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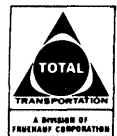
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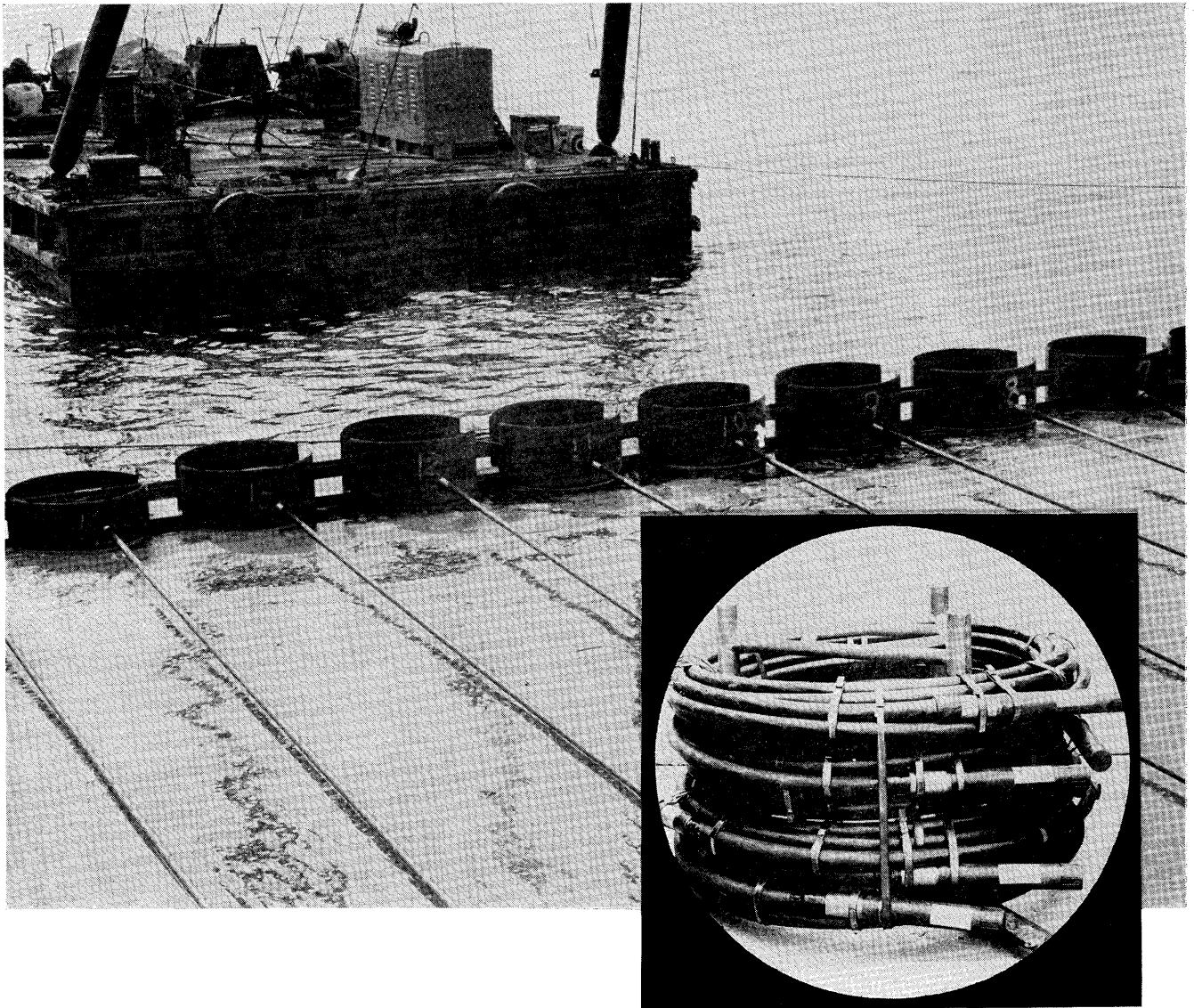
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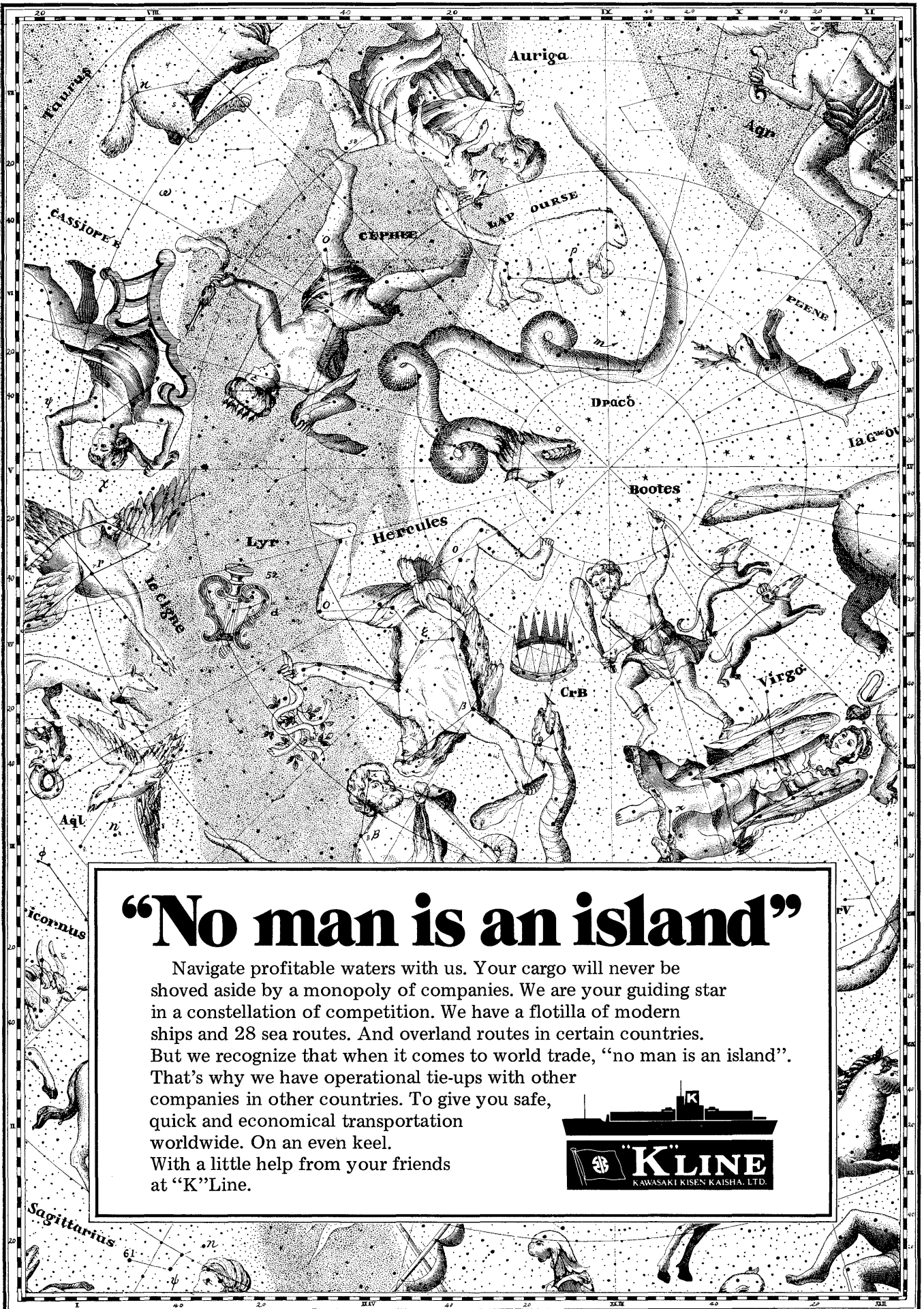
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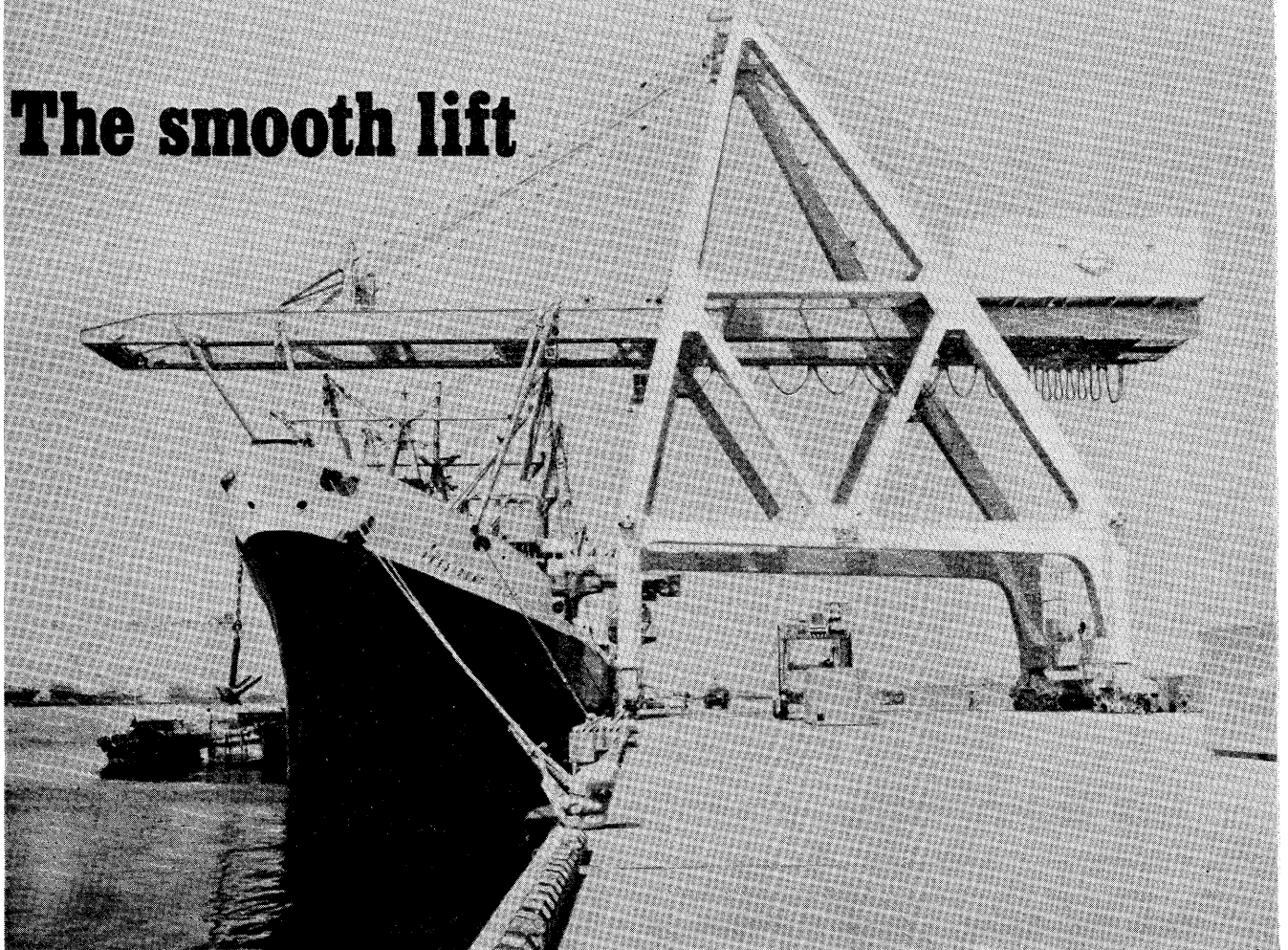


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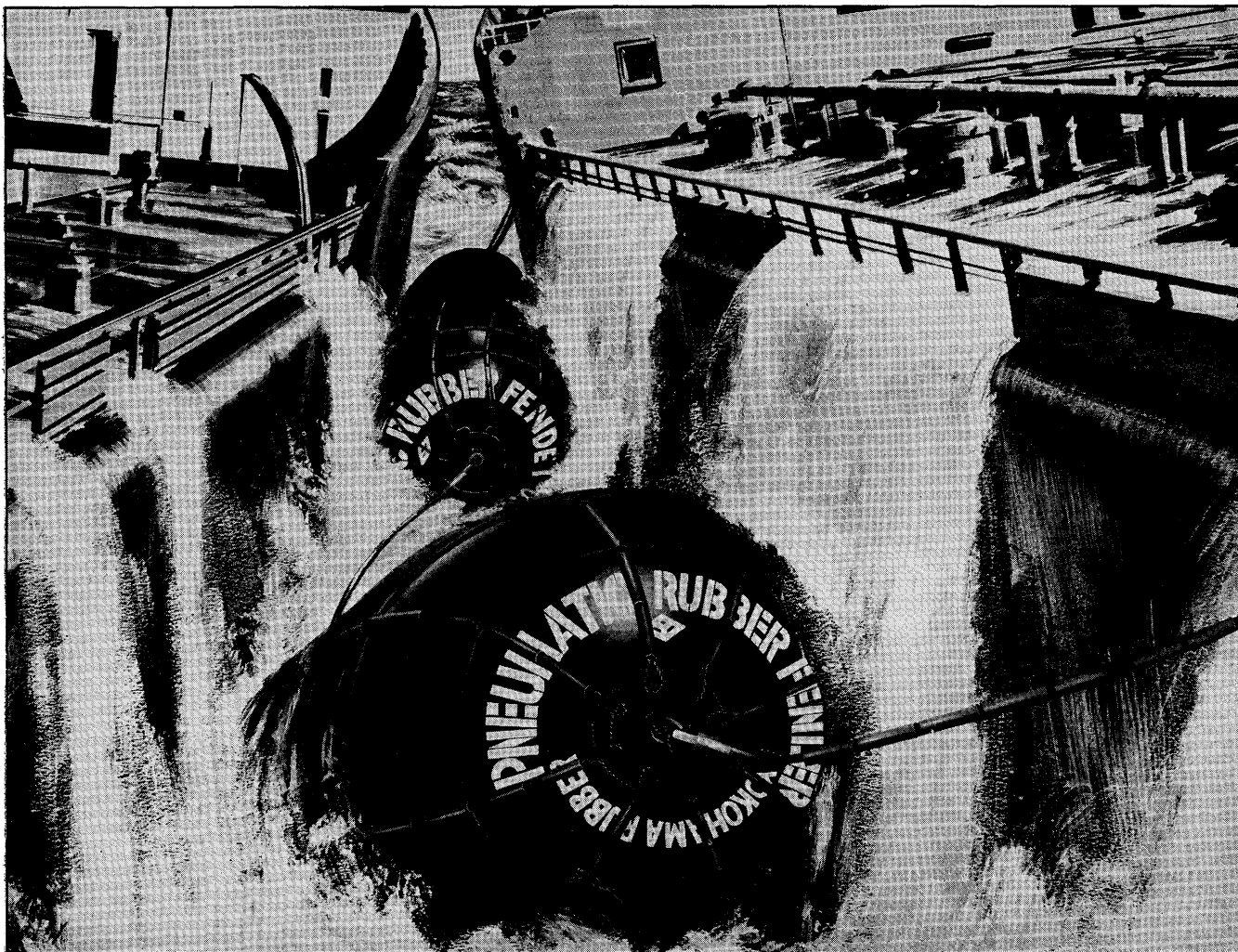
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The most well-known picture of the port of Hamburg: St. Pauli-Landungsbrücken and the "Michel" (St. Michaelis). The ferry to Harwich and the bathing ships to Helgoland depart here. See also pictures in pages 28 and 29. (Photograph by Eberhard W. Haase.)	

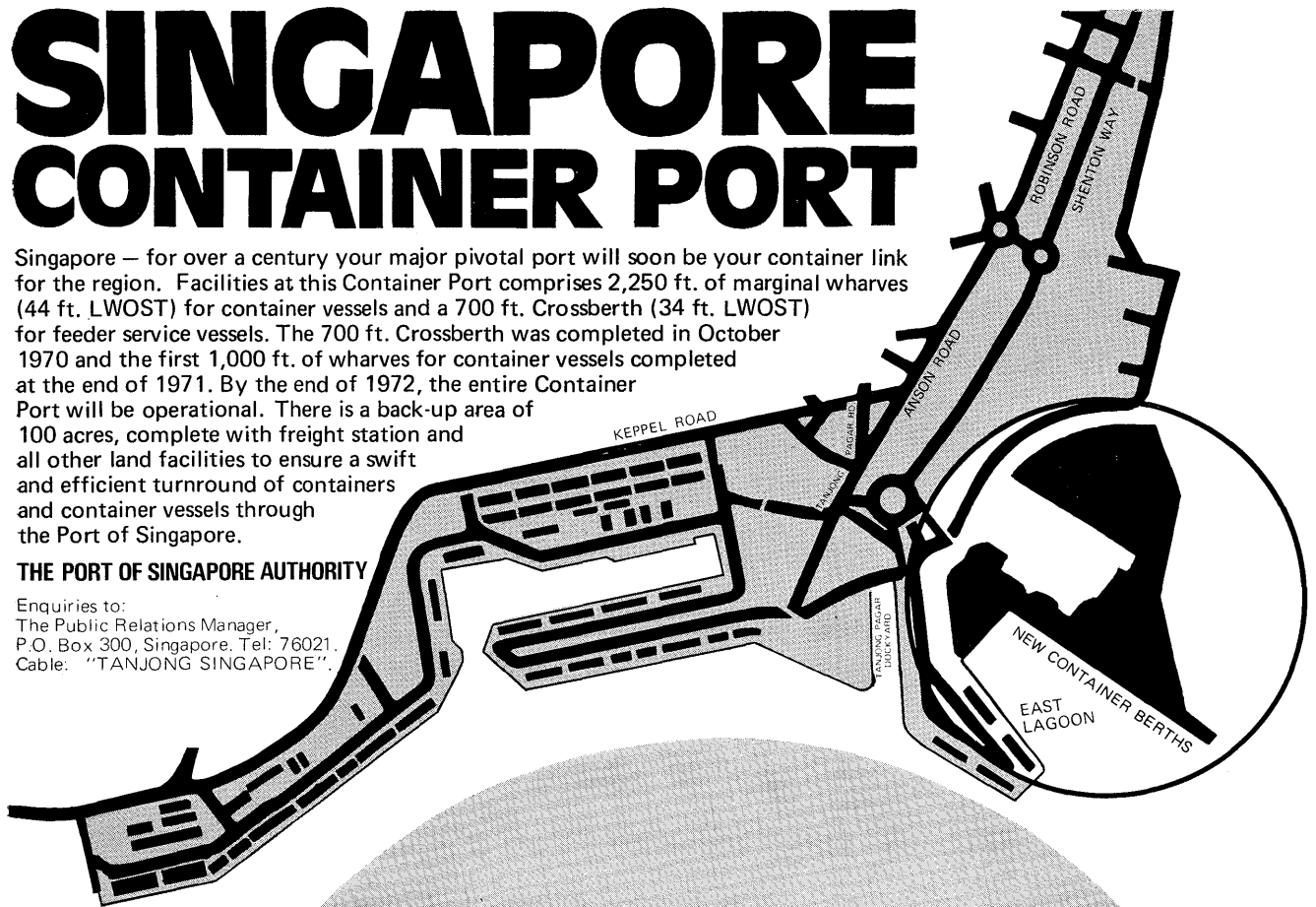
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(15)

CURRENT ASPECT OF CATHODIC PROTECTION FOR HARBOR STRUCTURES IN JAPAN

BY

MASAO NAKAGAWA, Dr.-Eng.

NAKAGAWA CORROSION PROTECTING CO., LTD.

PRESIDENT

1. Characteristics of Harbor Structures in Japan and Significance of Their Protection Against Corrosion

Since Japan is an island country surrounded by sea the marine transportations play a more important role as a means of materials transporting not only between various domestic areas but also from and to foreign countries than the on-land transportations. Therefore, a greater part of major industrial plants are located on the seafont, having their own mooring and cargo handling facilities. On the other hand, with the trend of the rapid economical growth expansion and rearrangement of public seawalls are actively progressing. In addition, as Japan is a fishery nation there are many fishing ports and fishery bases here and there all over the country.

As the structural materials of sea-walls steel sheet piles have been in use since about 1925 or 1930, when all the materials were imported, but, the domestic steel sheet piles have come into mass production since around 1935. It was around 1950 after the World War II that a large quantity of steel sheet piles and steel pipe piles have been put into use for construction of sea-walls and piers. The steel sheet pile or steel pipe pile have higher strength for its weight than concrete or wood in addition to easier fabrication, and therefore, it enables us to construct a large-sized sea-wall or pier in a shorter period and especially it is the most suitable construction materials for such countries as Japan, subject to frequent earthquakes and with the trend of high growth in industry and economy. However, as these structures are usually located in the marine environments, it has been considered that the most important problem is the protection of steel materials from corrosion in view of durability of those installations.

It was almost impossible to protect steel materials in sea water from corrosion for a long term only by the conventional painting technique, but this problem of long-term corrosion control has been solved by application of cathodic protection system. Not only the cathodic protection system has been applied to a greater part of those steel-made sea-walls and piers which have been constructed since 1955, but also it was applied to the old sea-walls built in 1930's successfully prolonging their service life.

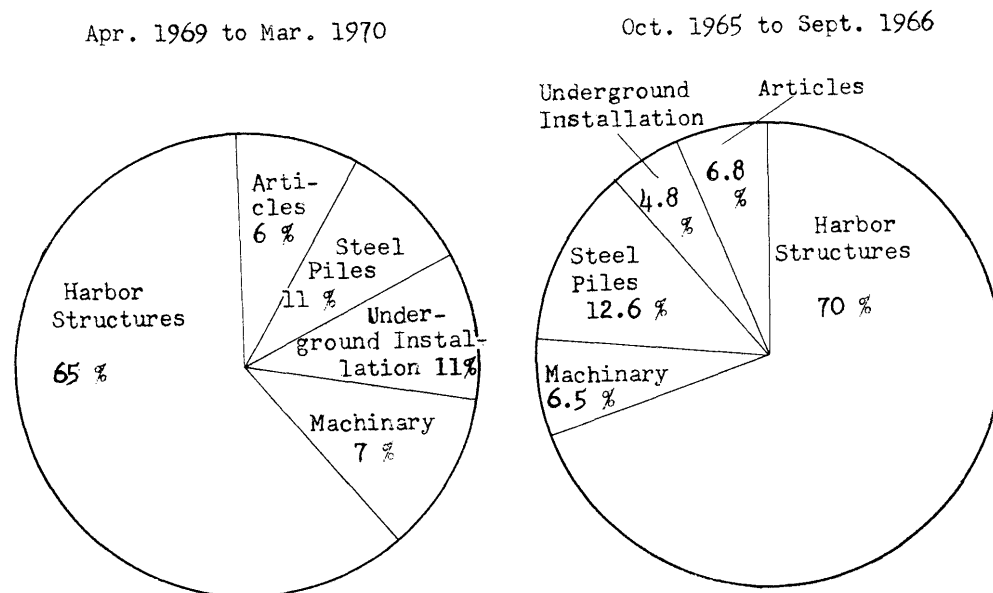


Fig. 1- ANALYSIS OF CATHODIC PROTECTION WORKS BY OBJECTIVES IN PERCENTAGE (BY NAKAGAWA CORROSION PROTECTING CO., LTD.)

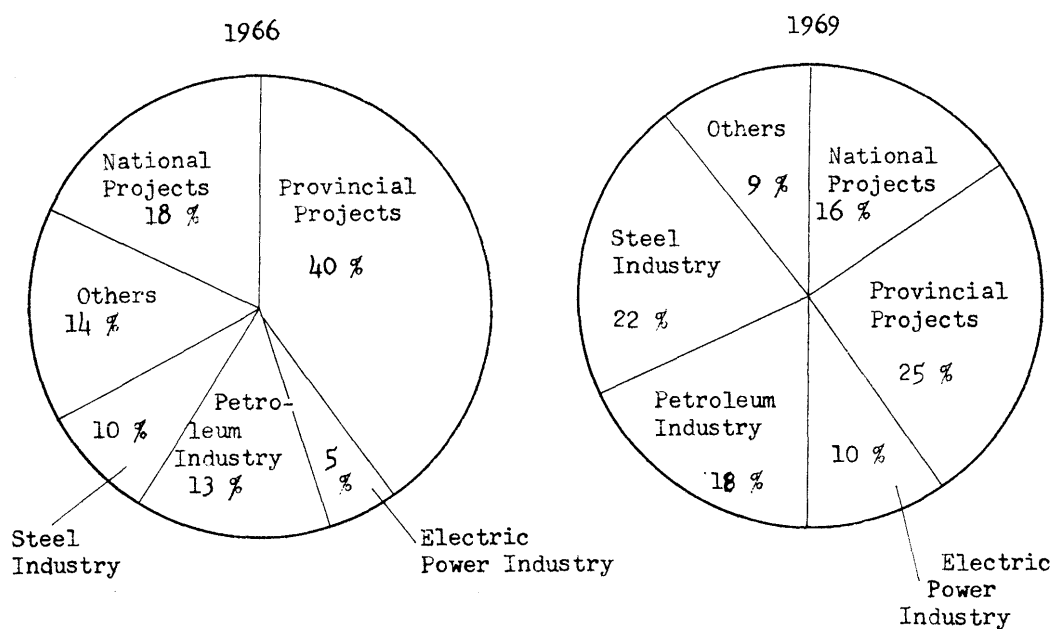


Fig. 2- ANALYSIS OF CLIENTS FOR CATHODIC PROTECTION WORKS

2. Actual Results of Cathodic Protection of Harbor Structures in Japan

Under such circumstances as mentioned above, a widespread use of cathodic protection in Japan has begun from its application to the steel structures in the harbors. Fig-1 indicates analysis of the amount of orders for our cathodic protection received for respective years of 1966 and 1969 in terms of percentage by the objectives. According to the analysis, applications to harbor structures account for as high as 65 to 75% of all. The tendency is almost constant over ten years in the past, never having been less than 50%. This is the evidence that the Japanese Government has rendered positive aid to applications of cathodic protection on harbor steel structures. In other words, a research subsidy was given to Nakagawa Corrosion Protecting Co. from the Ministry of Transportation in 1953 for the "Study on Cathodic Protection of

Structures in Sea Water". Further, the Tokyo Industrial Laboratory of the Agency of Industrial Science and Technology succeeded in inventing a zinc-aluminium alloy anode for cathodic protection in 1956 and granted the use of its governmental patent to Mitsui and Smelting Co. In addition, the Ministry of Transportation approves to appropriate special subsidy from the government finance for the expense of cathodic protection among the harbor works.

In recent years, too, as shown in Fig-2, the applications of cathodic protection to the public facilities occupy the greater portion of the entirety.

