developing countries should

(Continued on Next Page Bottom)

Orbiter Probe

IAPH News :

Singapore Meeting

In the second week of February, ten members of the IAPH Executive Committee including Mr. V. G. Swanson, C. B. E., eight other delegates, and four ladies will assemble in Singapore for a session of the IAPH Executive Committee Meeting 1970.

Business sessions are scheduled on Tuesday, February 10 and Thursday, February 12, all to be held in the Goodwood Park Hotel. The names of the delegates are: Mr. V. G. Swanson C.B.E., President, accompanied by Mrs. Swanson, assisted by his personal secretary Mr. N. L. Fidge, Dr. Chujiro Haraguchi, Immediate Past President, former mayor of Kobe, President of Japan Port and Harbor Association, accompanied by Messrs. Saburo Kikuchi, Toshio Kondo, and Yukio Okugawa, Kobe City businessmen, Mr. Howard A. Mann, First Vice President, Chairman, National Harbours Board of Canada, Ir. J. den Toom, Managing Director, Port Management of Amsterdam, Mr. George Edney,

General Manager, Port of Bristol Authority, accompanied by Alderman Sir Kenneth Brown, Chairman, Corporation of Bristol Docks Committee, and Mr. C. F. Jones, Assistant-Manager for Trade & Commerce, Mr. Thomas P. Guerin, General Manager and Secretary, Commission of Public Docks, Portland, Mr. Albert Lyle King, Director of Marine Terminals, Port of New York Authority, accompanied by Mrs. King, Mr. Louis C. Purdey, Executive Director, Toledo-Lucas County Port Authority, accompanied by Mrs. Purdey, Rt. Hon. Viscount Simon, C.M.G., Chairman, Port of London Authority, Mr. Gengo Tsuboi, Managing Director, Japan Shipowners' Association, accompanied by Mrs. Tsuboi.

Mr. Toru Akiyama, Secretary General, will be assisted by IAPH staff Shigehiro Kusu and Takuji Nakanii. Mr. C. Barrillon, Director General, Port Authority of Marseilles and Mr. W. J. Manning, Director, Marine Works Branch, Department of Transport, Canada,

apply to the Netherlands Diplomatic Representative in their countries. Netherlands Government fellowships do not include an amount for travel expenses from the country of origin to the Netherlands and v.v.

Insurance

Participants are expected to insure themselves against health, accident and third-party liability risks for the duration of the seminar.

Application for admission to the sixth international seminar on port management in the Netherlands

to be held at Delft/Amsterdam/Rotterdam

April 13th—May 19th, 1970

please use typewriter

full name (underline family name):

date and place of birth:

nationality:

address for correspondence:

degrees and qualifications obtained,

with name of university and date of graduation:

(if you do not have a university education, you are requested to give a survey of your educational background on a separate sheet)

knowledge of English (to be listed as fair, good, excellent):

who should be charged for your fees?:

please state on a separate sheet your occupations(s) after graduation (kind of work, place, duration) and explain — in about 100 words — why you wish to attend the course

place, date and signature, this application to be addressed to: The Registrar

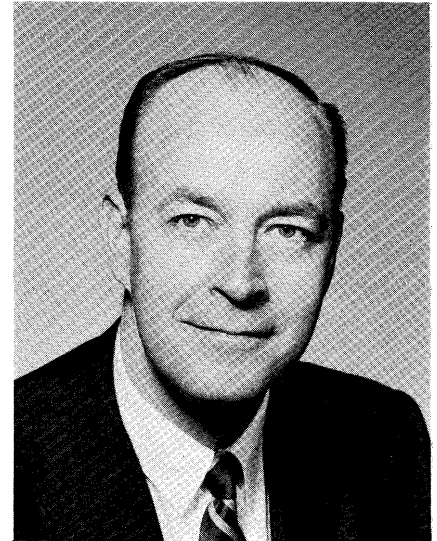
Netherlands Universities Foundation

for International Co-operation

27, Molenstraat

THE HAGUE, Netherlands

Anchorage Port Director



Anchorage, Alaska, December 22:—Mr. E. Erwin Davis has been named to the post of Port Director at the Port of Anchorage, Alaska. Mr. Davis joined the Port Staff as Operations Manager in 1966 and was named Assistant Port Director in April 1967. The new Port Director is a 1956 graduate of Gonzaga University in Spokane, Washington. Mr. Davis has been continuously employed in the transportation industry since leaving school, having served in a management capacity for several surface carriers. He has been an Alaska resident since 1962.

are unable to attend the meeting this time, we are told.

Get Rich by Diving

Los Angeles, Calif., January 6:—How would you like to earn \$40,000 a year and maybe even twice that amount working only about half the hours most wage-earners do?

The only requirements are that you pass a rigid physical examination and don't mind working in slightly cramped quarters.

The job? Deep-sea diving.

Universal Divers Limited, a school for deep-sea divers on Terminal Island at the Port of Los Angeles has 24 students in training this semester. After completing the 12-week course, 90 percent of them will find employment underwater and at high pay.

Instructor Albert Daza-Tany says

there is a shortage of commercial divers not only in the United States but throughout the world.

He points out that graduates from his school are employed in such areas as the Persian Gulf, the Sea of Japan and the North Atlantic.

Many foreign students have also enrolled and a hopeful diver from Australia is now attending classes.

"Most of the deep-sea divers work in offshore oil drilling, especially in the Gulf of Mexico," Dara-Tany says.

At Universal Divers students are taught such underwater skills as welding and cutting, line rigging and handling and heavy load lifting.

Wage scales are based on the depth a diver is required to work. In addition to the union scale, which is higher than those of other unions, divers are paid for work performed in deeper waters.

As an example, Dara-Tany says a diver working at 50 to 100 feet gets an additional 50 cents per foot. At 150 to 200 feet, he gets \$1.50 per foot more.

Most students range in age from 21 to 35, but some are as old as 50, the maximum age limit.

Prospective divers are given a thorough physical examination with emphasis on the heart, respiratory system, ears and sinus.

In waters of 30 feet or less, most divers can work all day without much difficulty. Below that special precautions are taken to avoid the "bends."

Dara-Tany says the bends are caused by the formation of nitrogen bubbles in the joints of the body, which occur from coming to the surface too fast and not allowing the body time enough to throw off the nitrogen.

Modern equipment has made it possible for divers to submerge and work at depths of almost 600 feet. Dara-Tany believes an even greater depth is possible with improved equipment.

At Los Angeles Harbor, students dive to 30 feet and learn to work by feel instead of sight. Dara-Tany says, Los Angeles Harbor water conditions are ideal because they are similar to water conditions

Bergen 900 Years Becoming a Global Event

The following letter and prospectus were received by the IAPH Secretary General:

Bergen, December 1969

In the year 1070, Olav Kyrre—The Peaceful King of the Vikings—founded the City of Bergen—as a consequence of the harbour created by nature.

In 1970—ninehundred years later—the City of Bergen invites the most important Ports of the world to participate in "PORT 70"—in this field, the International Exposition of the year.

In conjunction with the Exposition the Norwegian School of Economics and Business Administration shall be undertaking a Conference under the heading:

DEVELOPMENT OF PORTS AND INCREASED WORLD TRADE

Experts from UNCTAD, IAPH and ICHCA will head the speakers panel—and the Conference is expected to be sponsored by the United Nations.

The Exposition and Conference being main events of the historical year of Bergen, gives you the opportunity to be part of an extensive Programme which will be presented throughout the year—covering all sorts of activities.

where most commercial diving takes place.

The students' final dive before graduation is in deep waters outside the breakwater. After that, it's big money.

Dara-Tany has been diving all of his life. He learned the business from his father who owned a commercial diving company in New York. Although he earned a degree in education at Wagner College, Dara-Tany's first love is the sea.

"I wouldn't trade my job with anybody," he says. (Port of Los Angeles)

The City does welcome you in 1970.

(Signed)

Peter B. Namtvedt
Chairman, Executive committee
Bergen 900 years

(Signed)

Ragnar Juell Morken
Lord Mayor of Bergen

(Prospectus)

The City of Bergen and the Norwegian Trade Fair (Norges Varemesse) in cooperation with the Norwegian Ministry of Foreign Affairs, the Norwegian Shipowners' Association, the Export Council of Norway, the Institute for Shipping Research of the Norwegian School of Economics and Business Administration, the Directorate for Aid to Developing Countries, and the River and Harbor Laboratories, invite you to participate in an international fair on the development and construction of modern ports.

"Port '70"

Port '70 is an international fair of ports, equipment, and services required in building and operating a modern port.

Port '70 will include the following main categories:

- Port and harbor exposition.
- Building materials and equipment for construction of ports.
- Handling equipment
- Modern systems and equipment for the daily operation of a port.
- EDP, Internal transport and communication system, etc.
- Machinery and equipment for maintenance.

Dredges, water pollution control equipment, fenders, etc.

—In addition there will be a special pleasure boat marina.

Who can participate:

The exhibitors will include port authorities, suppliers, but also contractors, and planning and consultant firms. There will be possibilities to exhibit the latest achieve-

Announcement

The Israel Ports Authority is seeking a second-hand floating crane or floating sheerleg, lifting capacity of about 50 tons. Offers with details of technical characteristics, date of construction and price required, to be addressed to: ISRAEL PORTS AUTHORITY, Tel-Aviv, P.O.B. 20121, ISRAEL

Advertisement

ments within research and development in these areas.

The fair aims to attract:

- Port and harbor authorities.
- Officials engaged in planning and development of ports.
- Users of ports and harbors.
- Authorities, by creating better understanding and knowledge of usage and alternative operation methods, and improvement of public relations.

Port '70 will be presented as part of the celebration of Bergen's 900 year anniversary. It will be given worldwide publicity through the press, radio, TV, and other forms of communication.

Special issues of English/American publications will appear in connection with PORT '70.

The area consists of 80.000 sq. meters, partly in halls or outdoors. In the immediate vicinity there is a lake with an area of about 4 acres, on which floating equipment can be demonstrated.

Conferences—Port'70:

Various seminars will be arranged in conjunction with the Fair, the following subjects will be discussed:

- An economic appraisal of port investments.
- Facilitation of port formalities and procedures.
- Cargo handling economics and practices.
- Port charges and depreciation policy as a means of promoting efficient shipping operations.
- Technological changes and new concepts of international ports.

—The Lash system.

—Bulk cargo berths, container terminals and feeder ports.

—Modern port planning and projecting through system analyses etc. in developing countries.

—The port as a link in a transport system.

—Relative merits of private, state, and civic ownership of ports.

—Training—a means of developing the human resources of ports.

Experts from UNCTAD, IAPH and ICHCA will head the speakers' panel.

The Conferences will take place September 27th through October 4th 1970.

The executive committee:

Ragnar Juell Morken,

Lord Mayor of Bergen

Arnlfot Stromme Svendsen, Professor,

Norwegian School of Economics and Business Administration

Peder B. Namtvedt, Consul

Kristian G. Jebsen, Shipowner

Otto Chr. Malterud, Managing Director,

Export Council of Norway

Odd Grann, Secretary General,

Norwegian Trade Fair

Sigmund Gjesdal, Director

Secretaries:

Knut B. Andersen, Managing Director

Carl O. Gram Gjesdal, Secretary General

What does it cost to exhibit?

10—20 sq. meters

=N.kr. 225,—pr. sq. m.

25—40 sq. meters

=N.kr. 200,—pr. sq. m.

45 sq.m. and more

=N.kr. 180,—pr. sq. m.

Outdoors

=N.kr. 100,—pr. sq. m.

Fair period:

From September 28th through October 4th, 1970.

Opening hours

Daily from 10 a.m. to 6. p.m.

(On the opening day from 1 p.m. to 6 p.m.)

