

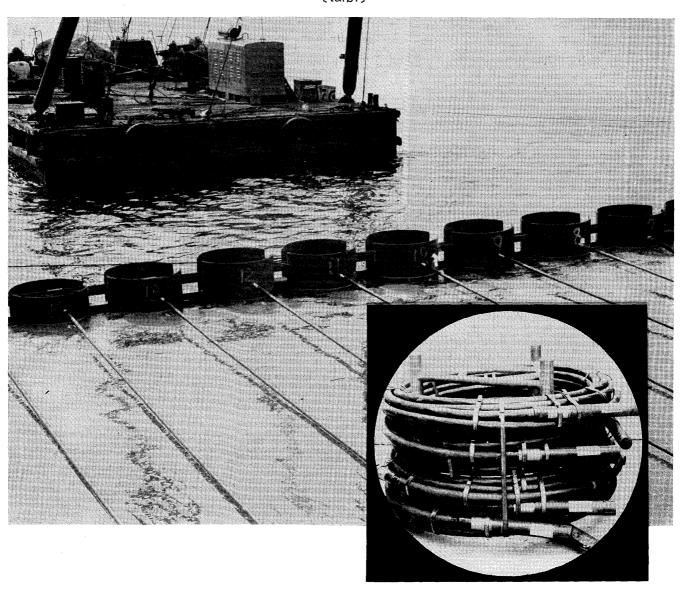
# PORTS and HARBORS

January, 1973 Vol. 18, No. 1



Amsterdam-Rotterdam Conference IAPH May 1973

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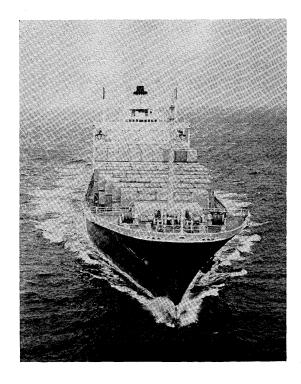
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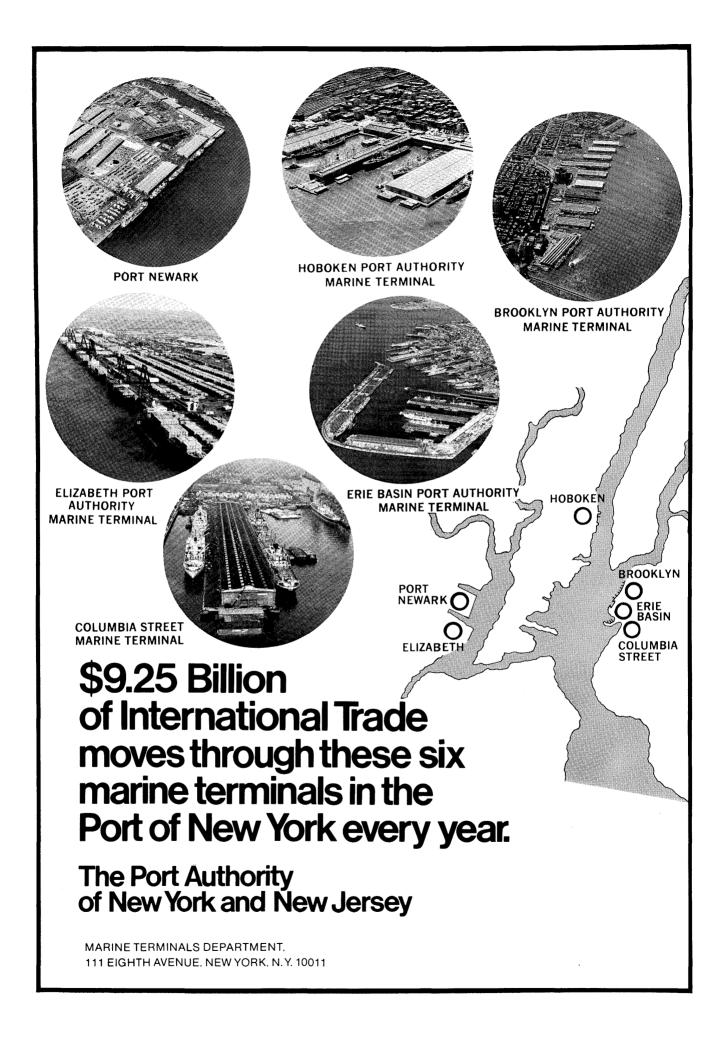
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# PORTS and HARBORS

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#### The Cover:

This over-all aerial view of the port of Oakland shows the Seventh Street Terminal in foreground, the Outer Harbor area (at left), including Sea-Land Terminal and Outer Harbor general cargo terminals, and the Middle Harbor and Inner Harbor sections along the Oakland Estuary (waterway at right). The Seatrain Terminal and middle Harbor Terminal (under construction) are located in the Middle Harbor area of the port.

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# PORTS and HARBORS

#### Forum on Port Problems:

# Facing Up to Rapid Change

#### By John Lunch

# Director General The Port of London Authority

to the 23rd Conference of the Association of Australian Port and Marine Authorities held at the Hotel Australia, Adelaide October 17, 1972

The Port of London Authority

#### I. INTRODUCTION

I. 1 It is an honour to be guest speaker at this—the 23rd conference of your association.

I. 2 As I travel round Australia I am continually impressed by the way in which you have met the challenges which faced you. The enthusiasm, drive, determination and expertise of the Australian people has turned this country into one of the most industrially and commercially exciting areas that I have visited.

#### II. CHANGING INDUSTRIAL PATTERNS

II. 1 The world is in a time of great economic change that has been called "the second industrial revolution." Remarkable advances in technology bring social changes of such rapidity that politicians, business management and trade union officials can only meet the human challenge by truly imaginative qualities of foresight and leadership.

II. 2 World economic groupings are in the melting pot. The enlarged European Economic Community, the Common Market of 10 (or is it 9?) will be one of the largest consumer markets in the world with a gross national product that matches the USA and exceeds that of Japan or Russia—and what about Red China?—the dark horse, but one which may emerge as another of these great economic groups in the

next 10 years.

II. 3 I firmly believe that these large economic groupings will, at any rate after a pause as the new groupings settle down, bring a substantial stimulus to world trade. But we must be alert to changing patterns. Just as you in Australia have re-shaped your foreign trade, so will others.

II. 4 For instance, it is not widely realized that it is highly probable that the USA will be a very large importer of oil by 1980 unless there are dramatic changes in the domestic fuel programme. This not only has profound significance for US ports, many of which are not deep water by world standards, for world tanker programmes and for the ports of other countries—it has profound significance for world trade. For to pay for those 1980 oil imports the USA will need greatly to increase its exports to the world. By the late 1970's therefore we must all expect a much bigger export drive by the USA into our countries than we have yet experienced—just as we have in the last year experienced a fresh Japanese export drive with their switch from American markets. We can all see that trade barriers must come down if these policies are to be effective, for no major trading country is prepared to stand for oneway restrictions on trade.

II. 5 Conversely at this very moment the UK is beginning to find large quantities of oil on its doorstep in the North Sea along with natural gas. So you may say the UK will no longer need to import large quantities of oil. Not so. The North Sea oil is proving to be light crude, well suited for the gasoline market but we need substantial quantities of heavy crude for fuel oil production so in the second half of the 1970's we are likely to see the UK still importing heavy crude from the Persian Gulf, etc., while exporting our light crude oil to the USA and elsewhere. At least I am hopeful of this pattern as it will be good business for ports! But we need to build our ports deep and adequate in good time and to foresee as accurately as possible the way in which trade will move; and we must use our skill to build the greatest flexibility into our plans.

II. 6 Another trade that may be of particular interest to Australia is high grade iron ore. I foresee a great potential trade for southern hemisphere high-grade iron ore to the huge steel producing areas such as Western Europe. The economics of very large carriers and the availability of deep water ports at both ends, with suitable transshipment points in Europe, will largely determine this trade, I suspect.

II. 7 The container revolution in general cargo is very familiar to you. As predicted in the mid 1960's it has had a profound effect on the whole process of marketing, distribution, manufacturing location, and assembly. Eight-five per cent of the containers now passing through Tilbury container port are full-load door-to-door containers—a prediction PLA market researchers made seven years ago but one that wasn't widely believed at the time.

II. 8 Meanwhile the impact of technological change on people is almost outstripping our ability to adapt. In advanced countries there is a great expansion in service industries to meet the needs of increased leisure activities. Holidays lengthen, weekly working hours shorten. Financial and other help in resettlement is needed as people must switch

from capital-intensive industries to the new labour-intensive leisure industries.

II. 9 Ten years ago I would have said that a good port director must be a widely based transport man. Today he needs also to be an international businessman—by the highest standards.

### III. FACING UP TO RAPID CHANGE

III. 1 May I briefly explain how we in the Port of London and in British ports generally have faced, and are facing, the enormous challenges of our time. This is an exciting story—a story of solving physical and human problems thrown up by changes in social and economic patterns as British industry has developed new processes, new products and new markets-and the world has evolved new freight transport methods. Nearly every major change in British industry has affected the ports industry in one way or another and we have risen to the challenge in the Port of London to maintain our proud role of Britain's premier port.

III. 2 The Thames Estuary is one of the great industrial rivers of Europe. From the City of London to the mouth of the river, industrial enterprises are spread along both sides of the Thames for about 40 miles.

III. 3 Many of these enterprises have been established there for years past and are household names. They are part of the great industrial complex of South East England—a complex that extends into the heartland of England to Birmingham and the Midlands. To put it into more concrete terms, about one-quarter of Britain's overseas trade lies within only a 35 mile radius from the centre of London. The Estuary, the river, and the port are vital to their continued success.

III. 4 The demands of modern industry are growing all the time and can be gauged in terms of oil consumed. The Port of London's estuary channels now handle more oil than any other estuary in the UK.

III. 5 In our port, like the other great ports of the world, industry has been the foundation of our past and present. Our future depends on our ability to serve it well and to adapt to its changing needs.

III. 6 Our efforts to help those industries have been in two broad directions—firstly by providing ever improving specialist facilities in the river and doing all we can to assist those industries actually situated on the riverside and, secondly, by reshaping and increasing the efficiency of our enclosed docks systems in preparation for demands that will be made on us in the future.

III. 7 These endeavours are very much concerned with physical problems and physical development. But it is the human aspects that have given us the greatest concern and into which we have put, and are putting our greatest effort.

III. 8 It was not until the 1960's that the re-shaping of the Port of London became urgent. This was the period when ship design started to undergo a radical change. The size and speed of freight ships, unchanged for many years, began to increase dramatically. Technical developments meant that they would be much bigger and faster than ever before.

III. 9 Tankers in particular, began their rapid transition from being described in tens of thousands of tons to the present gargantuan vessels of a quarter of a million tons and even half a million tons. The cargo liner vessel of those days were thought to be the last word in modern ship design—until the American container ships made their appearance, first crossing the ocean from continent to continent in 1966.

III. 10 These developments, coming at a time when we were planning for the port of the future, gave us the opportunity to plan for the deep water access we knew would be needed. We extended our seaward limit well into the North Sea and set about dredging our approach channels still deeper. We cut a completely new channel to allow the new large tankers access to the oil installations at the mouth of the estuary.

III. 11 We improved our navigation systems by setting up the Thames Navigation Service, equipped with the latest radar and radio equipment to give complete radar coverage of the river and give ships safe passage in all weathers.

III. 12 It now became apparent that new dock facilities would be needed down river to take the new larger vessels. Tilbury, 25 miles below London Bridge, was the ideal site. We already had land available for a dock extension, in fact the land had been held in reserve for such a development since the original dock opened in the 1880's. Thus have we benefitted from the foresight of our forefathers.