Next to the public facilities are those enterprises such as petroleum, steel and electric power industries, all of which are called the basic industries in Japan and Fig-2 clearly indicates that how large was the equipment investment in the steel makers.

Those objectives of cathodic protection among harbor structures are cargo handling quay, pier, sea-wall, breakwater, flood gate, sea berth and drilling platform, all of which are constructed with steel sheet piles and steel pipe piles.

In Japan, cathodic protection on harbor structures started in 1953 or so and its application has been increasing at a high rate since 1960. Up to the year of 1965, the impressed current system occupied approximately 80% and the rest was the galvanic anode system. However, with the development of a high-performance aluminium alloy anode in 1965, the cathodic protection by use of the aluminium anode has gradually increased. And in 1969, the galvanic anode system came to occupy 84% reversely, the impressed current system showing 16%. (Refer to Table-1.)

Table-1. Actual Results of Cathodic Protection for Harbor Structures
(Installed by Nakagawa Corrosion Protecting Co., Ltd.)

		Impressed Current System	Galvanic Anode System
1953 to 1968	Total number of installation works	490	270
	Total currents	172,000 Amp.	31,500 Amp.
1969	Total number of installation works	24	120
	Total Currents	15,055 Amp.	79,116 Amp.
1953 to 1969	Total number of installation works	514	390
	Total Currents	187,055 Amp.	110,616 Amp.

These facts are owing to the following reasons:

- (1) The galvanic anode system has less troubles and is easier to maintain than the impressed current system. In Japan, the impressed current system is more susceptible to failure due to subsidence of ground and tidal waves by frequent occurrence of typhoon and earthquake.
- (2) In case of the impressed current system the initial cost is low, but it needs electric power cost every month. For some small harbors it will sometimes make difficult to afford such electric power cost.
- (3) The development of underwater welding process has made it easy to install the galvanic anode without disturbing any other construction work.
- (4) The development of the high performance aluminium anode has made it possible to maintain the effect of cathodic protecting for a long period of 10 to 20 years for its weight.

3. Cathodic Protection Technique in Japan

Approximately 20 years have passed since the development of cathodic protection started in Japan,

and our technical development has been focused on protection of harbor structures from corrosion. Our major development works are featured by:—

(a) Magnetite electrode

This electrode was originally used as an anode in manufacture of chlorate, and its main components are Fe_3O_4 (92 - 93%), SiO_2 (4%), CaO (1%) and Al_2O_3 (1%). The characteristic of this electrode is to permit the use with higher current density than silicon-iron alloy or graphite electrode, as shown in Table-2. In Japan, this electrode had been employed exclusively for both in sea water or in soil until in 1965 or so lead-silver alloy (Pb-Ag) electrode was developed, but since 1963 it became Pb-Ag electrode is used in sea water and magnetite electrode in sea mud and in soil on land side.

Table-2. Evaluation of Electrodes for Impressed Current Method

Material	Current Density (A/dm ²)	Consumption	Cost per Unit Electric Power	Characteristics
Steel/ Cast Iron		9-12 kg/A.yr	1,000/A.yr	Easily available, workable, but expensive
Aluminium		3	1,200	"
Magnetite	< 4	0.1	70	High allowable current density, hard, brittle, unworkable, high resistance.
Iron-silicon	< 0.1	0.1	40	Hard, slightly high resistance, low allowable current density.
Graphite	< 0.1	0.16	112	Brittle, workable, liable to soften in water.
Lead-Silver	0.5 to 0.2	0.03	90	Workable, limited to use in sea water.
Platinized titanium	Below 12V	0.000006	60	Limitation on working voltage and form of wave of D.C.

(b) Electrode Unit with Suspending PVC Protector

The problem frequently discussed on cathodic protection for harbor structures is how to install the electrode, at an early stage, a unit of several magnetite electrodes fixed to a concrete bed was installed on the sea bottom at intervals of 20 to 30 meters, but, it was not seldom that such concrete bed was damaged by the action of electric current or chlorine gas generated from the electrodes or the electrode cable was broken by sea bottom dredging or ship's anchor. Around 1960, a new method was developed, where a rigid PVC pipe with an opening at its lower portion was fixed to steel sheet pile or steel pipe pile and an electrode was inserted into the PVC pipe from the upper section of the sea-wall, as illustrated in Fig-3. This device makes it possible to avoid damages by waves and other external forces almost perfectly, though the installation spacing between electrodes becomes shorter.

(c) Development of Two-Step Transformer-Rectifier Type Impressed Current System

Fig-4 shows the model of the conventional impressed current system (viz. one-step transformer-rectifier type), while Fig-5 represents the model of two-step transformer-rectifier type impressed current system.

The formation of the two-step transformer-rectifier type impressed current system is as follows:

- (1) 200V or 400V A.C. power (single-phase or three-phase) is received at control transformer.
- (2) Control transformer can be adjusted 200V A.C. up to 60V — 200V and transmits into several units of step-down transformers.
- (3) The voltage is stepped down to the voltage adequate to flowing of protective current by the step-

down transformer.

- (4) The alternating current put out of the step-down transformer is converted to direct current through rectifier and flows into the structure to be protected, through electrode, as protective current.

Control transformer, consisting of an autotransformer and a switch-board, is to control and monitor protective current and is housed in a water-tight steel cubicle. A high resistance voltmeter is incorporated in the control transformer so that confirmation of protection effect might be done with the control transformer, and it is connected by multi-core cable to every zinc reference electrode installed in place on the structure to be protected, so that cathodic potential at every place might easily be measured by change-over of the switch. Step-down transformer is to receive output A.C. power from control transformer and step down the voltage through over-current breaker; it is of self-oil-cooling watertight closed type.

The rectifier is of silicon element, and rectification type is "single-phase center tap".

The step-down transformer and rectifier are incorporated together in one assembly which is installed and used as a small-size fixed rectifier.

The characteristic of this system is two-step transformation; that is, in the first step transformation the protective current is controlled with control transformer, and in the second step the voltage is stepped down with step-down transformer up to the proper voltage for impressing electrode. This is why the system is called "Two-Step Transformer-Rectifier Type Impressed Current System", and as a result that the conventional power source (viz. transformer-rectifier) is divided and dispersed into a control transformer and step-down transformer-rectifiers, individual instrument becomes of small-size and small-capacity and consequently the location of its installation may not be limited; for instance a step-down transformer-rectifier can be placed near electrode. This allows to remarkably shorten the wiring for the D.C. side with low voltage and large current (from step-down transformer-rectifier to electrode and the structure to be protected) and to make most part of wiring the A.C. side with high voltage and small current (from control transformer to step-down transformer-rectifier), and as the voltage on the wiring is about ten times higher than that in case of the conventional system, power loss will be 1/100 of that in case of using the same wire; this is deemed to be nearly zero.

Power loss in wire in case of the conventional system has corresponded to about one-half of the total amount of power consumption, but the new system made it almost zero; it means the power consumption is curtailed by about one-half as shown in Fig-6.

(d) Development of high performance aluminium alloy anode

It was usual to use magnesium alloy anode and zinc alloy anode as sacrificial anode for cathodic protection, but, the former has such disadvantages as excessive consumption in sea water, high potential difference against steel and also liability to impair the coated film and difficulty of design for long-life corrosion control. Consequently, since around 1955 when zinc alloy anode was developed, it has been used for protection of undersea steel structures as well as ship hulls from corrosion in most cases. However, a small effective ampere-hour of zinc anode per unit weight led to use of a very heavy anode for long life corrosion control, and this is a handicap in carrying out the installation work. The ampere-hour of aluminium per unit weight is about three times larger than that of zinc, so it will be very economical if aluminium can be used for sacrificial anode. Conventional aluminium anode has been made of alloy of high purity aluminium with 5% zinc, and its ampere-hour per unit weight was 40 to 50% of the theoretical value. However, the anode developed in 1965 by Nakagawa Corrosion Protecting Co., Ltd. is made of alloy which contains zinc, magnesium, indium and tin in addition to the base metal of aluminium, providing excellent current efficiency, 85% of the theoretical value and the ampere-hour, about three times larger than that of zinc anode. Furthermore, this anode needs no heat treatment at the time of casting, so the casting cost can be reduced. With the development of this high performance aluminium anode the galvanic anode system has been adopted more frequently than the impressed current system for cathodic protection of harbor structures since 1965, as afore-mentioned.

Fig-7 represents the quantity of aluminium anodes delivered by Nakagawa Corrosion Protecting Co., Ltd. for the period from 1963 to 1969 and about a half thereof has been used for preventing harbor structures from corrosion.

Another reason for such widespread use of aluminium anode for protecting undersea structures from corrosion is the development of underwater welding technique for anode installation. Around 1965 there were a few divers who were well experienced in the underwater welding work in Japan, but at present we are prepared for performing anode installation work with experienced underwater welders at any port throughout Japan, thanks to our past efforts made for training skillful divers for that purpose. We are making further preparation to extend anode installation works to Okinawa and South-East Asian coun-

Fig. 3— INSTALLATION OF SEAWARD ELECTRODE

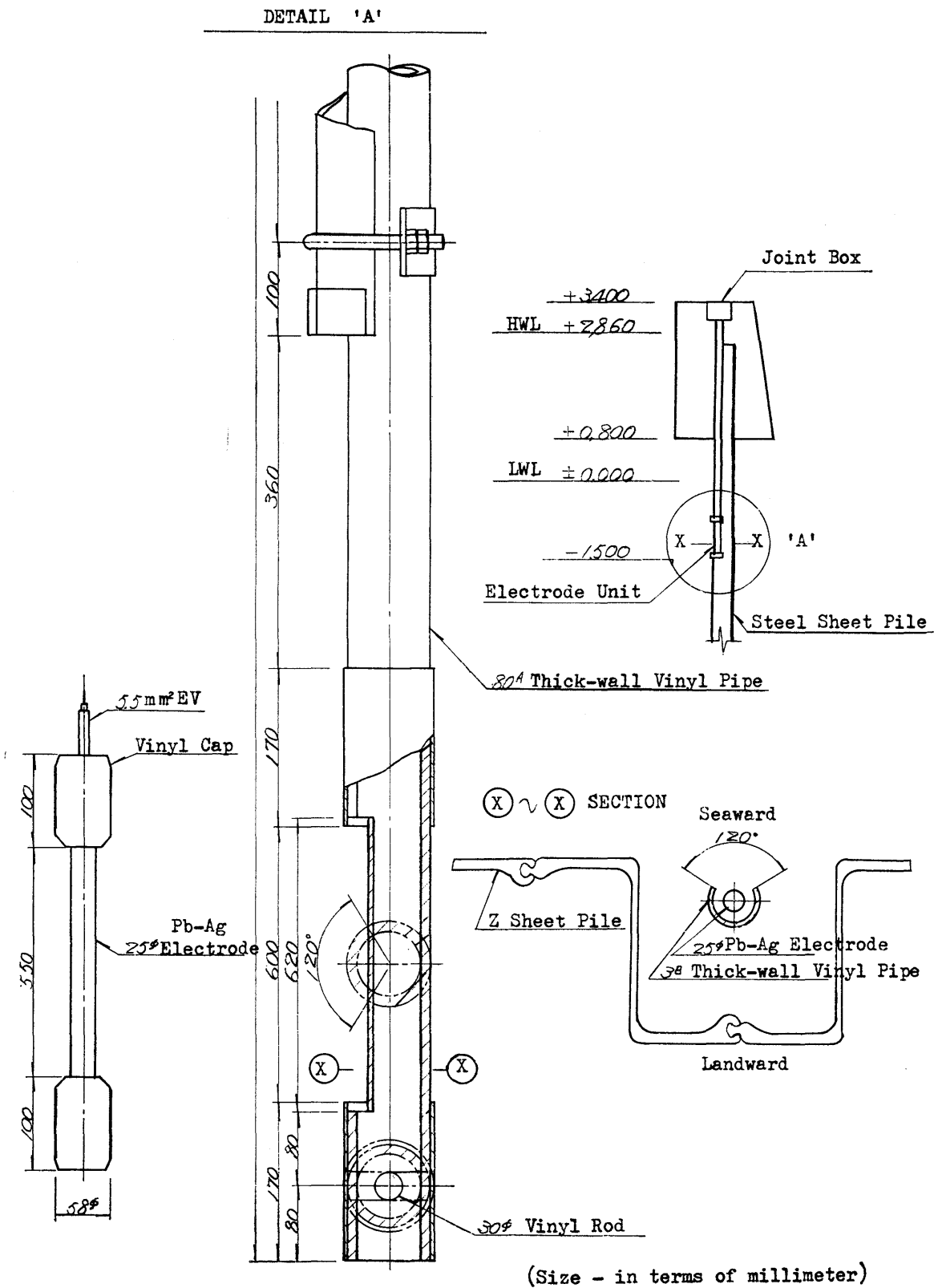


Fig. 4 — WIRING DIAGRAM IN CONVENTIONAL TRANSFORMER-RECTIFIER SYSTEM

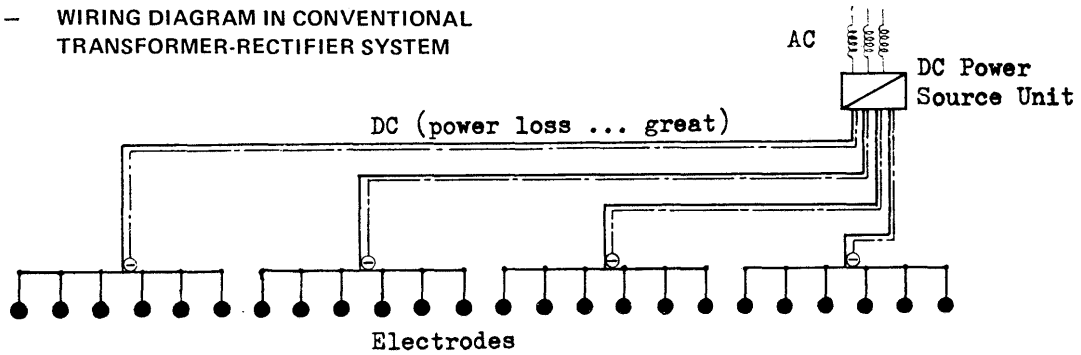


Fig. 5 — WIRING DIAGRAM IN TWO-STEP TRANSFORMER-RECTIFIER SYSTEM

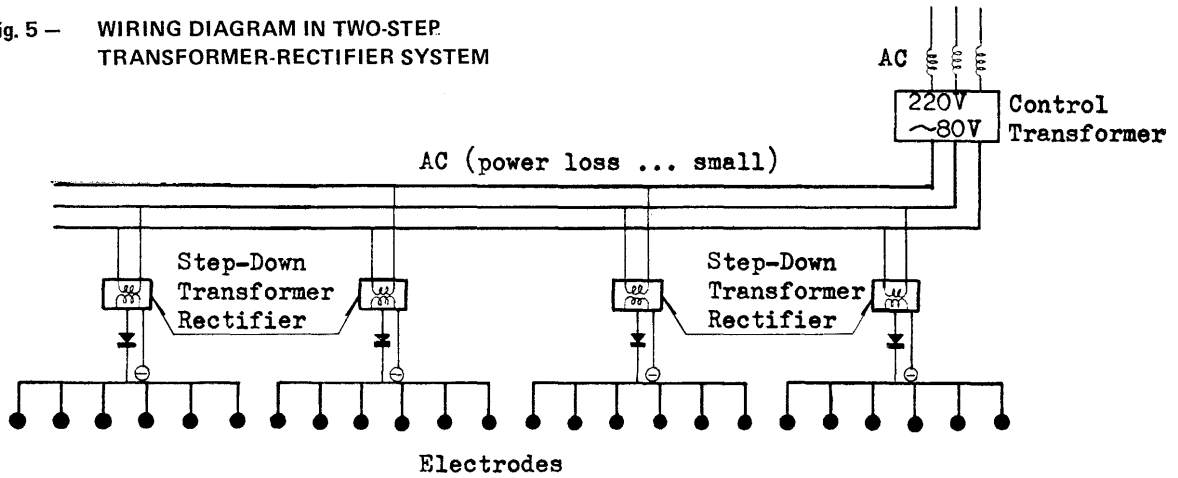


Fig. 6 — COMPARISON OF POWER CONSUMPTION IN CONVENTIONAL (ONE-STEP) TRANSFORMATION SYSTEM AND TWO-STEP TRANSFORMATION SYSTEM (IN CASE OF THE PROTECTIVE CURRENT AS OF 390A)

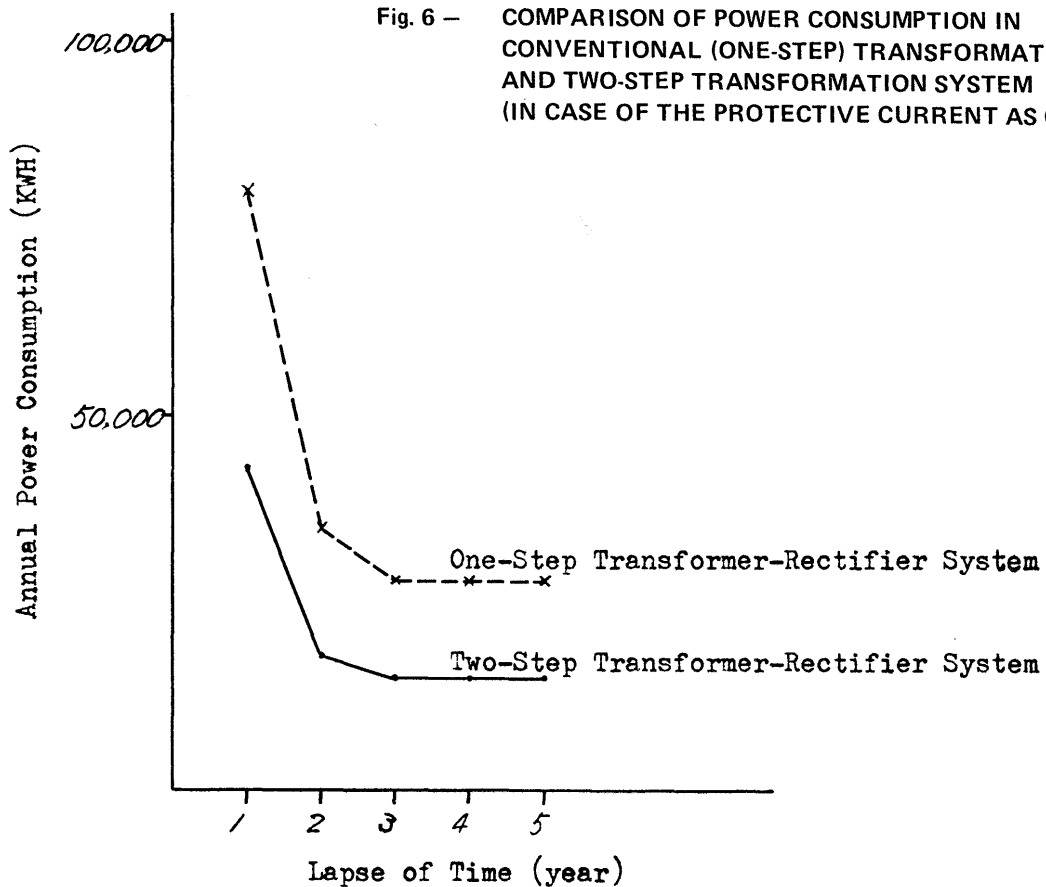


Fig. 7 — OUTPUT OF ALUMINIUM ANODES FOR CATHODIC PROTECTION
BY NAKAGAWA CORROSION PROTECTING CO. (JAPAN)

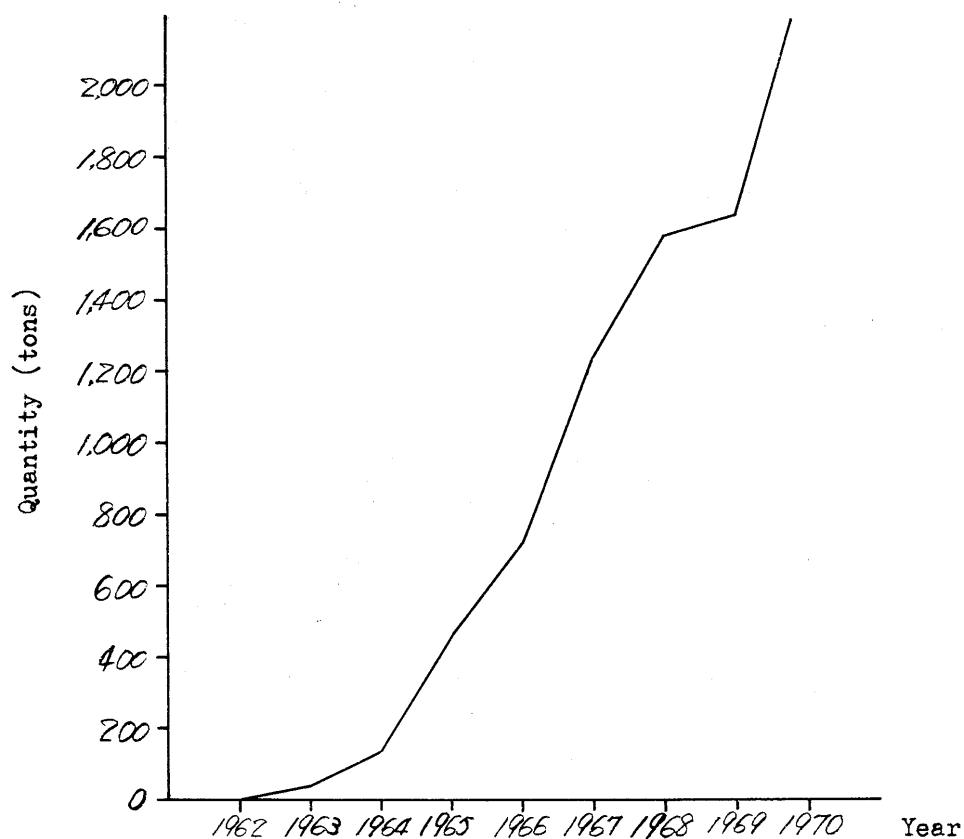
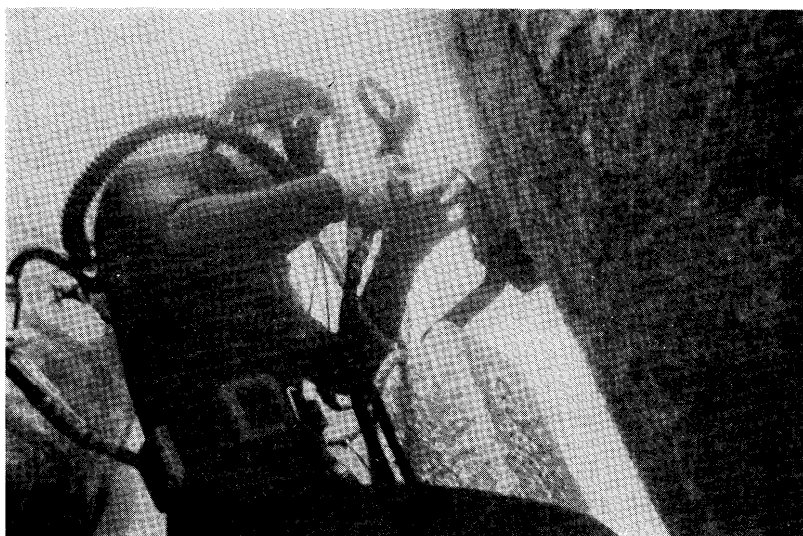


Fig. 8 — INSTALLING ALUMINIUM ANODE ON STEEL PILE
BY UNDERWATER WELDING

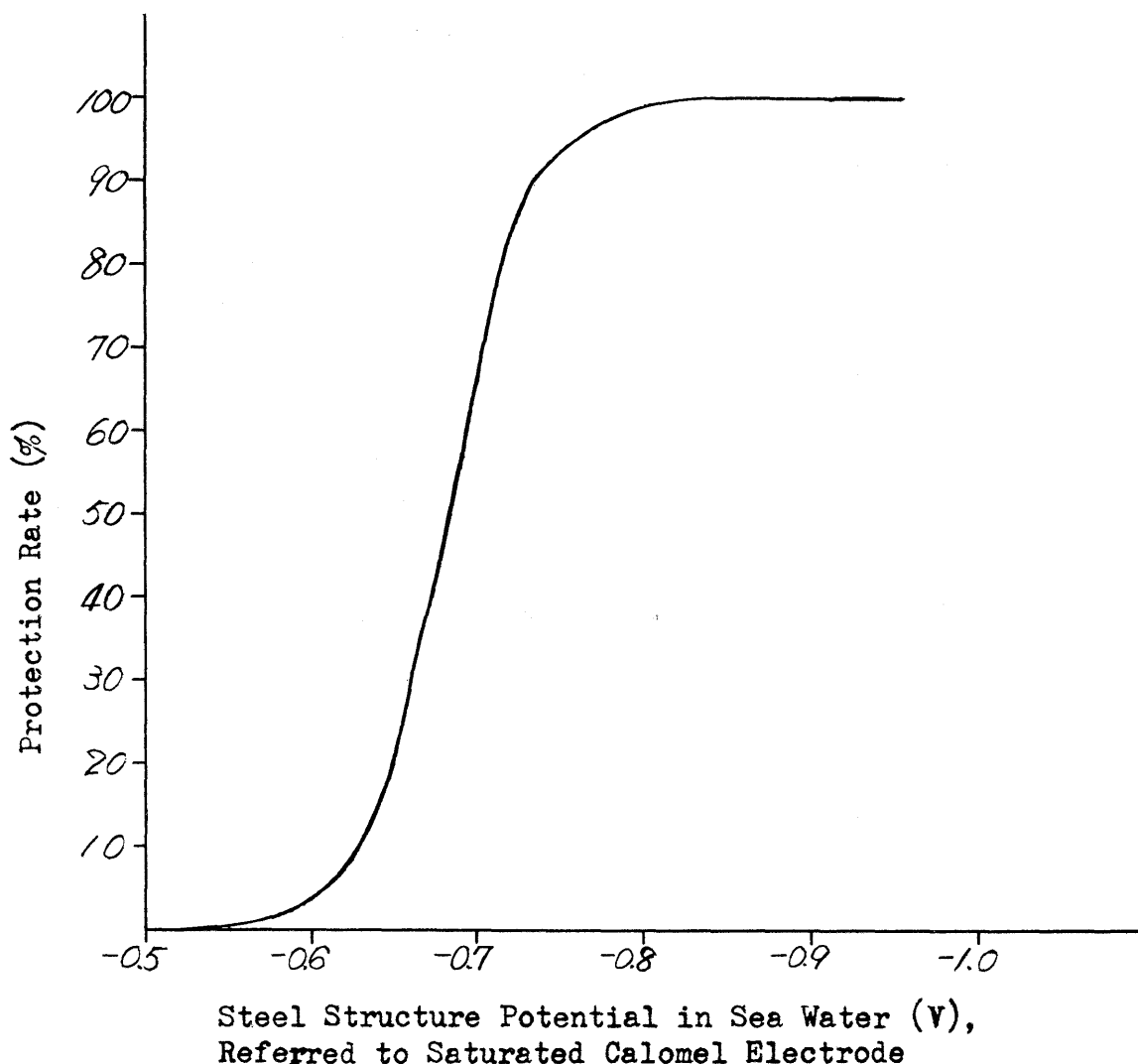


tries. In addition, the training of cathodic protection engineers is under way so that they can dive by themselves for the purpose of inspecting the state of installed anodes. Fig-8 shows the underwater welding job of aluminium anode to the steel pipe pile type oil loading jetty, 30 meter below the sea level.