Would you like further information about PORT '70? Please write to:

The Secretariat of PORT '70

P.O. Box 2465 — 5012 Bergen

NORWAY

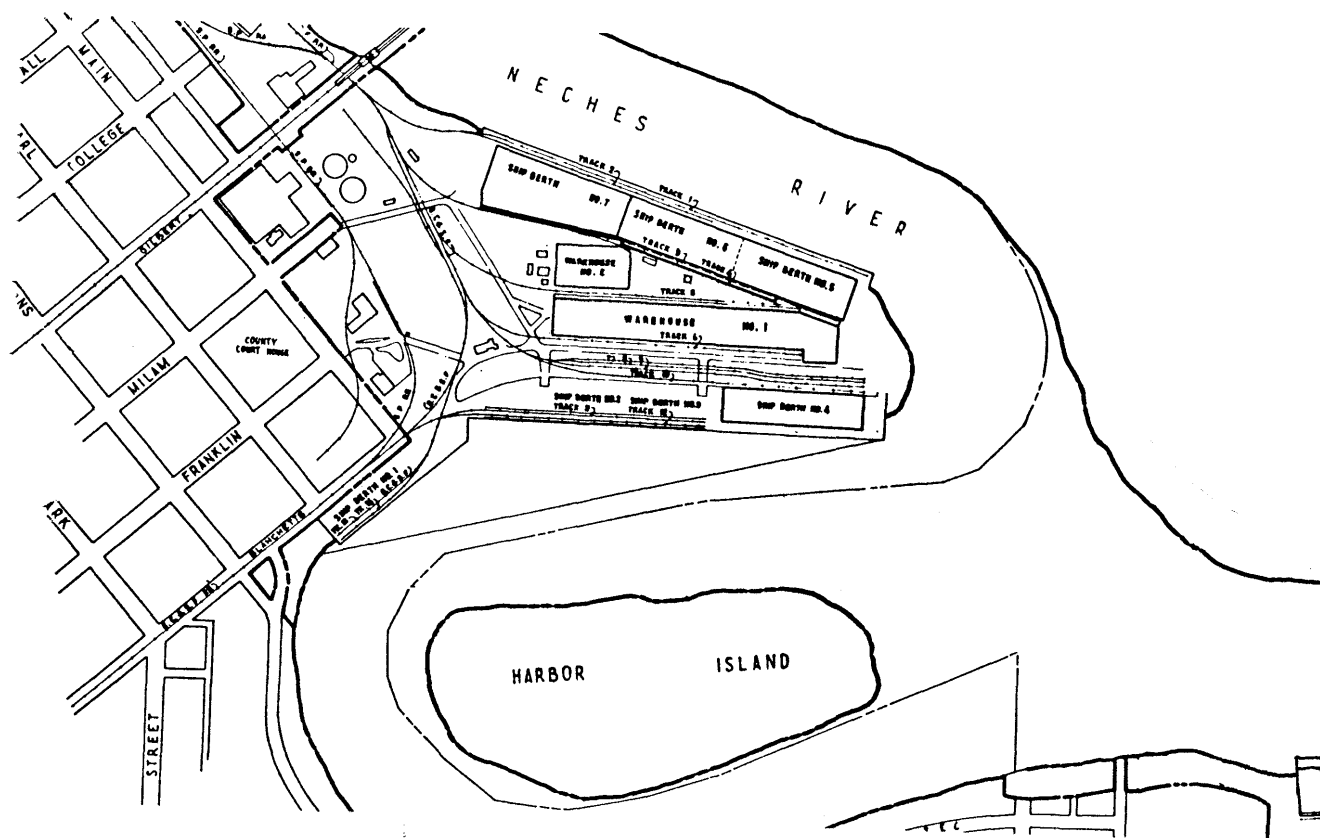
Long-Range Plan

Los Angeles, Calif: — Offshore airports, underground oil tanks and vertical container storage facilities are all considered future possibilities at the Port of Los Angeles, according to a planning and research program unanimously adopted this week (January 21) by the Los Angeles Board of Harbor Commissioners.

The program, which details objectives and goals for the port's Planning and Research Division, outlines areas for exploration so the Harbor Department can determine the kind of facilities needed within the next 20 years.

Commission Vice President Frank C. Sullivan, speaking on behalf of the Board, said the program represents "a major step in developing an all-encompassing long-range master plan for the port to

Are You A Newcomer to Port of Beaumont?



You won't be able to read all the fine print in the above drawing showing the location of the Port of Beaumont facilities. But maybe you can read enough to orient yourself. The Carroll Street docks and the grain elevator site aren't included simply because the page isn't wide enough, but they are just to the right of the lower right-hand corner. And the K.C.S. railway bridge is just above the upper left-hand corner.

assure its continued development for the benefit of Los Angeles and all the people of Southern California."

The objectives and goals, as set forth in the program, are:

(1) To develop and maintain a long-range master plan for the Port of Los Angeles to at least the year 1990,

(2) To undertake specific economic and analytical studies of operational problems and facility development, and

(3) To keep abreast of current maritime research and development on a continuing basis.

The Planning and Research Division, under the direction of Donald A. Walsh, is responsible for initiating the necessary studies and research from which a master plan can be developed and carried out in "a manner consistent with sound economic and planning principles

on a schedule which will achieve the maximum benefit from the funds to be invested."

The program calls for maritime research in the development of such ocean-going vessels as Hovercraft and air-cushion vehicles, Hydroskimmers, Hydrofoils, catamarans, LASH and Seabarge ships and nuclear-powered vessels, in consideration of the type of port facilities these ships may require.

The program also enable study on the possibility of Port of Los Angeles participation in construction and operation of offshore facilities, such as offshore airports and deep water liquid bulk terminals.

Economic and analytical studies are planned on: (A) Water pollution; (B) Traffic facility requirements; (C) Space utilization; (D) Evolvment from flat to vertical container storage; (E) Contingency plans for major fires, earth-

quakes or storms; (F) Possibility of placing oil tanks below ground and utilizing the full land area above them for other purposes; and (G) Long-range need for multi-level parking structures at various locations within the Harbor District.

As outlined in the program, an inventory of present port facilities and an analysis of past and present operations will be made and studied to help in determining future redevelopment or relocation.

Present operations in containerization, warehousing, bulk materials handling, passenger services, lumber, oil and imported automobile handling, fish processing and recreational activities will be considered in the inventory and analysis.

Forecasts of future commercial
(Continued on Next Page Bottom)

Port Everglades 1969-70 Annual Passenger Ship Roundup

Port Everglades News

Hollywood-Fort Lauderdale: — A record number of cruises and voyages will be offered from Port Everglades in the 1969-70 season.

Port Vice Chairman Jack Clark said sailings for the first time in the harbor's history will average "one-a-day" for the entire period from November 1 through April 30, 1970, corresponding with Florida's winter season. In all, 189 departures are listed in the six-month period.

The combination of more ships and imposing schedule increased by a number of returning liners largely accounts for an anticipated 25 per cent gain in activity, Clark stated.

The variety and selection of sailings have never been better. Trips are scheduled to the Bahamas, West Indies, Caribbean, Central and South America, Europe, the Mediterranean, U.S. West Coast, Near and Far East, and around the world. They range anywhere from three days to three months. And they reach out to every type of port-of-call from the exotic and remote to the internationally known and widely publicized.

Although the tempo picks up in November, it won't be until Decem-

and maritime activity will be partly based on population growth; production consumption and labor force trends; and traffic potential from developing countries.

Information on the projected growth in small craft, tourism and recreational activities, recreational time available to the work force as related to the work week and vacation time will also aid in determining forecasts for future port development. (Port of Los Angeles)

ber before passenger ships really converge on Port Everglades, the South's No. 1 International Cruise Port. Ships will be coming in from Europe, the Mediterranean and northern U.S. Atlantic seaports to set up their winter base of operations.

The parade of returning liners includes the Ariadne, Argentina, Brasil, Bergensfjord, Carmania, Federico C. Franconia, Europa, Hanseatic, Leonardo da Vinci, Michelangelo, Raffaello, Renaissance, Stella Oceanis and Nieuw Amsterdam. This group will account for 123 sailings.

Here for the first time this winter will be the TS Hamburg, world's newest ocean liner; the Carla C, Empress of Canada, and the Oriental Esmeralda and Oriental Carnival.

Another group includes the Kungsholm, Gripsholm, President Roosevelt, Rotterdam and Sagafjord, all offering sailings of 40 to 80 days.

In still another category are the year-round ships: the Santa Paula and Rosa, Santa Mariana, Santa Maria, seven liners of the P & O fleet, and the Australis. They'll be in and out, not only during the winter season, but this fall and also next summer.

Among the returning cruise ships, German Atlantic Line's Hanseatic and Norwegian America's Bergensfjord are arriving earlier and staying longer in Florida waters.

The Hanseatic puts in an appearance at the Hollywood-Fort Lauderdale harbor three months ahead of other years, coming in Oct. 28 for a 42-day "Around South America" cruise. The 25,300-ton liner follows this sailing with 12 trips of 7

to 40 days through the end of May for her longest winter stay in nine years. In all, the Hanseatic will be at Port Everglades seven months.

The Bergensfjord, too, is upping her schedule considerably with 16 cruises, compared with four last winter. The 578-foot liner opens with a 44-day voyage to the Mediterranean Oct. 8, then goes into West Indies service with 7-to-16-day loop trips. Her season's finale is an 11-day trip April 21 to Santo Domingo, Ponce, St. Kitts, Nevis, Barbados, and St. Thomas.

Moore-McCormack's Brasil and Argentina will be back, the former sailing to the West Indies and the latter offering month-long and more cruises to South America in January and March. A delightful 63-day cruise to the Far East with stops at Singapore, Hong Kong, Osaka and Yokohama among other ports of call is set for April 27, 1970.

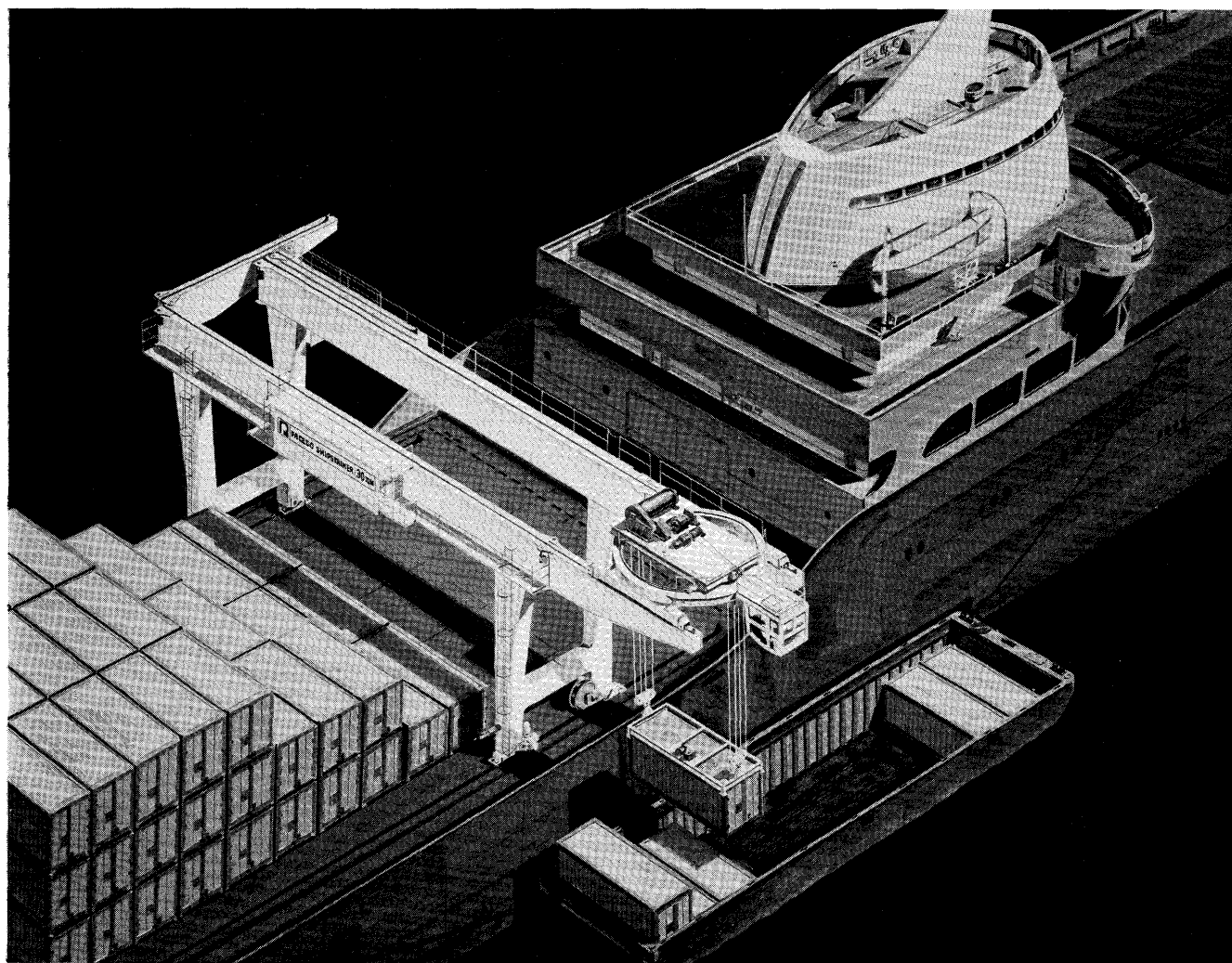
The Port's busiest ship will be the Ariadne, offering twice-weekly cruise to Nassau for four months, beginning January 2. This liner goes out for three days on Fridays, and offers four-day trips on Mondays with a schedule of 34 loop trips.