III. 13 Once decided, we pushed ahead with the new dock with both speed and flexibility—so that we could put the new berths to a variety of uses depending on the needs of our customers. We foresaw the development of large scale container operations and allocated as much back-up land as was available, for the berths. Before 1966 we carried out computer research on simulated container working, both on berth operations and on door-todoor container transport across the world. We studied American experience. We went for the project whole-heartedly.

III. 14 Our faith in this venture was justified and Tilbury has now become an international container port of significance, at the same time handling other unit loads and bulk cargoes, such as forest products and grain.

III. 15 Tilbury is well established as Britain's largest container port and container traffic has been growing by about 50 per cent per annum. Last year it handled over 200,000 containers and we expect around 300,000 this year. In cargo deadweight tonnage figures that represents a growth from about 2 million tons of cargo to 3 million.

III. 16 Since the beginning of this year we have welcomed six more container services to Tilbury and this progress has made us confident of reaching our target. When Tilbury container port is fully extended, it will have a maximum capacity of between 4 and 5 million tons at the five container berths, and we estimate that we will reach this point about 1974–75. We have already planned the next stage—Maplin—which I will refer to later.

III. 17 As you will know Tilbury is the centre of the general cargo trade between Australia and the United Kingdom. Here 80 per cent of the general cargo trade between our two countries is handled in an intensive container operation supplemented by daily railway freightliner services to the major UK

centres.

III. 18 And Australia is just one of the important trading areas with whom we deal in large quantities. EEC as a trading block is responsible for more general cargo trade through London than any other trading block. This, of course, is bound to be a growth area as Britain joins EEC but I cannot see a vast increase for the first few years. We are planning for an upswing in European and trans-shipment traffic and our future development will obviously be geared to this feature. However, I must emphasize that the Port of London, while being a vital link in the trading chain of EEC, will equally maintain its role in traditional trades and I see us as a main centre for Australian goods for the foreseeable future.

III. 19 This is particularly true when you see the emergence of global services similar to that started this year by ACT/ANL using Tilbury. Similar services are contemplated by other companies. It is almost certain they will service Britain, and London's position and record makes it an ideal centre.

III. 20 In the river near Tilbury, we have established moorings for the new barge-carrying vessel services that have just started and our riverside grain terminal there has been a great success. Last year it handled more than 1.5 million tons of grain and is now responsible for transshipment to all parts of the UK and overseas-to Malta and Rotterdam, for example. One broker recently stated that the terminal was "becoming too popular, being more competitive than Continental transshipment ports." We deem this a high compliment.

III. 21 Our progress has not been only by planning the right facilities at the right time. Relations with dock harbour have greatly improved and gaining some of the new Tilbury container services was partly a result of PLA management inviting the trade union officials to joint them in visits to the shipping companies on the Continent.

III. 22 You will all know that ports can provide splendid facilities but still not achieve their aims if their standard of service is not good enough. The port's recent trading gains are closely bound up with our greatly improved services to importers and exporters.

III. 23 As a result of our human dealings over the last few years combined with the introduction of lorry booking systems, I believe that we are now giving a better service to importers and exporters than at any time in our history. It is unusual for a lorry to spend more than one hour in the PLA docks.

III. 24 Again, I emphasise this has been achieved by paying as much, if not more, attention to the human side of our operations as to the physical arrangements.

III. 25 Once the Tilbury development was under way and the changing pattern of trade and shipping became clearer, it was obvious that some of our upriver facilities were no longer suitable or needed and we began a rationalization process that aimed to achieve the correct balance between conventional facilities and modern unit load facili-

III. 26 Since 1968 we have closed down large areas of our upriver docks - including complete dock systems—reducing the number of conventional cargo berths in our docks to about one-third of their previous number. We talk about the "factor of ten" meaning that one container berth can handle the trade of 10 conventional berths. As a result of this we have of course large areas of freehold land to re-develop and this is vital to us to help finance new developments down-river.

III. 27 Let me, here, correct a misunderstanding which is current in some shipping circles. London has not turned its back on conventional cargo. We are pleased with the successes of our remaining conventional berths.

III. 28 In all, the PLA docks currently handle some 3.5 million tons of conventional general cargo annually. Although a decreasing figure with the switch to unit loads. this is still important to us, indeed it still is as large as our container tonnage.

#### MANAGEMENT ORGANI-ZATION CHANGES

IV. 1 Our rationalization measures have not been confined to prunning our dock facilities—they have extended throughout our whole organization. Engineering, marine services, and our whole administrative machine have all been involved in our management revolution to cut overheads along with this physical revolution.

IV. 2 The management revolution has taken place from top to bottom. Our head office staff used to number about 800. Now it is shaping up to the 100 mark. We used to occupy two massive buildings in the City-eight floors in all. We now occupy a little over one floor in one building for our head officein London's World Trade Centre.

IV. 3 This revolution to devolve management with local directors has been lined up with our surplus real estate policy and the proceeds of the sale of these two head office buildings—over \$30 million—have contributed considerably towards strengthening the port's finances.

IV. 4 We have now streamlined our operational organization into four business divisions, each headed by a Director with full authority to match his considerable responsibili-

- The Upper Docks, which I have already mentioned.
- Tilbury, which includes Tilbury Docks and the grain terminal.
- Marine Services, which covers our harbour service, tugs, floating plant, lock staff, hydrographic service, and the Thames Navigation Service-in fact, all marine affairs.
- And finally, our newest division —Maplin, which I will speak about later.

IV. 5 Each division's director is responsible for all its affairs. This leaves the small head office to concentrate on the forward planning of the port, policy, and overall direction. And this is as it should be. Devolution has proved to be more efficient and cheaper than central management.

#### THE HUMAN PROBLEMS OF CHANGE AND HOW THEY ARE OVERCOME

V. 1 But this technological revolution in cargo handling, and all that goes with it, has had wide repercussions on the port's manpower. You will know well the problems of ports changing from labour-intensive undertakings.

V. 2 The PLA is only one of about 150 employers of dock labour in the Port of London and there is more than one trade union to represent the port's workers. Nevertheless the PLA is the largest single employer of dock workers in the Port.

V. 3 To go ahead with the reshaping of our Port was fraught with dangers of a major clash with the trade unions because of the change required by the technological revolution on a scale that few industries have had to face in such a short time. Up till the recent national dock strike which was not aimed against PLA staff, this had been avoided by close consultation, good communication, and the endeavour to involve every individual in the ports' problems and the reasons for change.

V. 4 Over a period of six years in the PLA docks:-

- We have done away with the casual system of labour and every man has a permanent employer.
- We have abolished bonus payments and our men now receive a high fixed wage.
- We have a new procedural agreement with dock labour which eliminates delays in settling problems that arise.
- We have introduced shift-work so that our docks are open for work for 14 hours a day, with 24 hour round-the-year working at the container berths at Tilbury.
- We have reduced our PLA manpower, of all kinds, from 12,500 in 1969 to 7,500 today and we have produced a continuing monitoring system to ensure that the proper level of manpower is maintained.
- By the beginning of 1973 and since 1968 we will have roughly halved the number of registered dock workers in London from 23,000 to approximately 12,000 and 5,000 of this reduction will have taken place in 1971-72— all by voluntary severance arrangements and natural wastage to meet the technological revolution in cargo handling.
- We have brought about an integrated staff structure in the PLA and are now working on the hard task of creating a graded career structure for dockers. Every docker should have a Director General's baton in his overall pocket.

• We have sponsored the introduction of an entirely impartial and editorially independent newspaper for the Port of London—called "The Port"—to keep everyone informed.

V. 5 Through the period of these changes there had been no major industrial unrest by world standards. The trades unions had been informed, consulted and agreement has been reached at all stages of this progressive change.

V. 6 No one had been made compulsorily redundant — "fired." By voluntary severance schemes which give men a substantial financial inducement to leave the industry, and by natural wastage, the reductions in manpower have been peacefully achieved.

V. 7 Our reward has come from the much better service to importers and exporters, particularly through greater industrial peace. In the last three years London has only been on strike during national port strikes and the last official statistics published show London with the best record of major ports in Britain in terms of days lost in industrial disputes.

V. 8 The other London port employers have been faced with the same problems of reducing the labour force, and have tackled them the same way. All were faced with the problems of explaining what was happening to their men and why the changes were necessary. This is why the PLA set up "The Port" newspaper I have just mentioned, as a completely independent publication for the docks industry in London which the men would trust and in which they could put their point of view as well as reading management's side of the story. It is published fortnightly and is bought regularly by men not only in London but in other UK ports as

V. 9 This paper is unique in British, and probably European, industry. What is more, it does the job it was designed to do. Through it the London docker is said to be the best informed docker in Britain. Its contribution to bringing about peaceful change in the port cannot be too highly praised.

V. 10 It would be wrong, however, to give you an impression of national industrial harmony in the UK ports industry.

Despite all the efforts by the PLA and other responsible organizations, efforts which had successfully solved many of the dockland problems of change, the country has just suffered a serious port strike, not on pay but on the issue of who packs and unpacks part load, i.e. groupage, containers.

V. 11 But now we are back at work, and when I left London men and management were still hard at it clearing up the backlog including our vital exports.

V. 12 What have we achieved and what have we learnt from our latest experience?

V. 13 Certainly we have, through the improved selective voluntary severance offer now made possible by Government finance, the opportunity to correct the imbalance in age grouping and fitness of our labour force as well as reducing total numbers to continue to meet technological change. Much increased offers of "golden hand shakes" to dockers over 55 and unfit dockers have already brought a most heartening response which should greatly reduce the natural emotional pressures.

V. 14 More important is the fact that attention has been focussed on the problems caused by the rundown of employment opportunities in labour intensive areas. It is simply not enough to pursue the commercial objectives of one's business and regard the resulting human, social, and economic problems as a casualty of progress and somebody else's, probably the State's, responsibility.

V. 15 I cannot, therefore, overemphasize the importance of the lead that must be taken by port authorities in developments within their port area. Only by the port authority properly grasping the initiative when necessary and by leading or pushing other port interests will the ultimate prosperity and potential of a port be realized.

V. 16 In the United Kingdom, the new Chairman of the National Association of Port Employers is also Chairman of a port authority. In London, the PLA's own Director of Upper Docks is a Chairman of the London Port Employers' Association.

V. 17 During our recent crisis I formed a small steering committee of leading London port employers

under my own chairmanship, with the object of ensuring a unity of purpose and to provide an opportunity to exchange confidential information of importance to us all it has proved to be a significant success.

V. 18 With the decline of labour intensive cargo handling the number of port employers in London will also be reduced. We intend to see that any merging of employers affairs is conducted in a manner which is in the Port's best interests and under PLA leadership.

V. 19 We in the PLA have a great deal at stake. Notwithstanding our recent problems we have brought the Port successfully into the 70's, and we are now working hard for the 80's, 90's and the 21st century. The Port of London in 1972 is already building for its future to the end of this century and beyond; with development plans on an unprecedented scale.

V. 20 To achieve our ambitions we will accept the challenge of leadership with all the responsibilities that it entails.

V. 21 Concern for the individual to enable him to contribute his utmost to the organization is of paramount importance in this leadership. In my opinion there are no bad dockers, there are only bad managers—and I use managers as embracing not only port and stevedoring managers but others such as ship owners, importing and exporting managers. In short in the long run we get the dockers that we deserve.