4. Effectiveness of Cathodic Protection

It is very important to confirm whether or not the cathodic protection system is exhibiting its protective effect properly after installed on the harbor structure. Two methods are available for confirmation of effectiveness of cathodic protection. One is to measure the potential, and the other is to measure a loss in weight of test pieces and observe the state of the test pieces. As there is a relation, as shown in Fig-9, between the potential of steel in the sea water and the protection rate, the state of corrosion prevention can immediately be judged by measuring the potential of the structure. The potential can be measured with such a high-impedance voltmeter as vacuum-tube voltmeter or transistorized voltmeter together with such a reference electrode as calomel electrode or copper sulfate electrode. According to many reference literatures, it can well be said that corrosion control is in a perfect state when the potential is maintained less noble than -0.77V in case of calomel electrode and -0.85V in case of Cu/CuSO_4 electrode, respectively. The most immediate method to measure the effectiveness of corrosion control is to use test pieces. The use of test pieces is liable to cause error in the measured values depending on their shape, so they must be conditioned so that they might be shaped so as to allow an uniform current distribution, be easily installed and detached, not be broken by waves, and be tested by every water depth, and also that both the protected test pieces and non-protected ones can be tested simultaneously under the same conditions.

Fig. 9 — TYPICAL RELATIONSHIP BETWEEN STEEL POTENTIAL & PROTECTION RATE IN SEA WATER



[illegible]

We have devised a test piece as shown in Fig-10. (Japanese Patent No. 814822). This test piece is attachable to any structure on which cathodic protection is applied so that its effectiveness can be periodically checked upon removal. Table-3 indicates the measured values of the test pieces which were attached to the legs of the submarine tower cathodically protected by impressed current system for four years. The pieces marked A were protected and the pieces marked B were non-protected. The weight loss of each protected piece is zero which means 100% of the rate of protection. The potential of this structure was $-1.0V$ in reference to calomel electrode.

Table-3 Test Pieces

Place of Installation: The Observation Tower of Hiratsuka Beach
National Center of Disaster Prevention Science

Date of Installation: November 23, 1966

Date of Removal: September 16, 1970

Days of Testing: 1,415 days

Wire Mark	Piece No.	Water Depth (m)	Weight Before Test (gr)	Weight After Test (gr)	Weight Loss (gr)	Corrosion Rate	
						By Weight (gr/m/hr)	By Depth (mm/yr)
79	A	—2	85.069	85.210	0	0	0
	B		84.121	56.227	27.894	0.262	0.292
80	A	—4	85.181	85.342	0	0	0
	B		83.120	52.765	30.355	0.285	0.318
81	A	—6.5	84.682	84.879	0	0	0
	B		85.033	59.060	25.972	0.244	0.272
82	A	—9	84.509	84.670	0	0	0
	B		83.197	49.844	33.354	0.313	0.349

NOTE: (1) Mark "A" represents the protected test piece and Mark "B" the non-protected one.

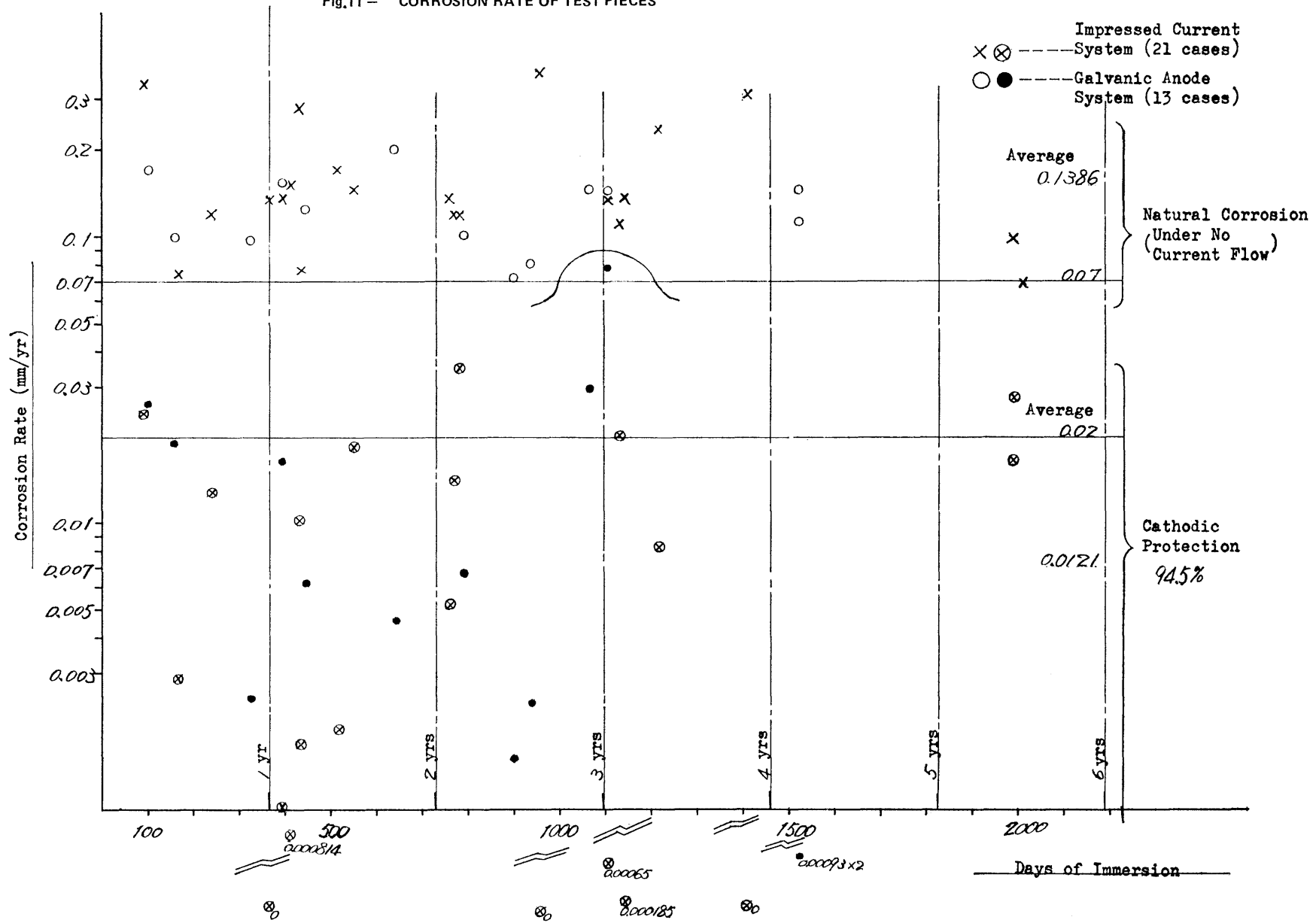
(2) It is attributable to some irremovable deposits on the piece that the weight of every protected piece after testing is larger than before testing. In this case, weight loss is deemed "zero".

Fig-11 is a diagram of corrosion rates of those test pieces collected at thirty-four ports throughout Japan, where cathodic protection has been applied. Among thirty-four ports, twenty-one ports were protected by impressed current system and thirteen ports by galvanic anode system. The immersion periods of these test pieces ranged from 0.3 to 5.4 years, and in the non-protected test pieces the corrosion rate was ranging from 0.07 to more than 0.3 mm/year, the average corrosion rate being approximately 0.14 mm/year. On the other hand, in the protected test pieces the corrosion rate was from zero to 0.03 mm/year at maximum, the average being 0.012 mm/year; some of the protected test pieces indicated the corrosion rate higher than 0.02 mm/year and it was proven that these pieces temporarily had got out of protection owing to typhoon and other accidents. The average corrosion rate of 0.14 mm/year for the non-protected test pieces corresponds to 94.5% of the protection rate, which evidently shows the effectiveness of cathodic protection. In designing cathodic protection, the target of protection rate is 90% and over, but it tends to lower to 70 to 80% in tidal zone because some sections of the structure are sometimes exposed in the air, so it is a common practice to apply coatings of inorganic zinc-rich paint and coal tar epoxy paint on such sections above L.W.L. to prevent the protective effect from reducing.

5. Oceanic Development and Cathodic Protection

Now many countries have set their eyes on the unexploited space and resources of the sea and started oceanic development. It is said that hydraulic resistance, corrosion control and anti-fouling are major technical problems in the field of oceanic development. In many cases, cathodic protection system has been employed for protecting the marine steel structures from corrosion. In Japan, too, cathodic protection system has been applied to a great many marine structures such as drilling barge, drilling platform, submarine pipeline, sea berth, buoy, submersible survey boat and, on the other hand, the training program of divers and aquanauts is under way on a full scale, as afore-stated.

Fig.11 - CORROSION RATE OF TEST PIECES



A New Generation of Ports for 250,000 DWT Bulk Carriers

Paul Soros, President

**Soros Associates, Consulting Engineers
New York, N.Y., U.S.A.**

Paper presented at the International Symposium on Transport and
Handling of Materials at Vancouver, B.C., Canada, October, 1971

(This article is introduced by permission in advance from the forthcoming book "Minerals Transportation, Speeches and Discussions of the First International Symposium on the Transport and Handling of Minerals".)

Planning Perspective

For major bulk movements, the economic stakes in the creation of an optimum transportation system are substantial. Ship sizes and port sizes are big factors that must be planned in at least a fifteen, but preferably in a twenty year perspective.

Assuming four to five years for planning, financing, engineering and construction and a few more years until the first expansion, it is clear that the period seven to fifteen years in the future from the time of planning will have the largest impact on profits. Furthermore, it is essential that, at the time of planning, the right assessment be made on future worldwide shipping and port conditions. Due to the commercial significance of return cargoes and combination voyages, such an assessment must also include other commodities. **Rationale of the 250,000 DWT Bulk Carriers**

Port design, bulk handling systems and offshore technology are among the main areas of interest of Soros Associates. Consequently we have been involved in the creation of integrated transportation systems for bulk commodities for some time. It was in the mid sixties, during the engineering of the open sea loading facility of Port Latta (Figure No. 1), that we became interested in the worldwide implications of loading

or unloading bulk cargoes outside the conventional context of protected harbors. (1)

In 1966 and 1967 we carried out a worldwide study, (partially sponsored by a major shipping group) including site visits to evaluate the potential of various locations as deep water ports or open sea terminals, in North and South America, Africa, Europe, Australia and Japan.

This study was undertaken in the belief that when something becomes technologically feasible and offers sufficient economic incentives, it is inevitable that it will happen, only the timing is in question. We therefore chose to disregard the official position of the authorities or industries involved at the time and reached the conclusion, published in 1967, (2) that the 250,000 DWT vessel will emerge as the next distinct size class for bulk cargoes and it will eventually become the standard workhorse for all major long distance commodity movements.

The following is a summary of the conclusions and projections of this study: (3)

1. 250,000 DWT was arrived at as the standard class in view of navigational considerations and Continental Shelf profiles at major raw material sources and destinations.
2. The vessel range between 150,000 and 250,000 DWT will be bypassed as a major class.
3. Initially all 250,000 DWT vessels in bulk movement will be O/O, carrying oil from the Persian Gulf to the UK/Continent.
4. 250,000 DWT ore or bulk carriers will appear first in long distance movements where they

do not have to compete with back-haul in smaller vessels.

5. The next size class will be the 350,000~500,000 DWT class tanker and O/O carrier. These will be restricted to a limited number of routes.
6. Advances in engineering will make the cost of port facilities for 250,000 DWT vessels less than generally expected. This will be achieved through utilization of Continental Shelves, new technology, artificial islands and offshore loading and unloading designs based on new construction techniques.
7. There will be regional deep water transfer terminals.
8. Iron ore is likely to utilize 250,000 DWT first, coal and bauxite next. Partial loads of other cargoes will also develop.

These conclusions may or may not seem far-fetched to you today, but I can assure you that in 1967 they did not meet with immediate and widespread acceptance. As you may recall, at the time the 100,000 or 120,000 DWT bulk carrier was widely considered as the standard of the future.

Developments have actually moved faster than expected. The two main factors that brought this about were the Suez problems and the accelerated trend of cost increases. The massive investment in recent years in 250,000 DWT class oil tankers made it obvious that oil rates from the Persian Gulf will be determined by these size vessels. This in turn means that any smaller OBO or O/O vessel that wishes to participate in the movement has a competitive disadvantage on the oil leg and this disadvantage would have to be subsidized by the bulk cargo.

Port Characteristics

There are a few major bulk port developments in the last few years which, to use a bad pun "missed the boat" but the surprising fact is that at most of the potential sites we investigated in 1966 and 1967 there now are facilities for 250,000 DWT vessels in various stages of planning, engineering or construction. The salient characteristics of twelve bulk port facilities for 250,000 DWT and larger vessels engineered by Soros Associates are summarized in the following Table.

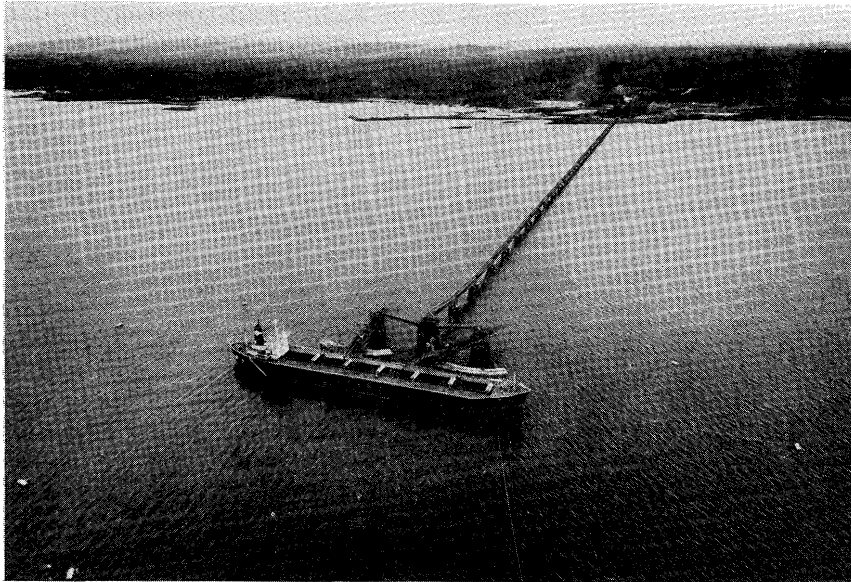


Figure No. 1: The Port Latta Terminal

Commodity Movements

As expected, the underlying economical justification for the majority of these facilities is substantial movements to Japan in combination vessels, returning with oil from the Middle East to Europe. This applies to eight of the twelve facilities.

In the case of one facility tonnage to Japan is a minor factor. However, the difference in the capital cost of a facility suitable for 150,000 DWT or 350,000 DWT vessels is relatively modest due to certain advanced designs and favorable

topography. The operation is a major one and the owner, from a long term view, plans to accommodate the increasing number of large vessels.

The remaining three are facilities planned for straight bulk carriers involving long distance movements to Europe.

Open Sea Berths Versus Protected Harbors

Natural harbor protection, without breakwaters and dredging is, of course, the ideal solution. Of the twelve facilities listed, only one has the good fortune to fall into this

category.

Generally speaking, breakwaters and/or dredging involve larger capital investment. Nevertheless, this type of solution is utilized in three out of the twelve facilities listed and for the following reasons:

Case X: The mineral berth is part of a large complex, providing a broad base for amortizing breakwater and dredging costs.

Case VIII: The open sea berth had unsatisfactory berth availability for the tonnages involved.

Case IV: There was an existing breakwater, built to accommodate smaller vessels. The feasibility of dredging a new channel and creating a basin behind the existing breakwater depended on offshore subsoil conditions, requiring lengthy investigation. The project had to be operational in limited time. To assure completion, both open sea and dredged schemes were developed. All portions of the facility common to both schemes were engineered, leaving both options open until completion of the subsoil investigation and receipt of firm bids on the dredging after which the dredged solution could be adopted.

Eight of the twelve facilities are open sea berths. For these, the berth availability is a critical factor from an economic and operational viewpoint, consequently, our major ef-

Table No. I

PORT FACILITIES FOR 250,000 D.W.T. BULK CARRIERS IN THE PLANNING, ENGINEERING, OR CONSTRUCTION STAGE ENGINEERED BY SOROS ASSOCIATES

	I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII
<u>Annual Tonnage</u> (Mill. tons/year)												
First Step	35	7	15	50	10	35	25	10	5	2.5	10	7
Second Step			25	80	15		45	15		12.5		10
<u>Commodity</u>	Iron	Iron	Iron	Iron	Iron	Iron	Coal Iron	Misc.	Baux. Alum.	Baux.	Iron	Baux. Alum.
<u>Location</u>	Afr.	S. Am.	Afr.	S. Am.	Afr.	Eur.	N. Am.	Afr.	Afr.	Eur.	Afr.	Afr.
<u>Number of Berths</u>	2	1	1	3	1	3	2	1	1	1.5	1	1
<u>Handling Rate</u> <u>at New Berth</u> (1,000 tons/hour)												
First Step	12	7	10	16	12	10	8	8	6	3	8	6
Second Step				32		20	15			8		
<u>Total Handling Rate</u> (1,000 tons/hour)												
First Step	18			30		18						
Second Step				46		28						
<u>Harbor Protection</u>	No	No	No	Yes	No	Yes	No	Yes	No	Yes	No	No
<u>Offshore Distance</u> (Km.)	4.4	.8	4	-	4	-	1	-	-	2.7	3.5	5

forts in these last years have been directed toward developing berthing systems for these large vessels that will function under wave, swell and wind conditions not required or considered feasible in previous practice. (4) (5)

System Performance

Because of the large economic stakes involved in achieving an optimum installation, other aspects of planning and engineering are also becoming more scientific, more sophisticated and more specialized.

Berth occupancy factors and the economic value of loading times and queuing losses are now calculated for fleets reflecting projected vessel size distributions. These calculations take into account, of course, that actual rates achieved themselves are effected by vessel sizes.

Depending on the impact of the large vessel on the fleet distribution and the relationship of the fleet distribution to the total throughput, we found that queuing curves derived from actual operating records of certain Great Lakes' ports and foreign steel mills, corresponding to various degrees of "semi-scheduled" conditions may give more accurate results than the customary probability calculations now in general use.

An area of great economic importance with large annual tonnages is weighing accuracy and, of equal commercial importance, the ability to obtain certifiable weighing accuracy. Another area with considerable commercial impact with large tonnages is the instantaneous utilization of sampling results for optimizing the contents of a shipload in terms of fines contents or chemical composition.

The new Narvik ore port now in the final engineering stage (Case VI, Table No. 1) will feature the most advanced systems in these areas, to our knowledge. It will provide certified weighing accuracies of one quarter of one percent and screening and reclaiming operations will be controlled by computer, based on the input from continuous sampling results. The flow-diagram of the long range Master Plan is illustrated in Figure No. 2.

In terms of capacity, the Tubarao project now under construction (Case IV, Table No. 1), with stockpiling rates of 16,000 tons per hour

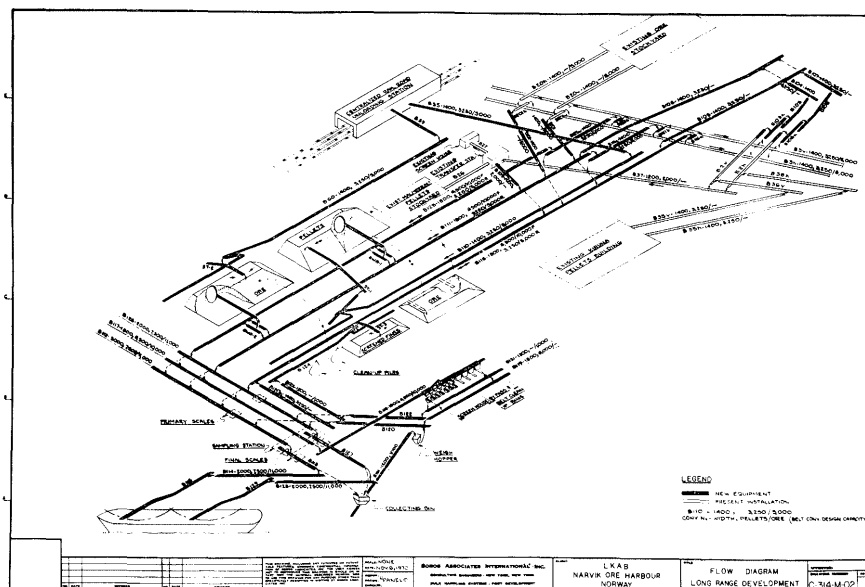


Figure No. 2: Long Range Master Plan—Narvik

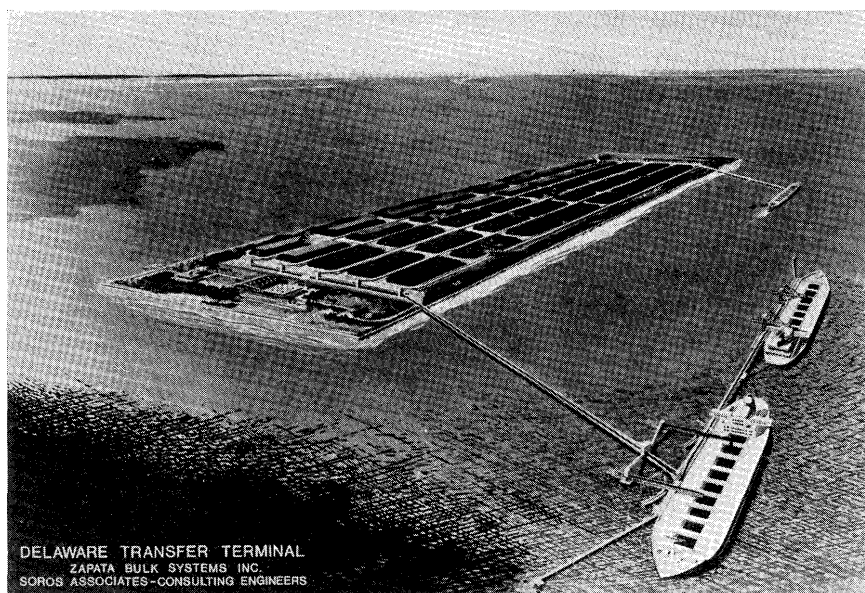


Figure No. 3: Proposed Delaware Transfer Terminal

and shiploading rates of 30,000 tons per hour in the first stage and 46,000 tons per hour in the second stage will rank as the largest in the world for some time.

Developments in the U.S.

There has been considerable activity in the past year relating to port facilities for 250,000 DWT tankers and bulk carriers.

There were a number of proposals to construct oil terminals for large tankers in Maine. Shell applied for permits to construct a refinery with a deepwater berth in Delaware Bay. Thirteen major oil companies have

a joint project for such a terminal and tank farm also in Delaware Bay. Zapata Bulk Systems applied for permission to construct a three hundred acre artificial island terminal in Delaware Bay to our designs. In the first stage this would export coal, in the second stage it would import iron ore. (Figure No. 3)

Recently the State of Delaware enacted a bill, over the formal opposition of the U.S. Department of Commerce and the U.S. Treasury, prohibiting the development of deep water terminals, regardless of whether they do or do not have any

adverse effect on the environment.

Mr. Andrew E. Gibson, Assistant Secretary of Commerce for Maritime Affairs stated that, "to prohibit offshore liquid or solid bulk transfer facilities within the coastal zone will have a serious deleterious impact upon this nation's trading posture and the President's new maritime program". The U.S. Treasury was opposed, "because the importance Treasury places on a strong United States position in world trade". The position of the Governor of Delaware was, "An alternative to these proposals is to forego the use of large vessels and continue to use smaller vessels and the existing facilities. Just because developers have seen fit to promote the use of huge ocean-going vessels doesn't mean we have to, or should, forego our plans for the use of Delaware Bay in order to satisfy the requirements of the large vessels". (6)

In the meantime, Soros Associates has been commissioned to undertake an extensive study on behalf of the U.S. Maritime Administration on the feasibility of multi-purpose offshore terminals for large vessels on a national basis. This study is currently at the halfway point. We are also working on a study for the Federal Aeronautics Administration on the creation of a fourth New York jet airport offshore in combination with a deep water port facility.

Undoubtedly, these developments will take time to mature. There is no question that it is technologically feasible to create deep water ports in the U.S. with no adverse environmental effects. The needs and the economic incentives are there and will increase sharply.

(In the personal opinion of the author, it is only a question of time before the conflict between parochial and national interests will be resolved in a sensible manner.) In due time this will result, inevitably, in the creation of deep water U.S. port facilities with profound long term implications for worldwide commodity movements.

References

1. Paul Soros, "Port Latta—Open Sea Loading Terminal", *CIVIL ENGINEERING—ASCE*, January 1969.

The 8th International Seminar on Port Management in The Netherlands

April 17—May 20, 1972

The eighth International Seminar on Port Management in The Netherlands is to be held from 17th April—20th May, 1972 in Delft, Rotterdam and Amsterdam, according to announcement in January 1972 by the NUFFIC (Netherlands Universities Foundation For International Co-operation, at Molenstraat 27, The Hague, The Netherlands).

The programme offers a lecture period of two weeks—the first and the final week of the seminar—which will take place in Delft as part of the training offered in the International Courses 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 ports in the northern parts of the Netherlands and Germany.

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.