Cuniar's Carmania and Franconia will make 16 cruises. The Carmania, arriving in December, will offer eight 5-to-14-day trips to Caribbean and West Indies, while the Franconia makes a like number of weekly sailings to San Juan and St. Thomas on Jan. 24.

Costa Line's Federico C which divides her schedule between winter cruises out of Port Everglades and trans-atlantic sailings to Italy in the off season, inaugurates a series of nine West Indies and South America trips in December. All cruises are in the 13-14-15-day category with as many as ten ports of call on itineraries.

Italian Line's triumvirate, consisting of the Leonardo da Vinci, Michelangelo and Raffaello will make a total of seven cruises. The Leonardo sails on a 31-day "Carnival-in-Rio" trip in January and a "Hawaiian Paradise" cruise March 1 with calls at 11 ports during the 41-day outing.

Paquet Lines' Renaissance will be here for seven Florida cruises, rang-



Alameda, Calif., January 15:—The first of eleven Container Handling Cranes for LASH ships was inspected during trials recently at PACECO, Alameda, California, by executives of Pacific Far East Lines, Prudential-Grace Lines, Inc., Friede & Goldman, Avondale Shipyards, Inc. and Reliance Electric. PACECO, A Division of Fruehauf Corporation, is building the cranes for installation aboard each of eleven LASH ships which are capable of loading and unloading containers and lighter barges at pierside as well as in the roadstead. The cranes will handle both 20' and 40' containers and will operate even when the ship has a maximum list of 5° (degrees) and a maximum trim of 3° (degrees). A unique feature for shipboard cranes is the rotating trolley which permits storing containers in both fore-aft and athwartship positions. Completion of the LASH vessels is planned for 1973. Sea trials of the first vessel will be early 1971. Six of the LASH ships will go to the Pacific Far East Lines, Inc., San Francisco, and five will go to Prudential-Grace Lines Inc., New York. (PACECO)

ing from 9 to 13 days with one exception, that a 22-day offering Feb. 18. On the longer cruise the Renaissance will call at St. Thomas, Point-a-Pitre, Barbados, Trinidad, La Guaira, Curacao, Cartagena, San Blas, Cristobal, San Andres, Santo Tomas de Castilla, Guatemala, Montego Bay and Cozumel.

Another successful season is envisioned by North German Lloyd's Europa which unfurls a schedule of

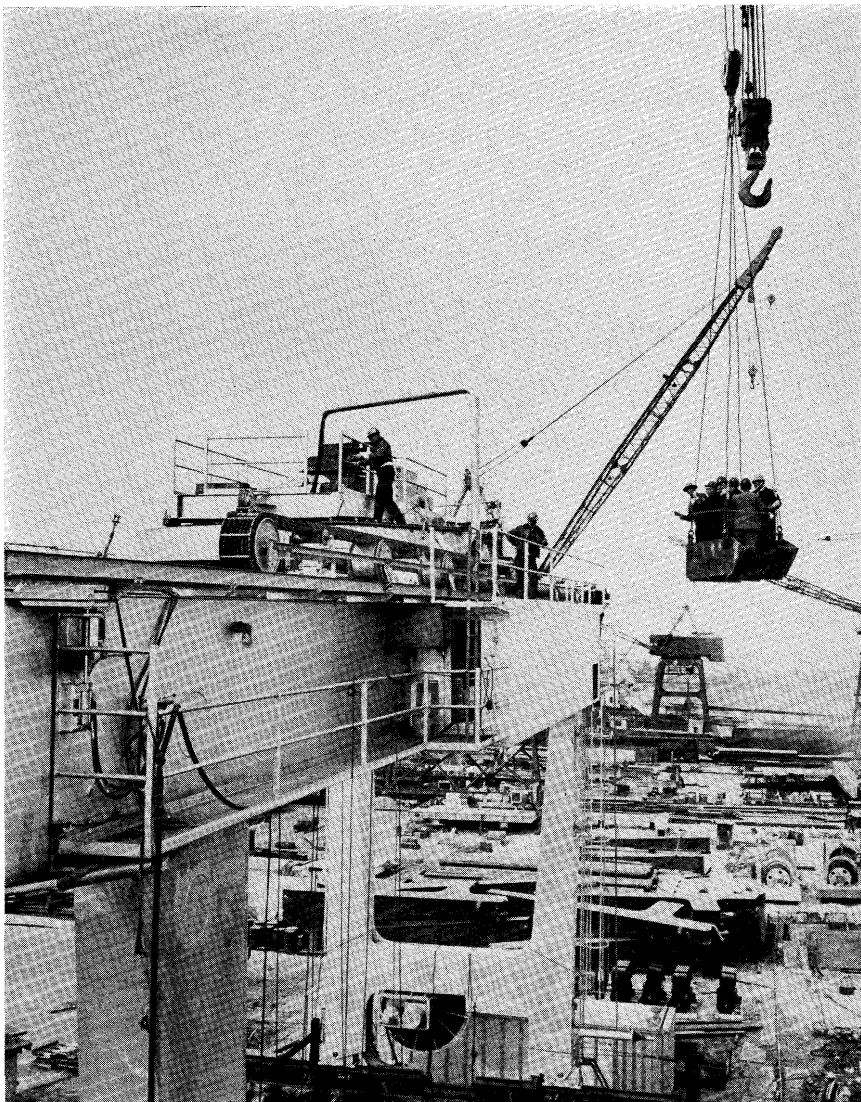
seven West Indies cruises in December, and closes with a trans-atlantic voyage March 30, to New York, Cherbourg, Southampton and Bremerhaven. The Europa also departs from the norm of 9-to-14-day loop trips with a 21-day offering Feb. 9.

Sun Line's Stella Oceanis, known for visits to exotic ports in Central and South America, continues along the same pattern with four 20-day loop trips, beginning Dec. 20. The

sleek, 5,500-ton liner will call at Bonaire, Santa Marta, Cartagena, San Blas, San Andres, and Cozumel, among other ports.

Holland America's 21,000-ton Nieuw Amsterdam offers two cruises, the first a 12-day "Lincoln's Birthday" sailing Feb. 2, 1970, and the other an "early spring" trip on March 8. Both are to the West Indies.

The new Hamburg is scheduled to



Alameda, Calif.:—Inspecting executives were given a lift for a better view of a new LASH container handling crane being built at PACECO, a Division of Fruehauf Corporation, Alameda, California. The crane, one of eleven to be installed aboard the new LASH ships was inspected by executives representing Pacific Far East Lines, Prudential-Grace Lines, Inc., Friede & Goldman, Avondale Shipyards, Inc. and Reliance Electric Company. (PACECO)

arrive January 19 for seven West Indies cruises. Her first is all-day trip to St. Thomas, Martinique, Trinidad, Curacao, and Montego Bay. The Hamburg remains at Port Everglades until the end of April.

Another newcomer, Costa Line's Carla C, will be here Oct. 13 for a trans-atlantic voyage to Genoa, and a 7-day "Thanksgiving Cruise" on Nov. 23, with calls at San Juan, St. Thomas, and Montego Bay, returning Nov. 30.

Canadian Pacific's Empress of Canada makes her first visit to Port

Everglades in March. The 27,284-ton liner, enroute from New York, presents a 19-day trip to the West Indies and South America as well as Cristobal.

Longer cruises and voyages are again expected to appeal to the traveling public. Among the liners offering such sailings are the Saga-fjord with a 51-day fall cruise around South America Oct. 28; Swedish America's Kungsholm and Gripsholm, also looping South America Oct. 25 and Jan. 23, respectively; and Holland-Ameri-

ca's Rotterdam, with an 83-day globular voyage Jan. 24. American President Line's President Roosevelt calls March 9 enroute to Mexico and U.S. West Coast ports.

Among the Port's year-round ships, Grace Line's Santa Rosa and Santa Paula will make 21 calls in the November-April period. One of these ships is here every Tuesday, departing to New York, home port, and then heading south on 14-day Caribbean and South American cruises.

Another Grace ship, the Santa Mariana, which sails to west coast ports of South America, will be here monthly from October through May.

The Portuguese liner, Santa Maria, the first passenger ship to call regularly at Port Everglades, will maintain its monthly schedule of trans-atlantic sailings. The 21-750-ton vessel sails to Tenerife, Funchal, Vigo, and Lisbon, home port, and on the return trip calls at Vigo, Funchal, Tenerife, La Guaira, and Curacao.

Oriental Overseas Line's Esmeralda and Carnaval, which operate in around-the-world service, will make alternate calls Nov. 21, Jan. 25, April 4 and June 8.

Another round-the-world ship is Chandris Line's Australis, which calls Nov. 9, and Jan. 27, enroute to Southampton and Piraeus, home port.

P & O Lines' array of ships, among them the 45,000-ton Canberra, which crisscross the globe, will continue a schedule of monthly calls. During the November-April period, Orsova (Nov. 17) and the Oronsay (Dec. 29) will be westbound, departing here through the Panama Canal to the west coast, Honolulu and Australia. The same ships return in March but on easterly courses to Southampton and London.

A busy period lies ahead for the Port during the Christmas holidays when nine liners, with a capacity of over 5,000 passengers, offer special sailings.

Yule activity gets underway Dec. 18 when the Federico C goes out on a 15-day trip to San Juan, St. Thomas, Martinique, Barbados, Trinidad, La Guaira, Aruba, Carta-

gena, Panama, Port-au-Prince, and Nassau.

The Hanseatic departs the following day, followed by the Stella Oceanis, Europa and Renaissance on the 20th, and the Bergensfjord, Brasil and Carmania on the 22nd. Winding up the mass exodus will be the Raffaello, arriving here from New York the day after Christmas on a 16-day loop trip to the West Indies.

Port Everglades is well prepared to handle an ever-increasing number of cruise passengers. Its new multi-million dollar passenger pier and tri-terminal complex will be the focal point of activity, but, in addition, there are alternate facilities elsewhere for peak demands. As many as seven ships can be handled simultaneously and while no occasion occurred last winter to full test the harbor, several times six liners were accommodated.

For a number of years the Port Authority has compiled a Cruise Guide, listing all sailings throughout the winter season and the rest of the year. The booklet is available to the writing to: Michael K. Tewksbury, Port Manager, Port Everglades Authority, Port Everglades, Florida 33316.

Reorganized

Oakland, Calif., January 1: — The Board of Port Commissioners of the City of Oakland has been reorganized as of January 1, 1970. The membership of the Board is now as follows:

President

William Walters

First Vice President

Peter M. Tripp

Second Vice President

Y. Charles Soda

Commissioner

Thomas L. Berkley

Commissioner

A. Anthony Bilotti

Commissioner

H. Boyd Gainor

Commissioner

Robert E. Mortensen

Executive Director

Ben E. Nutter

Secretary of the Board

Richard N. Compton

Assistant Secretary

Walter A. Abernathy

Assistant Secretary

Dorothy M. Hart

(Port of Oakland)

Sister Ports

Oakland, Calif., January 14: — The Port of Oakland announced today that it has established sisterport affiliations with the Port of Keelung, Taiwan, and the Port of Auckland, New Zealand.

The sisterport relationship developed with the two Pacific ports as a result of a recent trade mission to the Far East and "down under" by officials from the Port of Oakland, led by Port Commissioner Robert E. Mortensen and Executive Director Ben E. Nutter.

"Our affiliation with Keelung developed spontaneously during the trade mission's visit there, and stems from an exchange of visits to the two ports," Nutter said.

Officials from Keelung, which is the port for Taipei, Taiwan's capital city, and other government and steamship line executives from the Republic of China, were in Oakland last fall for a seminar on containerization. The Chinese businessmen learned first-hand technical aspects of the complete container system, including terminal construction and management.

A friendly relationship between executives of Oakland and Auckland, plus many similarities between the two cities led to the establishment of the sisterport affiliation in New Zealand.

Besides the names of the two cities sounding very much alike, it was learned that both ports were located on landlocked harbors, Oakland has the same latitude north of the equator as Auckland has south of the equator, the climate and population are similar, and cargo tonnage passing through the two ports is about equal, Nutter said.

Special documents, including a resolution passed by the Oakland Board of Port Commissioners officially naming the two ports as sisterports of Oakland, and interesting mementoes and photographs

are being exchanged by the ports.