#### VI. ECOLOGY — THE ENVI-RONMENT

VI. 1 Concern for people has many aspects and port authorities must be deeply concerned to assure a good environment in their port, free from pollution. We are proud in the PLA of our record of achievement in the last 15 years. During that time the tidal Thames—this major industrial river—has been turned from a river in which only eels could live into one which has fishing contests regularly throughout its entire length. On the last count 56 species of fish had been identified in the tidal Thames.

VI. 2 Parliament placed on the Port of London Authority the entire responsibility for achieving this and gave us the appropriate powers.

VI. 3 We have endeavoured to proceed by persuasion and consultation as far as possible but occasionally I am afraid it is necessary to prosecute offenders. All the technology is available to clean up polluted industrial rivers, estuaries and harbours. But the political will is essential, combined with good management of pollution control.

VI. 4 In the course of our pollution control work, we in the PLA have gained a great deal of experience—we were ecologists before the term became widely used. We are now setting up a consultancy division of the PLA to make our knowledge and advice available to others on a normal commercial basis.

VI. 5 In this consultancy we aim not only to cover pollution control but other aspects in which the PLA have developed expertise such as dealing with theft and pilferage in the docks. It is pleasing to be able to say that losses from these causes in the PLA docks are only .005 per cent of the value of the goods that pass through—and remember that there is still slightly more conventional general cargo than container cargo. To achieve this we spend approximately 3 per cent of our gross revenue on security but I believe this is good business practice since it helps to ensure a good service to the importer and exporter.

VI. 6 Pollution control costs run much higher but are still, I believe, good value for money. Over the last 15 years the total cost to the PLA, local authorities, and industry of cleaning up the River Thames has been some \$100,000,000 or roughly \$6,000,000 a year. Just to give a comparison, this is only one-thousandth of the annual value of the goods using the clean tidal Thames.

#### VII. FINANCE

VII. 1 But before I come to speak of our latest exciting plans I would like to tell you about the way we raise our finances. Fundamentally, we are a completely independent undertaking operating as a commercial business in a highly competitive industry. We stand on our own feet and raise our capital from the public through the London stock market. We have always raised the bulk of our capital in this way.

VII. 2 This is why we must

have the highest possible financial standing both as to assets and to profits if we are to inspire the confidence expected by City interests before they will subscribe the capital we need. By good management of our affairs in 1971 we reduced our capital debt, increased our reserves and made a profit. At the beginning of this year we hoped to do even better and over the months up to the recent national ports strike our profits were better than in any previous year over the same period. The strike was a severe profit set-back but we will still hope to make a profit in 1972.

VII. 3 The Government policy for British ports is that they should bear the full cost of constructing and keeping up all their facilities-including the full cost of creating and maintaining dredged channelswithout subsidy of any kind. At one time Government grants of 20 per cent were available for new port developments—but these have now been withdrawn. Put simply, ports in Britain are treated just like any other business in the country. It will be interesting to see whether any "harmonization" of this policy is needed as we join the Common Market.

#### VIII. THE FUTURE

VIII. 1 Now our latest development for the Port of London of the future—Maplin. We now have Government agreement in principle to build a deepwater seaport at Maplin Sands in the outer Thames Estuary for the oil trade and for new container roll-on/roll-off facilities.

VIII. 2 This will be perhaps the biggest transport and trade development ever undertaken in Britain—and it lies entirely within PLA port limits. In conjunction with the development of the "Third London Airport" on this same site, Britain will be adding a vast new area to England—over 30 square miles of land to be reclaimed from the sea for this combined airport and seaport complex.

VIII. 3 We shall be deepening our main channel into the Port of London from the North Sea. It is capable of being dredged to take the deepest draught tankers that can pass through the English Channel, about 500,000 tons. The sandy spoil will go to building up the Maplin Sands to

help reclaim this vast area.

VIII. 4 Maplin is of course the most exciting and important project the Port of London has ever undertaken. It ensures the PLA's future as a leading British trade artery, and as a major port for Europe. Maplin is the next stage of the PLA's planned policy of moving the Port seawards, away from central London and into the deep estuary waters.

VIII 5 The Government agreement in principle is initially for the first stage: for vessels up to 65 feet draught-roughly 250,000 ton tankers fully laden-for an oil terminal covering 1,000 acres complete with jetties, buffer tank storage for petroleum and a pipeline network to take the oil to Thames refineries and for a further 1000 acres for containers and other unit loads. We aim to start dredging in 1973, and open the terminal in 1976. The airport is planned to open in 1979/80.

VIII. 6 The opportunities for further development of the Thamesbased oil industry are great. Existing refineries are expanding. A new refinery is under construction. Two more refineries are in an advanced stage of seeking planning permission. And there is plenty of land, and the opportunity to create more land along the many miles of the Thames

VIII. 7 I spoke earlier about Tilbury reaching its capacity for containers by about 1974/5—at about 4 to 5 million tons of cargo. Maplin is very important to us to provide the facilities to handle the growing container trade beyond this date. The Maplin container port will have the capacity to take the largest and fastest container ships that can ever be envisaged. And to enable them to enter and leave, berth and unberth at all states of the tide and in virtually all weathers.

VIII. 8 Of particular importance is that we can provide all the land at the container berths, and behind them, that could ever be needed for these operations—for the foreseeable, or even the unforeseeable, methods of container handling that might evolve. This perhaps will introduce some interesting thoughts in your minds about future container handling systems, and what they might be-moving belts, remote-controlled systems to take containers off a vessel and place them in a predetermined position on shore and vice versa-who knows?

VIII. 9 Roll-on, roll-off berths are also an important part of our plans to complement the container berths and provide modern facilities for EEC and trans-shipment traffic.

VIII. 10 To serve the Maplin developments the Government plan new and most modern road and rail links from Maplin to London and to the rest of the United Kingdom.

VIII. 11 The plans for Maplin have been compared to a "Europoort". This is not really correct. The Port of London—that ribbon of river-already contains immense industrial investment (Ford, Shell, Unilever, etc.) comparable to the Europoort type industrial complex, but without a centralized heavy industrial complex beside the deepwater berths. Through this we shall avoid many of the environmental disadvantages—for example by having our oil berths at the Estuary entrance and serving industry by pipe-

VIII. 12 Maplin is ideally situated close to the industrial heart of Britain and of North West Continental Europe and will be ready to handle the ever-increasing trade that must surely come from the United Kingdom's entry into the Common Market-with the most modern facilities for access to the great searoutes of the world.

VIII. 13 We see the Port of London as having a significant transport place in the trading structure of the enlarged EEC. We shall maintain our flexibility and range of service-retaining the best of the old at the same time as introducing new methods and facilities. We shall maintain the balance between container and other unit load general cargo methods and conventional systems, themselves rapidly modernizing. This is a balance not only of facilities but also of economies.

#### VIII. 14 Trumpet

But Maplin is not the end, it is merely the next stage. Beyond Maplin we already have firm ideas on the reclamation of some 300 square miles of estuarial land. Here we have the potential for new industrial development on new land bringing new job opportunities and prosperity not only for the Port of London but for the nation.

#### VIII. 15 Commercial Initiative

But we are not content with providing only the infra-structure for future development, we also recognize the obligation placed upon the PLA to be businesslike, enterprising and commercially wide awake. To do this we are willing to diversify into any kind of business that is economically viable to extend facilities to attract trade to the port and to maintain jobs for our staff and dockers. We are prepared, as businessmen, to consider any proposition.

#### IX. CONCLUSION

IX. 1 This talk has been about foresight, humanity and leadership. Let me end by once again emphasizing the importance in port authorities of first class management, highly oriented to international business with great human understanding and sympathy. There is a paramount need to foresee and meet change effectively and to turn physical and human resources to best accountnot only for the good of the port but ultimately for the good of the nation.

IX. 2 Facing up to change calls for leadership of the highest order from port authorities. I am convinced that this industry will provide

# Oakland—Busiest Container Port on the U.S. West Coast

#### By Ben E. Nutter

Executive Director, Port of Oakland at the press conference, November 14, 1972 at the Palace Hotel, Tokyo (See front cover also)

Record cargo tonnage, construction of another major container terminal complex, the addition of new steamship line calls and the highest frequency of containership

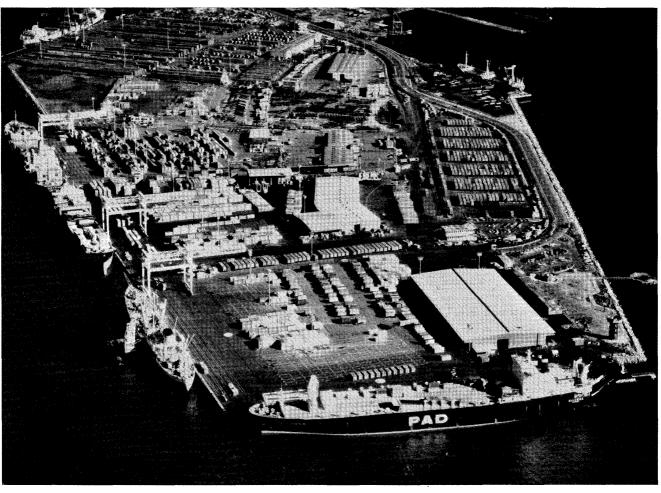
service from the Far East to any U.S. West Coast port are the news highlights from the Port of Oakland, it was reported here today.

A visiting group of city and port

officials from Oakland, California were in Tokyo and Hong Kong this week to hold a reception in each city for shippers, steamship line executives and other officials dealing in trade between the Far East and the United States.

At a press conference held before each reception, Ben E. Nutter, Executive Director of the Port of Oakland, discussed Oakland's position as the leading containerport in the Pacific Basin. He pointed to the frequency of containership sailings, highest container tonnage and more facilities for containerization as the reasons Oakland has emerged as the

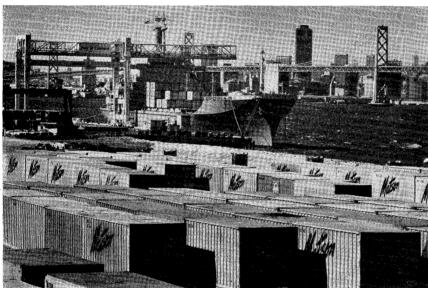
(Continued on Page 15)



The mammoth Seventh Street Terminal at the Port of Oakland. In the foreground is the three-berth Public Container Terminal where the trans-Pacific services of United States Lines, Fesco Line, Phoenix Container Liner and "K" Line Southeast Asia service are located. Behind it is the Oakland Container Terminal, center for the trans-Pacific container service of four Japanese Lines; Mitsui-O.S.K., K Line, Japan Line and Yamashita-Shinnihon. At top of picture is Matson Terminal, base for Matson's Hawaii service and the trans-Pacific container service of N.Y.K. and Showa Lines. The Seventh Street Terminal opened in 1968 and it is the largest container terminal on the U.S. West Coast.



← The Middle Harbor area of the Port of Oakland includes Seatrain container terminal in foreground and new Middle Harbor Terminal behind it. When the entire area is completed, early 1973 there will be 100 acres of container terminal area and four berths served by four container cranes. Seatrain will use two berths, United States Lines will occupy another, and one berth will be a common-user facility.



← With the Matson container yard as a foreground and San Francisco as a backdrop, the Mitsui-O.S.K. Line ship America Maru loads and discharges cargo at Seventh Street Terminal. In all, six Japanese-flag lines are among 12 carriers offering containership service from the terminal. Johnson-ScanStar, Pacific Australia Direct, Phoenix Container Liner, Fesco Line, Matson Line, and United States Lines also base their Bay Area operations at Seventh Street.