Introduction

The speeding up of the turn-round 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 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. Also, it 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 organize a special seminar. The International Technical Assistance Department of the Ministry of Foreign Affairs, which served as an Intermediary for study visits to the Dutch ports, took the initiative and established an international seminar, which handled individual requests. 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 organizational responsibility for the seminar was given to the International Courses in Hydraulic and Sanitary Engineering at Delft. Eleven month post-graduate programmes in Hydraulic Engineering have been given by this institution, since 1957. This institute has offered allround training to port and harbor engineers in its "tidal and coastal engineering branch". It is obvious that the same ground cannot be covered in a five-week seminar as in a full eleven-month course; therefore, the seminar programme does not include a discussion of constructional and hydraulic aspects, but rather confined to a

2. **SOROS ASSOCIATES — 1967 ANNUAL REVIEW.**
3. Paul Soros, "Ocean Transportation Trends for Bulk Materials", **THE DOCK & HARBOUR AUTHORITY**, August 1970.
4. Paul Soros, Soros Associates, "Offshore Mineral Terminals—Artificial Islands and Open Sea Shiploading of Dry Bulk Minerals", **Paper No. OTC-1235, 1970 OFFSHORE TECHNOLOGY CONFERENCE**, Dallas, Texas.
5. Paul Soros and Bela Koman, Soros Associates, "Offshore Berths and Multiple Orientation", **Paper No. OTC-1366, 1971 OFFSHORE TECHNOLOGY CONFERENCE**, Dallas, Texas.
6. "Man-Made Island Opposed", **THE NEW YORK TIMES**, June 27, 1971.

thorough treatment of the organizational and managerial aspects of ports.

The previous seven Seminars on Port Management have brought together 194 port administrators from 59 different countries. The discussions between them proved to be very valuable. Therefore, each participant is expected to deliver a short statement on the problems that are of special importance of his work in his country. Candidate-participants are requested to bring material with them which they would like to present at Delft.

Subjects Taught in the Seminar

A. *lecture parts:* April 17th–22nd, and May 15th–19th, 1972

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

2. Port management.

The international character of ports and port dependency on local political conditions. Co-ordination between ports. Diversity of port organization, 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.

The harbor designer's standpoint. Master plan and design features of general and specialized 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 in 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 24th–29th, 1972

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

Visits with explanatory lectures on:

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

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

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

Freezing warehouses. Ship repair yards. Fishing port. Harbour police and fire brigade. Air cargo handling at Schiphol Airport.

2. Rotterdam: May 1st–6th, 1972

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

Visits with explanatory lectures on:

The harbor entrance at Hoek van Holland and the new breakwaters. Various sections of the port with large port extension at Europort. Industrial port areas.

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 visits to a few ports outside the Netherlands:*

May 8th–13th, 1972

The organizers of the International Seminar on Port Management consider it of great importance that participants become acquainted not only with the ports of Amsterdam and Rotterdam, but also with a number of other ports. For the 1972 Port Seminar preparations are being made to visit a few other ports in the Northern parts of the Netherlands and Germany.

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. Preferably, candidates should 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 organizers 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 recom-

mendation from their employer. They are advised not to come to the Netherlands to attend 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 17th, 1972 and close on Friday, May 19th, 1972. All participants are expected to arrive in the Netherlands on Sunday, April 16th, 1972 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 prior to the Seminar, or to stay on after completion of the Seminar. All participants are advised to obtain a visa for Germany before the Seminar begins.

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. 1250,—, which includes the tuition fee, travel costs for the fieldtrips and breakfast during the fieldtrip outside the Netherlands. Participants are required to pay lunch and dinner expenses, as well as their hotel accommodation during their stay in the Netherlands. The Netherlands Universities Foundation for International Co-operation (NUFFIC) will upon request take care of hotel reservations. The participants' fee should be paid on or before registration day. Those preferring to pay in advance are requested to have the participation fee paid to the account of NUFFIC at the Amsterdam-Rotterdam Bank, 14 Wagenstraat, Den Haag.

Fellowships

It is expected that a number of participants will be granted fellowships by their employers or by national or international fellowship granting organizations, such as the United Nations, the International Labour Organization (I.L.O.), or the Organization for Economic

(Continued on Next Page Bottom)

Bold Search for New Ideas Must Be Kept Up

Port of Los Angeles

Los Angeles, Calif., March 6:— Bold new concepts to make the best use of land and water area at the Port of Los Angeles, according to General Manager Bernard J. Caughlin, are being explored in master planning for port development in the future by Donald A. Walsh, planning and research director for the Harbor Department.

Responding to a recent question by the Board of Harbor Commissioners as to what was being done to utilize the fullest potential of the port, Walsh revealed a wide range of ideas for developing still further the west bank of the Main Channel from the Vincent Thomas Bridge south to the breakwater. A complete study of this area should be made by a consulting firm.

Possibilities may include such major changes as re-routing certain waterfront streets, changing pierhead lines, and installing deep-water oil tanker mono buoys outside the

breakwater.

"The use of mono-buoys eliminates the expensive channel dredging required for the huge tankers that are being built," he added.

"But," the port planner warns, "any major changes must be carried beyond the idea stage and placed in the hands of qualified consultants who have the time, experience and facilities to suggest to the Department which ideas are practical in terms of good port operation now and in the future."

While all land use studies are not required to be performed by the same firm, any and all proposals by consultants must represent an integrated and harmonious plan of development, Walsh said.

The bridge-to-breakwater development study might include, but is not limited to, the following ideas as set down in a proposed agreement with yet-to-be-selected consultants:

The potential for commercial shipping at the area adjacent to the

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 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 Eighth International Seminar on Port Management in The Netherlands

to be held at Delft/Amsterdam/ Rotterdam

April 17th-May 19th, 1972

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:

(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 occupation(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

DEN HAAG, Netherlands

Catalina Terminal (Berths 93-D-E&F) should be restudied as to its requirements for that purpose, or whether it should be considered for commercial development, such as restaurants, shops, and other similar uses.

Consideration should be given to a new off-ramp from the second level of the Consolidated Marine Terminal to provide unimpeded access to Harbor Boulevard, probably via Swinford Street. The present ground area occupied by ramps could be better used for cargo storage in the light of modern container-handling techniques. Existing buildings should be studied for the space they occupy in relation to container storage requirements.

Other possibilities include relocating the entire tugboat fleet (at Berth 86) near the foot of Sixth Street, to a more suitable operating area of the harbor, or rearrangement of berthing space and landscaping to better fit in with the Consolidated Marine Terminal to the north of it and the Beacon Street Redevelopment to the south.

A study of the Community Redevelopment Agency's plans for the area between Fourth and Sixth Streets on the Main Channel, which has been requested from the Harbor Department, should be made to attain maximum scenic value and best traffic circulation. Proposed promenade decks, landscaping, museum facilities, and park areas should be reviewed by a consultant.

A general review of future developments proposed by the Ports of Call Village tenants should be undertaken to insure effective integration with other growth surrounding the Village. Pedestrian and vehicular traffic patterns should be streamlined. Access and parking are two major considerations for this area.

Possibilities include removal of the Sixteenth Street viaduct or stubbing off of the viaduct and ramping downward to the north toward the Ports of Call Village area.

Parking needs should be projected for the next ten years. They might be met by the addition of multi-storied parking structures, or a structure whose levels begin above the railroad yard adjacent to the present parking areas and tie into the bluff with entrance levels at Harbor Boulevard and Beacon Street. A top level

Ro/Rolling into the EEC

By Gerald Farmer

Over 16 million tons of cargo passed through British seaports in unit load form during 1970, according to National Ports Council statistics, and of this, the greater part—some 13½ million tons—was between this country and all its European neighbours including Ireland.

A study of the breakdown of the figures according to types of service also indicates that roll-on/roll-off operations—almost entirely confined to these short-sea trades—accounted

extending out over the railroad yard at Beacon Street might be made into a park and could include a motel and other facilities.

The S.P. Slip, commonly referred to as Fishermen's Slip, should be studied to determine its highest and best use, which study should entail the possible relocation of the fishing boats to another area in the harbor, such as Berths 56, 57, 58 in the Outer Harbor.

Further development south of 22nd Street should coincide with marina planning currently under study. The bulk loading area in the Outer Harbor might accommodate a tank farm. Warehouse No. 1 should be studied for possible removal or conversion to use as offices for other purposes.

Areas in the Outer Harbor should be considered as possible receiving points for the 250,000-plus-ton oil tankers of the near future. An alternate idea would be the installation of underwater pipelines extending from landside storage points to one or more locations in the ocean beyond the breakwater where the tankers could connect to buoys for cargo transfer.

The Harbor Department planning director reiterated to the Board of Harbor Commissioners that these were simply ideas at this stage which require thorough exploration by qualified firms before going ahead with master plan development involving these and other areas of the Port of Los Angeles.

for over seven million tons of the total. Preliminary estimates by a number of ports indicate that an even larger total has been achieved in 1971.

Clearly, then, the roll-on/roll-off concept is holding its own in the face of competition from cellular container and other specialist lift-on operations on the short-sea routes, and can expect to obtain a substantial share of the trade growth which will almost certainly result from Britain's entry into the EEC.

Expansion of unit load trade—which in the near and short-sea trades now amounts to something in the region of a quarter of total volume of traffic (excluding fuels)—has already been considerable, rising from six million tons in 1967 to the 1970 figure of 16.6 million tons, and a number of established ro/ro ports, plus one or two newcomers, are looking for a unit load bonanza from EEC membership.

The port authority which perhaps stands to benefit most of all is the British Transport Docks Board, which has no fewer than 14 ro/ro terminals in operation at six of its 19 ports and is actively pursuing plans for even more developments of this type.

The Docks Board last year announced a 20 per cent increase in unit load traffic through its ports in 1970, to a record total of over three million tons. Of this over two million tons was carried by roll-on/roll-off operators, and here again the signs are that the 1971 figures when available will show further increases.

The principal Docks Board ro/ro ports are Hull and Southampton, the former serving Dutch, German and Scandinavian ports, with Belgium to be added shortly, and the latter having services to France, Spain, Portugal and North Africa. Both ports have seen their frequent services augmented recently and both expect to benefit from Common Market membership.

The story is much the same else-

where. At Grimsby two large vessels now operate the twice-weekly Esbjerg service, and a third outward voyage is occasionally made. At neighbouring Immingham the highly successful Tor Line service now employs six vessels—two passenger/cargo and four cargo only—to make six weekly sailings to Gothenburg, three to Amsterdam and one to Oslo.

King's Lynn is awaiting an increase in the frequency of its twice-weekly Washbay Line service to Hamburg from the terminal in Alexandra Dock, recently extended by the Docks Board to provide increased container marshalling facilities. And at Swansea, the sixth Docks Board ro/ro Port, where the Ferryport's freight marshalling area has already been extended to cope with the growth of traffic, the B & I Line recorded another successful year for its Cork service in 1971. The company has already announced plans to introduce a new freight vessel on the route and to replace the passenger/car/freight vessel Innisfallen with a larger ship within the next three years, and no doubt expects an increase of traffic using Britain as a "land bridge" between Ireland and the Continent with the entry of the Republic to the EEC.

Docks Board planning at Hull displays confidence that the remarkable growth of the port's ro/ro activities will continue. The new Esbjerg service is expected to transfer eventually from the ro/ro berth provided for it at King George Dock to a more sophisticated purpose-built terminal in Queen Elizabeth Dock, leaving the former to cater for Government supply ships. And negotiations are under way for yet another completely new ro/ro terminal in Queen Elizabeth Dock. Moreover, to give it scope to cater for future requirements, and even larger vessels, at the port the Docks Board has obtained Parliamentary powers to enable it to carry out works in the Humber adjacent to Victoria Dock which include the provision of further ro/ro berths.

Now, serious consideration is being given to a plan for a new terminal at Plymouth to cater for a proposed service linking the Docks Board's Millbay Docks with North-west France, and other ports so far not

(Continued on Next Page Bottom)

Long Beach Harbor, America's Most Modern, Is Sixty Years Young

By Thomas J. Thorley

**General Manager
Port of Long Beach**

The Port of Long Beach recently marked its 60th anniversary, which means we are still a very young port as most ports go, but it is this same youth that has earned Long Beach Harbor the reputation of being America's most modern.

There was nothing here but tidal flats and sloughs at the start, sliced by the meandering mouth of the Los Angeles River, noted for its ability to wreak havoc as it rampaged unchecked during winter rains. But far-sighted citizens realized the potential of the Long Beach portion of San Pedro Bay as a major international seaport, and pushed for construction of breakwaters to provide safe moorage for visiting vessels.

Ship channels were dredged and a new entrance was cut to the open ocean. A shipyard was established and in 1911 the first municipal berth was completed. Port of Long Beach was officially launched.

Next came containment of the river in concrete channels. The river-mouth was diverted harmlessly along the city front, where today the Queen Mary rides peacefully in her permanent berth adjoining Long Beach Harbor.

Nine miles of Federal breakwaters protect Port Long Beach today. More than 2500 cargo ships sailed through Queens Gate entrance and

involved in ro/ro operations are showing keen interest in obtaining business of this sort.

Clearly the attitude of shipowners is that there is still plenty of ro/ro business waiting to be tapped, and as always the ports are showing a willingness to provide terminal facilities for viable projects. For both, the prospect of ro/rolling into Europe is full of interesting possibilities.

up the 60-foot deep main channel last year, carrying over 26-million tons of commerce valued at \$2-billion.

Japan is far and away our biggest customer, accounting for 25 percent of the total tonnage and 34 percent of the total valuation of all commodities moved through the port.

Cargo shipped to and from Japan via Port of Long Beach topped 6.4-million tons, with a valuation of \$685-million. Of this, \$439-million was outbound and \$246-million inbound.

Altogether, the Far East trading area accounted for two tons out of every three handled in Long Beach Harbor last year. This compares to 16 percent for Latin America, 11 percent for Europe, 3 percent for Canada and the remaining three percent with African and the Middle East.

Clearly, our greatest growth in the future lies with those nations located around the vast Pacific Rim, with Taiwan, Korea, the Philippines, Australia and New Zealand.

Recent months have seen the first opening in the Great Wall of China, as the slumbering giant stirs after decades behind the bamboo curtain. And Russia, already carrying a sizeable portion of cargo between Japan and the U.S. West Coast, appears on the brink of becoming a major trading power on her own.

Located at the hub of the Southern California market place, second largest in America and far bigger than most states, Long Beach Harbor is itself a vast complex containing 61 deep water (36 to 46 feet) berths located on 38,000 lineal feet of fireproof wharves, built by dredging channels and basins to the greatest depths of any U.S. port.



Mr. Thomas J. Thorley

The main channel from the Queen's Gate entrance of the Long Beach breakwater has been deepened to 60 feet over its entire four mile length, as are portions of the back channel and the vast Southeast Basin. This deep water enables supertankers and supersize bulk carriers of up to 200,000 tons to proceed directly to dockside berths. No other American port has this capability.

Two million square feet of transit shed space is provided in clearspan structures of reinforced concrete, plus 600,000 square feet of warehousing, plus another six million square feet of open storage on asphalt paving.

Three major transcontinental railroads—Santa Fe, Southern Pacific and Union Pacific—provide the port with direct rail access, and nearly 1000 trucking lines offer shippers fast service via the area's freeway network, which is in turn linked to the nation's interstate highway system.

Wharf aprons at all transit shed berths carry two shipside railroad tracks, with additional tracks behind the sheds.

Completing this intermodal concept are two large container terminals, built for Sea-Land Services, Inc. and Transocean Gateway Corp. A \$30-million program to create a total of 300 acres of container facilities, including a rail-truck station, is nearing completion. When fully operable in 1973, it will provide Long Beach with four container terminals, including the largest single such facility



Long Beach, California—Aerial view of the Queen Mary at her permanent berth at Pier J with the downtown Long Beach shoreline in the background.—Long Beach News Bureau Photo (Refer also to front cover, Ports and Harbors, February issue)

on the Pacific Coast, totaling more than 100 acres alone, for Sea-Land. "K" Line's new terminal covers 51 acres.

Four bulk petroleum terminals have depths of 55 to 62 feet, with additional deepening planned for several bulk and oil berths, including Humble's new \$10-million high speed automated oil and bunkering facility.

Besides being number one for deep water capability, while fast attaining the container crown, Long Beach remains the number one port on the Pacific Coast for both dry cargo and foreign trade.

Leading inbound commodities include bulk petroleum, steel, gypsum, newsprint, lumber, bananas, salt,

plywood, copra and molasses. Outbound commodities are headed by bulk petroleum again, coke, iron ore, steel, potash, grain, steel scrap, feed grains and fresh fruit.

A new commodity has recently been added to others moving through the Port—people, people drawn by the presence in Long Beach of the Queen Mary. Nearly one million visitors have made "preview tours" of this outstanding tourist attraction during the last six months, and this unprecedented popularity is expected to escalate with the opening in mid-December of Jacques-Yves Cousteau's "Living Sea" museum, along with shops, restaurants, meeting rooms and convention facilities.

Port of Long Beach has also

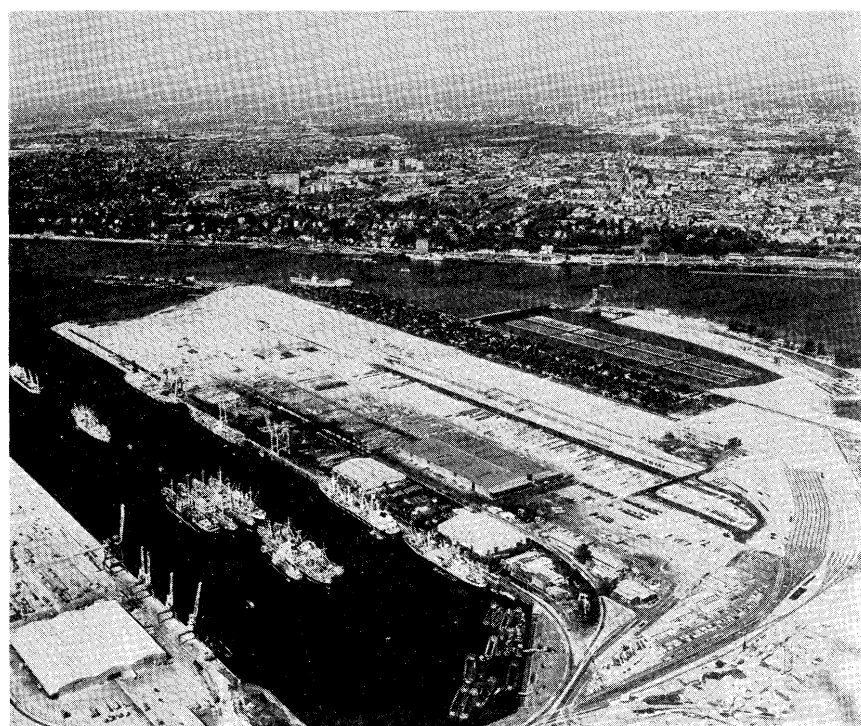
created 16 acres of land adjacent to the Queen Mary which will be used as a site for Hilton and Sheraton hotels.

Berth 55 has recently been leased to Fish Wharf and will open to the public in January with complete sportfishing and sightseeing facilities, thus rounding out Long Beach Harbor's role as a commercial and recreational complex of major magnitude.

New cargo handling terminals being completed this year and next, together with additional facilities presently being engineering, give Port of Long Beach officials every expectation that the next ten years will see the rate of growth accelerated even farther.

Hamburg in Pictures

(See front cover also.
Hamburg-Information)



↑ Port of Hamburg: In the foreground the Elb bridges (and the Autobahn) and the Overseas Centre. The white area of the Container Terminal Burchardkai in the background.

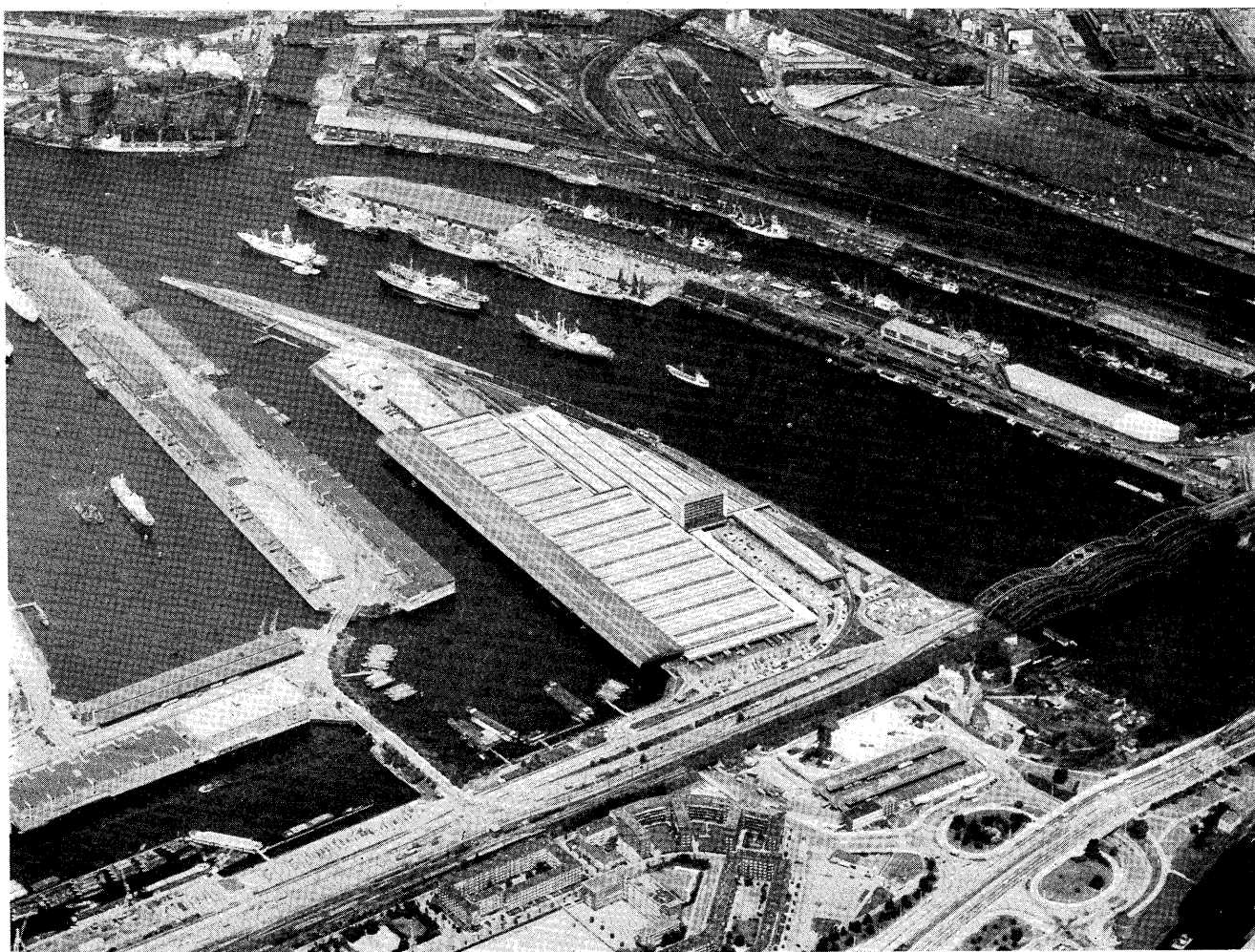
← Container-Terminal Burchardkai at the entrance to the port centre: At the moment 750.000 sq.m. of the concrete open area with 68.000 sq.m. of container vanning sheds. On the 1,7 kilometer long quayside are 8 berths for container and semi-container ships. 5 container-bridges are in use, a further 4 are being built or at the planning stage. In the left foreground further container turn-over facilities, the Euro-quay Terminal on the right the railway lines on the container station and behind the eight sections of the new Elb tunnel, through which the Autobahn to Scandinavia will be built. In the background the Hamburg districts of Othmarschen and Altona.



Container-Terminal "Burchardkai": Loading streets at the container railway station. The container express trains of the Federal Railways start from here inland.



Hamburg's central distributing facility for consolidated goods, the "Übersee Zentrum" measures 113,000 sq.m. and is Europe's largest turnover shed. Behind, the Africa Terminal which was enlarged a year ago, and which quay space was built out into the Elbe.



IMCO As Seen by IAPH

Reports by observers from IAPH at IMCO sessions

Report No. 18

Date: 22nd–26th November, 1971

Place: IMCO Headquarters, London

Session: 11th Session, Sub-Committee on Maritime Pollution

Observer from I.A.P.H.: Mr. J. H. Potter, Port of London Authority

Text of Report

1. Identification of noxious and hazardous cargoes

Certain difficulties have become evident in aligning the more scientific categories of pollutants as identified by GESAMP with those specified in Chapter VI of the Bulk Chemicals Code by the Sub-Committee on Ship Design and Equipment. A joint meeting of the three interests took place during the 11th Session of the Sub-Committee on Marine Pollution and it was agreed that the GESAMP lists as presented were not suitable for use either by the Marine Pollution or Ship Design and Equipment Sub-Committees. The Sub-Committee agreed to provide GESAMP with background information on present operational practices of chemical tankers and dry bulk carriers giving an indication of quantities discharged into the sea, their concentration and probable geographical discharge locations. The Norwegian delegation undertook to prepare a list of liquid substances and noxious or potentially noxious solid cargoes transported in bulk which would be used to prepare annexes of pollutants for the Draft Convention on Prevention of Pollution of the Sea from Ships which will be considered by the International Conference on Marine Pollution in 1973.

Comments were invited on the preliminary draft of the articles of the International Convention for the Prevention of Pollution of the Sea/Environment from Ships 1973, to be submitted in good time before the thirteenth Session of the Sub-Committee.

2. International Convention for the Prevention of Pollution of the Sea by Oil, 1954

43 States have now ratified the 1954 Convention as amended in 1962. Seven states have accepted the 1969 Amendments to the Convention. Consideration was given to the need to ensure the implementation of the provisions of the 1969 Amendments and to establish effective control measures. The Maritime Safety Committee was invited to recommend to Governments that:—

- i) all tankers are able to check the amount of oil or water in each tank by means of ullage tables;
- ii) reference tables are provided from which the theoretical amount of oil residues, collected after tank washing and deballasting, can be compared with the actual residues on board at a certain time.
- iii) Devices are developed and used to enable a determination of the amount of oil collected in slop tanks.
- iv) Automatic recording is developed of the total amount of oil discharged and the amount of oil discharged per mile.

The Sub-Committee also recognized the need for developing an international standard method of identifying oil in samples taken from the surface of the sea to compare with samples taken from ships and Governments were invited to supply information on research progress in this field and in the development of standard methods of sampling and analysis of oil or oily mixtures.

It was recommended that the amended form of Report on Incidents Involving Spillages of Oil into the Sea should be brought to the attention of Governments so as to implement the Resolution A 189(VI) on this subject.

3. The provision of oil reception facilities in Ports, including facilities for ore/bulk/oil carriers (OBO)

Further information has been received which together with future replies will be incorporated in a revised edition of the 1964 IMCO Publication "Facilities in Ports for Reception of Oil Residues".

4. Measuring Devices

The government of France has submitted comprehensive technical details of a quick-response oil content meter which was first reported at the 9th Session.