The sisterport affiliations should lead to better understanding and long-range benefits through international commerce, Nutter said. (Port of Oakland)

More Tonnage for 1969

Portland, Oregon, December 23: —The Commission of Public Docks will close out 1969 with one of its heaviest construction years on record and a healthy 12 percent tonnage growth over 1968.

Almost \$10 million worth of work was completed, or nearly so, bringing Portland's harbor facilities into excellent competitive shape, said Thomas P. Guerin, Commission General Manager.

A two-berth terminal for containerized and break-bulk cargo is complete at Terminal 2 except for a pierside cargo shed now under construction and a container freight station. Total cost, with container cranes and mobile handling equipment, will top \$8 million.

Late in December, the Commission took delivery of a 175-ton traveling crane, heaviest such lifting equipment in the Pacific Northwest. Cost of this was about \$358,000. Shortly after the first of the year three giant straddle carriers for moving containers in the new Terminal 2 yard will go into service at cost of around \$541,000.

About 50 percent of the work has been completed on a floating automobile receiving dock near Terminal 4, the only such facility in the country. When finished in early spring, it will cost around \$770,000.

In forecasting activity for the early years of the new decade, Guerin predicted that expanding productivity of the Columbia Basin, especially in agricultural commodity processing, plus expected industrial growth will have substantial impact for the harbor by increasing demands for imported raw materials and exported finished goods.

He forecast expanded trade with Japan through increased Dock Commission solicitation efforts, the provision of new port facilities in Portland, and anticipated new

vessel services. The Commission should end 1969 with a 12 per cent tonnage growth over last year, topping the 2,000,000 ton mark for general cargo commodities moving across the three public terminals, he said. General cargo tonnage in 1968 was 1,801,185 short tons. (Portland Public Docks News Release)

Correction

In reference to the foregoing news on the trade volume of Portland, a news with erroneous references was printed on page 25 of Ports and Harbors, November, 1969 issue, captioned "Record Trade Volume". Actually, the news was in reference to the port of Portland, the State of Victoria, Australia, instead of Portland, Oregon, U.S.A. The source of the news, Portland Harbour Trust Commissioners, was correct.—Ed.

European Consortia

Melbourne:—A New company Seatrans Pty. Ltd. has been formed to act as Australian agents for five continental shipping companies, to handle all their forthcoming Australia-Europe container services.

The five companies comprise: Messageries Maritimes. Hamburg-America Line, North German Lloyd, Lloyd Triestino and Holland-Australia Line.

The majority ownership of Seatrans will be held by George Wills and Co., Ltd., John Sanderson and Co. (Shipping) Pty. Ltd., Gilchrist, Watt and Sanderson Pty. Ltd., France Australia Pty. Ltd., and InterOcean Services Pty. Ltd.

The managing director of Seatrans will be Mr. J. I. Davies, one of the most experienced shipping executives in Australia. A planning committee for the new agency has been formed and is already working to set up cargo centres in the major Australian ports, including the Port of Melbourne, so that all will be in readiness for the start of the container service in 1970.

It is anticipated that unit type

vessels now operating the Europe-Australia service will continue to do so until the container ships are introduced into the service.

Holland-Australia Line expect its four unit type vessels to continue operating on their Europe-Australia service until its cellular ship joins the other four container ships in the consortia.

The keel of the Holland-Australia line ship was laid in June and it is expected to be delivered to its owners in the second half of 1970.

The ship will carry 1,300 $20 \times 8 \times 8$ I.S.O. containers and have a cruising speed of $21\frac{1}{2}$ knots. It will have a gross tonnage of 30,000 tons. (Melbourne Harbor Trust Port Gazette, Sept., 1969.)

Home-Made Dredger

Karachi:—The Karachi Port Trust took over the Grab Hopper Dredger 'AMINUDDIN' from the Karachi Shipyard at a simple ceremony on 14th July, 1969.

The K.P.T. Chairman, Commodore Mahmud-ul Hasan, S.K., T. Pk., N.P. (Rtd.), while receiving the 'Key' of the Grab Hopper Dredger appreciated the quality of work of the Karachi Shipyard in producing various vessels for which orders had been placed by the K.P.T. "The workmanship of 'AMINUDDIN' is of a high standard and can be compared with similar vessels built by well-established shipyards abroad, he said. The K.P.T. Chairman congratulated the Shipyard engineers and workers on the completion of specialised craft, the first of its kind ever built in Pakistan. He promised all cooperation to the Shipyard and said, "as a matter of policy the K.P.T. supported national enterprises like the Karachi Shipyard & Engineering works in their pioneering activities". He added that the K.P.T. had ordered 36 vessels and other ancillary harbour equipment, like mooring and channel light buoys, marine diesel engines and other miscellaneous steel structure, costing well over Rs. 4 crores.

Earlier, while welcoming the Chairman, K.P.T. at the Handing-over Ceremony, the General Man-

ager of Karachi Shipyard & Engineering Works gave the salient features of the Dredger "AMINUDDIN", which was built at a cost of Rs. 76 lakhs. The General Manager of Karachi Shipyard said that the Dredger was 209 feet long, having a hopper capacity of 22,000 cft. and deadweight of 1,085 tons and could be used for dredging upto a maximum depth of 75 feet below sea-level. He said that the Dredger was fitted with a four-diesel operated grab cranes and capable of handling a load of 6.25 tons.

The K.S.E.W. Manager said that due to non-availability of foreign exchange, the work is sometimes disrupted for want of imported materials, with the result that there are hold-ups in the production, delaying not only the completion of vessels but also affecting the Shipyard. The Government, he said, had been approached in this behalf and apprised of the situation. At present, he said, the shortage of foreign exchange was affecting production programme, inter alia, of the two Harbour Tugs and one Grab Dredger ordered by the K.P.T.

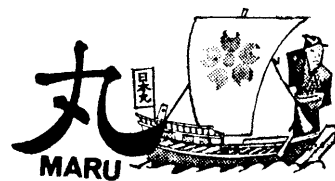
The Ceremony was attended by K.P.T.'s Officers, the Shipyard Officers and representatives of the Press. (K.P.T. News Bulletin, August 1, 1969)

Language Know-How

'Maru'

Japanese ships are known to people throughout the world as "maru ships." This is because the names of Japanese vessels in most cases end with "maru," as in "Tokyo Maru" and "Idemitsu Maru."

It is known that there were wooden sailing ships called "Yamato ship" in ancient Japan and that these vessels bore names ending in "maru" before 1394. Despite the



use of "maru" in ships' names for such a long time, it is not known how "maru" came to be used.

However it is a fact that ancient samurai warriors used "maru" in naming their sons, swords and lances to indicate the affection they had for their belongings, that merchants in old Japan used "maru" in naming their shop and that towers of castles were called "Ichi no Maru" (No. 1 Tower), "Ni no Maru" (No. 2 Tower), etc.

It is also said that "maru" was derived from a word meaning ship in ancient south Asia or central Asia.

Aside from the origin of "maru," the existing Shipping Law in Japan stipulates that "maru" be used in ship's names as much as possible. There are shipping firms, like the Japan Line Ltd., that have started to use the names of plants for the names of its vessels without using "maru." (IHI Bulletin, September)

Record Trade Volume

Portland, Victoria, Australia, August 14, 1969:—A new record for the volume of cargo handled through the Port of Portland was established during the 1968/69 financial year.

Total port trade showed an increase of 43.8% over the previous year's figure, and was 6% higher than the former record of 446,678 tons established during 1966/67.

Imports handled during the year showed a substantial rise of 31.8% to total 372,424 tons, the best ever recorded in the history of the Harbor Trust; whilst exports during the year totalled 101,056 tons.

Although exports were up by 156% on the previous year's figure, the overall total was considerably below the tonnages handled during a four year period between 1961/1965.

As a result of the year's operations the Trust's shipping revenue increased by 28.8% over the previous year to a record figure of \$357,288.

Excluding oil exploration traffic, there were 136 vessels berthed in the port during the year. Of these, vessels discharging imports increased

by 10 compared with the previous year, whilst the number loading exports declined by six and oil tankers by two.

Of the 22 other vessels berthed, 12 called at the port for bunkers, with a total of 1700 tons being loaded during the year.

One major feature of port trade during the year under review was the quantity of materials landed at the Trust's new bulk berth for Cresco Fertilizers Ltd. During its first full year of operation at Portland, this company imported almost 120,000 tons of phosphatic rock, sulphur and sulphate of ammonia for manufacturing purposes.

An analysis of cargo statistics discloses that although petroleum products showed a slight decline of 1.1%, the quantity of paper pulp handled rose by 61% to 2,570 tons, whilst imports of raw coffee beans at 6,178 tons was almost equivalent to the previous year's figure.

The main feature of export trade during the year under review was a marked recovery in the shipment of bulk oats, which totalled 71,903 tons. It is of interest to note that more than 50% of this tonnage was shipped for the first time to a new export market in Japan.

Exports of wool also continued on an upward trend with 73,503 bales being shipped to overseas markets. This was 9,561 bales in excess of last year's figure.

The overall tonnage of meat and allied products handled during the year remained almost static at 7,112 tons, whilst exports of dairy produce (butter, cheese and milk products) at 11,372 tons, were on a par with the previous year. Although there was a marked decline in the tonnages of cheese and milk products, exports of butter increased by almost 5,000 tons. Of this, one shipment of 1,080 tons was consigned to Brisbane during March.

Of the 59 vessels which lifted export cargoes, 24 loaded for U.K./Continental ports, 16 for Eastern and Indian ports, 12 for Japan and 6 for the United States and Canada. (Portland Harbor Trust Commissioners)

Correction

The foregoing news was printed on page 25 of Ports and Harbors, November, 1969 issue. The news was placed by an oversight in The Americas section and in reference to Portland, Oregon (U.S.A.). This news is being reprinted here in the Asia-Oceania section with Editor's apologies.

Rapid Transition

Hong Kong, Nov. 14:—The Director of Marine, Mr. K. Milburn, said today Hong Kong was entering "a period of rapid and revolutionary transition" which it could not afford to ignore "as a port or as a trading community".

He said that in all fields of industrial activity, there was a trend towards greater efficiency, higher productivity, and an urge to improve the standard of living of workers.

He felt this spirit would inevitably have an effect on the Colony's cargo-working systems, and what he described as an "economy of scale" had touched almost every form of industry, with mammoth tankers and bulk carriers providing spectacular examples.

"There is some rationalisation of shipping services brought about by the heavy capital and operational costs," he said. "Huge syndicates and consortia are being formed. Ships themselves are getting bigger." He predicted that in ten years, large container ships would be offering weekly services on the main trade routes. (The Week in Hong Kong)

Japanese Sister Port

Sydney, 30th October:—A delegation from the Port of Yokkaichi, the sister port in Japan of the Port of Sydney, will visit Sydney next week.

This was announced today by Mr. W. H. Brotherson, President of the Maritime Services Board of

N.S.W., who said that the Japanese delegation will be led by Mr. Satoru Tanaka, Governor of the Mie Prefecture, who is also the President of the Yokkaichi Port Authority.

Yokkaichi is situated near the head of Ise Bay and is the port which handles most of the Australian wool entering Japan. For this reason it is of importance to Australian exports and the economy of this country.

Apart from Governor Tanaka, the Japanese delegation will include: Mr. Kikuo Kuki

Mayor of Yokkaichi City

Mr. Kuraichi Okamoto

Chairman of Yokkaichi Port Authority Assembly
Member of Yokkaichi City Assembly

Mr. Kinichi Itoh

Vice Chairman of Yokkaichi Port Authority Assembly
Member of Yokkaichi City Assembly

Mr. Taneji Hori

Vice President of Yokkaichi Chamber of Commerce & Industry

Vice President of Yokkaichi Port Promotion Association
President of Yokkaichi Warehouse Co., Ltd.

Mr. Shuji Hirose

Senior Advisor of Yokkaichi Port Authority

Mr. Keiichi Kakino

Assistant Chief, General Affairs
Section of Yokkaichi Port Authority

Mr. Brotherson said that the delegation is coming to Sydney to return a visit made by him last year accompanied by two of the Board's officers when the sister port relationship was formerly signed at a ceremony in Yokkaichi.

He said the relationship is based on the exchange of information and services between the two ports and on the building up of mutual understanding and friendship.

The visit will commence with a briefing on the port of Sydney to take place in the Conference Hall on the 4th floor of the Board's Head Office building at 11.00 a.m. on Monday, 3rd November, 1969.