 $\leftarrow Shown \quad loading \quad containerized \\ cargo \quad at \quad the \quad Port \quad of \quad Oakland's$ Public Container Terminal section of the mammoth Seventh Street Terminal is a container liner of United States Lines. This facility includes large container storage area, two 40-ton capacity container cranes, three berths and container freight station and cargo transit shed space. Ships of Johnson-ScanStar, United States Lines, Pacific Australia Direct Line (rollon/roll-off service), "K" Line, Fesco Line and Phoenix Container Liner make regular calls at this facility.

#### (Continued from Page 13)

number one container center of all Pacific ports.

According to Nutter, there are 35 full containership sailings per month from ports in the Far East to Oakland, with an arrival at the port averaging one vessel every 18 hours. The total arrivals at Oakland are nine more per month than at any other U.S. West Coast port, Nutter said.

Steamship lines operating full containerships in trans-Pacific service between Far East ports and Oakland include:

The consortium of four Japanese-flag steamship lines, Yamashita-Shinnihon Line, Japan Line, Mitsui-O.S.K. Line and "K" Line, offering six ships with an arrival every five days. "K" Line also provides a service to Hong Kong and Korea with two ships sailing every fourteen days;

N.Y.K. and Showa Lines, with three ships on a schedule of three arrivals per month;

Sea-Land Service, with a schedule of eight sailings per month maintained by 13 containerships;

Seatrain Pacific Services, offering weekly sailings to Japan and a sailing every 12 days to Hong Kong and Taiwan with an eight-ship fleet;

United States Lines, offering weekly service with eight container-ships;

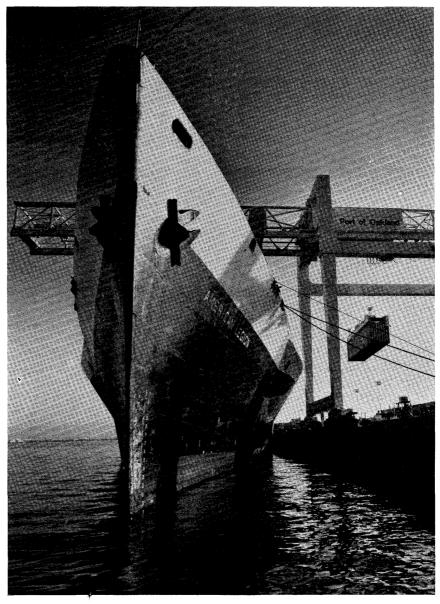
Phoenix Container Liners, one ship arriving semi-monthly;

FESCO Pacific Line, with three ships and one call every two weeks.

Nutter said that recent new trans-Pacific container services at Oakland include the addition of the Phoenix Container Liners, FESCO Pacific Line, and "K" Line's service to Hong Kong and Korea. Additionally, new container line services between Oakland and ports in Europe were added during the year.

Besides the flexibility to offer shippers the maximum frequency of steamship sailings between the Far East and the United States, the Port of Oakland offers fast and efficient flow of intermodal cargo between ocean carrier and inland connections.

"At the Port of Oakland, we have been fortunate in that geography placed us in the center of the Pacific Coast of the United States and adja-



A large containership of United States Line is shown loading containerized cargo at the Port of Oakland's Seventh Street Terminal. Oakland is the largest containerport in the Pacific and offers the highest frequency of containership sailings across the Pacific than any other U.S. West Coast port.

cent to trans-continental railroad yards, at the cross roads of the interstate highway system, and nearby are the air cargo facilities of Oakland International Airport," said the executive director. "These natural assets have made Oakland an excellent transportation and distribution center, bringing all four modes of transportation together. Shippers find they can get their goods to market fast and efficiently," he said.

Located on the mainland side of San Francisco Bay, the Port of Oakland is adjacent to the railroad and container marshalling yards of Southern Pacific and Western Pacific railroads, and the Santa Fe railroad is in nearby Richmond. Oakland is also the crossroads of major highway arteries, and more than 1,000 trucking companies are located near the port area.

"What makes the intermodal system work," Nutter said, "is the container. A container shipment moves as a single unit all the way from the shipper to the consignee, and it is the fastest, safest and most economical way of handling ocean-bound

cargo today," he added.

"But, even the container system can break down if the van cannot make fast intermodal transfers," Nutter warned. "So, a port must not only have geographic benefits with good land connections, but it also must be up-to-date in modern cargo handling technology," he added.

Because Oakland took the step and built new and modern terminal facilities, especially for containerization, it has grown from moderate size to become a major world port, and the largest containerport in the Pacific Basin.

Containerization began at Oakland in 1962. Tonnage that year was 2,500,000 tons, and of that amount, only 54,659 tons were in containers.

Since that time, the rate of growth in tonnage has been phenomenal. In 1965, total tonnage grew to the 2.7 million level and container tonnage had increased to 365,000 tons. And by 1970, five years later, total tonnage had jumped more than 100 percent to 5.6 million tons, while container tonnage increased 1,000 percent to 3.6 million tons. Last year, Oakland's total was 5.8 million tons, of which 3.8 million were in containers, and it was Oakland's eighth consecutive record year in cargo tonnage. That accomplishment was despite the 100-day West Coast dock strike.

"The year 1972 should see as much as 6.5 million tons of cargo moving through the Port, of which approximately 4.3 million tons will be containerized," Nutter said. "A full year of operations, plus the new lines and services added recently, should bring us to that level," he added

Today, the Port of Oakland handles approximately 40 percent of the containerized tonnage moving through all U.S. West Coast ports, and more than 85 percent of the container tonnage shipped through San Francisco Bay ports.

Remarkably, during Oakland's period of container build-up, break-bulk cargo statistics remained relatively unchanged, and, in fact, increased slightly. Oakland has attracted new lines in recent months, including the combination break-bulk/conventional service of Korea Shipping Corporation and the break-

bulk ships of Trans-Pacific White Line.

Early next year, Oakland will complete the first stages of the new Middle Harbor Terminal, and at that time the Port will offer a total of 12 container berths, served by 12 container cranes and more than 280 acres of container terminal area, second only to New York in container facilities.

But, Oakland is more than just container facilities. It also includes 16 break-bulk berths, one petroleum pier, numerous transit sheds and more than 1.2 million square feet of covered warehouse space, and can accommodate any type of cargoliner, container, break-bulk, combination container/break-bulk, roll-on/roll-off or LASH.

The Port has four main terminal areas. The Outer Harbor area includes the 60-acre, two-berth Sea-Land Terminal, for Sea-Land's trans-Pacific and U.S. intercoastal container operations. Also located in this section of the Port are the Outer Harbor Terminals, four berths for break-bulk or combination break-bulk/container ships. One of the berths is served by a 250-ton mobile cargo/container crane, and this facility is the Oakland terminal for Euro-Pacific ships.

The 140-acre Seventh Street Terminal, Oakland's largest single installation, has three main areas. The 46-acre Matson Terminal serves Matson's Hawaii container trade, and two Japanese-flag container carriers, NYK and Showa. This facility is to be expanded to extend the berth space, add a third container crane and 10 acres of additional container storage space.

The Oakland Container Terminal is a one-berth, 20-acre facility for four Japanese container lines, Japan Line, "K" Line, Mitsui-OSK and Yamashita-Shinnihon Line. The facility includes a 26,000 square foot container freight station, storage area for 1,200 containers and has a 30-ton capacity container crane.

The Public Container Terminal is available to all lines for container, combination container/break-bulk, roll-on/roll-off or general cargo operations. Lines using this facility are Johnson ScanStar, United States Lines, Pacific Australia Direct Line, the Hong Kong-Korea service of "K" Line, Phoenix Container Liners,

and FESCO Pacific Lines. This terminal has three berths served by two 40-ton capacity container cranes and a mobile container crane.

The Middle Harbor area includes Seatrain Lines' Pacific headquarters terminal, and the new Middle Harbor Terminal. When completed next year, the Middle Harbor Terminal will accommodate Seatrain's expansion, United States Lines, and offer a common user berth. Combined with the Seatrain Terminal, the Port will have a four-berth, 85-acre terminal served by four container cranes in this area.

The Inner Harbor facilities include the break-bulk facilities at the Grove Street Terminal and the Ninth Avenue Terminal. The Ninth Avenue Terminal is the major steel import center in Northern California. It includes 264,000 square feet of open storage area and offers three mobile cranes up to 140 tons in capacity.

Future planning, beyond the new Middle Harbor Container Terminal, includes expansion of some present facilities and replacement of other Outer Harbor and Estuary areas into new and modern container and combination container/break-bulk terminals. The planned container terminal in the Port's Outer Harbor area would be the seventh container terminal in Oakland.

"Our concern is with tomorrow," said Nutter. "That's why we are constantly improving our existing facilities and investing in new cargohandling technology."

Nutter pointed out that the trip to Tokyo and Hong Kong was an opportunity for Port Commissioner and management executives to personally meet shipping customers.

"This trip will give us the opportunity to meet the people who ship cargo to the United States through Pacific ports, and it will also give us a chance to see many of our friends at the steamship lines that call at Oakland," Nutter said.

"We want to find out what the needs of the shippers and the steamship lines might be, so that we may provide whatever is necessary to increase their effectiveness in moving cargo fast and efficiently," he concluded.

# Dredge Spoils and Their Disposal

#### By J. Monroe Sullivan

Port Development Consultant San Francisco Port Commission

Representing California Marine Affairs and Navigation Conference at Pacific Chapter World Dredging Association, Portland, Oregon November 13, 1972

It is a pleasure to be with you today to discuss the problem of dredge spoils and their disposal.

We, like other ports of the United States, are involved with the problems of improving water quality. There can be no argument about the need to improve and protect water quality. Our situation and that of many other areas is how best to approach this problem to achieve the desired goal and to bring about changes, if necessary.

For more than a year, we have been actively working with all interested government agencies and organizations to try to achieve a reasonable and logical approach. The opportunity and challenge and indeed the importance of the problem merits our continued attention.

In a letter to the San Francisco District, Corps of Engineers, on October 10, 1972, the Executive Officer of the California State Water Resources Control Board said in part: "The State Board, and the Regional Board are concerned with the impact of dredging and spoils disposal in San Francisco Bay. Presently the true environmental impact of this practice is poorly understood and not quantified." The Environmental Protection Agency, Region IX, in their new draft document of entitled "Proposed Guidelines for Determining the Acceptability of Dredged Spoils to Marine Waters" in the preface states, "Since the effects on marine environment of resuspending and redepositing polluted sediments are poorly understood, the limits recommended herein are subject to change as new data becomes available." In the body of this document, EPA states: "Very little is

known about the effects, direct or indirect, acute or chronic, of toxic material in particulate form on the marine bioda."

They further state that "data on toxicity of trace metals adsorbed to suspended sediments on marine bioda are virtually non-existent." Further, this draft document talks about "present limitations on data" and states, "on an interim basis, at least" the data must apply to all dredging projects. In addition, they acknowledge that "further study is required" and that "these limits must be construed as indicators of pollution and not as inflexible standards."

While we appreciate the qualifications which EPA recognizes, we have to date been burdened with onerous regulations of the California Regional Water Quality Control Board, based on these incomplete and imprecise "guidelines" and from this flows our very serious problem.

Based on the EPA "guidelines" now in effect, which guidelines were promulgated on data developed hurriedly for the Great Lakes approximately two years ago, the San Francisco Bay Regional Water Quality Control Board has adopted a regulation which forces the transportation of "polluted" dredging spoils to international waters at the 100 fathom line outside the Golden Gate, a distance of approximately 30 miles, at a cost increase of at least 300–500%.