5. Manuals for avoiding and dealing with Oil Pollution

The U.K. delegation is to consider comments and material submitted by governments on the draft manuals with a view to finalizing the document at the 12th Session. The Sub-Committee further considered the desirability of developing a more comprehensive manual on marine pollution as a whole with contingency planning, training, research, early warning systems and international co-operation annexes to a general section on principles and basic problems. Reference was made to the dangers of oil pollution during ship to ship and normal berthside loading/unloading operations and to the guidance given in the Tanker Safety Guide and the Tanker Terminal Safety Guide published and to be reviewed by the International Chamber of Shipping.

6. Intergovernmental Working Group on Marine Pollution

The Group at its meeting in Ottawa in November 1971 formulated a series of guiding concepts as a basis for agreement on general guidelines for the preservation of the marine environment. They also agreed a preliminary document which would provide a good basis for the preparation of a submission to the 1973 Stockholm Conference on a comprehensive plan to preserve the marine environment. The Group considered draft Conventions on "Ocean Dumping" including one prepared by a Conference on Marine Pollution held in Oslo in October 1971.

(Continued on Next Page Bottom)

Orbiter Probe

IAPH News:

New Exec. Com. member

Mr. D. E. Taylor, Chairman, National Harbours Board of Canada, has been appointed to the Executive Committee of our association by Mr. A. Lyle King, IAPH President (Director of Marine Terminals, Port of New York Authority) on March 20, 1972. Mr. Taylor succeeds Dr. Pierre Camu (Administrator, Canadian Marine Transportation Administration) who resigned from the Executive Committee membership.

Meanwhile, Canadian members of IAPH elected Mr. D. E. Taylor as Director for Canada effective April 1, 1972 to replace Dr. Camu, and agreed to have Mr. J. H. W. Cavey (Chief, Harbours and Ports Division, Ministry of Transport) to continue to serve as Alternate Director for Canada.

Travelers

Mr. Ben. E. Nutter (Executive Director, Port of Oakland) called on the Secretary General Mr. Toru Akiyama on appointment at the I.A.P.H. Head Office on Saturday, March 4 at 10:00 a.m. and stayed for an hour. Mr. Nutter was accompanied by Mr. W. A. Abernathy, Deputy Executive Director, and Mr. S. Kuwata, Director, Far East, of Port of Oakland.

7. The 12th Session of the Subcommittee

The next session in early March 1972 is to be primarily devoted to consideration of the preliminary reports on the studies initiated at the tenth session, the general principles of a draft instrument for the 1973 Conference, the finalizing of the Manual for dealing with oil spillages and the identification of noxious and hazardous substances.

Seaway Ice Bulletin

Ottawa, March 22, 1972:—Seaway Ice Bulletin No. 4.

General Information

Seaway Notice No. 1 of 1972 indicated the opening dates of the Seaway, weather and ice conditions permitting. To date ice thicknesses in the Montreal-Lake Ontario section are approximately 20% less than in 1971, and are similar to those experienced in 1970. Weather conditions have averaged below normal for the past 30 days.

Montreal-Lake Ontario Section

In this section the ice cover is extensive and problems have been experienced in the upper river with respect to the water regulation of the upper river and Lake Ontario, which resulted in the late departure of the CCGS "SIMCOE". The CCGS "SIMCOE" proceeded up river from Prescott on March 20 commencing to break an ice track. The CCGS "MONTCALM" is working in the eastern end of Lake St. Louis, encountering up to 29 inches of blue ice. In addition it has not been possible as of this date to fully determine the extent of the frazil ice bank that exists in the westerly end of the Lake. The Saint Lawrence Seaway Development Corporation tug "ROBINSON BAY" has made a 300 foot broken ice track between Snell and Eisenhower Locks. The "ROBINSON BAY" is expected to be working above Eisenhower Lock commencing March 23. The transiting of Lake St. Francis by icebreaker is dependent upon the opening of the Galop and Beauharnois ice booms.

In general, with the atmospheric conditions experienced to date, there has been no appreciable indication of ice deterioration and, therefore, unless there is a radical improvement in weather conditions,

the opening of the 1972 navigation season may be delayed by an anticipated five days beyond the official opening date of April 1.

At the Lake Ontario entrance to the river, there is a strip of open water 3 to 4 miles wide extending out westerly of Wolfe Island with an open lead developed about 8 miles west of Wolfe Island. Remainder is 6 tenths broken ice and deteriorating floes extending about 3 miles beyond main Duck Island. St. Lambert to Lake St. Louis—broken ice track

Lake St. Louis—icebreaking activity taking place ice \pm 29 inches

Entrance to Lower Beauharnois—17 in. ice, 9 in. crust, 5 in. snow

Beauharnois Canal—23 in. ice
Lake St. Francis—8-22 in. ice, 0-7 in. crust, 0-7 in. snow

Wiley-Dondero Canal—15 in. ice, 5-7 in. crust

Lake St. Lawrence—0-6 in. ice, 8-22 in. crust, 0-1 in. snow

Below Iroquois Lock—6 in. ice, 9 in. crust

Above Iroquois Lock—11 in. ice, 12 in. crust

Prescott-Wolfe Island—6-14 in. ice, 3-8 in. crust, 0-1 in. snow

Lake Ontario Entrance—15 in. ice, 7 in. crust

Welland Canal—Lake Erie

The eastern portion of the lake from Port Colborne to Buffalo is 9 to 10 tenths ice covered with ice thicknesses varying from 16" to 40" and light to heavy ridging particularly east of Point Abino. Several cracks have developed off Port Colborne. The remainder of the Lake west of Port Colborne to the Detroit light is 4 to 9 tenths ice covered with ice thicknesses generally varying from 6" to 10". Several large open leads have developed in this section. The opening date for the Welland Canal is still scheduled for 0800 on March 29 and, provided weather conditions remain favourable and wind conditions are moderate, delays to navigation should not be extensive. (The St. Lawrence Seaway Authority)

Outline of P.I.A.N.C.

The Permanent International Association of Navigation Congresses (P.I.A.N.C.) is an international technical non-political, non-profit-making organization whose headquarters are in Brussels, Résidence Palace, Quartier Jordaens (rez-de-chaussée), 155, rue de la Loi, 1040—Brussels (Belgium).

It exists in its present form since 1902 though its origin can be traced back as far as 1885.

Its object is to promote both inland and ocean navigation by fostering and encouraging progress in the design, construction, improvement, maintenance and operation of inland and maritime waterways (rivers, estuaries, canals, port approaches), of inland and maritime ports and of coastal areas, for the benefit of mankind.

This is achieved by assembling and publishing information about subjects in its field; by undertaking studies into particular problems; and by international congresses and international and national committees, through which the experience and researches of members may be exchanged. The knowledge so obtained is made available without exception to all whom it may benefit.

The two official languages of the Association are English and French.

Its affairs are managed by a Permanent International Commission assisted by an Executive Committee.

The Executive Committee is composed of two Presidents:

—Mr. Omer Vanaudenhove, Minister of State, Brussels;

—Prof. Gustave Willems, Hon. Secretary General of the Ministry of Public Works, Brussels, and a Secretary General:

—Eng. Henri Vandervelden, Director General of the Office of Navigation, Brussels.

The Association consists of:

—delegates of Governments that grant an annual subsidy to the Association;

—corporate members;

—individual members.

The principal rights of members are:

- to take part in the Congresses;
- to receive, free of charge, the publications of the Association issued since their enrolment;
- to submit papers for the Congresses and articles for the Bulletin.

At the present time, the Association is sponsored by 48 Governments and two international organizations. The total membership is approximately 3000 whereof about 1/4 are corporate members.

The Association's principal activities are:

- (a) The four-yearly *Congresses* comprising a Section for Inland Navigation (S.I.) and a Section for Ocean Navigation (S.II).

The 23rd Congress will take place in Ottawa from 9 to 18 July 1973.

The programme of subjects which will be dealt with at that Congress may be obtained, free of charge, from the General Secretariat, in Brussels (see N.B. at the end of this Notice).

- (b) *The International Study Commissions*. The following are at present in operation:

1. International Commission for the study of the force of waves;
2. International Commission for sport- and pleasure navigation;
3. International Oil Tankers Commission.

- (c) *Technical publications*:

1. Papers submitted for the Congresses (12 volumes per Congress).
2. Proceedings of the Congresses (one volume per Congress).
3. Bulletin of the P.I.A.N.C. (technical articles and administrative reports).
4. Illustrated Technical Dictionary in six languages (English, French, German, Spanish, Italian, Dutch) Nine of the ten chapters (i.e. volumes) have been published so far.
5. Reports of the Study Commissions.

6. Miscellaneous publications.

N.B. Requests for information concerning the Association, conditions for membership and for attending the 1973 Congress in Ottawa, etc. . . . should be addressed to:

The Secretary General,
Permanent International Association of Navigation Congresses,
Résidence Palace,
Quartier Jordaens (rez-de-chaussée)
rue de la Loi, 155,
1040 Brussels (Belgium)

Containers via Seaway

Ottawa:—The container revolution is undoubtedly the leading topic of discussion in the field of transportation today. In comparison to conventional breakbulk methods of cargo handling, this new technology offers numerous benefits to shippers and carriers. The principal advantage of containerization to the carrier is that it permits a speedier turnaround of a carrier unit, thus cutting down costly idle time spent in loading and unloading. To the shipper, container usage offers savings in transport costs and thus improves the marketability of his goods. These savings are derived from speedier transit times, less pilferage and damage to goods, reduced cost of packaging and lower inventory requirements.

In order to promote the utilization of this revolutionary method of transport in the Great Lakes—St. Lawrence waterway, the two Seaway entities have provided some incentives in the area of toll charges. In 1968, the tariff of tolls was amended to exempt from assessment empty containers which previously were charged the general cargo tariff. This year, bulk commodities transported in containers were reclassified from the general cargo to the bulk cargo category. These toll amendments applied to containers measuring 640 cubic feet or more. Other incentives aimed at encouraging container traffic growth on the St. Lawrence Seaway are presently under consideration.

The St. Lawrence Seaway has experienced a notable increase in

NPC Book :

Navigational Aids in Harbors and Port Approaches

Port executives who find it difficult to assess the relative merits of the wide selection of aids to navigation now on the market should find helpful the results of a new survey by the National Ports Council, published today. The report, 'Navigational Aids in Harbours and Port Approaches'* contains a 'shopping list' of equipment available, with comments on their advantages and disadvantages, their stated accuracy, and their cost.

In recent years there has been a rapid development in the design of aids to navigation, particularly those based on radio, radar or sonar, and ports are faced with a wide choice of alternative systems and equipment. The Council sponsored

the study (for which a financial contribution was made by the Department of the Environment) to assist port authorities to quantify the benefits of available aids, and to assess foreseeable requirements for the benefit of port authorities, lighthouse authorities, shipowners and equipment manufacturers.

The report has two main sections: an analysis of the ways in which navigational aids are or could be used in port areas, and a technical survey of available equipment.

Technical Survey

Systems and equipment covered in the technical survey include:

Dead reckoning aids.

Lighthouses and buoys.

Radio aids, including radio direction finding, hyperbolic position finding aids, satellite navigation, and high positional accuracy aids which are currently used in survey work but are likely to be

developed for navigational purposes because of the increased degree of accuracy needed for handling larger vessels.

Radar, including standard marine radars; anti collision aids based on computers, marker systems and recording systems; harbour radars and data links; and radar transponder beacons.

Berthing aids, based on sonar, radar and optical tracking.

Leaders and leading lines, including coded microwave leader beacons in straight channels and leader cables in winding channels.

Communications equipment — a general discussion of tele-communications systems, including radio, telephone and electrical conductor systems.

Port Navigation Services

The first section of the report examines the problems of navigation in the congested and restricted waters of ports and their approaches, and attempts to assess the cost of marine incidents stemming from these problems. The role of navigational aids in improving the situation is discussed in general terms, and particular attention is given to the role and operation of port navigation services. The survey team visited a number of ports where such services are in operation, and found that in most cases the service was under utilized; for example, where route planning information was provided little use of this was made by the vessels for which it was intended. An explanation for this may be the natural independence of the shipborne personnel, together with some scepticism of the competence of the shore staff and the reliability of the equipment, the report suggests, and adds:

'Practising mariners may be reluctant to be directed by men who have not been to sea recently—or at all—and confidence in the competence and reliability of the shore staff and equipment can only be built up through practice and use'.

The report advocates a programme of training and education in which all sides—ships' masters, pilots, and shore staff—are involved; and suggests that consideration might be given to the restructuring of the shore

**Navigational Aids in Harbours and Port Approaches*. Published by the National Ports Council, 17 North Audley Street, London W1Y 1WE. Price £5.00

container traffic since 1968, the first year The St. Lawrence Seaway Authority began compiling data on this type of traffic. An increase from 7,854 containers with 85,289 tons in 1968 to an estimated 15,500 containers with 321,000 tons in 1971 has been recorded on the Montreal-Lake Ontario section of the Seaway, representing an annual rate of growth of 25 per cent in the number of containers and 56 per cent in container tonnage. This container traffic represents a relatively small proportion (4% in 1971) of total general cargo traffic on the Seaway for the principal reason that over two-thirds of general cargo commodities shipped on the Seaway are not suitable for containerization.

A successful container operation requires a rapid movement of cargo both in transit and at the port terminal and, for this reason, vessel carriers have been faced with the challenge of finding new approaches to mitigate the transit limitations

inherent to the Seaway system. Manchester Liners Ltd., for example, has inaugurated a container feeder system whereby specially designed lake container vessels transfer cargo at Montreal to and from large ocean container vessels in order to service ports in the Great Lakes. Other vessel systems such as the LASH and the SEABEE may well be destined to play an important future role in the Great Lakes-St. Lawrence container trade.

It is apparent, therefore, that the St. Lawrence Seaway is very much involved in the tremendous expansion of container traffic which is taking place both in Canada and the United States, and the Seaway entities will pursue their efforts to encourage continued growth of containerization in the Great Lakes-St. Lawrence Seaway system. (The St. Lawrence Seaway Authority Monthly Traffic Review, November, 1971)

staff organization to foster general good relations with mariners at sea and recognition of the role of the shore staff as important to the running of the port.

The survey was carried out by a project team consisting of Captain J. C. Derby (on secondment from the Port of London Authority); Mr. C. Foxwell (EA Space and Advanced Military Systems Ltd.) and Mr. M. J. Younger (National Ports Council), supervised by Mr. A. S. Harding (N.P.C.). The work was progressed by a Steering Group on which the following bodies were represented: Admiralty Surface Weapons Establishment; Chamber of Shipping; Department of the Environment; Department of Trade and Industry; Dock and Harbour Authorities' Association; National Physical Laboratory; Port of London Authority; Royal Radar Establishment; Marine Pilotage Branch of the Transport and General Workers' Union; Trinity House, and the United Kingdom Pilotage Association.

22nd February 1972

Tonnage record for NHB

Ottawa, Ontario, Canada, March 17:—The total cargo tonnage handled at ports under the administration of the National Harbours Board was 93.7 million tons in 1971, a level never reached before. This was announced today in a press release issued by the Board.

Total tonnage increased by 6.9 million tons in 1971, and this represents an increase of 7.9% over 1970. The cargo handled at Vancouver: 35.2 million tons, at Quebec: 11.0 million tons and at Belledune: 248 thousand tons also

represent traffic records. The Board also points out that Vancouver became, by topping 35 million tons, the leading Canadian port. The table hereunder shows the traffic for each port in 1970 and 1971 with percentage increase or decrease.

Also of interest, it is noted that 33,977 vessels used NHB facilities in 1971 compared with 32,587 the previous year. The net registered tonnage rose from 72.2 million tons in 1970 to 82.2 million tons in 1971, and the average size of the ships visiting the ports under the administration of the Board also increased from 2,216 tons in 1970 to 2,420 tons in 1971.

With regard to grain, it should first be stated that the figures relate to the elevators at Vancouver, Churchill, Port Colborne, Prescott, Montreal, Trois-Rivières, Quebec, Saint John, N. B. and Halifax. In 1970, grain handled at these elevators totalled 590.7 million bushels and in 1971, it amounted to 616.3 million bushels, an increase of 4.4% over the previous year. (National Harbours Board Press Release)

Mrs. Guy Beaudet

Montreal, Quebec, March 15:—Compagnie Générale Transatlantique Paris is pleased to announce that the godmother of its new roll-on/roll-off vessel, the M.V. "MONT LAURIER," will be Mrs. Guy Beaudet, wife of the former Port of Montreal Manager, who was recently appointed Member of the National Harbours Board.

Mrs. Guy Beaudet will christen the M.V. "MONT LAURIER" on March 16, 1972 at the Wartsila shipyards in Turku, Finland and

this new unit of "Transat" will be operated starting in April 1972 by Canada RoRo Express Line—Care Line, which will offer, effective March 1972, the first roll-on/roll-off service between Scandinavia, the Continent and the Ports of Montreal and Quebec.

Partners of Canada RoRo Express Line—Care Line, in addition to Compagnie Générale Transatlantique Paris, are Swedish American Line Gothenburg and Wallenius Lines of Stockholm.

The christening of the M.V. "MONT LAURIER" by Mrs. Guy Beaudet will be twinned with that of the M.V. "MONT ROYAL" an identical ship owned by Swedish American Line and the wife of its President, Mrs. Leif Janson, will be her godmother.

The "MONT LAURIER" under the French flag and the "MONT ROYAL" under the Swedish flag, will both be joined in the service of Care Line by two other identical sister ships, the "MONTMORENCY" in September 1972 and the "MONT LOUIS" in December 1972. With a speed of 17 knots and a deadweight capacity of 5,100 tons, these vessels have been designed to allow the loading from the stern door of any type of rolling stock or bulk commodities. Each vessel is also equipped to accommodate 20 ft. and 40 ft. containers on deck to a maximum capacity of 132,20 ft. equivalent.

Ice strengthened, Care Line vessels will maintain a year-round service at the Ports of Montreal and Quebec which have the necessary ramps for the ships' requirements. (National Harbours Board Montreal Harbour News Release)

Canports Seminars

Toronto, Ont., March 6:—"Transporama—Canada '72" will be the theme of the Canports Seminar which will be held at the Automotive Building, Exhibition Park, Toronto, April 18 and 19, 1972. Canports Seminars is the educational arm of the Canadian Port Committee.

The seminar will be held in conjunction with a containerization and cargo handling exhibition, which will also be held in the Auto-

Harbours	1971	1970	%
Vancouver	35,301,753	27,158,913	+29.9
Churchill	792,671	804,111	- 1.5
Montreal	23,766,460	25,047,299	- 5.2
Trois-Rivières	3,896,468	5,364,914	-27.4
Quebec	11,060,221	8,859,884	+24.8
Chicoutimi	635,561	616,735	+ 3.0
Belledune	247,653	219,029	+12.7
Saint John, N.B.	5,803,304	6,359,144	- 8.8
Halifax	11,307,747	11,577,000	- 2.4
St. John's, Nfld.	868,541	772,304	+12.4
Total cargo tonnage	93,680,379	86,779,330	+ 7.9

motive Building, Exhibition Park, Toronto, April 18-20, 1972.

The first two sessions of the seminar will deal with the articles of the T.C.M. Draft Convention, and have been entitled "U.K.—European Views on New Rules for Combined Transport" and "A Canadian View and Suggested Changes in Law for combined Transport." Rounding out the first day of the seminar will be sessions entitled "Handling Bulk Cargoes—Canada '72" and "Let's Talk About Canadian Ports and Harbours." In the morning of the second day of the seminar the program will feature sessions which will deal with "Intermodal Transportation—Canada '72" and "The Unit Load Concept—Canada '72". In the afternoon, the seminar will wind up with "Containerization Services and Related Problems—Canada '72" and "Transportation Is the Name of the Game."

The seminar has been designed to provide Canadian Port users with an "in depth" understanding of the progress which has been made in the physical handling of cargo and the streamlining of international documentation and port services. To accomplish this objective, the sessions have been manned with well-known and respected individuals, having a wide and varied knowledge of marine transportation. (Canadian Port Committee)

New Tariff available

Agana, Guam, March 16:—Jose B. Sarmiento, Manager of the Commercial Port of Guam, announced today that Governor Carlos G. Camacho has approved a New Commercial Port Tariff to become effective May 15, 1972.

The new tariff replaces the tariff issued March 1, 1965. Although labor costs have risen over 130% in the seven year interval, the rates had remained unchanged. Operating losses have been subsidized by the Government of Guam.

The new tariff also includes a wharfage charge for the first time on Guam. The estimated million dollars per year revenue will be used for future port expansion. The Port is now finalizing a five year master plan which will require in

excess of 15 million dollars during the five year period.

Requests for copies of the new tariff should be sent to Mr. Jose B. Sarmiento, Manager, Commercial Port of Guam, P.O. Box 1445, Agana, Guam, 96910. (Commercial Port of Guam Press Release)

Laker self-unloader

Buffalo, N.Y.:—Buffalo waterfront observers recently witnessed an unusual and eventful sight at Seaway Piers. The Crispin Oglebay, a self-unloading lake vessel, transferred 6,000 tons of coke directly into the hold of an ocean freighter, the Corona Australe. The shipment of export coke is bound for Italy. In Buffalo, this marked the first time that coke was transferred from laker self-unloader to an ocean vessel.

During the ship-to-ship operation, the Mid-Continent Coal and Coke Company, an NFTA tenant at the Port of Buffalo, loaded 7,100 tons of coke into the foreign ship from dockside utilizing an efficient, new, high-reaching conveyor boom. (Port of Buffalo Progress Bulletin, December 1971)

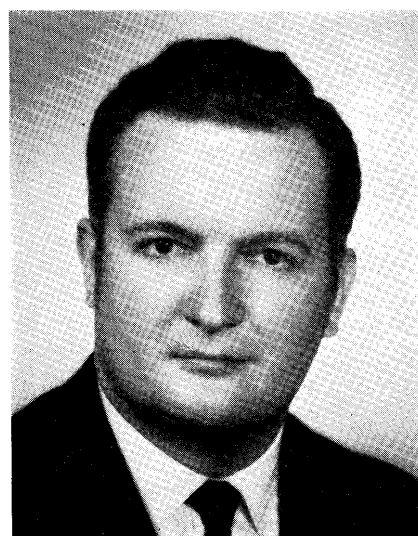
Clean Channel Association

Houston, Texas (Special), March 1:—In a move to clean up any oil spills which might occur within their area of operations, eight major oil/petro-chemical companies on the Houston Ship Channel have formed the Clean Channel Association.

The members comprise about 85 per cent of the firms transporting oil along a 25 mile stretch of the Channel from the Port of Houston Turning Basin to Baytown where the Ship Channel enters Galveston Bay. They plan to combat spills by individual and collective action, but have also contracted with a private firm specializing in such activity to handle spills beyond their own capabilities.

The firm is Marine Maintenance, Inc., and R. Y. Rankin, of Atlantic Richfield Company, chairman of Clean Channel Association is urging other agencies, companies and contractors not in the Association to utilize such specialized services, as well.

Rankin said that when such



William S. Eckert (photo above) has been named Deputy Port Director for Terminals and Cargo Handling at the Port of New Orleans. As Deputy Port Director Eckert will head the Docks Department, which supervises the usage of wharves. He will report to Associate Port Director Henry G. Joffray. (Port of New Orleans News Release)

commercial services are unavailable requests for assistance may be made to the Clean Channel Association and that members will make their facilities available insofar as possible. These are to be financially reimbursed only to the extent of actual cost and not any profit for the Association.

Besides Atlantic Richfield member companies are, Charter International Oil Company, Ethyl Corporation, Humble Oil and Refining Company, Petro-Tex Chemical Corporation, Shell Oil Company, Texaco, Inc. and Warren Petroleum Company, a division of Gulf Oil Corporation. (Port of Houston News Release)

1971 traffic figures

New Orleans, La., March 14:—The Port of New Orleans handled a total of 22,723,882 short tons of cargo in foreign commerce, worth \$3,405,000,000, during calendar 1971 according to figures supplied by the U.S. Department of Commerce.

While the total tonnage was down 0.4 percent from the previous year, the value—an all-time high—



New Orleans, La.:—The Napoleon Avenue wharf complex, foreground, is downriver from the Public Grain Elevator, left background. Foreign-Trade Zone No. 2 is behind the wharf. (Port of New Orleans)

rose 5 percent. New Orleans is the traditional second port in the United States in the value of its foreign commerce.

In tonnage of exports and imports combined, Europe led all world areas with 8,353,455 tons or 36.7 percent of the total. Asia was second with 6,409,500 tons or 28.2 percent of New Orleans' total. Following were Central America (which includes Mexico and the Caribbean) with 3,699,555 tons or 16.3 percent, and South America with 2,724,897 tons or 12.0 percent. Africa followed with 1,000,565 tons or 4.4 percent.

The Latin America total was 6,424,452 tons or 28.3 percent.

Leading nations in combined export-import tonnages, in the order named by the Department were: Japan—3,200,704 or 14.1 percent; Italy—1,909,896 or 8.4 percent; West Germany—1,611,523 or 7.1 percent; Venezuela—949,636 or 4.2 percent; the Netherlands—819,053 or 3.6 percent. The United Kingdom and France were next with 2.9 each, followed by the Republic of Korea and Trinidad and Tobago with 2.6 percent each. Brazil followed with 561,028 or 2.5 percent.

In the value of imports and exports combined, European nations

collectively topped all others with a total of \$1,137,000,000 or 33.4 percent of the total. Asia was second with \$1,018,000,000 or 29.9 percent, followed by South America with \$532,000,000 or 15.6 percent. Central America (including Mexico and the Caribbean) had \$384,000,000 or 11.3 percent and Africa totaled \$258,000,000 or 7.6 percent, with Australia and Oceania totaling \$73,000,000 or 2.1 percent. The Latin America total for 1971 was \$916,000,000 or 26.9 percent.

The four leading nations in the value of trade via New Orleans were Japan—13.6 percent; West Germany—7.4 percent; Brazil—5.2 percent and Italy—4.8 percent. All four registered increases in this category over 1970 totals. France, registering \$89,000,000 or 2.6 percent, registered a 24 percent increase over its 1970 total.

The port's 1971 exports totaled 14,201,751 short tons, a decline of 7 percent, and imports totaled 8,522,131 for an increase of 13 percent. Total imports from Japan amounted to 1,265,477 tons, a 36 percent increase over the preceding year.

In the value of its exports, New Orleans had a grand total of \$2,032,000,000, down 2 percent, while

value of its imports was \$1,373,000,000, up 17 percent. Japan led in this category with \$299,000,000 and 21.8 percent, for a 46 percent increase. Brazil and West Germany registered 42 and 32 percent gains, respectively, in this same classification.