During the course of Monday afternoon the delegation will be received by the Hon. E. A. Willis, B.A., M.L.A., Minister for Labour

Centenary Conference On Port & Harbour Management

19th to 21st October 1970

CALCUTTA—INDIA

Institute of Port Management

20 Garden Reach Road, Calcutta-43, India

A. Letter of Invitation

Dear Sir,

The 17th October 1970 will be a memorable day in the annals of the Commissioners for the Port of Calcutta, as on that day this premier Port on the eastern seaboard of the Indian Sub-Continent will complete 100 years of service to the maritime trade under their management. In keeping with its glorious traditions, Centenary Celebrations will be observed in the Port for a week ending on 23rd October, 1970. The celebrations will include a variety of programmes, both educative and entertaining. The highlight of the celebrations will be the "Centenary Conference on Port and Harbour Management" which is being organised by the Institute of Port Management of the Calcutta Port Commissioners.

The Centenary Conference session will open on 19th October and will continue for three days until 21st October 1970. The aim of the Conference will be dissemination of expertise on problems concerning management of modern Ports and creation of appreciative interest in modern management technique in

and Industry, Chief Secretary and Minister for Tourism on behalf of the Premier and later by the Lord Mayor of Sydney, Alderman McDermott.

Mr. Brotherson said that the itinerary also includes a visit to Canberra where the Minister for Shipping and Transport, the Hon. Ian Sinclair, has arranged an official dinner in Parliament House for the evening of Tuesday, 4th November, 1969. (The Maritime Services Board of N.S.W.)

selected fields of study. The subjects on which papers are being invited for discussions at the Conference are given in enclosed brochure along with other relevant information in brief.

It is my privilege and honour to invite you at the Centenary Conference and particularly seek the benefit of your participation through the contribution of a paper on any of the selected subjects. We have every hope that you will kindly respond by returning, with your signature, the provisional registration form which is enclosed.

It will be of great convenience for the purpose of circulation in print, well ahead of the Conference, if an abstract of the paper you would propose to read at the Conference can be sent to me, in not more than 200 words, by 15th March, 1970. The complete paper, preferably limited to 4000 words, may kindly be furnished by 15th May 1970.

Should you be interested to know about our Institute of Port Management, I may say that this Institute is the only one of its kind in the entire South-East Asian region. It was inaugurated in December 1965 under the auspices of the Calcutta Port Commissioners with the purpose of generating awareness, interest and appreciation of modern management concepts and practices among the young managerial cadres of the Ports in India, in general and of the Port of Calcutta, in particular. The Institute has been conducting various courses of instructions as also in-service training and organising lectures by eminent scholars and experts on a variety of topics of general and specialised interests.

It may be recalled that this Institute has, within its short span of life, already served the cause of advancement of knowledge in Port and Harbour Management by holding the National Conference in January 1968. This Conference, as you may be aware, created considerable enthusiasm in the Indian Port Management and active support was received by the participation of the United Nations and the ECAFE, besides several international experts.

Thanking you and eagerly looking forward to your early reply.

Yours faithfully,

29th December 1969

Calcutta

(Signed)

(Rabindra N. Ghosal)
Organising Secretary

B. Information Brochure

1. **Organisation:** The Conference will be organised by the Institute of Port Management under the auspices of the Calcutta Port Commissioners, in the course of the Centenary Celebration Week of the Port of Calcutta in October, 1970.
2. **Venue:** The Conference will be held at the Lecture Theatre of the Institute of Port Management on Circular Garden Reach Road, Calcutta-43, India.
3. **Duration:** The Conference will open on 19th October, 1970 at 10 a.m. and continue until 5 p.m. 21st October, 1970.
4. **Registration:** Provisional registration forms to be completed and forwarded to the Organising Secretary of the Conference by 15th August, 1970. Separate registration form will be required for each delegate. Firm registration will be accepted upto 9 a.m. on 19th October, 1970 at the Conference office in the New Traffic Building, Circular Garden Reach Road, Calcutta-43.
5. **Conference Programme:** Final programme including timings of various working Sessions of the Conference will be sent separately when provisional registration forms are received.

6. Subject of papers and discussion:

The subjects of papers and discussions concerning management problems have been classified into 6 groups as indicated below:

- I. **Port Resources, Development, Effect on Economy:**
 - (a) The role of Ports in developing economy and expanding commerce.
 - (b) Economy of big and small ports.
 - (c) Factors influencing the economics of transporting cargo and terminal charges, like—
 - i) restrictive practices—delay in cargo handling; and
 - ii) the effect of Customs procedures.
 - (d) Estimate of land requirement and problems associated with creation, acquisition and reservation of land for port development.
 - (e) Communications with the hinterland.
 - (f) Application of Operation Research.
- II. **Changes in Methods of Cargo Handling:**
 - (a) Analysis of administrative and economic aspects of the use of container, rapport between transporters and users of different classes.
 - (b) Port organisations and installations of container traffic.
 - (c) Coordination of the use of container in land and water transport and creation of container bank.
- III. **Marine, Navigational and Engineering Features for large draft vessels**
 - (a) Structures for loading and discharging offshore; development of handling equipment for bulk carriers.
 - (b) Port and maritime structures built in soft grounds with special reference to the need for increased depths.
 - (c) Mooring stresses, associated with berthing of very large vessels in sheltered water and open sea.
 - (d) Employment and design of groins for shore protection

and maintenance of navigable channel in tidal reaches.

- (e) Effects of long-period waves acting on shores and banks, on structures and installations and their effect on the utilisation of such structures and installations.
 - (f) Alignment of depth of approach channels and of manoeuvring areas.
- VI. **Recent Development in Ports and Harbours Facilities**
 - (a) Lock entrances: Lock turbulence and hawser stresses—new filling and emptying systems.
 - (b) Development in modern dry dock construction and dry dock equipment.
 - (c) Corrosion and deterioration of various construction materials with special reference to lower part of wharves, quays, etc. in saline water zone.
 - V. **Inland Water Transport**
 - (a) Practices and trends in barge, tow boat and ship sizes for inland waterways.
 - (b) Selection of parameters and determination of method of assessing the transport capacity of navigable waterway, taking into account especially the composition of river fleet and economic factors. Application to existing waterways.
 - (c) Hydromechanics of barge fleet resistance.
 - VI. **Development and Maintenance of Navigable Channels in Estuaries and Coastal Areas:**
 - (a) Carriage of material by swell and currents. Model studies and in situ observation of shoaling.
 - (b) Developments in the design and operation of dredging equipment with particular reference to dredging in deep estuarine waters.
 - (c) Techniques for assessment of life of dredged channels in estuarine waters.

The papers may review the existing methods and suggest practical application of new methods and

techniques. The papers may either be dissertational or expository or original contributions.

Separate sessions will be held for each group.

The proceedings of the Conference will be published subsequently in the form of a book.

7. **Contribution of Papers:** Papers are to be of original unpublished material and are expected not to exceed 4000 words. Accompanying illustrations, maps, etc. may be of maximum size of 18 cm × 25 cm in black and white only, in neat form and suitable scale, to admit of ready reproduction. Lantern slides and transparencies of standard size only are prescribed.

Papers are to be presented at the Conference by the authors themselves or by accredited delegates in case of unavoidable absence of the authors.

Copies of abstract of papers, not exceeding 200 words, are to reach the Organising Secretary of the Conference at 20, Garden Reach Road, Calcutta-43, India, by 15th March, 1970.

The manuscripts of complete papers are desired to be forwarded to the Organising Secretary by 15th May, 1970 to enable these to be printed well in time for distribution to delegates before the opening of the Conference.

8. **Language:** The language of the Conference papers and discussions will be in English only.

9. **Accommodations:** The Organising Committee will arrange to book accommodation for the delegates according to their choice. The rates and particulars of accommodation which may be available will be communicated to intending participants on receipt of provisional registration forms.

10. **Communications:** Organising Secretary I.P.M., 20, Garden Reach Road, Calcutta-43, India.

Phones : 45-5453 Gram : HYDROSTUDY
45-5508 Telex : PORTCOM
22-3451 CA 336
22-3456

Containerisation and the Provincial Ports

Provincial harbour boards are certain to have welcomed a statement by the Prime Minister, the Right Hon. K. J. Holyoake, C.H., made at a television interview during the election campaign, on the subject of containerisation as it will affect the provincial export ports.

This leaflet (article)
has been prepared and distributed by
the Container Committee of the
NORTHLAND HARBOUR BOARD
Whangarei, New Zealand.
10th December, 1969.

On television at 10.00 p.m. on Tuesday, November 25th, 1969, the Prime Minister, the Rt. Hon. K. J. Holyoake, was asked the following question:

"Will the National Party give an undertaking that with the general introduction of containers, the great proportion of export primary produce will continue to flow through the provincial ports like Gisborne and Napier for shipment to Auckland and Wellington and not be carried by rail to container ports."

Mr. Holyoake replied:

"To begin with, it is proposed that when containerisation is introduced, there should be first only four container ships. There will be a very considerable number of normal kinds of ships plying. I think about 30 per cent of our products going overseas will be carried in container ships and 70 per cent by conventional ships which will be going mainly, of course, to the smaller or secondary ports."

"On the question whether the cargoes should be aggregated by rail, or by road, or by ship, I think all three will be used. It will be done in the three ways. As a Government, we have instructed the Ports Authority to ensure that there is a very careful study of any social or economic upset attendant upon any change in the present system of shipping from the secondary ports. We will watch this very carefully."

This statement conveys the firm impression that the National Gov-

ernment prefers the Minimum Aggregation Policy rather than the Streamlined Policy, (the Maximum Aggregation Policy).

What are the Minimum Aggregation Policy and the Streamlined Policy?

The Minimum Aggregation Policy enunciated by the Conference Lines as a possible alternative to their own preference, viz., the Streamlined Policy (the Maximum Aggregation Policy) would use the four container ships for transporting to the United Kingdom, exports that have traditionally passed through the ports of Auckland and Wellington, while conventional ships would continue to uplift from the twelve provincial export ports the export cargoes that have traditionally passed through them.

The answer given by the Prime Minister is therefore an important statement and the following comment crystallises its importance:

The Streamlined Policy would require **all container and conventional ships** of the Conference Lines trading with the New Zealand to **call at only Auckland or Wellington** to pick up the **whole** of the primary produce of New Zealand which, it is proposed, would be transported to those two ports from the areas of production **by rail**.

Thus the Streamlined Policy would result in the primary produce of Southland, Otago, Canterbury, etc., etc., being transported **by rail** to Picton and then across Cook Strait to **Wellington**. This Policy also envisages that all the primary produce of Poverty Bay, Hawke's Bay, Taranaki, etc., etc., would be

transported by rail to Wellington. This Policy also entails all the primary produce of Bay of Plenty, Rotorua, Waikato, King Country and Northland being transported by rail to Auckland.

If the Streamlined Policy were approved by Government, the twelve provincial export ports, on which tens of millions of dollars have been spent, would suffer losses of revenue that would be serious in all cases, but would be calamitous in some. The most important effect, however, would be that each of the now prosperous provincial communities would suffer a loss of purchasing power that would be disastrous for many businesses and detrimental to all.

The Streamlined Policy would be the very antithesis of the National Government's existing policy of encouraging the establishment of industry in provincial centres. Industry would tend to concentrate around the cities of Auckland and Wellington at an even greater rate than hitherto, thereby creating social and economic problems for New Zealand as a whole. For instance, more and more children in provincial centres would be compelled to leave home to find jobs in the two metropolitan areas.

For how long would the Minimum Aggregation Policy last?

It would last while the conventional ships of the Conference Lines were being phased out. This period would provide the time during which the problems, whether they be physical ones or political ones or whether they be social, economic or financial, would become apparent, a time during which solutions could be found. It would provide the time during which an efficient and economic coastal transport service could be established.

It would also provide the time during which the three modes of transport, road, rail and sea, could respectively find their full economic uses in New Zealand's container age.

New Zealand is a country of less than 3 million people.

Let it make haste slowly and profit from the mistakes of others, overseas.

* * *

Analysis of NPC Statistics Reveals Growth in Britain's Container Traffic

*National Ports Council
London*

Container traffic through British ports during 1968 was over 50 per cent higher than in 1967, according to figures published by the National Ports Council today.*

During the year 548,000 loaded dry freight containers were handled, compared with 362,000 in 1967.

These figures relate to 'lift on/lift off' services, which saw the greatest increase. 'Roll on/roll off' traffic also increased, from 228,396 units to 319,274 units. If all forms of unit transport are taken into account—lorries and trailers, railway wagons, Lancashire flats and bulk liquid containers as well as dry containers, the number of units handled topped the one million mark for the first time: 1,157,522 units in 1968 against 821,322 units in 1967. Excluded from the statistics are palletised units, packaged timber and heavy indivisible loads.