This regulation was put into effect in April, 1972 over the strenuous objection of the Corps of Engineers, the private and public ports and the marinas in the San Francisco Bay

At the PWQCB hearing prior to adoption in April, these organiza-

tions presented testimony from scientists which, in summary, stated:

"Expert testimony (from studies by Dr. Ray Krone, Chairman, Department of Civil Engineering, University of California at Davis; and Professor Joel Gustafson, San Francisco State University) on the effect of channel and berth maintenance states:

- 1. The Environmental Protection Agency criteria on which the policy is based were arbitrarily set without support or justification and do now show the effects of different concentrations of constituents.
- 2. Material dredged for channel maintenance is the same material that repeatedly deposits and is resuspended in shallow areas of the Bay due to natural wave and wind action.
- 3. Channel maintenance work synthesizes natural processes on a mini-scale: Bay dredging resuspends less than 1% of that material which is in suspension naturally.
- 4. There is no evidence to show that resuspension of materials by dredging causes any significant effects on marine life or water quality when the five Corps approved in-bay disposal sites are used.
- 5. The presence of suspended sediments in the waters of the San Francisco Bay system is natural and beneficial for the following reasons:
- a) Light penetration is limited, preventing algae multiplication which, if unchecked in this manner, would result in unsightly, odorous floating mats and depletion of dissolved oxygen to fish killing levels.
- b) Suspended clay particles (which comprise approximately 60% of suspended sediment) scavenge toxic materials from the water probably rendering them unavailable for uptake in the food chain.
- 6. There is a general lack of information on the effects of dredging; it appears that the heavy metal contaminant criteria are unnecessarily restrictive. There is an urgent need for further study."

Miriam wolff, Port Director of the Port of San Francisco, at these hearings stated:

"The 'natural system' of the Bay as we have known it over the past many years should not be disturbed until we know more about how to improve it. If, as it appears to be, new material induced into the Bay is the cause of most water quality problems, it should be controlled at the source, rather than forcing unfounded changes on maintenance dredging.

"For example, we have been told that winds in the Bay place more silt pollutants into the water system during a two-day storm than comes from all of the maintenance dredging each year. Thus, the enforcement of onerous and impractical regulations on dredging procedures alone will not improve the environment.

"Until we are convinced through facts that dumping of dredge spoils at the 100 fathom line—that is, introduction of spoils into a new environment and in effect upsetting the existing situation and creating an entirely new potential pollution problem-is a well though-out solution, strongly urge that past practice be followed.

"To clean up the environment requires determined, sustained effort with clear targets and clear deadlines. It requires concentration of effort based on priorities.

"We must achieve a happy balance between environmental and economic activity. Awareness is the first step in this process and we are all aware of the need to improve the environment and we are all willing to accomplish it in an orderly fashion.

"In order to achieve this orderly process, we must first gather data and subject it to rigorous analysis to make sure that a proposed change won't be worse than what we now have. Then through a united effort and hard work we must develop a program based on the results of this analysis in order to bring about the greatest improvement in the least possible time.

"Merely changing regulations for the sake of change will be an idle act and will accomplish nothing but bring about wasteful increases in cost. The approach described in the next few paragraphs seems to us to be the kind of approach which we must undertake in the Bay Area.

Proper Approach to Follow

"The February 21, 1972 issue of the U.S. Department of Commerce publication "Commerce Today" describes the International Field Year for Great Lakes (IFYGL) joint U.S. and Canada year-long study of Lake Ontario which is to begin April 1. This program is an effort to improve the scientific basis for management of Great Lakes water resources.

'The task of this scientific investigation is:

- 1. To report the condition of the lake, especially the hydrological, chemical and biological features;
- 2. To describe the lake's processes and the interrelationships among these elements:
- 3. To create computer models that will enable scientists and others to predict the effects of proposed changes in lake uses or lake environment.

"The IFYGL will measure what goes in and what goes out, how water and pollutants circulate, how chemical and biological factors change in response to circulatory and seasonal variations.

"One result of this study will be to learn how to mitigate detrimental actions and to learn how to improve the environment.

"We must avoid arbitrary decisions and actions which are based on incomplete and inaccurate data. It is only after accurate information is known that enlightened regulations can be implemented and enforced.

"Together we must be practical, and logically develop a regulatory program to make certain that new routines and new practices will be an improvement. We know that evolution and not revolution is necessary. Changes may be needed, but because water quality control in connection with dredging is in its infancy now, no one is certain just what should be done. We do know that through a concerted effort the answers will be developed in time to protect the environment, to improve the environment and more importantly, to make certain that future success will be permanent.

"The Port of San Francisco has

started a testing program to gather and evaluate data on maintenance dredging. Also, we are studying our dredging practices in order to bring about improvements. We will determine what equipment modifications are required and when this is known we will make the needed changes.

"We agree that it may be necessary to establish and enforce good regulatory controls. Such controls must be based on complete and accurate data which is not yet available. We pledge our continuing cooperation in the gathering of data and making it available for analysis in order for all of us to learn what is really best for the area.

"Good regulation does not necessarily mean that exorbitant increases in cost are required. We feel that development of good regulations will not cause harmful delay and will ultimately result in a great improvement of the environment.

"The average cost for dredging and spoils disposal by six commercial ports over the past 10 years was 72 cents per yard. For example, if it costs \$2.88 per yard to dispose of this material at the 100 fathom line and if 5,000,000 vards are involved, the dollar cost is \$14,400,000.00, an increase of \$10,800,000.00 over the cost at 72 cents. Obviously, the commercial ports could not possible increase their operating budgets by this amount. This \$2.88 figure is our estimate, based on a recent bid, of the approximate cost for this haul.

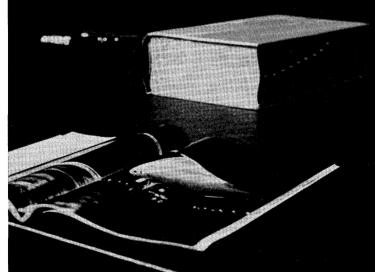
"If dredging spoils disposal costs become too burden-some, our dredging program will suffer, navigation will suffer, and ships will be delayed or will go aground, thus increasing rather than decreasing water pollution problems. If, as a result, lower economic activity develops we will have even less resources to devote to improving the environment and the entire area will be worse off instead of having an improved situation."

At these hearings, the U.S. Corps of Engineers urged the Regional Water Quality Control Board to withhold action until sampling pro-

(Continued on Page 21)

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#### (Continued from Page 18)

grams had been established and ongoing dredge spoils studies evaluated in order to establish more realistic policies for the protection of the environment of the Bay.

On October 10, 1972, the San Francisco Corps Division Engineer, Corps of Engineers, in a letter to the Governor of California, indicated that as a result of the regulations, costs in fiscal year 1973 would increase from \$1,444,000 to \$6,400,000 or more.

Further, they stated that "recognizing the need for our dredging practices to conform with locally established criteria uniformly applied to all federal and private interests, there is no alternative but to discontinue the Oakland and Redwood City harbors and Mare Island strait." In addition, the Corps pointed out that where this problem has arisen in other areas "dredging has not been accomplished; the state has contributed funds to permit dredging in compliance with locally established criteria; or disposal criteria has been interpreted differently."

I might also point out that the San Francisco District, Corps of Engineers, has adopted a policy of compliance with local requirements, pointing out that "non-compliance by this division will create a double standard whereby compliance and the expenditure of considerable funds is forced on local and private dredging under the Section × permit program while the CRWQCB is ignored in Corps maintenance dredging program" stating that Corps disposal areas will be open to all and that "the inconsistent position of Corps non-compliance would be intolerable and would subject the Corps to severe criticism, adverse publicity and possible legal action for ignoring environmental controls enforced on others:"

In testimony before the CRWQB on October 26, 1972 an economist said in part:

"I will present this appraisal as concisely as possible in terms of the separate job and income benefits that would be lost to the region if deepwater access to all the Bay's (1) ports, (2) marinas and (3) shipyards and military facilities were no longer maintained. I will also briefly mention

SAN FRANCISCO BAY AREA MAINTENANCE DREDGING COSTS
FOR FISCAL YEAR 1973 (JULY 72–JUNE 73)
AS REQUIRED TO MEET APPLICATION OF
CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
INTERIM DISPOSAL CRITERIA
(COSTS AND QUANTITIES IN THOUSANDS)

		,		
PROJECTS	COST WITHOUT MEETING CRITERIA	COST TO MEET EXISTING CRITERIA		
San Francisco Harbor	\$ 354.0 4	\$ 354.0 4		
(Main Ship Channel)	( 600.0 c.y.)			
Oakland Outer Harbor	<b>\$ 135.0</b> 2	<b>\$</b> 545.0 5		
	( 230.0 c.y.)			
Richmond Inner Harbor	<b>\$</b> 150.0 2	\$ 150.0 2		
	( 215.0 c.y.)			
Mare Island Strait	<b>\$</b> 655.0 1	\$5,000.0 2		
	(2,500.0  c.y.)			
Redwood City Harbor	<b>\$</b> 150.0 <b>3</b>	\$ 350.0 6		
	( 480.0 c.y.)			
		or		
		\$1,300.0 5		
TOTALS	\$1,444.0	\$6,399.0		
		or		
		<b>\$7,34</b> 9.0		

- 2. Alcatraz Island Disposal
- 3. South San Francisco Bay Disposal
- 4. San Francisco Bay Disposal
- 5. 100 Fathom Line in Ocean Dis-

posal as required by CRWQCB-SFB for material exceeding interim criteria in heavy metals

6. On-Shore Disposal at Redwood City if site can be provided by Port

some of the less tangible benefits that deepwater navigability brings to the regions' economy.

While the ultimate value of the Bay as a navigable waterway accrues to the users of the materials that are transported over it, we can express this value in terms of the jobs and incomes that would not be available if the waterway ceased to be navigable. At least 193,000 and \$2,000,000,000. in annual income would be lost to the region if deepwater access to all the Bay's ports, marinas, shipyards and military facilities were no linger maintained."

A representative of the Pacific Inter-Club Yacht Association at these same hearings:

"The economic impact of this Regional Boards' Interim Dredge Spoil Disposal Criteria on marinas on S.F. Bay and on the boat owners, can best be described in one word—"catastrophic." Its' effect will be to close marina after marina, escalating the cost of berthing and owning a boat. Today, the average boat owner, like the camper owner, is not wealthy.

It is possible, however, to raise the cost of berthing a boat into the near-exclusive realm of the wealthy. All too many are already excluded from ownership.

Let me be specific. There are few areas of S.F. Bay where marinas would not require maintenance dredging. A marina can not be located in deep swift currents, and areas of quieter waters are subject to shoaling.

Beautiful Coyote Point Marina, San Mateo County, just completed a maintenance dredging project of 60,000 cu. yds. According to this Board's interim dredge spoil criteria, the spoils were classed as contaminated, and would qualify only for disposal on land or in 600 feet of water, out past the Farallones

Currently, bids for hauling dredge spoils past the Farallones are approximating \$2.50 per cu. yd. Fortunately, Coyote Pt. still had available an adjacent diked-off area for the spoils. We understand, however, that they plan to add an additional 650 berths. The project would require

700,000 cu. yds. of dredging, and land disposal is not available. Assuming a cost of \$2.50 per cu. yd., dredging alone would cost \$1,750,000.00 or \$2,692.00 per boat! Amortized over a 5-year maintenance dredging cycle, that would average \$45.00 per month per boat berth. Such a figure would render the project economically unfeasible."

CMANC represents marinas as well as ports.

The problem we of CMANC face is one of recognizing the need to improve water quality and one of wanting to do our fair share toward this goal. We find it difficult, even impossible, at this time to comply with their onevaus regulations which are based on inadequate data and as a result, we are doing everything we can to: (1) insure that adequate data is gathered and evaluated and (2) to help bring about reasonable, logical regulations based on these data.