Labor disputes in October and November, 1971, accounted, in large measure, for declines in various categories. (Port of New Orleans News Release)

Channel improvement

New York, March 14:—United States Senators and Representatives from the New Jersey-New York Port District have been urged by the Port Authority to support appropriations of \$11,901,000 for the United States Army Corps of Engineers to carry out five vital New York Harbor improvements in Fiscal Year 1972.

The appropriations requested for individual projects our studies are:

- \$5,500,000 to deepen the New York Harbor Anchorages;
- \$4,676,000 to continue improvements on Newark Bay and the Hackensack River;
- \$1,500,000 to complete about one-half of the deepening of the East River Spur Channel to the Astoria waterfront;
- \$200,000 to initiate a Corps of Engineers study of Atlantic Coast Deepwater Port Facilities;
- \$25,000 to conclude a study of deepening of the East River and Steinway Creek;

In letters to the Port District Congressional delegation dated March 10 and made public today, Matthias E. Lukens, Acting Executive Director of the Port Authority, pointed out that all but one of the projects, the East River Spur Channel, were in the President's Budget. He attributed the budgeting of these sums to successful past efforts by Port District Congressmen in conveying to responsible officials the importance of the New Jersey-New York port projects.

In addition, the Port Authority requested Congressional support for release of Congress' appropriation of \$80,000 for the important New York Harbor Collection and Re-

removal of Drift project in Fiscal Year 1972, still being withheld by the Office of Management and Budget. This would permit start of work on the long overdue waterfront cleanup project.

The bi-state agency also asked Congress to give priority attention to a Corps of Engineers study of alternatives to offshore disposal of dredged spoils. If no alternative is provided to offshore disposal, necessary dredging for waterway and port development projects would be curtailed or possibly eliminated. (News from The Port of New York Authority)

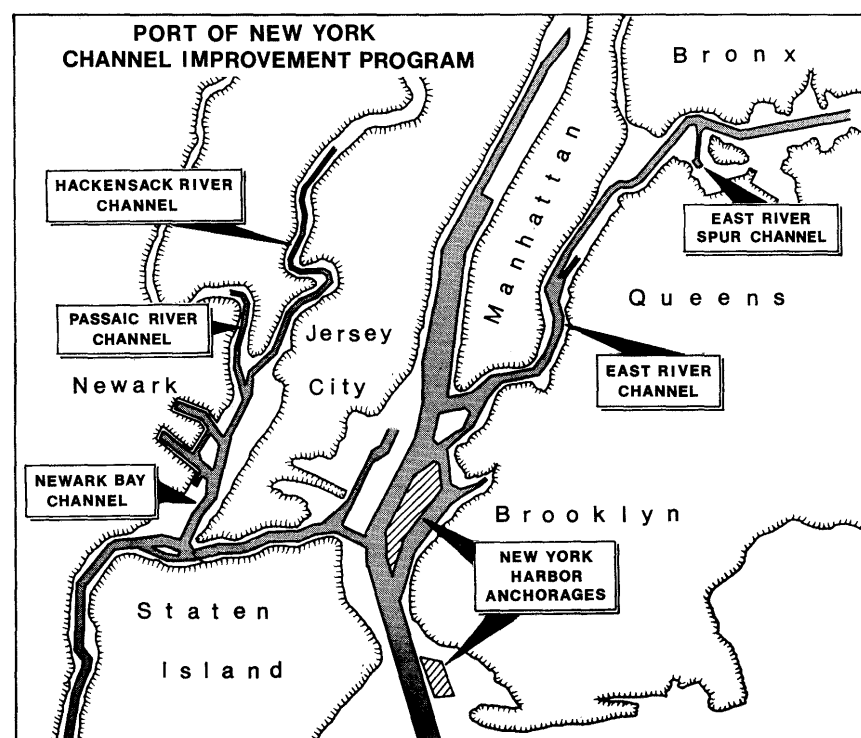
3 contracts awarded

New York, March 9:—Three construction contracts totaling \$2,392,446 for work at the Elizabeth-Port Authority Marine Terminal and Port Newark were awarded by the Port Authority according to an announcement today by Chairman James C. Kellogg, III, following the monthly meeting of the Commissioners of the bi-state agency.

The first contract for \$1,364,133, covers paving and utilities for a portion of the new 232-acre container facility to be operated by Sea-Land Service, Inc. at the southeast section of the Elizabeth terminal. It was awarded to Gallo Asphalt Corporation of Irvington, New Jersey. This work includes paving of the wharf at Berths 90, 92 and 94 and of 35 acres of upland area adjacent to these berths. Water, sanitary and storm drainage systems also will be furnished and installed under the contract. The job will begin immediately and be completed this fall.

A second contract, for \$779,679, calls for paving at the new 87-acre facility to be operated by Maher Terminals, Inc. along Newark Bay. It was awarded to Halecrest Company of Edison, New Jersey. This work, which includes the placement of asphaltic concrete on some 32 acres of upland area at Berths 80, 82 and 84, also will begin immediately and be completed early this summer.

Another contract, for \$248,634, covering paving and utilities at Berths 21 and 23 along Port Newark Channel was awarded to Ro-



bert Bossert & Co., Inc. of Newark, New Jersey. The job includes installation of trackage, crane rails and water supply system, and the placement of asphaltic concrete. Work will begin immediately and will be completed this summer. (News from The Port of New York Authority)

Elizabeth Marine Terminal

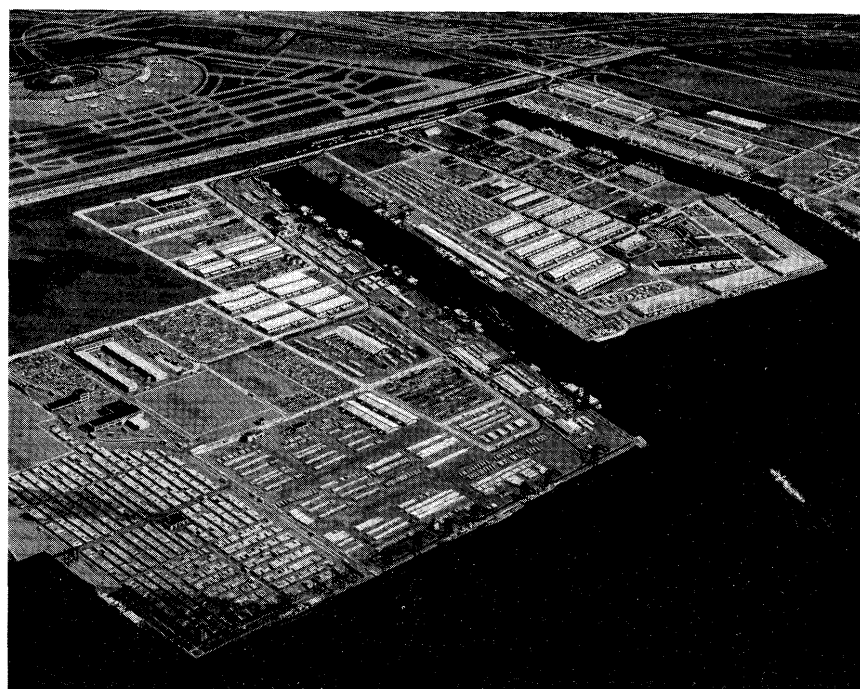
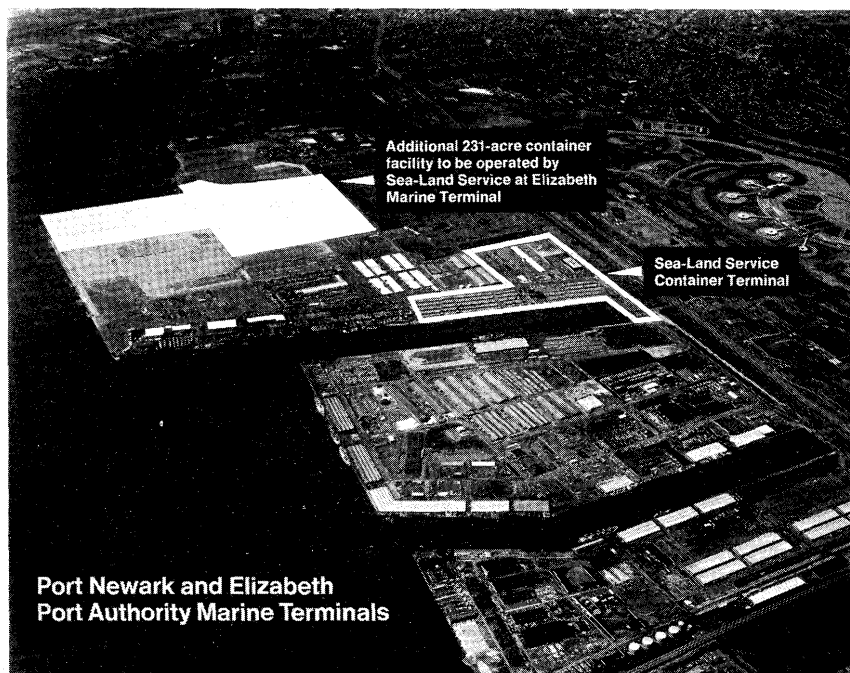
New York, March 9:—A new 232-acre container facility with almost a mile of berthing space at the Elizabeth-Port Authority Marine Terminal on Newark Bay will be leased to Sea-Land Service, Inc. to accommodate its expanding worldwide container operations. Plans for the new facility, which will substantially complete the development of the Elizabeth marine terminal, were announced today by Port Authority Chairman James C. Kellogg, III, following the monthly Board meeting of the bi-state agency.

Sea-Land, pioneer containership company, was the first tenant at the Elizabeth seaport when it opened ten years ago. From its existing 132-acre terminal at Elizabeth, Sea-Land now offers ten scheduled sailings a week and serves trade routes around the world with a fleet of 61 containerships.

The new facility is being developed in the southeast section of the Elizabeth seaport. Construction of the area is already under way, with completion scheduled for 1973. The new container terminal will accommodate all the needs of Sea-Land's SL-7 super-containerships, scheduled to enter service this summer. These 33-knot vessels, 942 feet long and 105 feet wide, will be able to carry 27,000 tons of containerized cargo. The new facility will provide 4,519 feet of berthing space, 40-foot-depth berths, a turning basin and wider access channels to the berths.

A new 25-year lease with Sea-Land, at an annual rental of \$11.2 million, covers the new 232-acre container terminal and Sea-Land's present 132-acre facility. Under the lease, the Port Authority will reimburse Sea-Land for construction of cargo buildings and an entry complex. Special container handling facilities, including crane rails, foundations and utilities will be constructed by the Port Authority.

Already the world's largest and most modern containership facility, the Elizabeth marine terminal is handling a steadily increasing volume of goods shipped in containers to worldwide markets. Upon completion in 1973, the \$205 mil-



lion Elizabeth seaport will have over three miles of containership berthing space. When fully operational, the facility is expected to handle 12 million tons of containerized cargo a year.

ICHCA U.S. conference

Oakland, Calif., March 2:—Twenty-three panelists and discussion moderators who will participate in the upcoming International Cargo Handling Coordination Association (ICHCA) technical conference

were announced today.

The announcement was made by Ben E. Nutter, Executive Director of the Port of Oakland, President of the U.S. National Committee of ICHCA and general chairman of the conference. The conference, expected to attract shipping and transportation executives from throughout the world, will be held April 20-21 at the Hilton Inn in Oakland, Calif.

Panelists will discuss topics related to efficient freight movement

during the course of the two-day symposium.

Topics and panel members are:

—"Innovations in Marine Terminal Design and Operation." Edward G. Westerdahl, Executive Director of the Port of Portland, will serve as moderator. Panelists will be William Hagenzieker, Senior Vice President, Universal Terminal & Stevedoring Corp., New York; P. Meeusen, Meeusen Consultants, Barendrecht, Holland; Nicholas Stiglich, Eness Research & Development Corp., Westwood, N.J.; and Ralph Krueger, Project Manager, Ports and Terminals, Kaiser Engineers, Oakland.

—"New Developments in Refrigerated Cargo Movements." Professor Harald Burmeister, Dept. of Business Administration; University of California, will be the moderator. Panelists include William Goddard Jr., U.S. Dept. of Agriculture; F. Gordon Mitchell, Agricultural Extension Service, University of California, Davis; Luigi Fabiano, Vice President of Centro Italiano Study Containers, Genoa, Italy; A. R. Middaugh, President, Monfort of Colorado International, Inc., Greeley, Colo.

—"Air Cargo Intermodal Handling and New Developments." Al Bienn, Manager of Air Cargo Analysis and Development for the Boeing Co., Seattle, will serve as moderator. Lloyd Eber, Staff Engineer, United Airlines, San Francisco; Helmuth F. Klumpp, General Manager-Cargo, Lufthansa German Airlines, Frankfurt, Germany; and Robert Brawner, Director of Terminal System Planning, Flying Tiger Line, will be the panelists.

—"Load Center/Feeder Systems Port Relationship." Moderator will be Chris Redlich, President of Marine Terminals Corp., San Francisco. The panel will be made up of Douglas Lathrop, Senior Analyst, Manalytics Inc., San Francisco; Melvin Shore, Director, Port of Sacramento; R. B. Osborne, Manager of Intermodal Transportation, South Railroad System, Atlanta, Ga.; and George J. Gmelch, Vice President of Operations, Pacific Far East Line, San Francisco.

—"Labor Practices and Port Productivity." Miriam E. Wolff,

Director of the Port of San Francisco, will serve as moderator. Panelists will be J. F. Parkinson, Executive Vice President, Pacific Coast Association of Port Authorities; Dr. Joseph D. Carrabino, Chairman of EMSCO Corp., Woodland Hills, Calif.; and Henry E. Seyfarth, a partner in Seyfarth, Shaw, Fairweather and Geraldson, Chicago.

In addition to panel discussions the conference will include special papers presented by well-known speakers, a luncheon address by Weldon B. Gibson of the Stanford Research Institute, a tour of Port of Oakland container and general cargo facilities and an international trade dinner, featuring an address regarding trade with China and the Soviet Union delivered by former White House aide Arthur T. Downing. (Port of Oakland)

Seatrain terminal

Oakland, Calif., February 25:—The Oakland Board of Port Commissioners has approved a preferential assignment to Seatrain Lines of 15 acres and 200 feet of wharf in the Port of Oakland's Middle Harbor area adjacent to the present Seatrain Terminal. Commission President Y. Charles Soda announced today.

Soda said 12 acres including berth area will immediately be assigned to the steamship company. The Port will construct a 200-foot wharf section on the area and develop the site as a container yard with paving, lighting and fencing. A 3.5 acre parcel, presently subject to existing leases, will be added and developed for Seatrain as it becomes available, Soda said.

Seatrain will pay the Port an initial monthly land rental of \$10,027. Land rental will increase to \$12,952 when the second parcel is added.

The new terminal section is part of the Port's Middle Harbor Terminal, a 52-acre facility currently under development. When fully developed and combined with the Seatrain Terminal, the Port will have a total of four berths backed by nearly 100 acres of container storage area and served by four container cranes along the Middle

Harbor section of the Oakland Estuary.

Seatrain Lines selected the Port of Oakland in 1967 as its West Coast base for Hawaii and Pacific Island container service. Last July, the Port purchased the Seatrain container terminal for \$20 million and has leased it back to the steamship company. In recent months Seatrain has inaugurated container service between the West Coast and Europe, added a "land bridge" train-ship container run from the East Coast to Hawaii via Oakland and plans to add container service to the Far East.

The addition of the 15 new acres by Seatrain will be used to satisfy space required by the new services as well as to provide additional capacity for original services, company officials indicated. (Port of Oakland)

Scholarship awarded

San Diego, Calif., February 28:—San Diego State College journalism student Ron Siddell has been awarded a \$200 scholarship by the San Diego County Chapter of the Public Relations Society of America.

Siddell, who is also a public relations intern with the San Diego Unified Port District, received the scholarship from chapter President Randy Mitchell.

The award was made during the chapter's February monthly luncheon at the King's Inn in Mission Valley. (Port of San Diego News Release)

Bay bank bicycle path

San Diego, Calif., March 9:—A grant of \$166,000 has been made for construction of a bicycle path along the banks of San Diego Bay, it was announced today (3-7-72).

The Port Commission was told this week that the Bureau of Outdoor Recreation, a division of the Department of Interior, has authorized funds up to 50 per cent of the total cost of a bicycle path which will run along certain portions of the northern shores of San Diego Bay, generally in the vicinity of Harbor Island, Spanish Landing Park and the Embarcadero.

The total cost of the project is

estimated at \$332,000.

The Port District is expecting a similar grant from the Department of Housing and Urban Development. It would also be applied to the extension of Spanish Landing Park, a waterside recreational area bordering Harbor Drive opposite Harbor Island. (Port of San Diego News Release)

Dockage charges increased

San Diego, Calif., March 14:—Dockage charges at all ports on the West Coast will be increased by eight per cent next July 1.

"We feel that periodic small adjustments can be readily understood by Port customers," a spokesman for the California Association of Port Authorities commented today. "And it eliminates the deferred large adjustments required as an alternative. . . ."

CAPA representatives met in San Diego March 10 and decided that rising maintenance costs, repairs, and operating expense hikes over the last two years made the dockage increase necessary. (Port of San Diego News Release)

Golden Gate Atlas

San Francisco, Calif.:—Latest version of the unique "Golden Gate Atlas" has just been released by the San Francisco Marine Exchange.

The 93-page compendium of "all you ever wanted to know about the City by the Golden Gate (and its port complex) but were afraid to ask," provides all the answers.

Included are 13-pages of up-to-date charts of the many facilities comprising the "pocketful of ports" serving the unique Bay and river system of Northern California—the nation's fourth busiest center of world commerce. Accompanying tables detail the ports of San Francisco, Oakland, Richmond, Redwood City, Benicia, Sacramento and Stockton, as well as terminals in Alameda and throughout the inner-bay system.

In a preface message to the new Atlas, California Governor Ronald Reagan notes, "California's annual production of goods and services exceeds that of all but six nations . . . her population income and growth rates are the highest in the

United States . . . within our borders are the resources, initiative and skills favorable to producing the growth and business upon which world trade depends."

Supplementing the first such comprehensive collection of vital information on the Golden Gate region issued by the Marine Exchange three years ago, the latest—and totally revised—atlas includes sections on anchorages, port services, economics, ocean routing, towing and barging, and a complete directory of steamship companies and agencies. The latter encompasses both an alphabetical index and a "reverse" reference, coded by the name of the overseas carrier locally-represented.

In announcing the latest major Bay Region promotional publication, Exchange president Edward D. Ransom, a San Francisco admiralty attorney, noted the uniqueness of the Golden Gate Bay and river system, its increasingly vital role in international commerce, and that its ports and terminals "are among the best and most modern in the world."

Among features in the completely new harbor reference—second publication in over a century to provide comprehensive information on the Bay Region's world trade and shipping capabilities—are sections on "ports of progress," local innovations, and extensive pictorial coverage of the area. The wrap-around cover is a full-color panoramic photograph of the Golden Gate at dawn, shot from sea—unusual in its eastward view.

The reference publication is available from the 123-year-old shipping service agency for \$3.40, tax and postage included. Orders should be addressed: Marine Exchange, 303 World Trade Center, San Francisco, Ca. 94111. Special school and bulk rates are also available. (Marine Exchange of the San Francisco Bay Region)

Traffic figures for 1971

Seattle, Washington, February 28:—There was some good news and some bad news about ships and tonnage for Puget Sound in the recently released figures for 1971 by the Marine Exchange of the Seat-

tle Chamber of Commerce.

The bad news was obvious because of the 100-day strike of West Coast longshoremen. This strike last summer cut vessel movements down 30% compared with 1970. There were 4,932 ship arrivals and departures on the sound in 1970 but only 3,499 for 1971, a drop of 1,433 ship movements. The net registered tonnage for ships in 1970 was 29,357,123 compared with 22,588,743 for 1971, down 23%.

So much for the bad news. The good news is that in 1970 ships averaged only 5,952 net registered tons but in 1971 they registered 6,456, an increase of 504 tons each ship. Therefore, had the strike not cost Puget Sound 1,433 ship movements in 1971, the net tonnage for a theoretical 12 full months of 1971 would have shown about 31,840,992, nearly 2.5 million more net registered tons than in 1970.

The reason is simply that ships are increasing in size and carrying capacity each year. An example is American Mail Line's fleet which illustrates the trend of vessel capacity. The C-5 "Alaskan Mail" which carries loose-stow (conventional) cargo plus a few containers has a net registered tonnage of only 6,727. The "Washington Mail" is a new C-6 full containership and her net is 11,111 tons. This vessel's net is 65% greater than her smaller but still very modern C-5 relative. By comparison, the World War II Liberty Ship EC-2, the workhorse of our immediate post-war fleets, had a net registered tonnage of a mere 4,380.

Since the Port of Seattle is definitely established as the load center and dominant container port of the Pacific Northwest, it follows that cargo tonnages will continue to rise also. (News Release from Port of Seattle)

Pick-up trucks from Japan

Seattle, Washington, March 2:—A new American pickup truck manufactured in Japan arrived this week (2/29) at the Port of Seattle's Terminal 115. Chevrolet's LUV, or light utility vehicle, made in Japan by Isuzu Motors, made its first appearance here on the "Maritime Brilliance" chartered by Sanko

Steamship Co., Tokyo. The little trucks, with payloads of 1,100 pounds plus driver and passenger, were loaded aboard in Yokohama. Auto Warehousing Co., Seattle, which headquarters at the Port's Terminal 115, received 625 in its initial shipment. This firm prepares the vehicles for redistribution throughout the northwest. There is only one other west coast port receiving the trucks, for California distribution.

Chevrolet announces that it has an initial commitment from Isuzu for 25,500 LUV's. Bill Ellis, vice president of Cascade Shipping Co., Seattle, which represents Sanko, is optimistic about future shipments on a continuing basis.

By this time the unusual name surely must have generated several quips, which Chevrolet may have had in mind. Chevrolet's name and trade mark are much in evidence on the vehicles also. (News Release from Port of Seattle)

Tonnage records broken

Tampa, Fla.:—The Port of Tampa handled a total of 36,032,198 tons of cargo during 1971, an increase of 11.3 per cent over 1970, Guy N. Verger, Port Director, announced.

Verger observed that the tonnage increase occurred despite a national recession and a longshoremen's strike. It was the best year in the history of the port.

Phosphate and phosphatic products shipped from the port amounted to 17,235,466 tons, an increase of 2,278,460 tons over the previous year. Phosphate is the largest single export product from the port.

Of this 11,124,791 tons were shipped to foreign markets and 6,110,675 tons to domestic markets.

Bulk petroleum products also showed an increase. The total tonnage was 9,593,263 tons an 11.2 per cent increase (969,857 tons) over the previous year.

There were also increases in sulphur, coal, grain, ammonia, cement and gypsum rock.

General cargo products showing increases included steel, bananas, chemicals, canned goods, meat, lumber, insecticides and concentrates.

Total general cargo amounted to

912,880 tons which was a slight decrease under the previous year. The longshoremen's strike during the latter part of the year was the apparent cause of this decrease according to Verger.

During the month of December, a total of 3,152,710 tons of cargo were handled, as opposed 2,880,329 tons during December 1970, an increase of 9.5 per cent. (News from the Tampa Port Authority)

Submarine pipelines

Sydney, 15th March:—An officer of the Maritime Services Board will be on board the trailer suction dredge, "Willemstad", in the future, at the expense of the operating company, at all times whilst it is operating in Botany Bay in connection with the port development work being undertaken there on behalf of the Board which is expected to be completed in about six weeks.

This was announced in Sydney today by Mr. W. H. Brotherson, President of the Maritime Services Board of N.S.W., who said that the decision follows the third incident since October last year involving the fracture of submarine pipelines leading from the A.O.R. Refinery at Kurnell to the Terminal at Banksmeadow.

He said, enquiries undertaken by the Board have established that the damage to the pipelines has been occasioned by the trailing head of the dredge "Willemstad" not having been winched clear of the harbour bed prior to it crossing the lines.

Mr. Brotherson said that, following the first spillage, buoys had been placed in the Bay to mark the location of the pipelines but the second and third spillages had also resulted from the dredge fracturing the pipes and the Board decided that firm action should be taken to guard against a further incident of the nature indicated.

He said the Board's officer will log the movements of the dredge and will be empowered to prevent its progress when moving near the submarine pipes without lifting the trailing member clear of the water. (The Maritime Services Board of N.S.W.)

Record shipping figures

Hong Kong, 22 Feb.:—A record number of 7,714 ocean-going vessels called at Hong Kong last year — an increase of 10 per cent over 1970. The total tonnage of these ships was 24.26 million tons, one and a quarter million more than last year.

Japan headed the list of ships with 1,555, representing a total tonnage of 4.11 million tons. Some 958 British vessels of 3.62 million tons called at Hong Kong in 1971, while ships from China accounted for the third highest number—899 with a total tonnage of 956,000 tons. (The Week in Hong Kong)

HK Annual Report

Hong Kong, 2 Mar.:—The progress of Hong Kong and the problems it has faced during the past decade are outlined in the annual report of the Hong Kong Government which went on sale today. The review chapter this year is based on the censuses of 1961 and 1971, and notes that apart from the growth and movement of population, there has been a marked rise in real incomes and a trend towards greater equality in the distribution of income. The report, comprising 247 pages of text and 70 full-colour plates, is now available at HK\$12.50 a copy. Over the years it has become an invaluable source of reference, covering as it does, almost every aspect of the colony's affairs. (The Week in Hong Kong)

3 sister-ports' conference

Kobe, March 3:—The 4th Three Sister-Ports' Conference will be held in Kobe from 21st to 25th May this year.

Since the sister-port relations were affiliated in May 1967 by the three Ports, Rotterdam, Seattle and Kobe, and the first Conference was held in Kobe in 1969, the Conference has been held every year hosted by each Port in turn. This will be the fourth meeting.

Preparatory works are now under way by this Bureau and it is anticipated that as many as thirty-five delegates from Seattle and twenty-five from Rotterdam will participate in the coming Conference.

As a main programme of the

Conference, a Sister-Ports' Seminar is slated for May 23-24, in which the following subjects are to be handled:—

- (1) The Development of Container Traffic and the Economy of Container Ports
- (2) The Ideal Way of Terminal Operation and the Management to cope with Innovation of Transportation
- (3) Port Finance of Today and Tomorrow

(News Release from Port and Harbor Bureau, Kobe City Government)

Lighting container wharfs

Kobe:—"A Report on the Study and Fundamental Design for the Illumination Facilities of Container Wharves in Kobe Port" (Japanese version) was published in December 1971 by the Committee for the Study of Container Wharf Illumination, which had been established in the Kansai (the region in and around Osaka-Kobe) Branch of the Illumination Engineering Society.