In terms of weight, the 1968 traffic on all unit transport services totalled nearly 9 million tons, compared with 6 million tons in 1967. Foreign trade accounted for 6.3 million tons; the rest was principally traffic with Northern Ireland.

The Council's new bulletin is the most detailed and comprehensive analysis of container and roll on/roll off traffic currently published by any country in the world. It gives particular emphasis to numbers of units, main trades and main-ports with this form of traffic, size of container, imbalance in movements, empty units, and average container loads and weight distribu-

tion of loaded containers.

A survey of container size at 16 ports showed that the large container, 20 feet or more in length, accounted for nearly threequarters of all the loaded container movements, and that 62 per cent of the containers recorded were of the standard 8ft. by 8ft. cross section.

Eleven port authorities have provided information about the average cargo carried in specific sizes of container. The figures, covering about 100,000 containers, show that the averages of the ISO containers were all much less than their maximum payloads, about 50 per cent for the 40ft. and 20ft. sizes and 60 per cent for the 30ft. size. The average weight carried in 20ft. containers was 9.1 tons.

The weight distribution for 20ft. containers showed a marked difference between imports and exports, imports showing a pronounced bunching between 16 and 20 tons, and exports between 4 and 8 tons. These figures may indicate that for imports container loads are limited by weight, while the nature of some export cargoes may impose a limitation by volume.

The major flow of foreign unit transport traffic during the year was with the near-Continent—Netherlands, Belgium, France and Western Germany. Mainly on well-established services across the North Sea, this traffic totalled some 3.5 million tons. Another 0.5 million tons of traffic was with Scandinavia and the Baltic.

Deep-sea routes, principally to North America, accounted for 0.7 million tons. This is a major 'growth' area, and the introduction

The Prime Minister's answer, if adopted, would enable this to be done.

of additional specialised container-ship capacity is expected to result in a considerable increase in the figure for 1969.

Most of the container traffic on deep-sea trades moved over eight specialised berths, some of which were only in operation for part of the year. The average throughout of these berths expressed on an annual basis was 117,000 tons: this figure which is well below what is expected in the future, has to be seen against the fact that several of the services were just starting, in some cases with converted ships. Throughputs expected by port authorities on schemes so far approved range from 450,000 tons upwards annually per berth; at a figure of 600,000 tons the 18 deep-sea berths available by 1972 would give a total capacity of nearly 11 million tons.

The Council's figures are based on returns supplied by 40 port authorities. Seven ports, London, Dover, Southampton, Liverpool, Preston, Hull and Felixstowe, together account for just over half of the tonnage of unit transport traffic recorded during the year. For these ports the details are:

| | |
|---------------|----------------|
| London: | |
| 91,500 units | 607,000 tons |
| Dover: | |
| 75,967 units | 699,000 tons |
| Southampton: | |
| 38,321 units | 334,000 tons |
| Liverpool: | |
| 103,575 units | 845,000 tons |
| Preston: | |
| 172,924 units | 1,437,000 tons |
| Hull: | |
| 49,334 units | 561,000 tons |
| Felixstowe: | |
| 55,059 units | 619,000 tons |

* 'Port Unit Transport Statistics, Great Britain, 1969.' Published by the National Ports Council, '17, North Andley Street, London W1Y 1WE Price ten shillings. "

Scottish Ports Authority

Edinburgh, 30th December:—The Forth Ports Authority at their meeting on 29th December and the Clyde Port Authority at their meeting on 30th December considered the statement issued by the Scottish Council (Development and Industry) proposing that a Scottish

Ports Authority should be responsible of the Secretary of State for Scotland.

Active co-operation already exists between the two Port Authorities as is evidenced by the survey initiated jointly by the Authorities in October of this year into the volume of Scottish manufactured goods being exported through southern ports.

Having given full consideration to the implications of the proposal by the Scottish Council (Development and Industry) the Port Authorities can see considerable advantages in a Scottish Ports Authority responsible to the Secretary of State for Scotland. (Forth Port Authority)

New Board Appointed

Edinburgh, 21st January: — As the term in office of the members of the Board of the Forth Ports Authority expired on December 31, 1969, the Minister of Transport appointed a new Board for a period of three years with effect from January 1, 1970.

New members of the reconstituted Board are Mr. P. McCafferty representing Grangemouth Town Council, Mr. S.S. Bolam representing Buckhaven and Methil, Burntisland and Kirkcaldy Town Councils, and Mr. T. Morton representing organised labour. The other members of the reconstituted Board served on the previous Board which came into being on January 1, 1968.

At the first meeting of the new Board on January 19, 1970, Mr. J. McWilliam was reappointed Chairman of the Forth Ports Authority and Mr. J. Matheson was reappointed Vice Chairman. (Forth Port Authority)

Promoting Work Study

London:—Managers and Supervisors in port organisations throughout Britain will receive this week copies of a booklet designed to assist in the introduction of Work Study techniques for improving productivity. The booklet, "Work Study in Ports," has been prepared by National Ports Council in consultation with the National Asso-

ciation of Port Employers in an effort to promote Work Study in all parts of the industry, and examples are given of savings achieved at ports where Work Study has been carried out. For example, a study into warehousing achieved a productivity increase of over 100% in tobacco weighing.

Publication of the booklet is considered particularly timely when ports are engaged in the implementation of Stage 2 of the Devlin Committee's recommendations, which call for productivity-linked agreements with dock workers.

In a foreword Mr. G.H.B. Cattell, Director of the Manpower and Productivity Service of the Department of Employment and Productivity, writes:

"At a time when our ports are facing the double challenge of rapid changes in handling methods and growing competition from the Continent, it is essential for both sides of the port transport industry to explore the potential for port operations of systematic management techniques, such as Work Study.

"Long familiar in manufacturing and in other forms of transport, Work Study has already been successfully applied in certain ports as part of a wider programme of improvement in efficiency. Work Study is obviously of particular importance where handling is the major element in costs.

"As Chairman of the National Modernisation Committee for the Port Transport Industry, I welcome the initiative of the National Ports Council and the National Association of Port Employers in drawing attention to this matter by the publication of this booklet."

After illustrating the potential benefits to be obtained from Work Study the booklet outlines the techniques of the two components of Work Study — Method Study and Work Measurement. It also explains the use of Work Study as a basis of payment systems and manning, and the effect of this on industrial relations.

Also available is a supplementary

booklet on the recruitment and organisation of Work Study staff.

Publication of the booklet coincides with the release of the first port-based Work Study training film sponsored by and available from the National Ports Council, and also with the first course for Work Study Practitioners organised for the port industry on a national basis. This course, sponsored by the National Ports Council, offers a high proportion of practical project work at ports outside London. It is supported by most of London's major private port employers, and follows the initiatives of the Council and the Association in providing appreciation training in Work Study. (News Release from the National Ports Council)

Shipping Services Guide

London:—The Port of London Authority is currently compiling the third edition of its publication 'Shipping Services to Overseas Markets', of which some 10,000 copies of previous editions have been distributed free.

The publication shows that there are about 500 shipping services operating from London to all major world markets.

To ensure that the list is fully comprehensive in showing all the cargo liner services operating in London, the PLA is asking all companies to furnish full details of their services.

This information is being compiled by the Authority's Marketing Services Department, from whom copies of the current edition are also available. (News from PLA)

Vehicle Appointments

London:—The Port of London Authority is to extend its export lorry appointments schemes to cover cargoes on Royal Mail Lines' vessels (managers Furness Withy & Co. Ltd.), to the Bahamas, West Indies and South America.

The new scheme, which is similar to those already operating for New Zealand, Fiji, Australia, South, South East and East Africa, will be introduced on January 15th, 1970. It will apply to vehicles tendering

exports for shipment on the Lines' vessels at No. 1 shed, Royal Victoria Dock or any other Royal Docks berth used by the service.

Countries covered by the service are the Bahamas, Bermuda, Central America, Colombia, Curacao, Dominican Republic, Jamaica, Turks Island and Venezuela.

The scheme will mean that lorries will be required to make an appointment with the PLA. Loads thus booked will be given preference over unbooked cargoes. Direct shipment, special stowage cargo and heavy-lift cargo over 5 tons, for which special delivery dates are agreed, are excluded from the vehicle appointment scheme and will continue to be handled as formerly.

When a vehicle appointment is made a reference number will be given which must be quoted on documents to facilitate vehicle identification on its arrival at the dock. Appointments can be made either by Telex (Telex No. 896816) or by telephone (01-476 6265, 01-476 6266, 01-476 7667, 01-476 4595 and 01-476 7777). Telex and telephones are available between 7.00 a.m. and 7.00 p.m. Monday to Friday and the following information will be required at each booking: port of destination, name of shipper or carrier, brief description of load, gross weight of load, number of packages and gross weight of heaviest individual package.

With the introduction of this scheme vessel closing dates will be strictly adhered to. Bookings of freight space should be made with Furness Withy & Co. Ltd., or agents for destinations Central America, Colombia, Curacao, Dominican Republic and Venezuela, and with Henry Langridge & Co. for destinations Bahamas, Bermuda, Jamaica and Turks Island.

When the Line declares the vessel 'fully committed' no further vehicle appointments will be made for that sailing. (News from PLA)

New Humber Oil Terminal

London, 2nd January:—The new £6 million Immingham Oil Terminal on the Humber received another giant tanker this week when

the 76,000-ton "Yangos Colocotronis" arrived on Sunday night (28 December) with 61,000 tons of crude oil from the Persian Gulf for the new Lindsey Oil Refinery.

At 837 ft 9 ins. the Greek tanker is the longest vessel to berth at the terminal to date, but has a slightly smaller deadweight tonnage than the 81,000-ton Norwegian "Ervi-ken", which became the largest vessel ever to enter the Humber when it discharged 80,000 tons of crude at the Terminal in October. "Yangos Colocotronis" is in fact some 37ft longer.

The "Yangos Colocotronis" spent only 36 hrs at the Terminal discharging at a rate of up to 3,000 tons an hour and taking on ballast, before sailing on Tuesday (December 30).

The Immingham Oil Terminal is owned by the British Transport Docks Board and leased to Humber Oil Terminals Trustee Ltd., a company formed by three oil firms, Total Oil Products (G.B.) Ltd., Petrofina (Great Britain) Ltd., and Continental Oil (UK) Ltd. It has been designed to accommodate vessels of up to 100,000 tons fully-laden and 200,000-ton tankers carrying up to 135,000-tons of oil. It became partly-operational in April last year and was finally completed at the end of October.

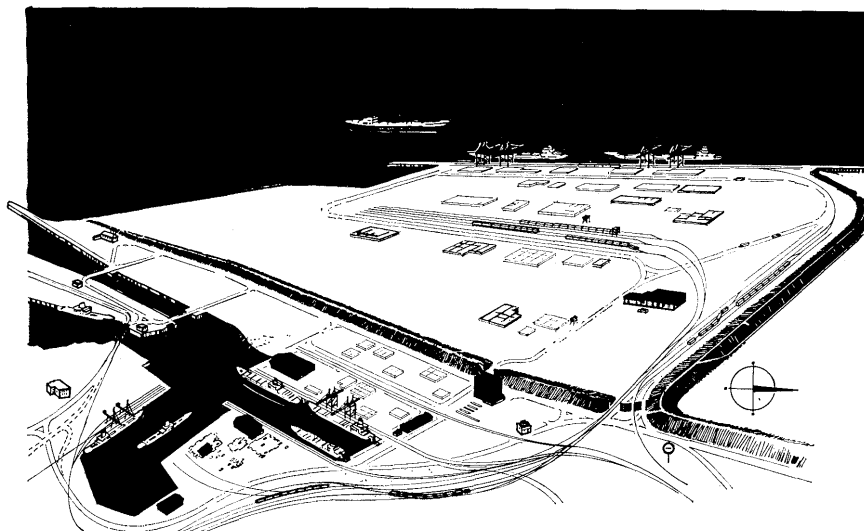
During 1970 the Terminal will receive increasingly large tankers and is expected to handle some 10 million tons of crude oil and refined products for the new Total Oil/Petrofina and Continental Oil refineries. (British Transport Docks Board)

Port Talbot Tried

London:—The 50,000-ton bulk carrier "Orotava Bridge" today (Friday, January 9) became the first cargo vessel ever to enter the British Transport Docks Board's £20 million Port Talbot Harbour when arrived in ballast for handling trials.