We have pledged our cooperation in helping to secure adequate data and we have requested that existing in-Bay disposal sites be permitted until the adverse effects, if any, of dredge spoils are known. We have proposed that sampling and testing be undertaken while maintenance dredging takes place and we have urged all interested agencies to cooperate toward this end.

We can justify spending some money on determining the true facts but we cannot waste funds on transporting dredge spoils to an entirely new marine environment where the effects are not known. We feel it is better to continue present practice while on-going studies are under way, than to create entirely new problems such as is now the only result which can take place based on present regulations.

We feel that regulatory agencies such as EPA and RWQCB should prepare environmental impact statements (EIS) to accompany their regulations so that the true effect of these regulations will be known and will be taken into consideration.

The Interstate Commerce Commission is required to prepare an EIS as part of its rate regulation procedures and the Steamship rate making conferences are being requested to provide EIS's as part of their role in making rates.

The Projects Coordinator of the Resources Agency of California on September 22 before CMANC in discussing environmental impact statements said:

"Just to refresh your memory, an environmental impact report is written statement describing the effect that a proposed project would have on its surroundings if the project was carried out. These reports have been required by federal and state law since 1970 with projects of federal, state and local government. The laws state that where a project may have a significant effect on the environment, an environmental impact report must be prepared. The report is required to set forth (1) the environmental impact of the proposed project, (2) any adverse environmental effects which cannot be avoided if the proposal is mitigation implemented, (3) measures proposed to minimize the impact, (4) alternatives to the proposed action, (5) the relationship between the short term use of the environment and the long term productivity of the environment, and (6) any irreversible environmental changes which would be involved if the project is carried out. The laws also require that the agency carrying out the project must consult with other governmental agencies that have special knowledge about the environmental impact of the project."

"You can see that EIS's involve considerable effort and expense by state agencies. You may ask whether it is worthwhile. answer this, we have to look at the purpose of an EIS and see whether any of the purpose is accomplished. Before 1970, we looked at the primary, intended purpose of a project and evaluated a project on an economic basis. The environmental laws are designed to broaden our analysis of projects to make sure we look at the overall effect. The EIS is designed to provide information to the official who approves the project, to the Legislature, and to the public generally. Hopefully, it can assist in avoiding undesirable consequences by alerting project designers and allowing modification to be planned before

construction begins. The alternatives considered should include the possibility of no project at all in case undesirable environmental consequences outweigh the benefits from the project, as was decided with the Cross Florida Barge Canal. To the extent that an EIS leads a project designer and the person who approves the project to take a broad view and design a project to avoid undesirable environmental effects and to exploit potential environmental benefits, the EIS expense is worthwhile. Where an EIS is used simply as an obstruction by a project opponent or as just additional paperwork to be checked off by the project design, I would say it is not worthwhile. It is our job to see that the environmental impact statements achieve the purposes for which they were designed."

In seeking balanced, reasonable regulations, regulations which can be obeyed and enforced, we feel that the legislative bodies in their wisdom have provided for proper evaluation of all elements which must be taken into consideration in the promulgation of regulations.

For example, our attitude reflects precisely the wording of the California Porter-Cologne Water Quality Control Act which in part states:

"Section 13000: The legislature further finds and declares that activities and factors which may affect the quality of the waters of the state shall be regulated to attain the highest water quality which is reasonable, considering all demands being made and to be made on those waters and the total values involved, beneficial and detrimental, economic and social, tangible and intangible." And further, in Section 13225, Subparagraph h: The Regional Board shall "take into consideration the effect of its actions pursuant to this Chapter . . . on any other general or coordinated governmental plan looking toward the development, utilization or conservation of the water resources of the state." And further, in Section 13241, "Each regional board shall establish such water quality objectives in water quality control plans as in its judgement will ensure the reasonable protection of beneficial uses and the prevention of nuisance; however, it is recognized that it may be possible for the quality of water to be changed to some degree without unreasonably affecting beneficial uses. Factors to be considered by a regional board in establishing water quality objectives shall include . . . (a) Past, present, and probable future beneficial uses of water . . . (d) economic considerations."

Major additional costs due to regulations will inevitably divert funds from public access, beautification, and other environmentally desirable investments which harbors should undertake. Proper enforceable regulations must not be detrimental to the environment and they must be based on standards which are realistic and not conjectural. Public expenditures require substantiation and in the case of dredge spoils disposal where there is no proof of harm to the environment. there must be data gathered which will prove once and for all the adverse effects, if any, and until that data is available we submit that no rational regulation can be estab-

We understand the motivation of the regulators and we are in agreement with their goal. But unless regulations are reasonable and balanced, the various factors involved will result in a continuing adversary situation instead of a compliance situation. Industrial wastes and sewage are two major contributors which have caused detiment to the water quality of San Francisco Bay. It is possible that these and not the "natural" elements of the Bay are causing the problem.

Recently the Port of San Francisco has noted an increase in the activity of marine borers such at Teredo and Liminoria and as a result we must lower the estimated life of wood piling as well as take precautionary measures to preserve piling. It is known that sewage kills these borers. Obviously water quality is improving in the Bay due to curtailment of other deposits in these waters.

We have expressed a willingness to work with EPA and others to find a solution for the disposal of maintenance dredge spoils, for example, one proposal is to mix dredge spoils and garbage in "slurry" and pipe it

### The Port of Stockholm Today

STOCKHOLM, the capital of Sweden and the biggest city in the country, is centrally situated on the east coast of Sweden-an excellent position for commerce and navigation. The city lies between Lake Mälar (the third largest in size of Swedish lakes) and the Baltic; an archipelago containing thousands of islands is between the city and the Baltic. Stockholm has a population of 728,400, while the Greater Stockholm Area has 1,352,100 inhabitants. The Port of Stockholm consists of some twenty separate harbour installations, of which the most important are situated on the Baltic side.

#### History

Stockholm during the 14th and 15th centuries was the trading centre

to build new, useful land in the Delta area. We feel that this proposal may have some merit and we have offered to assist in finding out.

In some cases, newly created agencies try to carry out policies which are in direct conflict with other established national and local policies. For example, it is our national policy to promote merchant shipping to promote American exports. Present onerous regulations in the name of improvement on water quality mitigate against the carrying out of both of these policies.

What we need is enlightened regulation based on facts. We acknowledge that lawmakers and administrators must balance the benefits to society against the inevitable increased costs to society. When this is done, livable, believable, useful regulations will be the result. That our plea, that is what we are working for and that is our ultimate goal.

This paper is presented in this detail in an effort to describe the problems we face and our proposed solutions together with reason for our proposals. It is our hope that what we are doing will be recognized as the proper approach and perhaps something said herein will be of some benefit to others who are having similar problems.

Thank you.

of Sweden as well as the main place of trade for northern Sweden and the greater part of Finland. During the 17th century the importance of Stockholm as a port increased and it was favoured by a number of royal charters. Economic development during the 18th century also favoured Stockholm, as iron became the important commodity Swedish trade and Stockholm merchants handled the greater part of the export of iron. Stockholm was the leading port for the Swedish export trade right up to the 19th century; its imports were also considerable and the values of exports and imports were about equal.

Economic development during the latter half of the 19th century, the arrival of the railways, the changes in iron and steel making, the growing importance of forest products as export items and several other factors have been instrumental in Stockholm loosing its position as the foremost export port of Sweden. Through the expansion of industry in the capital during the latter part of the 19th century and the consequent marked increase of the number of inhabitants, the consumption of goods increased as well as the need for raw materials for industrial production. From originally being an export port, the Port of Stockholm thus changed its character and became one of the greatest ports dealing with imports into Sweden.

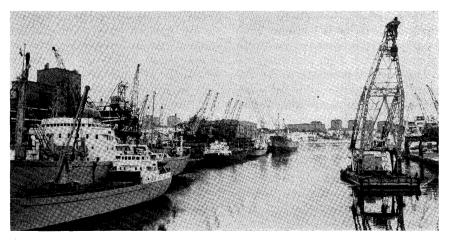
#### Port Traffic

Stockholm has considerably increased its maritime trade and especially during the present century when Sweden has begun to operate its own modern vessels on several sea lanes to various European and transocean ports. While as late as the end of the 19th century Swedish vessels were still mainly engaged in coastal traffic on the Baltic and the North Sea ports and transocean exports were transshipped via Hamburg, Hull and London, the Port of Stockholm today has some fifty shipping lines operating regular services to most of the coastal ports of Europe, North and South America, the Orient, East Asia and Africa.





The container handling equipment includes a high-lifting straddlecarrier for 20-40 ft. containers, a side-loader with spreaders for 20-40 ft. containers and a large number of forklift trucks with capacities up to 30 tons.



← Container Terminal Stockholm, situated in the Free Port, comprises an area of 80.000 sq.m.

In 1971 the vessels handled totalled 16.95 million net registered tons, of which international traffic accounted for 13.05 million n.r.t. The number of vessels, arriving, departing and calling, totalled about 34,400, of which 8,900 were in international traffic.

Goods traffic in 1971 totalled 6.51 million tons of which 5.96 million tons have been arriving and 0.55 millions tons departing. As to the international goods traffic the imports have totalled 2.81 million tons and the export 0.36 million tons. Against the corresponding figures for the year 1970 the result shows an decrease of 0.60 million tons which has reference to the international traffic.

Despite their relatively small volume the goods exported represent a considerable value. To a large extent exports consist of machinery and other manufactured products. In the main, imports consist of commodities for the population of the Greater Stockholm Area as well as raw materials for the industries of this area. These industries mainly depend on the Port of Stockholm for their raw material imports. A considerable part of the commodities passing through the port goes to the capital's extensive wholesale trade, which distributes them throughout large areas of central and northern Sweden.

The traffic over the Port of Stockholm also includes passenger and ferry traffic. The passenger traffic consists of certain local traffic for the Stockholm Archipelago and important international traffic mainly to and from Finland but also e.g. the U.S.S.R. Merely the Finland traffic in 1971 has amounted to 1,102,000 passengers, which is the highest figure to date. That traffic also contains transportation of motor-cars. The number of arrived and departed motor-cars has totalled 82,800 including 26,600 lorries by which 284,-000 tons of goods have been carried. These figures are also new records.

<sup>←</sup> The Free Port. This is the largest and best equipped harbour installation for general cargo in Stockholm.

There is also train ferry service to Finland. The statistics for 1971 of this traffic accounts for 9,500 waggons and 102,000 tons of goods.

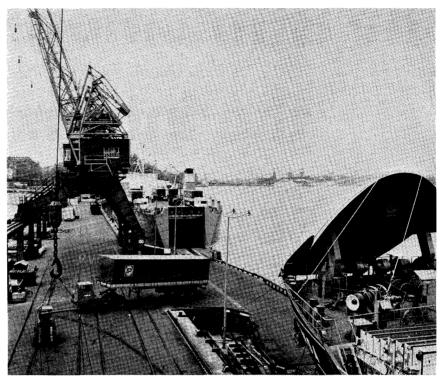
#### Harbour Installations

Today the Port of Stockholm consists of a number of separate harbour installations. The quays are totalling some 16 kilometres in length. About 6 kilometres of these quays are used for passenger and general cargo traffic, while the rest is mainly given over to bulk cargoes. Among the more important installations mention can be made of the following:

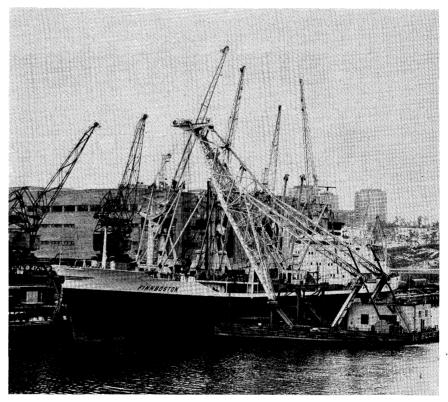
Värtahamnen (Värta Harbour) is the main harbour for bulk cargoes as coal, coke, fodder, salt etc. It is also an important harbour for the increasing import of mineral oils, which in recent years has necessitated the preparation of new areas for oil installations. Further Värtahamnen is a terminal for the ferry traffic to Finland with berths for both car ferries and train ferries. The harbour has a length of quay totalling some 2,200 metres and a depth of water alongside of 5.2 to 10.9 metres.