The research and design work had been entrusted to this learned Society since last September by the Han-Shin (Osaka-Kobe) Port Development Authority in Kobe, with a view to studying the optimum technique to equip container wharves with optimum illumination.

The study was requested to be performed from the following viewpoints:

- (1) The ideal illumination of container wharves should secure the accuracy and safety for container handling job on the marshalling yards.
- (2) It also should secure a good job-circumstance for workers there.
- (3) It should not give any obstruction to another function or work in and around the wharves, and especially an obstructive illumination to navigating ships must be prevented.

Prior to this study, opinions were heard from various parties concerned to maritime and harbor affairs, which were:

- a. It would be very difficult for a navigator to recognize the light of a ship in the immediate front, when a bright illumination of container wharf would come into

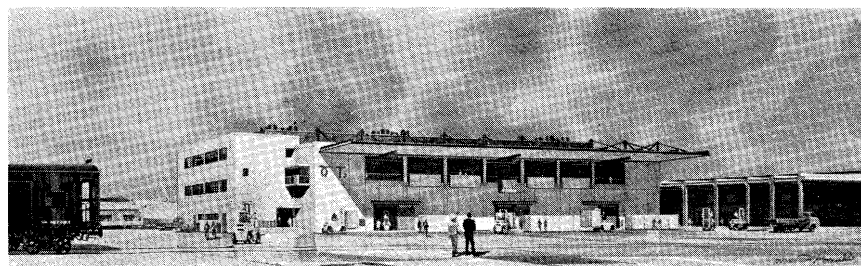
his sight.

- b. It would also be difficult for him, in the same case as above, to recognize the lighthouse, beacon lamp and other navigation lights or signals.
- c. With the more illuminations the container wharves would be equipped, the larger the above difficulty should be for him, though a gathering of many bright illuminations on the container wharves could play a role of a better guide to the port than the existing lighthouses or beacons, when seen from a distance.
- d. For the above-mentioned reasons, the party representing ship operations hoped such system of container wharf illumination that its light sources should not be seen directly from navigators and, at the same time, that it should illuminate only the inside of container and marshalling yards.
- e. While, the hope shown by the party representing container handling workers was that the brighter the illuminations would be, the better their job-circumstances should become from the viewpoints of securing the safer and more accurate handling of containers, and especially, of better identification of the container-number marks.

In this context, the study gave special attention to the following subjects:

1. Correlation between the brightness of an individual illuminator and the distance and optic angle on the part of a seer,
2. Correlation between the intensity of an individual illuminator and the optic power and age of a seer,
3. Correlation between respective forms/systems of illumination and the comfortability of job operations on the yard, and
4. Problems of the "Glare" influences on navigators: "Discomfort glare", "Disability (or Invisibility) glare", "Secondary glare generated by the illuminated yard as secondary light source", etc.

At the stage of the fundamental design, three systems/forms of container wharf illumination were



Banana Wharf, Port of Kobe.

adopted as typical patterns, which were:

- A. High-Pole Illumination System,
- B. Catenary Illumination System, and
- C. Light-Projection Illumination System.

That was followed by a comparative study between the three systems, with relation to each of the following research items:

- (1) Functional influences on the yard operations and facilities given by respective systems of container wharf illumination when that is established.
- (2) Illuminating circumstances within the yard.
- (3) "Glare" influences onto the navigators.
- (4) Construction and establishment cost of respective illumination systems.
- (5) Maintenance cost of respective illumination systems.

The tests were conducted in the Osaka Bay using the container terminals of Port-Island, Kobe, as the base of operations.

A comparison table made as a result of the above unique study which is included in the Report might be of helpful information not only to us of this Authority but also to those who would be engaged in the design and construction of future container wharves. (News Release from the Hanshin Port Development Authority)

"Banana Wharf"

Kobe:—Construction work of a new greengrocery shed was started by this Bureau on January 29 at the 3rd pier of the Hyogo Piers, Kobe Port.

Import of fresh vegetables and fruits through this Port occupies about 40% of the total importation of these kinds of goods to Japan, according to recent statistics.

At present there are two houses of public greengrocery shed here, but almost all they are handling are bananas, the quantity of which is equivalent to about 70% of all fresh vegetables and fruits imported through Kobe Port. This is the reason why this pier is called the "Banana Wharf".

Closely adjacent to these two shed houses, this 2-storied shed, equipped with gas-fumigators, was designed to be built in reinforced concrete, with total floor space of 6,000 square meters. About ¥350 million was budgeted for its total construction cost, and it is expected that the new shed should be completed within the year of 1972.

Our Bureau sees two facets of meaning in the construction of the new shed: one is a countermeasure to the ever-increasing importation of those kinds of goods, and the other that to the traffic congestion of port caused by carriage of those cargoes.

Recently import of refrigerated vegetables including onions has been increasing sharply, as supermarket dealers and livelihood cooperative associations are keen for those importation so that they can counterwork the high prices of native products in the markets and can supply greengrocery for people at cheaper prices.

In this situation the existing two houses of shed are felt rather cramped for further room for increased import. The new shed will provide enough space to receive future imports.

Up to now, fresh vegetables and fruits other than bananas have been handled at various piers other than Maya Piers. Cargoes are discharged into barges or trucks and carried to individual sheds. In many cases, however, those sheds are not equipped with fumigation facilities, probably resulting in the disqualifi-

cation of the imported goods at the vegetation test (quarantine). These rejected cargoes must be carried back and forwarded to the well-equipped sheds. Intricate flow of cargoes like the above might be a cause of the congestion in the port.

When the new shed is completed, it will be a base of the greengrocery import, making the mass-importation, mass-fumigation, mass-distribution and mass-supply services possible.

The Port and Harbor Bureau ardently hopes that the above-mentioned measures should not merely play an important role in rationalizing the Port by increasing its efficiency, but also bring a happy effect on the citizens' kitchens of Kobe and other neighboring cities. (News Release from the Port and Harbor Bureau, Kobe City Government)

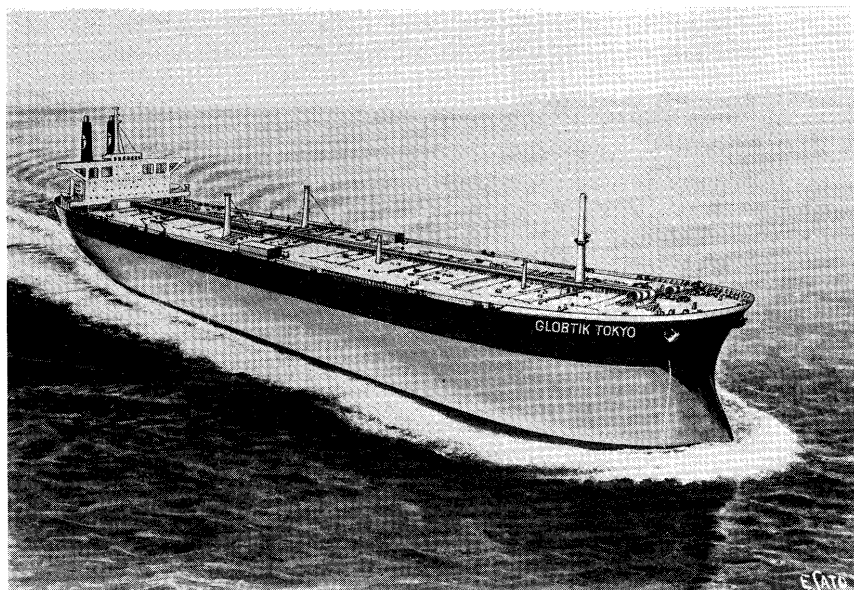
Governor's birthday award

Penang:—The Penang Port Commission's Director General, Inche Ismail bin Ngah Marzuki, J.M.N., P.K.T., was conferred the Pingat Kelakuan Terpuji (PKT) by His Excellency the Governor of Penang on the occasion of his 65th birthday which fell on 22nd December 1971. (Berita Pelabohan, January)

Port security force

Penang:—In a simple ceremony held on 25th October 1971, the first batch of security men were officially vested with auxiliary Police powers by the Royal Malaysian Police. Officiating at this swearing-in ceremony of 17 Assistant Security Officers and 108 Security Assistants was the representative of the Chief Police Officer, Penang, Tuan Haji Ahmad Mydin, who in his address urged the men to be courteous in their daily dealings with the public and to be helpful but firm at all times when carrying out their duties. He added, "What you do will be reflected on your force."

The Assistant Security Officers were conferred with powers of Police Inspectors and the Security Assistants with that of Police Constables in accordance with Section 47 of the Police Act No. 41 of 1967. This would enable the Port Security Force to enforce law and order effectively in the Port of Penang.



Tokyo, March 31:—The keel of the world's largest tanker, a 477,000 dw tonner for Globtik Tankers Ltd., England, is to be laid on April 3 at the No. 3 building dock of the Kure Shipyard of IHI (Ishikawajima-Harima Heavy Industries Co., Ltd.). The ship will be launched in October, 1972 and completed in February, 1973. The ship will be chartered to Tokyo Tanker Co. and carry crude oil from the Persian Gulf to the Nippon Oil Group's central terminal station (C.T.S.) at Kiire in Kagoshima Prefecture, southern Japan. IHI has three tankers of this size on order, including the Globtik Tokyo. The construction cost of the Globtik Tokyo is approximately 15,000 million yen. Features: Gross tonnage: abt. 235,000 tons, Length, o.a.: abt. 379 m, Length, b.p.: 360 m, Breadth: 62 m, Depth: 36 m, Draft: 28 m, Main engine: 45,000 shp IHI turbine engine, Service speed: abt. 15.0 knots, Complement: 35. (Nippon P. R. Counsellors, Inc.)

This batch of officers and men took over duties in guarding the port from the old guard force in July this year after completing a 14-week Police Training Course held at the Royal Malaysian Police Training School in Kuala Lumpur. The second batch of 2 Assistant Security Officers and 55 Security Assistants commenced similar training in November 1971 and are expected back to assume duties early next year. (Berita Pelabohan, January)

Port activity

Antwerp:—The figures relating to the goods traffic in the port of Antwerp during the first half-year of 1971, have been published by the National Statistics institute now. 37,367,585 tons of goods were loaded/discharged in the course of that space of time. As compared to the corresponding period of 1970, this means a growth of 1,215,853 t., i.e. 3.3%. The latter increase is accounted for by a strong rise of the outward bound tonnage (+19.5%),

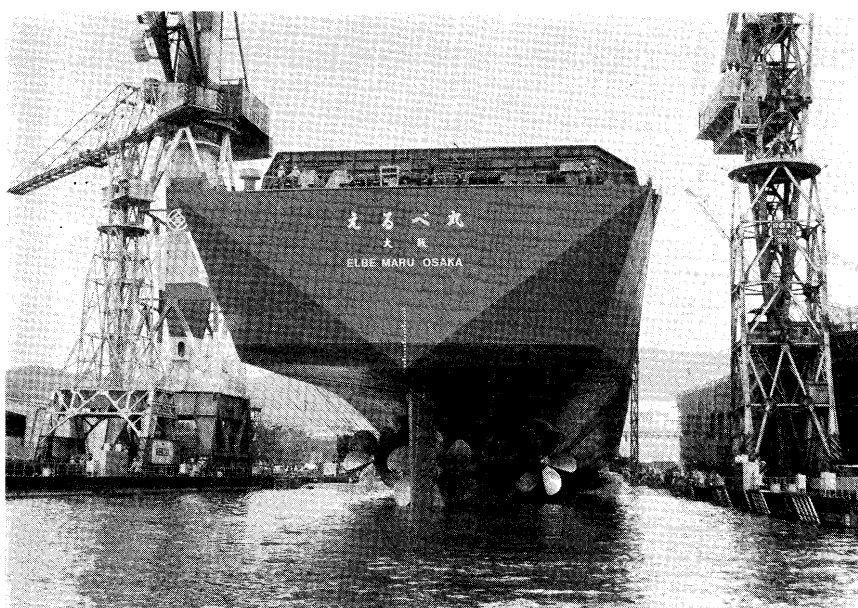
while, on the other hand, the inward movement shews a decrease (−3.6%).

Traffic during first halfyear 1971

Imports	20,914,575
Transit	3,501,281
Discharged	24,415,856
Exports	7,034,063
Transit	5,917,676
Loaded	12,951,739
Total	37,367,595

The figures dealing with the first halfyear are thus still showing a favourable evolution, yet those related to the second half of 1971, are not likely to be equally positive. Apart from the one chief drop in direct sea-borne arrivals, due to the operation of the Rotterdam-Antwerp pipeline as from 1st June last, we will likewise be facing the unfavourable effect of the US harbour strikes and of the overall weakening of the economic situation.

Anyhow, figures dealing with the first six months produce a very good



Tokyo:—"Elbe Maru", world's first 3-diesel-engine, 3-shaft, super-speed 35,229 dwt full containership, was delivered to Mitsui-OSK Line, the owner, at the Tamano Shipyard of Mitsui Zosen on March 24, 1972. Powered by a total of 84,600 bhp, the ship has given a continuous maximum output of 31.78 knots. The ship can carry 1,842 20-foot containers, and will be able to reach Europe from Japan via Panama in 23 days. Mitsui Zosen has another similar ship on order from Wil. Wilhelmsen of ScanDutch group, to be completed by the end of 1972. (Mitsui Zosen)

impression indeed, mainly by the growth of the transit movement (+3,479,419 tons), which would show that the competitive position of Antwerp has strengthened.

This increase also finds expression in the data relating to traffic with the hinterland. The total international traffic by rail rose by 616,308 tons to reach 2,032,456 tons (still as compared to the first halfyear 1970); the international traffic by inland craft rose by 1,865,507 tons to reach 8,138,206 tons and the traffic by road recorded an advance of 46,000 tons to reach 1,773,486 tons. We would stress that the latter figures solely cover the traffic to and from abroad, which means that figures dealing with inland transports by rail, motor-lorry or inland barge, are not included. Figures dealing with the latter portion of the traffic are not available so far. (Antwerp Port News, January)

Upper Docks manager

London, 21st March:—Mr. S. C. Peacock, Docks Manager of the Royal Docks, is to assume managerial control of both London's upper enclosed dock systems—the

Royals and India & Millwall.

With the recently-announced appointment of Mr. William Caunter as Docks Manager, Tilbury from his present post as Manager of India & Millwall Docks, the contraction of conventional berths and the impending centralization of Upper Docks accounting functions, the Director, Upper Docks, Mr. J. H. Gabony, has decided to concentrate his management structure into a single unit. The object is to continue the process of providing a uniform approach to operations and marketing and to effect further economies in overheads.

Mr. Peacock will assume full responsibility for all operating, accounting, engineering, marketing and personnel functions at the Upper Docks in his new post of Docks Manager, Upper Docks.

He will be assisted by three Operating Managers—Mr. R. F. White at India & Millwall and Mr. S. L. Jarvis and Mr. B. Little at the Royal Docks. Mr. F. Metcalfe will be appointed Projects Officer to assist Mr. Peacock on dock profitability. Mr. J. W. G. Petrie will be re-designated Chief Engineer, Upper Docks and

Mr. J. McNab will become Accountant, Upper Docks.

Mr. Peacock joined the PLA from school in 1939 and his positions in the Authority have included Railway Superintendent and Dock Managerships at Survey Commercial, India & Millwall and the Royal Docks. (News from PLA)

VLCCs in the Thames

London, 13th March:—Further measures to assist the safe navigation of very large tankers in the Thames estuary have resulted from a consultative meeting with representatives of various bodies involved in shipping movements, called by Capt. G. R. Rees, Director of Marine Services, PLA.

Trinity House, the buoyage authority for the Thames, will consider certain modifications to buoyage to assist navigation in the approach channels. The PLA Hydrographic Service will make a special investigation into the flow of tide at the oil refinery terminals and in the approach channels. Improved methods have been devised for the swift exchange and processing of essential information between the various organizations involved in the movement of shipping in the Port.

The meeting, held last week, was an informal inquiry by PLA management into two recent incidents. These were the breaking away from moorings and grounding of one large tanker, and the grounding of another, both Liberian-registered ships.

Represented were: Trinity House; Shell International Marine; Mobil Marine Services Ltd.; London Tug Co. Ltd.; Cinque Ports, North Channel and Channel Pilots; and Messrs C. F. Bowen (Gravesend watermen). Observers were also present from the Department of Trade and Industry, Medway Port Authority and British Petroleum.

Capt. Rees described the discussions as "comprehensive and constructive" and they will be a useful background to a regular meeting due this week of the River Thames Joint Consultative Committee, a PLA standing committee concerned with improving the safety of navigation in the Thames.

In addition, Mobil Marine Serv-

ices Ltd. are making their own detailed enquiries into circumstances which led to a tanker breaking away from her moorings.

In the meeting's detailed consideration of the two incidents, neither of which resulted in personal injury nor apparently in damage to the vessels concerned or pollution of the river, attention was given to various matters such as navigation, dredged depths, mooring and towing arrangements in use in the Thames by VLCCs (Very Large Crude Carriers).

Both incidents were dealt with by PLA existing organization with the minimum interruption of marine traffic in the Port and with swift co-ordination of all services. It was considered that arrangements and facilities for the reception of these very large vessels work well in the Port of London and that the monitoring of their progress in and out of the Port provides for the high degree of safety of navigation for which London has a deservedly good reputation.

It was accepted that further dredging in the estuary would serve no immediate purpose but the position would be reviewed when Maplin Seaport proposals, which could have a bearing on this, were clarified.

The PLA are always reviewing their methods and techniques in the light of modern technological advances and have recently installed Decca Spot in the up-dating of radar equipment covering the Port approaches. This gives reliable visual information of the centre line of the dredged channel and the relationships to it of vessels in passage. VHF radio contact with ships enables this essential information to be passed on request to vessels and is particularly helpful in times of low visibility.

The development of the PLA Traffic Co-ordination Centre at Thames House, Gallions makes possible planned and co-ordinated marine movement.

The PLA are seeking, in co-operation with HM Coastguard, to extend further seawards their radar and VHF coverage of the Port approaches in the interests of safe navigation.

Sir Bernard Braine, MP for South



Antwerp:—Industrial expansion continues at the Port. Photograph shows part of the Antwerp refineries near Marshalldock. Combined throughput capacity of Antwerp refineries was 500,000 tons in 1950 and now amounts to 29 million tons. New substantial investments recently announced include:

- Esso will raise capacity of existing refinery from 4.5 to 13.7 million tons per year which will require investments of \$240 million.
- Shell decided the construction of a refinery of 9 million tons capacity for which investments are estimated at \$172 million.
- The German chemical companies Degussa and Bayer announced new investments of \$2 million and \$36 million respectively.

New industrial investments for the Antwerp port area already announced in 1972 thus total over \$470 millions. (Port of Antwerp)

East Essex, who represents Canvey Island, and who has focused attention upon the number of incidents in the Thames Estuary, said today "I warmly welcome the PLA's statement. They have acted with speed and it is clear that they are determined to improve the standard of navigation in the Estuary. I look forward to the day when with the development of Maplin it will no longer be necessary for large tankers to come up river." (News from PLA)

New docks manager

London, 6th March:—Mr. Peter Padget, PLA Docks Manager of Tilbury Docks is to retire under the PLA's voluntary severance arrangements and will be leaving on September 30th 1972.

His successor will be Mr. William Caunter who is at present Docks Manager of India & Millwall Docks. He will be taking up his new Tilbury duties progressively over the next

few months.

Mr. Padget, who has had a distinguished career since joining the PLA in 1936, became Docks Manager when the development of Tilbury Docks as London's Container Port was nearing its peak. He said: "I see a bright future for Tilbury providing everyone involved, staff and labour of all concerned in the dock's business, have the best aims of service and reliability at heart and seek to practice them".

Mr. Caunter joined the PLA in 1947 and has held several other important management positions before becoming Docks Manager, India & Millwall Docks in July last.

He said of his new appointment: "I am looking forward eagerly to the challenging job at Tilbury, particularly as I was concerned with the marketing of container facilities at Tilbury in the past. I am proud to be going to the premier container port of the UK". (News from PLA)

Deepwater Ore and Oil Terminals at Clydeport

Clyde Port Authority

Glasgow, January 31:—A £26 million iron ore terminal to handle bulk carriers of up to 250,000 tons dwt., and capable of being extended to take them up to 350,000 tons, is to be constructed in Clydeport at Hunterston, on the Ayrshire coast.

The British Steel Corporation and Clyde Port Authority are starting negotiations immediately on the detailed planning and financing of the project.

First stage of the development will include a berth and jetty, unloading equipment to handle more than 6,000 tons of ore an hour, and a one-million-tons-capacity stockyard.

Clydeport's General Manager Mr. James P. Davidson described the new terminal as a facility "of major importance not only to the Scottish steel industry and Clydeport but to the industrial future of the entire west of Scotland.

"This decision confirms our confidence in the Clyde as one of the nation's great ports recognizing as it does, our special asset of natural and safe deep water where the largest bulk carriers now sailing and envisaged can be handled without difficulty.

"This facility to handle ore carriers of up to 350,000 tons dwt. is not available in any other port in the U.K. or Europe," he added.

While the new terminal at Hunterston will be used primarily for the importation of ore to steelworks in Scotland, it is likely to be used also as a trans-shipment centre and for lightening large vessels which could not enter other ports

fully laden.

Commenting in the House of Commons on the development at Hunterston, Prime Minister Mr. Edward Heath said the site has a "very great future as a deep-water port and not just an ore terminal."

Clyde Port Authority has already obtained planning permission in principle to site a deep-water general-user port facility at Hunterston in addition to the ore terminal.

Glasgow, January 15:—The largest vessel ever to sail fully laden into a UK port berthed in Clydeport with a cargo of 325,000 tons of crude oil from the Persian Gulf.

The ship, Universe Kuwait, of 326,848 tons dwt. was drawing 82 feet when she arrived.

In eight hours she discharged 100,000 tons at the BP oil terminal at Finnart on Loch Long—the only European terminal directly linked to a refinery capable of handling such a vessel fully laden—and then sailed to Bantry Bay, Ireland.

Port rates simplified

London, 8th March:—Continuing the drive to simplify and rationalize their charges the PLA introduce a new schedule for port rates on goods from 1st April 1972. There will be only 25 rates in place of 226 in the present schedule. It will help importers and exporters shipping through the Port of London.

Exporters shipping across PLA quays have progressively had port rates charges merged with PLA handling charges and in 1969 were relieved of the burden of completing port rates forms altogether. From

1st April, exporters shipping goods overseas through the docks will also be freed from this task. This new move has been welcomed by shipping interests and some shipping companies using the river are now arranging to pay port rates on behalf of customers. If the new limited 25 rates prove too complex in any particular case the PLA are willing to negotiate special flat rates for further simplicity.

A major reduction in the number of rates inevitably means increasing some rates and reducing others. Even so the new rates per tonne are relatively small being principally £0.027, £0.059 and £0.323 per tonne with a few exceptions.

This revision of the port rates schedule is not intended to produce additional gross revenue.

Outline proposals of the revision were sent to 36 trade associations last December for their comments, as part of the normal PLA consultative process. The proposals have not been received unfavourably and the new schedule has recently been sent to the trade associations.

Despite printing problems with the recent power crisis copies of the new schedule have now been widely circulated and further copies are available, without charge, on request. (News from PLA)

International shipping seminar

Bergen, Norway:—Problems related decision making in shipping enterprises have been the subject of research at numerous institutions around the world in recent years. In an attempt at coordinating future research efforts in this field and at making some of the results known to shipping management, the Institute for Shipping Research in Bergen, Norway, and the Maritime Research Centre in the Hague, Netherlands, will arrange an international seminar in Bergen, August 23-26, 1972.

For further details, anyone interested in participating is invited to contact the Chairman of the seminar, Professor A. Strømme Svendsen, the Institute for Shipping Research N-5000 Bergen, Norway.

King's Lynn

London, 28 February:—Increased roll-on/roll-off services will be available from the port of King's Lynn when a new roll-on/roll-off service between the port and Rotterdam comes into operation at the beginning of April. Run by the Eurolink line the service is an extension of the existing weekly conventional and container cargo service between King's Lynn and Rotterdam inaugurated by the Company in January this year.

The company is planning to charter a special roll-on/roll-off vessel, capable of carrying sixteen 40 ft. trailers plus forty-four 20 ft. container, or one hundred 20 ft. containers, or 250 cars as well as conventional cargo. Initially the service will be twice weekly, but when a sister ship comes into service in September the frequency will be doubled to four sailings a week.

Mr. Keith Lloyd, managing director of Eurolink, said they were broadening their shipping operation to cover conventional, container and roll-on/roll-off cargoes to keep in line with modern marketing requirements.

The British Transport Docks Board will accommodate this service at the roll-on/roll-off and container terminal in Alexandra Dock. This is the second roll-on/roll-off service handled by the port; the Washbay Line has been running a twice weekly roll-on/roll-off container and general cargo service from King's Lynn to Hamburg since 1967.

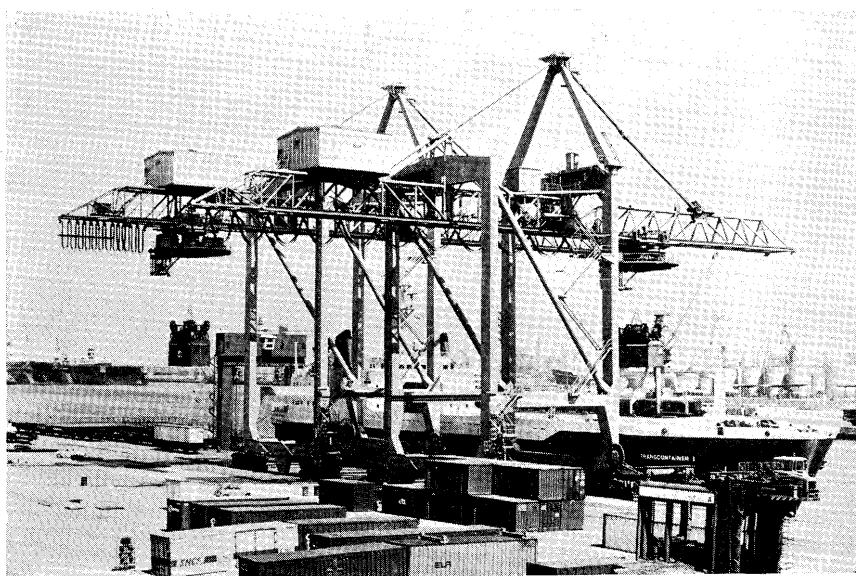
The terminal is equipped with a 100 ft. hydraulically operated link-span bridge which gives access to the vessel's stern doors. For the lift-on/lift-off operation the Docks Board has recently provided a 32-ton derrick crane, and there is a 5½ acres container marshalling area. (British Transport Docks Board)

Shorthaul container routes

London, 2 March:—Two container ships operating on short-sea routes—to Spain and Northern Ireland—have been dealt with at the British Transport Docks Board's Southampton Container Terminal



Dunkirk, France:—PORT OF DUNKIRK. The roll-on/roll-off ramp of the Dover quay, where ferries berth.