The purpose of the visit, which will last for several days, is to familiarise pilots and tug crews with the handling of large vessels before the British Steel Corporation begins importing iron ore through the

Projected Container Terminal Bremerhaven



Harbour.

The Harbour, which is to be opened by H.M. The Queen on May 12, has been constructed to accommodate vessels of 100,000 tons and it is anticipated that ore carriers of this size will begin arriving at Port Talbot in the Spring. (British Transport Docks Board)

Port Dues Reduced

Antwerp:—With the putting in commission by the Central Gulf-Contramar Lines of the first LASH-vessel, „the Acadia Forest”, the Port of Antwerp becomes involved in this new kind of traffic. In view of the probable extension of this way of transport the City of Antwerp decided to adapt its port dues and to apply new tariffs: for LASH-vessels loading and unloading a maximum of 10 barges a reduction of 35% on the prescribed port dues will be allowed, a 30% reduction will be allowed for 11 to 25 barges, 25% for 26 to 40 barges and 20% for more than 40 barges. As to the barges themselves, the tariff of 0.45 BF per m³ will be applied when they are loaded or unloaded in the port. When handled out of the port area, a tariff of 2 BF will be applied. (Antwerp Port News)

LASH Traffic

Antwerp:—In November of this year the first LASH (lighter aboard ship) service between the United States and Europe will begin with the arrival of the „Acadia Forest” of the Central-Gulf-Contramar Lines. This is a ship carrying loaded lighters.

The ship will first discharge some eight lighters at Sheerness (Great Britain) and then continue on to Rotterdam in order to discharge the rest of the 73 lighters carrying raw materials for the paper industry. Some of them will sail up the Rhine, others have destinations in the Netherlands, while eight lighters will come to Antwerp. Most of these 73 lighters with a cargo capacity of 385 l.t. will then come to Antwerp to be loaded with general cargo (principally iron and steel products) and will return to Rotterdam where in the mean time the ship will have arrived with a new cargo of lighters.

To begin with Antwerp will thus be principally the assembly port for the exports to the U.S.A., while Rotterdam will be the distribution port where the „Acadia Forest” will arrive. In 1970 a second LASH ship will be brought into service after which the service will call at

Antwerp and Rotterdam in turn.

In Antwerp these LASH ships with a draught of 37 feet, a length of 262 metres and a cargo capacity of 43,000 l.t., will load and unload the lighters in Canal Dock B1 where about 300 metres of quayside have been reserved for this. (Antwerp Port News)

A 100 Years Ago...

Antwerp:—On 10 October 1869 with great ceremony the „Connecting Dock” was opened which linked the Willem Dock with the new Kattendijk dock. The Connecting Dock had a quay length of 234 metres and a water depth of 7.33 metres and was considered to be a very important achievement.

The new link was ceremonially opened by several sailing ships with a tonnage of 500 to 700 B.N.T.

The newspapers of that time reported with pride that the port then had roughly over 8.5 kilometres of berthing quay and that in 1869 3,787 ships with a total tonnage of 1.2 million B.N.T. had already called at the port.

Certainly nobody would have dared to forecast that 100 years later the length of quayside would have increased to about 98 km. and that about 18,000 ships with a tonnage of over 62 million B.N.T. would call at the port. (Antwerp Port News)

New Address

Antwerp: — As from November 25th, 1969 the new address of the Port of Antwerp Promotion Association will be: Brouwersvliet 33, 2000 Antwerp.

The Association occupies the 8th floor of the new CEPA-building.

The telephone number (3 Lines) remains unchanged: (03) 31.44.73.

From December 15th, 1969 onwards a telex will be installed having the number 33069 (Indicative: ASSIPORT ANTWPB). (Antwerp Port News)

Agent Named

Bremen:—On January 8, 1970, Bremer Lagehaus-Gesellschaft of Bremen announced that effective immediately their firm would be represented in Japan by Mr. S. Tsu- (Continued on Next Page Bottom)

B + V Barge Carrier System

(Reprinted from Ship Via Hamburg, May 1969)

The conception developed by the Hamburg shipyard Blohm+Voss under the name of E.B.C.S.—European Barge Carrier System—can be considered the outcome of long cooperation between designers and shipowners in Germany and abroad in analysing the problems and difficulties of taking on board and carrying loaded lighters. This system, an answer but not a retort to the American LASH and “Seabee” systems, is rather based upon European shipping conditions. It involves solutions for overcoming delays in port, starting from the premise that, in the immediate future, the shipowner himself will not be able to improve port conditions, to say nothing of forwarding the cargo.

In contrast to the container trade which needs expensive specialized handling facilities in the ports and a rapid container transport system on the land side, this barge carrier conception offers the advantage of loading and discharging lighters or barges at quays accessible only to vessels with limited draughts. The Hamburg shipyard prepared a model calculation for a round-voyage of 10,000 seamiles with ten ports of call, on which five of their barge carriers could replace ten conventional ships.

From this calculation the Blohm+Voss shipyard comes to the conclusion that the high investments for barge carriers justify their employment only in high volume trades. For low volume trades the conventional ship will be more profitable. Nevertheless, the yard also calculated for a semi-barge carrier and a Barge Pioneer with a Travelling Port System for profitable employment in low and medium volume trades. Optimum profitability of the Hamburg barge carriers is also achieved by a difference in the number of barges carried and their sizes in ports with varying cargo yields

yama, President, Daia Shipping Co., Ltd., Sueyoshi Building, 1, 1-chome, Nihombashi Honcho, Chuo-ku, Tokyo, Japan.

and lot sizes. These different barge sizes are based on the ISO container module and even the hold configuration permits easy conversion of the barge carrier into a container ship as soon as the transport infra-structure on certain trade routes warrants the commissioning of container vessels. Holds, therefore, are designed to accommodate two rows of 40-ft. ISO containers fore and aft or alternatively three barges, athwartships. This excellent interchangeability is a very important economic criterion for a specialized barge carrier. Moreover, it gives the carrier of this conception a higher resale value.

The barges can be taken on board either by conventional heavy-lift gear as in the case of a semi-barge carrier or by a new stern lifting device developed by Blohm+Voss in cooperation with an experienced German crane builder. It consists of a floodable pontoon, two frames guiding the pontoon inside the stern recess, hydraulic actuators and a compressed air system. The pontoon is flooded so as to allow a barge to be pushed by a special pusher tug (which also represents a new, very simple and cheap design) over the pontoon into the stern recess. After the barge is positioned, guided on three sides, the pontoon is emptied by compressed air, its buoyancy now forcing the barge upward. At its highest position the pontoon with barge is fixed by the hydraulic actuators. Then the simply designed crane with its four-winch hoisting system with automatic spreader guided at the corners in order to avoid swinging, picks up the barge. The portal crane raises the barge above deck level and runs over the whole length of the ship to the stowage place.

In this way the time-wasting procedure of picking up barges from rough water is avoided. The same type of crane can also be used for barge carriers with the travelling side port system, but without the lifting pontoon since the barge with-

in this transverse ship tunnel lies practically motionless. Also, costs for the additional hold are relatively low since the side ports need not be watertight. Hatch covers, therefore, are also unnecessary. The Hamburg designers calculated that this floodable midbody section might prove economic in 90 per cent of the cases. On the other hand the stern lifting device will prove to be recommendable only for ships having insufficient side depth to allow large side ports.

In the case of a midship floodable section the deck house will have to be arranged aft atop the machinery which is of special advantage, too. This only requires a very high bridge enabling an unobstructed view over the crane to be lashed before the bridge at sea, and the tall barge stowage system.

Based on these main features Blohm+Voss already have under construction an interesting ship designed for the combined carriage of conventional cargo, barges to a limited extent and containers. The barges are lifted on board and guided into the centrally arranged two double holds by means of conventional heavy lift gear installed amidships between the holds. The large hatches are also suitable for containers. The special ship of 13,500 tdw and 18.2 knots service speed was particularly designed for lower volume trades with many ports of call and a large number of consignments of smaller sizes characteristic of the trade with development countries.

Moreover, Blohm+Voss conceived the all-barge carrier version with travelling side port as a rival design to the American LASH system. The carrier of 237 metres length between perpendiculars, 32.4 metres moulded breadth and 19.8 metres moulded depth would be capable of stowing 79 barges of 365 tons maximum load capacity or, alternatively, 1,050 20-ft containers or 520 40-ft. containers respectively. In case of the future reconversion into a container ship the floodable midship section might serve as an additional container hold. Beyond this, the investment for the travelling port system is about 200,000 US\$ lower



than that for the stern lifting device including the large cantilevers.

For low volume trades with low receipts the Hamburg shipyard recommends a low-price ship in conjunction with the travelling port system, namely the Barge Pioneer. This special carrier illustrated in the above drawing is based on the standard elements ship construction programme of Blohm+Voss named the Pioneer Multi-Carrier-System. It would enable shipowners to gain experience in barge transportation with a relatively cheap vessel.

The barges themselves are designed as simple double-bottom steel boxes with a large hatch with single-pull hatch covers. At 20,000 cu.ft. loading space they would cost about US\$20,500. It is proposed they should be pushed by a newly designed tug with hydraulically elevated wheelhouse (up to 8.5 metres height). The small craft, 10 m long and 4 m broad, is linked to the barge by two hydraulically operated rods.

Amongst the general conclusions were these: the concept of the E.B.C.S. is technically feasible and economically advantageous, and the response encouraged Blohm+Voss AG. to pursue the development work.

Special Car Carrier

Hamburg, December 29: — MV "LAURITA", a Roll on—Roll off

Special-Car-Transporter built at the shipyard Blohm+Voss, will be delivered to the Norwegian Owners A/S Uglands Rederi, Grimstad, during a guest trip on January 6, 1970. This is the first newbuilding of a series of three vessels on order.

Extensive operations research by the shipyard and owners was carried out before the order was placed. The results showed that compared with a conventional Car-Bulk-Carrier the use of a Special-Car-Transporter is under certain conditions of considerable advantage. The Drive on-Drive off-system allows the cars to be driven onboard through either of two large ports or one smaller side-port on each side. The cars reach the various decks over ramps and are lashed there.

The number of cars carried on 10 cargo decks partly movable, partly fixed, will be about 3.100 FIAT 850 type cars. The ventilating system is rated for 20 air changes per hour. A certain amount of heavy cargo including containers can also be carried on specially reinforced decks.

A tank stabilizing plant reduces the rolling motion of the vessel in seaway. Two 16 cylinder OEW-Pielstick-engines, built by the yard under license, developing 8.000 HP each, will give the vessel a trial speed of 21 kn at 90% engine output. A controllable pitch propeller and a 1000 HP bow thruster improves the

manoeuvrability.

The ship is fitted with all modern navigational aids, and also a telex for the speedy and easiest communication between ship and shore.

MV "LAURITA" is furthermore equipped with the Blohm+Voss Accommodation System M 1000.

These extensive technical features enable the ship to carry valuable cargo speedily and undamaged to its destination.