The Free Port is the largest and best equipped harbour installation for general cargo in Stockholm. The quays which include a ramp for roll on/roll off traffic have a length of some 1,700 metres and the depth of water alongside 7.5 to 10.4 metres. The Free Port occupies a large area and contains considerable storage space in warehouses, sheds and silos. All warehouses and some sheds are heated. In the warehouses there are cool rooms and refrigerating chambers. The Free Port is mainly used for the storage of imported goods intended for the Greater Stockholm Area and extensive parts of central and northern Sweden. To a certain extent the Stockholm Free Port is also used as an entrepot. The annual volume of goods passing through the Free Port is about 500,-000 tons, mainly concerned with transocean or Mediterranean countries.

Inside the Free Port a new container terminal is now in progress and the first part of it has already been brought into use. This part comprises an area of 80,000 sq. metres and a 110 metres stretch of quay which is equipped with two



This terminal, in Masthamnen, includes a pontoon with two ramps for ro/ro-traffic, mainly used for regular traffic between Stockholm-Hamburg/Kiel, Brazil, Portugal and Finland.



Among the warehouses in the Free Port, You'll find warehouse No. 6, which is one of the most modern in Europe. Outside m/s FINNBOSTON is the floating crane LODBROK, with a lifting capacity of 260 tons.

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#### (Continued from Page 25)

container cranes. These each have a lifting capacity of 24 tons with a hook or 20 tons with an automatic top spreader for containers. 40-foot containers can be handled by these cranes working together and then controlled from the cab of one of them. The terminal is provided with a warehouse of 11,000 sq. metres for packing and unloading containers. The whole terminal is intended to comprise an area of 110,000 sq. metres. Moreover, the quay will be extended to 285 metres including a ramp for roll on/roll off traffic

The Oil Harbour at Loudden, the largest oil harbour in Stockholm, has extensive receiving facilities for tankers and a large storage area in which seven different oil companies have their installations.

At the pier with a length of 260 metres and a depth of water along-side of 11.9 metres two fully loaded oil tankers of up to 35,000 d.w.t. can tie up and discharge their cargoes at the same time. North and south of the pier there are eight smaller loading jetties along the shore with a length totalling 500 metres and a depth of water of 8.9 to 10.9 metres.

The harbour is provided with undeground storage facilities for fuel oils and petrol blasted out of the rock beneath the aboveground storage tanks. The petrol in these underground cisterns is stored on what is called a water bed, which completely eliminates the losses by evaporation.

Skeppsbrohamnen (Skeppsbro Harbour) has a quay 570 metres in length and depth of water alongside of 5.4 to 6.0 metres. This is a centre for passenger and general cargo transport to and from Finland. The traffic is very dense; in 1971 there were roughly 536,000 passengers and 21,000 motor-cars transported to and from this harbour.

Stadsgården (Stadsgård harbour), which has a length of quay totalling some 1,900 metres and a depth of water alongside of 5.5 to 9.5 metres, is situated right in the centre of Stockholm and has modern cranes.

The western part of the harbour which is hardly spacious enough for modern handling methods will soon be reduced for road traffic purposes and is for that reason no longer used for regular European general cargo traffic. The passenger traffic, particularly to and from Finland, will, however, remain there also in the future.

The eastern part of the harbour, Masthamnen, is since April, 1970 put at disposal of a private company for a special terminal which is established as a bonded warehouse. The terminal is mainly used for a fast line between Hamburg/Kiel and Stockholm. The vessels of this line are equipped with special cranes for handling containers and are also designed with car decks and stem doors for roll on/roll off traffic. The berths at the terminal include a pontoon with two ramps for this purpose. The quay will later be equipped with container cranes. This part of the harbour is also used for ferries for lorries etc. to and from Helsinki.

Norra Hammarbyhamnen (North Hammarby Harbour) is used for both general cargoes and bulk cargoes. It has a length of quay totalling some 1,700 metres and a depth of water alongside of 3.5 to 6.3 metres.

Södra Hammarbyhamnen (South Hammarby Harbour) has a length of quay totalling some 1,400 metres and a depth of water alongside of 3.9 to 6.3 metres, and is specially used by steel stockists and motor-car companies, among them General Motors. Adjacent to the harbour is a large industrial area. A number of industries have established themselves here.

These two last mentioned harbours face each other on either side of **Hammarbyleden**, a seaway which gives the Baltic a direct connection with Lake Mälar at Stockholm. This seaway, constructed between 1917 and 1926 by the municipality, is 6,500 metres in length and has one lock, which can take vessels of up to 110 metres in length, 15 metres in width and with a draught of 5.4 metres at low waters.

Arstadalshamnen (Arstadal Harbour) on Lake Mälar has a quay of some 500 metres in length and a depth of water alongside of 6.9 metres. A certain part of the harbour is utilized for the receiving of bulk cargoes of wines and spirits. Special tankers from the Mediterranean countries are here discharged

by pipelines to giant underground vats behind the quay in cavities blasted out of the solid rock. Through pipelines wine and spirit can also be pumped from railway tankers to the underground storage installations and vice versa.

Connected with Arstadalshamnen there are private quays used for the import of iron and steel products.

Quays for Swedish Coastal Traffic and used for the transport of grain or cement or for the unloading of sand, stone, timber and other building materials are mainly lining the shores of Lake Mälar and Lake Hammarby. These quays have a length totalling some 2,500 metres and a depth of water alongside of about 4 metres.

#### Technical Facilities etc.

The Port of Stockholm is well equipped for the mechanized handling of goods and has excellent facilities of provide efficient service.

Today the Port has 107 modern cranes, including four floating cranes, at the disposal. The movable cranes are all electrically operated and have an average lifting capacity of between 2.5 and 24.0 tons for general cargoes and between 5 and 10 tons where bulk cargoes are involved.

"Lodbrok", the largest of the floating cranes, is capable of lifting 260 tons with a 10-metres outreach beyond the edge of its pontoon. The outreach for 30 tons is 28 metres. This crane has its own propelling machinery, consisting of two diesel engines, which work together with the lifting mechanism; this saves considerable time in the handling of cargoes.

A large number of fork trucks, tractors etc. and some 65,000 loading pallets facilitate the handling of goods along the quays and in the warehouses and sheds.

To date there are only two special container cranes. They each have a lifting capacity of 20 tons with an automatic top spreader and working together they can handle 40 ft. containers. These cranes are placed inside the Free Port. In other harbours, however, the generally used containers can often be handled with the equipments of the vessels or with the quay cranes. Regarding the above stated capacities of the quay cranes it might be re-

marked that it is possible to put two equivalent cranes together for joint lift. The capacity of e.g. two 10 tons cranes is in such a case 19 tons. When required the floating cranes will perform the service of heavy lifts. The container handling equipment includes a high-lifting straddle carrier with a universal spreader for 20-40 ft. containers and a capacity of 30 tons, a side loader with spreaders for 20 and 40 ft. containers and a capacity of 25 tons, a number of fork trucks with capacities of up to 29 tons, a jack wagon for 20 ft. containers etc.

Within the harbour area there are usually two or three railway tracks along the quays and additional tracks at the rear of the harbour area. These tracks are connected with the network of the Swedish State Railways. Stockholm has rapid and frequent transport connections and services with all important parts of Sweden for both passengers and goods.

Despite the hard Swedish winter the port and its approaches are never closed by ice. Open passage is ensured by the two municipally owned ice-breakters, the S/S Sankt Erik, which has 4,000 I.H.P., and the M/S Starkodder, which has 960 I.H.P.

The wireless communications in the port have been developed and now include installations for the port wireless service, wireless communications with cranes, a wireless telephone system for the port and a communal service for receiving sets in road vehicles. This makes possible a quick and reliable service for both vessels and for stevedores, customs officers and pilots. Consequently these installations enable efficient and streamlined loading and unloading operations to be carried out in the port. The port wireless service, which is the latest of the above-mentioned communication equipments. works on the international maritime VHF band, the main transmitter being remotecontrolled from the office of the Harbour Board. Similar wireless equipment has been installed on the municipal ice-breaker Sankt Furthermore the harbour Erik. pilots have been equipped with portable wireless transmitters. The port wireless installation has sufficient range to ensure direct contact from the main transmitter to vessels approaching the pilot stations at the outreaches of the port.

The Port provides frech water, electricity and telephone connections on most of the quays.

Some 20 tugboats, most of them in private ownership, are in service in the port.

The stevedoring work in the port is done by three private companies, two of which are engaged in this trade only to a limited extent. All the companies are united in a common organization, Föreningen Stockholms Hamnarbetskontor (Associated Stockholm Stevedoring Companies Office), which deals with matters affecting the stevedoring companies jointly in their relations with the stevedores. The Office takes care the procurement of labour through the daily call-over, the payment of wages and similar tasks while the stevedoring companies are responsible for the actual work of discharging and loading vessels etc. A list of the stevedoring companies will also be found on appendix No.

#### The Stockholm Harbour Board

The Port of Stockholm is owned by the city and has been administered since 1909 by the Stockholm Harbour Road. The board consists of a chairman, and also six other members appointed for two years: one by the Swedish Government, one by the Stockholm Chamber of Commerce and four by the City Council.

The Harbour Board is responsible for the management of the municipal harbour system. According to current regulations the board shall provide harbour installations with the appropriate facilities, equipment, material and the like, provide the necessary icebreaking facilities, receive the stipulated harbour dues, as well as issuing certain by-laws and determining port charges.

Coming under the Harbour Board is the Port Authority, which is under the immediate direction of the port director.

Stockholms Frihamnsaktiebolag, which is a municipally owned company, operates the Free Port. According to an agreement with the Harbour Board, this company has the right to use the Free Port and its buildings and installations. However, the necessary maintenance and construction work are the respon-

sibility of the Harbour Board, although the supervision of buildings is the duty of the company. Thus it can be said that the Free Port is administered by the Harbour Board as far as the installations are concerned, and by the company as far as operations are concerned.

For the purpose of operating the Free Port the Board of the company is assisted by a managing director.

Since October 1967 the Port Authority and the Free Port Company share a new office building and since October 1968 they have also the same director. By these means a closer collaboration has been made possible between the authority and the company regarding particularly financial and secretarial functions.

#### Importance of the Port

The Port of Stockholm is of great importance for the entire economy of the Swedish capital; indeed it can be said that its trade directly depends on the port and its activities.

Today as always the wholesale trade of Stockholm is very extensive, especially the trade in metals, machines as well as textile wholesaling.

Stockholm and its environments form the largest industrial centre in Sweden. In the main the industries here are dependent on the Port of Stockholm for their supplies of raw material. Moreover, a very great part of their production is exported to the markets of the world via the Port of Stockholm.