Dunkirk, France:—PORT OF DUNKIRK. The container terminal sited at quay Freycinet XIII. The two Gantry cranes of 53 tons discharging m/v "TRANSCONTAINER I".

this week.

Forty-four containers in a cargo brought from the U.S.A. at the week-end by the Atlantic Container Line vessel "Atlantic Cognac", 15,351 tons gross, were loaded yesterday (Wednesday, March 1) by the Cawcods container ship "Craigavon"

for transhipment to Belfast. This is the first time that a feeder operation has been carried out between Southampton and Ireland for the A.C.L. service, but port officials are hopeful that it will become a regular feature.

(Continued on Page 50)

Amsterdam—Largest Ore Cargo —Outer Port at IJmuiden

Amsterdam, 24 March: — This week the "Stadt Bremen" at 137,638 dwt arrived in the port with over 110,000 tons of ore from Tubarao, Brazil.

This is the largest cargo ever handled in the port from one vessel. "Stadt Bremen", drawing 46 feet of fresh water in the North Sea Canal, was handled at Overslagbedrijf Amsterdam (OBA), which acted as stevedores for the vessel. The cargo was destined for the Ruhr area and the vessel was under charter to Krupp Seeschiffahrt of Hamburg from the owners Messrs. Schulte & Bruns. Amsterdam agents are Trans-

portmaatschappij Westfalia.

Recently, OBA has been adapting its capacity to handle large vessels like the "Stadt Bremen" in the best possible way. The company already had two trolleys of 50 and one of 16 tons gross lifting capacity. The smaller one has been replaced by a 30 ton trolley and another one of this capacity has been added. Thus OBA's discharge capacity is among the largest in Europe.

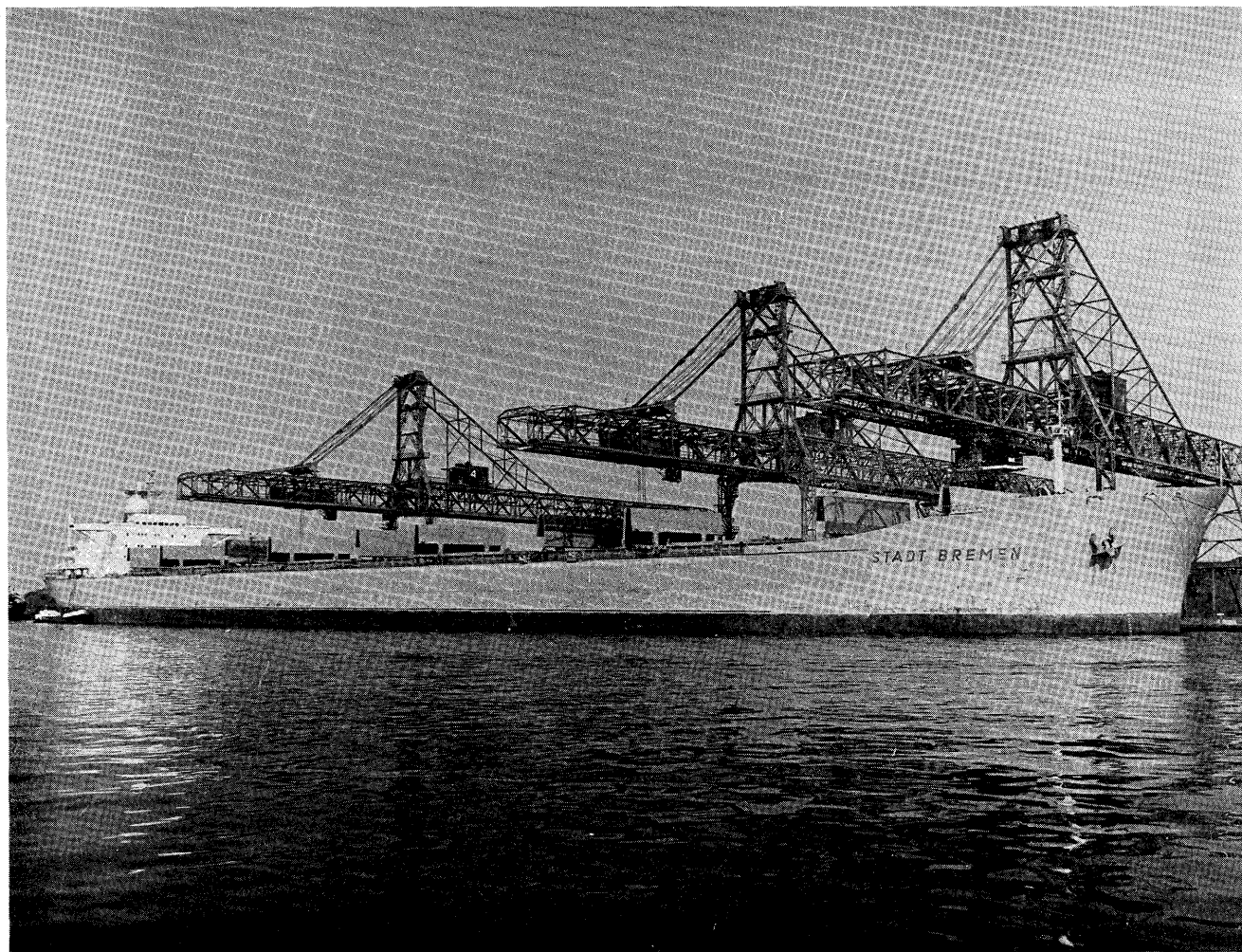
It goes without saying that in order to benefit from these extensions, the capacity of the conveyor belts had to be adapted as well. The conveyor belt system enables simul-

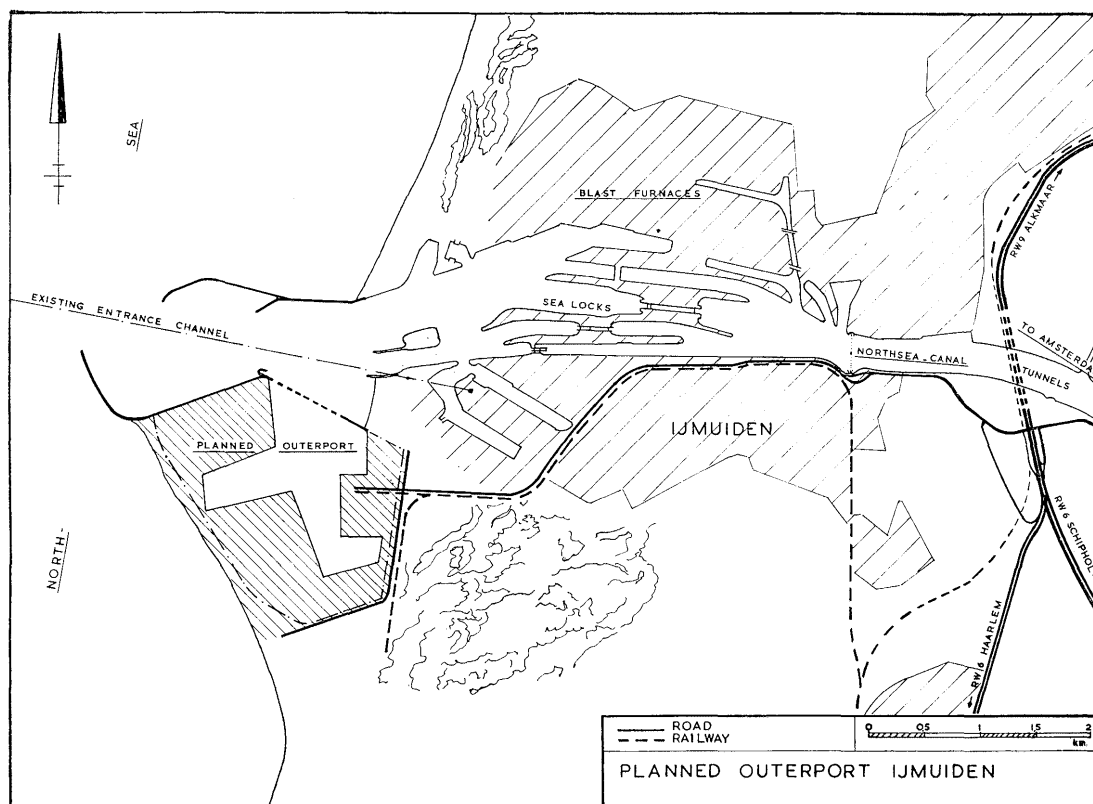
taneous stockpiling and reclaiming.

Amsterdam remains one of the few European ports which can receive vessels in "Stadt Bremen" range *into its very heart*. However, as larger vessels are on order, Amsterdam must be in a position to handle these as well, and the construction of a position to handle these as well, and the construction of an outer port at IJmuiden, where the North Sea Canal meets the North Sea, is under construction.

Although the Amsterdam port itself still has space for future development, construction of an outer port is cheaper, more rational and quicker to realize than further adaptation of the port itself to handle larger vessels.

Therefore, construction of an outer port at IJmuiden is deemed necessary to further development of the Amsterdam area. (Vereniging "de Amsterdamsche Haven")





(Continued from Page 47)

ture of operations at the container terminal.

Earlier in the week the German container ship "Regine", 4,600 tons gross, made the first of a number of scheduled calls at the terminal under charter to the MacAndrews Line, to discharge 33 containers of Spanish fruit and six unit loads of other general cargo and to load 16 containers and 15 unit loads of exports.

The "Regine" has been chartered to deal with traffic normally carried for MacAndrews between Southampton and Bilbao by the Swedish Lloyd roll-on/roll-off ferry "Patricia". This arrangement has been made necessary by recent storm damage to the Spanish port's roll-on/roll-off terminal. (British Transport Docks Board)

VWs at Southampton

London, 2 March:—A consignment of over 2,000 Volkswagen cars, the first ever received at the port, is due to arrive at Southampton today (Thursday, March 2) from Emden in West Germany.

The cars will be discharged at No. 39 Berth by the Norwegian side-loading car carrier "Dyvi Oceanic", 5,444 g.r.t., and taken by road and rail to the Volkswagen distribution centre at Trowbridge, Wilts.

A spokesman for the British Transport Docks Board at Southampton said that the port was delighted to have the opportunity to add Volkswagen imports to the considerable numbers of other European manufacturers' cars which they were handling.

"We are already establishing a substantial trade in imported Citroen, Fiat, and Renault models, as well as in exports of British cars to the Continent, and last year this totalled about 70,000 vehicles, which was almost double the figure of two years ago," he added. (News from PLA)

Fleetwood Port

London, 25 February:—The Lancashire port of Fleetwood has won a major new trade in steel scrap exports to Europe which is expected by the British Transport Docks

Board to total at least 50,000 tons a year—equivalent to a 15 per cent increase in the port's annual trade.

Fleetwood has been awarded this new business by the Erith-based firm of Mayer, Newman & Co. Ltd., who have leased an area of land from the Docks Board for stockpiling the scrap prior to shipment. Vessels chartered by the company will sail from Fleetwood twice a week for Continental ports with cargoes of about 500 tons at a time.

Following an earlier trial shipment, two vessels have loaded scrap at Fleetwood this week: the Dutch motor vessel "Expo" which sailed Wednesday night to Northern Spain with a 463-ton cargo, and another Dutch vessel the "Coenraad K" which began loading Thursday morning after a one-day discharge of fruit and general cargo which she had brought from Bilbao on the regular Golfo Line service.

Commenting on his company's decision to make Fleetwood their Northern base of operations, Mr. John L. Cookson, a director of Mayer, Newman & Co., said that location and competitive pricing had been important factors.

"But we also had to take account of the sort of service we would be getting, with fast turnaround essential under our charter arrangements," he said.

"The local Docks Board management have given us their fullest co-operation and together we have devised an operational system which will give us the performance we are looking for."

Steel scrap will be delivered by road vehicles which will be weighed on arrival before unloading at the storage area. The scrap will be stockpiled according to grade to await shipment in 500-ton lots. These will be ferried to ship's side by a shuttle service of skips and loaded by 35-ton capacity Coles 'Vigorous' mobile cranes.

Mayer, Newman & Co. have been exporting iron and steel scrap from the U.K. since the 1930s and their shipments have been running recently at an annual value of about £2 million. Next week the company will be commissioning a new fragmentation plant at Erith estimated to have cost about £200,000 and

with a capacity of 40,000 tons of light scrap per annum. (British Transport Docks Board)

New monthly bulletin

Le Havre:—The enterprise and vitality of the Port of Le Havre in the years since the war has earned it countless friends all over the world.

The first permanent agency abroad was set up in London, but others were added later in New York and Tokyo to give us full-scale representation in three of the world's most important centres of trade.

Today our newest baby makes its bow. This is the first number of "Flashes from Le Havre", which is designed to back up the work of our overseas offices and make Le Havre even better known, especially in the countries where it is not yet represented.

Each month our journal will live up to its title and provide readers with concise, and usually illustrated, news items telling them everything they need to know about a port that is in the very forefront of the technical revolution now taking place in the field of international transport.

Our ambition is to be of use. So we shall be only too pleased to receive your criticisms and your suggestions. And if there is anything you need further information about, just write and tell us at the Port of Havre Authority, or, as we call it here, the P.A.H. (Port of Le Havre Flashes, Number 1, March 1972)

London party

Le Havre:—At a reception given by the P.A.H. at Trinity House on January 26th Messrs. Jacques Thillard, then Vice-Chairman of Le Havre Port Authority, René Génin, Commercial Director, Jean-Claude Ailleret, Director of Engineering, and Philippe Prévot, our Representative in London, had the pleasure of renewing contact with their many English friends, not only in the business and shipping world, but also in industry, banking, commerce and journalism. All 350 guests agreed that it could not have been held at a better time, coming as it did only a few days after Britain's joining the Common Market. (Port of Le Havre

Flashes)

New chairman

Le Havre:—Jacques Thillard succedes Maurice Thieulent, whose nine-year term expired on December 31st. The new Chairman was born in Le Havre in 1909 and is a very well-known figure in the shipping world, which he entered in 1931. He is a ship-broker for vessels from English-speaking countries and represents many shipping companies in Le Havre, especially tanker companies. (Port of Le Havre Flashes)

East-Asia container boom

Bremen:—The more than in the past forthcoming attitude of the Soviet Union in east-west trade; the Europe-Asia land connection with the Trans-Siberian railway, hauling container trains and special handling facilities on the Soviet Pacific-coast; the investment of an estimated 300 million pounds in 1972, 73 and 74 in the construction of some 25 container-ships of the third generation (for ten European and Japanese shipping companies)—ships of 25-knots and each accommodating 2000 containers; all this signifies a containerboom in the East-Asia trade. According to a spokesman of the Far Eastern Freight Conference, even this heavy engagement will not lead to an over-capacity on this world-trade route, which is becoming of over-increasing importance. (Bremen Air Mail, January)

Global container service

Bremen:—With their dis-association from the container consortium in the Australian trade, the British Associated Container Transportation (Australia) Ltd., ACT, intend to form a group of five British shipping companies, in conjunction with the Australian National Line; to give a 'round-the-world' container service which will also, for the first time, include New Zealand as well as join the service from Europe-to Australia and New Zealand-with those from Australia and New Zealand to the North-American east coast. (Bremen Air Mail, January)

German and Dutch ports

Bremen:—According to the Conference of German Northsea ports,

two Dutch ports on the Ems have indicated an interest in joining the Conference. A decision will be taken by the Conference in February 1972 relative to these applications. (Bremen Air Mail, January)

Nepal, new shipping nation

Bremen:—Subsequent to the government of the Himalayan kingdom of Nepal agreeing to the registration of the Royal Nepal Shipping Corporation and the chairman of the R.N.S.C., Prince Gyanendra Vir Virkram Shah christening Nepal's first ship in Europe at the end of 1971, Nepal joined the shipping nations of the world. The RNCS interests in Europe will be cared for by the experienced Bremen shipping company, Messrs. DDG Hansa. (Bremen Air Mail, January)

Sceptical on LASH

Bremen:—Feelings met with, in the German inland-waterway shipping, regarding the LASH overseas transport system (Lighter Aboard Ship) are to be described as ranging from 'reserved' to 'sceptical'. It cannot yet be recognized as to whether LASH has a future, can operate economically and—above all—exactly how the lighters should be employed which: 'at the present time do not meet any of the required nautical standards directly they enter the spheres where the ruling licence-and-safety-regulations fully apply for the inland-waterway-shipping as a whole'. The lighters fail to meet any of the requirements, ranging from those respecting the anchors, to those for lighting and, further, to those for the mast—which are all compulsory other shipping. Other problems mentioned were those of 'the acquisition of suitable return cargoes' and 'the difficulties of varying drafts'. (Bremen Air Mail, January)

New committee

Barcelona:—During the course of a meeting which was held at the Junta of the Port of Barcelona, the first Committee for the Prevention of Losses was constituted, which will be the first of many which will function along all our coast. This said Committee is made up by representatives from the Admiralty, Customs Authorities, Port Authorities, Mari-

time insurance Companies, Section of Port Works, The Spanish Maritime Commissioner, Stevedoring Companies, Shippers, Ship Owners, Chamber of Commerce, Land Transporters, and the R.E.N.F.E., and has, as its objective, to study, and propose to the competent authorities, which will be in charge of enforcing them, the measures and controls which are considered the most effective, to reduce, as much as possible, the losses, break downs, and damages to goods and vessels during their time in the Port.

We are aware that committees of this type are in existence in the United States of America, and in the Far East, and among those worth mentioning is the one in New York, which has been working since the year 1926, with excellent results, because they have been able to unite the experiences and establish methods of prevention and security which are favourable to the various sectors, which intervene in the movement of merchandise and ships, not only in the concept of the owners, but also in the interests of the ship-owners, exporters, underwriters, handlers and packers, etc.

The Barcelona Committee, even at its every constitution, adopted the agreement to direct their studies in four firmly defined directions, which are: the conditions of the installations and equipment: the packing and the load units of the merchandise, the handling of cargoes, and the regulations which are related to maritime traffic.

It is hoped that the studies and recommendations of this Committee can lead to a progressive perfectionment of the works which are carried out in the port, and will reflect in a greater prestige and security of the operations in the port. (Puerto de Barcelona Boletín Informativo, July/August 1971)

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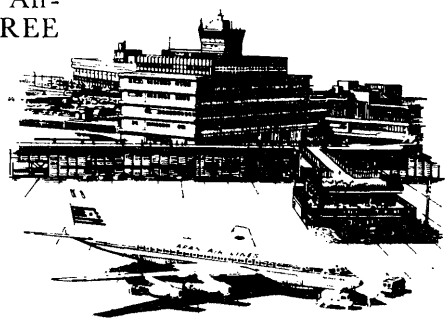
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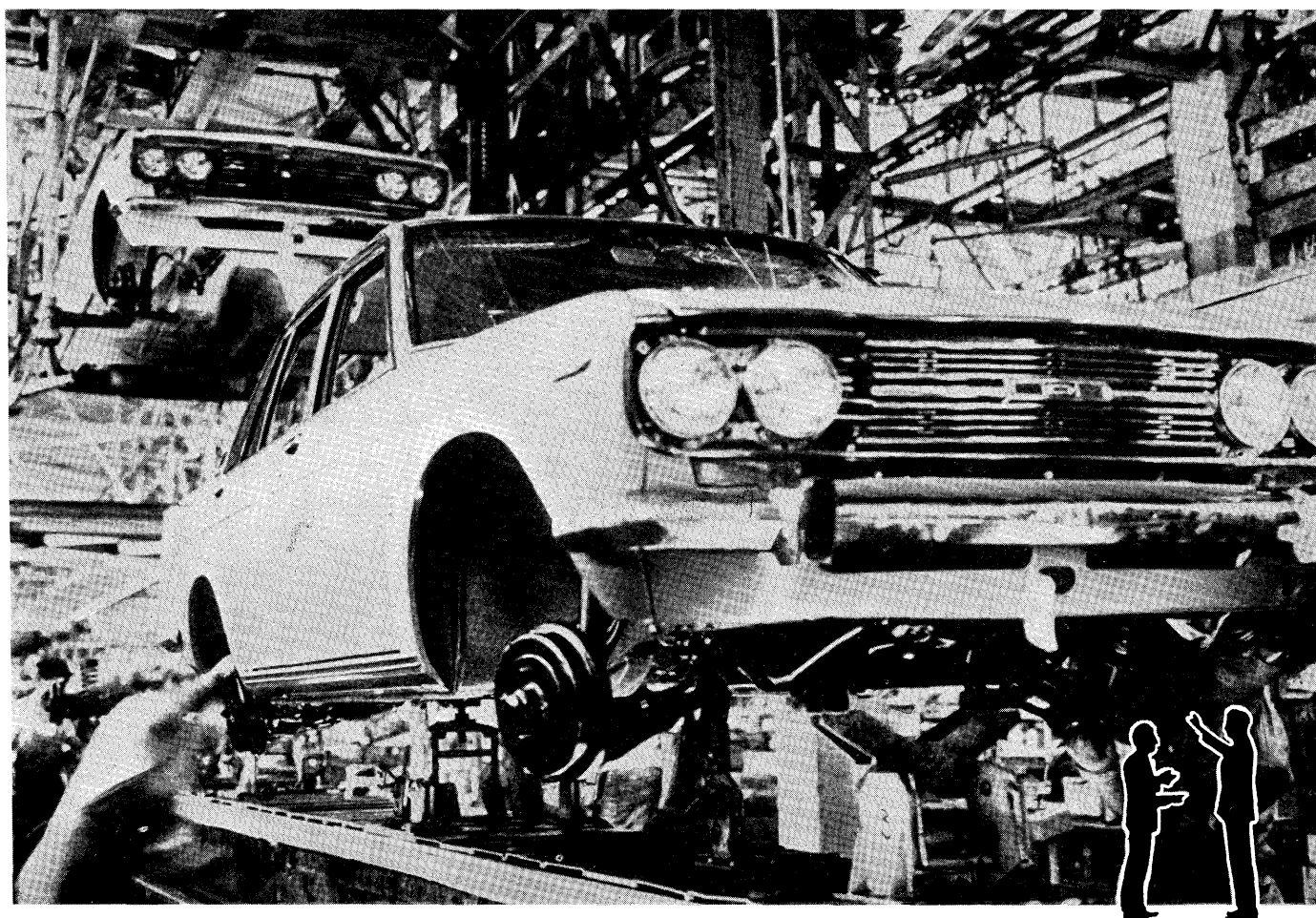
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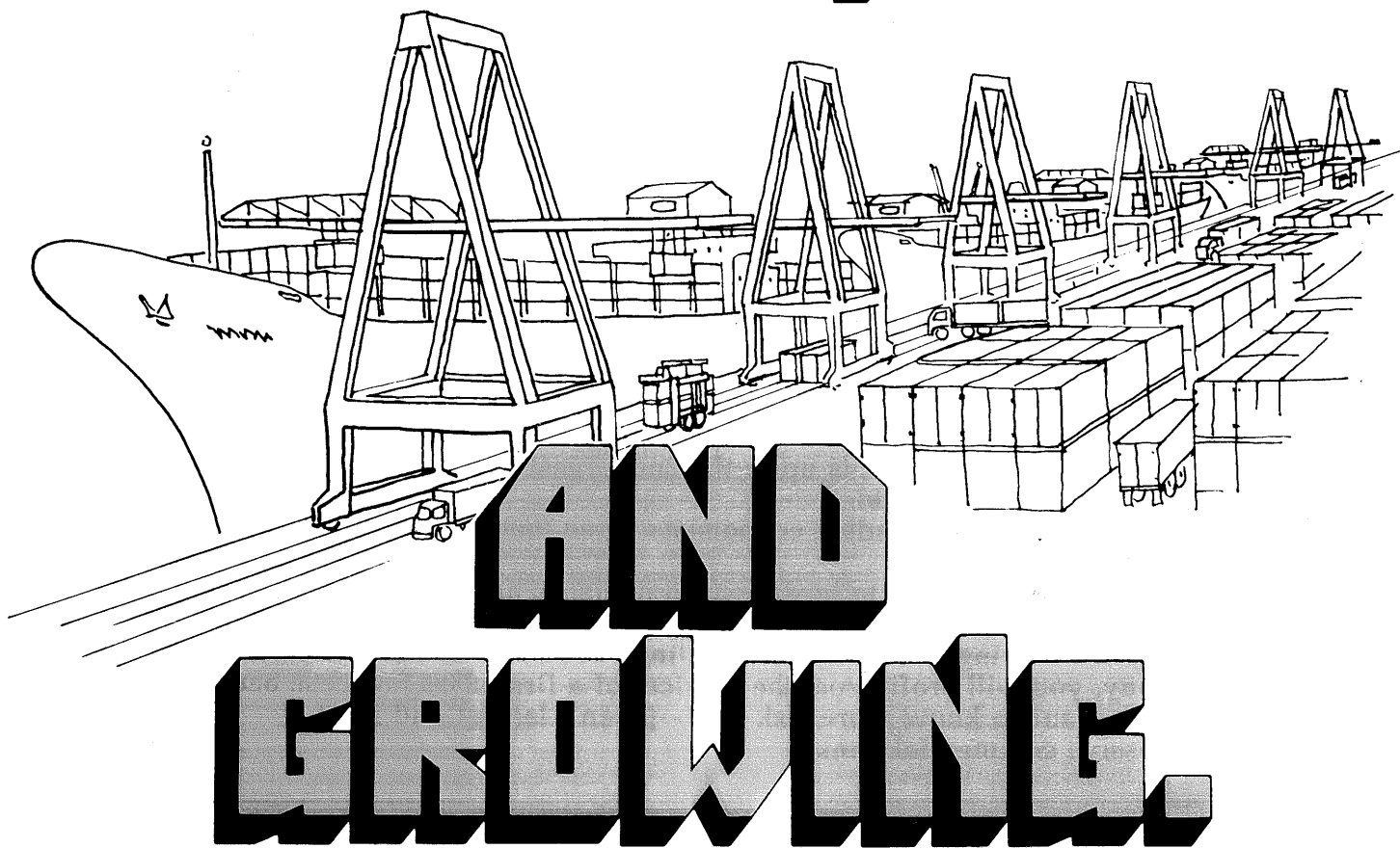


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C.P.O. Box 148, Tokyo, Japan

Los Angeles Representative Office: Suite 1790, Crocker-Citizens Plaza,
611 West Sixth Street, Los Angeles, California 90017 Phone: 213/680-9855
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