Technical Data:

| | |
|--------------------------|----------------|
| Length overall: | abt. 158,20 m |
| Length b.p.: | 145,00 m |
| Breadth moulded: | 24,50 m |
| Depth to Upper Deck: | 22,40 m |
| Depth to Freeboard Deck: | 10,20 m |
| Draught: | 6,80 m |
| Gross Tonnage: | abt. 6.500 GRT |
| Main Engine: | |

OEW-Pielstick, Type 16 PC 2 V
Output:

2 × 7440 BHP at 500 RPM

Speed: abt. 21 kn

Capacity: 3100 FIAT Cars

Class: LR + 100 A I Ice Class

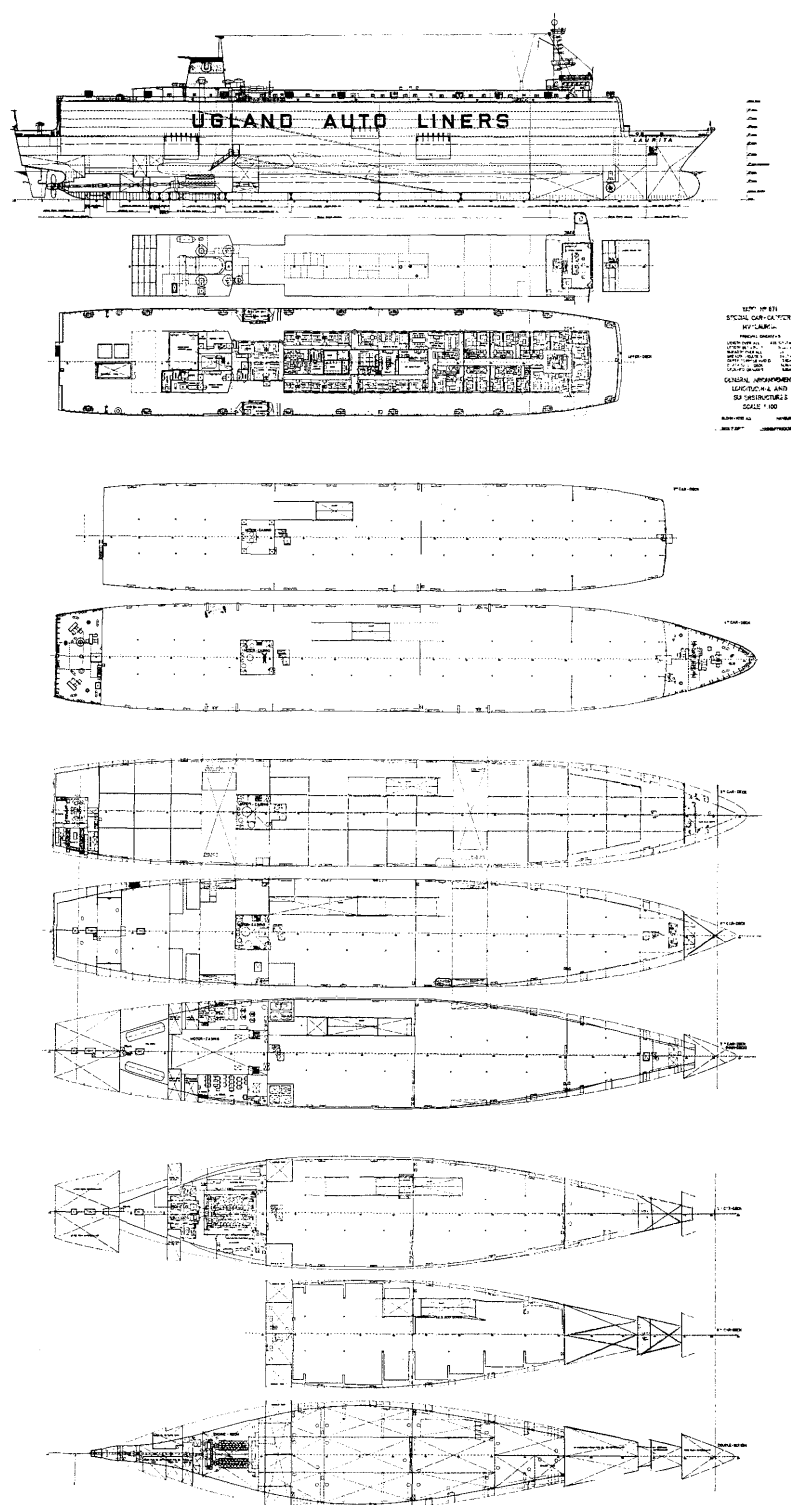
"Car Carrier"

(Blohm + Vos Hamburg)

"Haven Amsterdam"

Amsterdam: — The Port of Amsterdam began publishing a fortnightly titled "Haven Amsterdam". Below is quoted the Burgomaster's inaugural greetings to the readers.

"Amsterdam has developed from



a modest fishing village into a city cosmopolitan in style, an important junction of sea, land and air traffic, a centre of commerce, industry, research and culture.

"Though the port is proud of its glorious past and remains faithful to certain traditions, its signification is

no longer determined by its rich, romance-laden history.

"In its search for a purposeful future, the port of Amsterdam has placed itself at the service of the entire country and the European hinterland.

"This publication wants to show

our friends abroad more about the many faces of Amsterdam. It will enable people interested to learn more in detail how our port has accepted the challenge of matters like the explosive growth of shipping units, new methods of cargo handling and the need for development as an industrial sea-port.

"I expect this publication to be of interest and I am always ready to provide more information on what the port has to offer."

Dr. I. SAMKALDEN, Burgo-master of Amsterdam (Haven Amsterdam, 2nd September, 1969)

Spanish Cars Exported

Barcelona:—On the 29th ult. the first shipment of cars was made on the German vessel "Passat" which specialized on this type of transport. The shipment consisted of 450 models SEAT made in Spain for Yugoslavia. The total will consist of 1,350 cars which will be shipped within a month. In this way the Spanish Industry joins the world demand for cars, and the Port of Barcelona contributes with its facilities in the shipments. (Puerto de Barcelona Boletín Informativo, August)

How A Port Works

Barcelona:—A port of a certain size, and Barcelona is now becoming one, is a complex world with its own internal life, a world frequently unknown to those who reside nearest to it.

Like all cooperative units, it has a multiple and technical features, humane and functional, its traditions, virtues and defects, its defenders, and offenders, its customs, its visitors and of course its skeleton in the cupboard.

The Port of Barcelona actually extends over an area of 750 Has.

The port itself is divided into two fundamentally different parts: the commercial wharfs and the free admittance areas. The latter are essentially Maritime passenger stations and the areas dedicated to sporting activities, fishing, boat repairing, and the inflow of visitors.

It is not intended to make a description here of the port in its distinct setting, but only to reproduce an outline of the actual geographical distribution of the activities. By ex-

amining this plan, the readers will avoid long and jumbly explanations.

The port is a meeting point for the maritime and overland traffic. Therefore, it must serve the transportation systems, which are the ship, railway and the lorry by giving them the necessary facilities for stopping and for the transfer of goods from one to another. Since a transporting contract finishes here and another commences, the checking procedures for the delivery of the goods must be effected here, and as the port is moreover the frontier of the country, incoming and outgoing goods and passenger traffic must come under examination and the regulations governing its passage through it.

As a result, therefore, the port provides the mechanical means for the transfer of the goods and also bonded storage and inspection of the transported goods. For this purpose, the port has wharfs, cranes and warehouses.

Diverse Ministerial Departments carry out their specific duties in the port, and among them, the Ministry of Works is responsible for the construction and preservation of the works and for the loading and unloading operations.

The Port Authority is an autonomous body dependent on the Ministry of Works which through its delegate assumes the administration of the Port in the general sense, and applies determined tariffs also on the ship, merchandise and land transport for the use of the port installations. It also hires, for a set rate, extra help for the loading and unloading of the ships etc.

This last part of their functions is done by duly authorised stevedore companies who have maximum tariffs for their jobs. The diverse types of both sea and land transport contracts determine who is responsible for each phase of the operation, whether it is the ship, the goods or the surface transport.

The functional efficiency of a port cannot be judged by operative cost only, without taking other factors into consideration, essentially the rapidness and perfection of the work.

A few simple numbers clears up these ideas. The average general cargo loaded or unloaded in the port

by a merchant ship is about 400 tons at each call and the operative cost of a vessel of 10,000 tons amounts to something like 300,000 pesetas per day. There is frequently up to 2% of loss or breakage to the goods between a carefully carried out operation, or a job badly done.

If we estimate the mean value of the general merchandise as about 20,000 pesetas per ton, the result is that, with regard to the previous figures, the prolongation of a call of one more day for the vessel represents 750 pesetas per ton, and a careful usage can save 400 pesetas per ton.

If these figures are compared with the total cost of the operation, which is in the order of 350 pesetas per ton, what we said before can be appreciated, namely the enormous importance of the rapidly and perfectly executed work in the port.

The efforts of all those who work in this large, complexed and active world of the Port of Barcelona tend to achieve the clear tariff system, rapidity and quality of work. (Puerto de Barcelona, Boletín Informativo, August)

Commission Created

Barcelona:—By resolution of the Government dated 14th July 1969, a Commission has been created, with representatives from the Ministries of Finance, Government, Public Works, Commerce, Housing; Trade Union Organization and Development Plan.

The Board is to study the layout for the future Port of Barcelona and its industrial environments. The resolution taken is of great importance for the port. The development of general world traffic leads to the concentration of schedules through a reduced number of important ports. If the port of Barcelona, by means of re-structuring and laying out can attract more traffic it will represent a very big economical advantages not only for the port itself but also for the country. (Puerto de Barcelona, Boletín Informativo, August)

Side Loader

Barcelona:—There has been in operation since last March, in the Port of Barcelona, a new special

vehicle for moving containers, and owned by the MAPOR Port Company. This vehicle is a fork lift truck with the mast arranged in the lateral position, instead of in the front, as with the usual kind of trucks. Its lifting capacity is 25 tons, and it may pile up to 3 containers high.

A special metal structure, being an integral part of the truck, has four pivoting bolts which automatically grip the containers by their standardized holes in their upper surfaces.

A single operator in the control cabin effects the following operations:

- Drives the entire truck forward and in reverse.
- Extends the stabilizing feet.
- Moves the whole mast to the edge of the truck.
- Positions the carrying structure on the container by means of local pitching forward and backwards, oscillation, side movements, etc.
- Operates the container supporting bolts.
- Load lifting.

All operations related to a Container Terminal may be effected by this machine, which has all the advantages of a truck for horizontal transport, and of the Crane for load lifting.

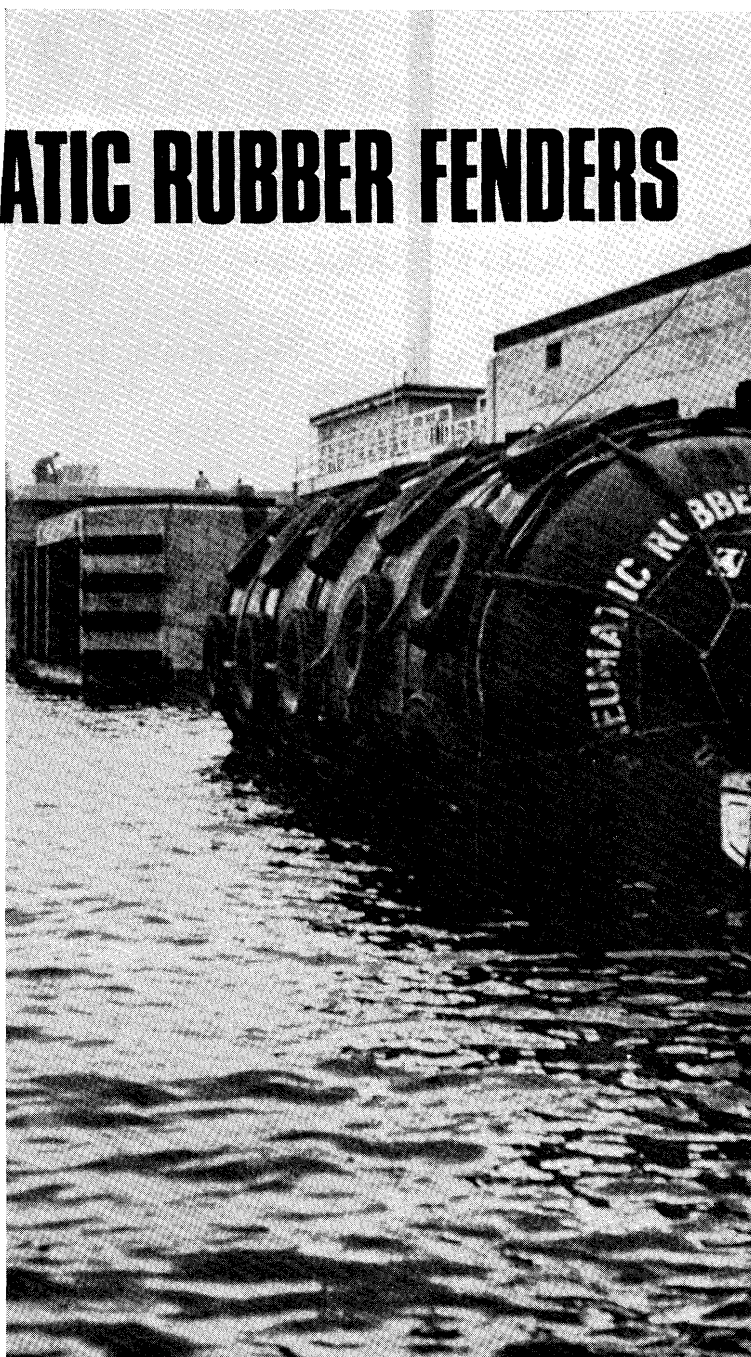
Due to the relatively low height, it may be used both for conveying containers into Ferry Type ships (roll on-roll off system), and for container operations on conventional ships (lift on-lift off system).

When the suspension metal structure is dismantled, the truck may operate as a classical fork unit, but with the added advantage of its extraordinary lifting capacity. (Puerto de Barcelona Boletín Informativo, Junio)

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