In conclusion it can be said that the port activities themselves amount to a major industry, which provides work for a large number of people. Thus the numbers of workmen and officials, dockers, customs officers and railway workers employed within the port total some 3,000. In addition, stevedores, forwarding agents, brokers and shippers and the like are all active in the Port of Stockholm. (Stockholm May, 5, 1972)



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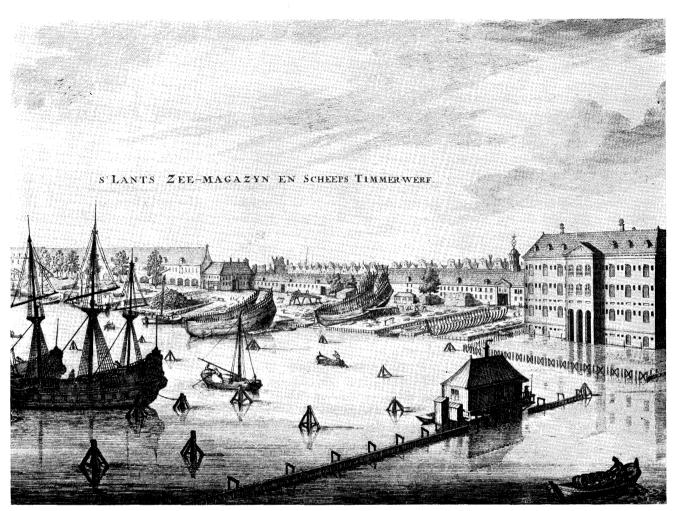
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The International Association of Ports and Harbors

Kotohira Kaikan Building, No. I, Kotohira-cho, Minato-ku, Tokyo 105, JAPAN

## The Eighth Conference, Amsterdam/Rotterdam



Drawing of Amsterdam's 's Lands Zeemagazijn as it was in the 17th Century. Building will now house unique collection of the National Historical Shipping Museum.

# New National Historical Shipping Museum

The Vereeniging Nederlandsch Historisch Scheepvaart Museum (the Netherlands National Historical Shipping Museum Association) marked its 50th year of a permanent exhibition in November, and plans have been made to move the large collection to a new location in the former the Lands Zeemagazijn, former stores of the Royal Netherlands Navy in Amsterdam.

The collection is absolutely unique and is topped only by the Maritime Museum at Greenwich, near London. However up to now, it has been housed in buildings near the Amsterdam Hilton Hotel and lack of adequate space has held up the development of the collection as a national collection.

The Lands Zeemagazijn is a magnificent 17th Century edifice in the heart of Amsterdam's Eastern port area. Designed by the noted architect Daniel Stalpaert, it is the ideal spot for such a collection which includes 300 full ship models, 200 half models, 100 paintings and thousands of water-colors, drawings and etchings as well as a library of 50,000 books. The collection is expected to be in its new location by 1975, but those interested in seeing part of it should visit its present quarters at Cornelis Schuytstraat 57, Amsterdam.

Holland abounds in museums of all types; in Amsterdam there are more than 40, including the Rijksmuseum, with its important collection of 17th Century Dutch art, the Stedelijk, with a modern collection and the newly opened Van Gogh Museum next door, containing a large collections by the 19th Century Dutch Master. In Rotterdam, there is the excellent Municipal Museum as well as the world-famous Boymans-van Beuningen Museum.

# Do as the Dutch Do—See Holland by Bicycle

The bicycle is still the fastest way to get around the narrow streets which form the center of every Dutch city and village and it remains the favorite form of transport for millions of Dutch men, women and children, right on up to Queen Juliana herself, who is sometimes seen bicycling in the countryside.

Bicycles can be hired at numerous places in the large cities and at most railway stations throughout the country. They're amazingly cheap and—after the first few minutes getting used to it—by far the fastest and easiest way to sightsee.

The VVV-Amsterdam Tourist Office runs a popular bicycling program each year several days a week. These inexpensive tours include a guide who takes you to the places most tourists don't see, lunch and souvenirs; IAPH visitors during the May Congress should apply at the VVV headquarters at Rokin 5, just off the Dam Square for further details

# Holland—Land Below the Sea

The people of Holland have been struggling with the sea for more than a thousand years and today more than half the population lives on land that would be flooded at high tide if there were no sea dikes. In addition, two vast 20th Century engineering projects have added thousands of acres of land to the country by reclamation works which will go on past the year 2000.

Much of the Netherlands as we know it today was once under water. the country is located on a marshy corner of Northwest Europe and part of it forms the delta of the Rhine Mass (Meuse) and Scheldt Rivers. The struggle against the water has been going on for centuries and the dunes and dikes are strengthened continuously. The sea water that penetrates inland through the estuaries and rivers and seeps into the subsoil, the water coming down the rivers, rainwater: all must be kept under control if the land is to remain habitable.

A large number of modern pumping stations (which have replaced the romantic old windmills) work day and night to keep the surplus water out. More than 2,000 miles of dunes and dikes protect the land from the sea and the rivers. Nearly

# Orbiter Probe

#### IAPH News:

## Mr. Swanson Missed by Many

You are referred to page 30 of Ports and Harbors, October, 1972 wherein was reported the sudden passing away of Mr. V. G. Swanson, Chairman of Melbourne Harbor Trust Commissioners who was former President and a member of the Executive Committee of IAPH.

In the above-referred-to page were also printed three letters of condolence, but since then, the following eleven members have sent in cables or letters bearing messages of condolence:

• Mr. Edward S. Reed Executive Port Director and General manager he Port of New

The Port of New Orleans, U.S.A.

- Mr. Stanley Johnson
   Managing Director
   British Transport Docks Board,
   U.K.
- Sabah Ports Authority Malaysia
- Mr. Luis Gomez Cevallos General Manager Autoridad Portuaria de Guayaquil Ecuador
- Mr. Mustafa A.A.K. Mana Acting General Manager Yemen Ports Corporation People's Democratic Rep. of

1,200 miles of "inner dikes" form a secondary line of defense, so that any breach of a sea dike would not lead to large scale flooding.

The wresting of land from water is nothing new to the Dutch and fairly sophisticated schemes of land reclamation were in use in the 10th Century. However, it is the countries two major projects this century which have caught the imagination of millions of people worldwide and the envy of hydraulic engineers everywhere.

These projects, the Zuider Zee project and the Delta plan, are among the most ambitious engineering schemes ever tackled by man. The former Zuider Zee (now known as the IJsselmeer—the IJssel Lake) was Holland's largest inland sea and the project to close it off from the North Sea was a Dutch dream for years which was realized finally in May, 1932. At that time, the Afsluitdijk (Enclosing Dam) was completed after a long struggle. It is 20 miles long, about 300 feet wide at sea level and 25 feet high.

After the dike was completed, the former salty sea was transformed slowly into a fresh-water inland lake.

A total of nearly 600,000 acres is scheduled to be reclaimed when the reclamation works are completed early in the next century; the remaining 300,000 acres will be used for recreational purposes.

The Delta project was spurred on by disastrous floods in 1953 in the islands of the Province of Zeeland in the south of the country. Some work on plans to dam off some of the inland seas separating the islands had begun earlier, but the spring floods in 1953 gave added impetus to this enormous project.

The Delta project can be compared in certain ways to the Zuider Zee project. When the estuaries are fully blocked off, 440 miles will be chopped off Holland's coastline (the Zuider Zee project reduced the coastline by nearly 200 miles) and the resulting lakes will be used for fresh water recreational areas and emergency reservoirs.

The various works in the Zuider Zee project are about an hour's drive from Amsterdam and should be of great interest to IAPH participants. A tour of the Delta Works project is planned as a post-conference activity,

Yemen

• Mr. S. M. B. Dalapihilla Chairman Port (Cargo) Corporation Sri Lanka

• Mr. P. O. Aggrey General Manager Ghana Railway and Port Administration

- Mr. Brig Alex Crabbe Managing Director Ghana Cargo Handling Co., Ltd. Ghana
- Karachi Port Trust Pakistan
- Mr. M. Richard

Former General Manager of Port of Rouen Authority, Ingenieur General

Conseil General des Ponts et Chaussees

• Mr. Zaven Boghossian Director Geral Departmento National de Portos e Vias Navegaveis Brazil

#### **Travelers**

• Port of Oakland Trade Mission Held a cocktails and buffet at the Palace Hotel, Tokyo on Tuesday, November 14, 1972 evening. At the receiving line were Mr. Frank H. Ogawa, Vice Mayor of Oakland, Mr. William Walters, Commissioner, Mr. Ben E. Nutter, Executive Director, Mr. Charles Seifert, Public Relations Director, Mr. R. W. Crandall, Manager, Marine & Traffic Dept., and Mr. S. Kuwata, Director, Far East, of Port of Oakland. The large reception room (Rose Room) was filled with local shipping and trade company executives.

Prior to the reception, a press conference was held in the same hotel where Mr. Nutter presented the achievements and future plans of his port to local press representatives.

• Upper Normandy Chamber of Commerce and Industry, Rouen, France, sent Mr. Oliver Genin, Director, Foreign Trade Department, on a mission to Japan to explore trade possibilities. Mr. Genin visited the IAPH Head Office on Wednesday, November 15 morning accompanied by Mr. Jean A. Monnin, Representative in Japan for Le Havre Port Authority, and was received by Mr. Katsuya Yokoyama, Deputy Secretary General.

## A Propos... Universality

## Jacques Dervieu President, FIATA

(International Federation of Forwarding Agents Association) Reprinted from FIATA News, 1.10.1972

As we all know, the world-wide character of FIATA is being more and more confirmed. 43 organizations in 35 countries are regular members with all the ensuing statutory privileges. 75 other countries are represented within FIATA under various titles and forms. So FIATA covers a total of approximately 24,000 firms all over the world.

Therefore our international Federation is fully representing the interests of forwarders in all those countries. The task is thus considerable for all those responsible.

In order to achieve these goals, certain imperatives must be taken into consideration; they are governed mainly by the variety and diversity of the economic, legal, technical and social structures and interests of our members. To ensure proper action, FIATA must dispose of certain indispensable elements.

To begin with, FIATA must have sufficient financial funds at its dis-

- From Port of San Diego: Mr. C. R. Campbell, Commissioner, Board of Port Commissioners, and Mr. Robert A. Mercer, Director, Trade Development, of Port of San Diego, called at the IAPH Head Office on Thursday, November 16, 1972 and were received by Mr. Katsuya Yokoyama, Deputy Secretary General.
- From Panama Canal Company, Mr. Richard O. Burgoon, Assistant to Comptroller, visited IAPH Head Office on Wednesday, November 29 morning, accompanied by Mr. Leonard J. Kujawa, Partner, Arthur Andersen & Co. of Chicago, Ill., U.S.A. and the latter's representative in Japan. Mr. Burgoon's primary interest was in obtaining information on tonnage measurement. He had visited the office of the Ministry of Transport of Japan.

posal. Because of the complexity of the problems involved, FIATA must further thorough research of all questions of common interest and be certain of the cooperation of all countries involved. Among those questions stand out the ones dealt with so competently by Mr. Kocian concerning professional propaganda, the image of the profession, public relations and the press.

Within the framework of management and economy of our firms, the problems of liability insurance, the creation and unification of documents and electronic data processing in forwarding must be regarded as being of common interest.

Modern transportation technology, containerization, roll-on-, rolloff systems, palletisation and unitload transport have shown characteristics which are of interest for forwarders all over the world. Does this not equally apply to our relations with conferences, with IATA and the shippers' councils?

This brief and incomplete inventory confirms the world-wide importance of the work of FIATA and justifies the request for cooperation of all involved.

As to the related areas of rail, road and inland navigation, it must be admitted that many of our colleagues in faraway countries are not so directly concerned as our European colleagues for example. everybody would benefit from a mutual exchange of information in order to exchange experiences.

Finally, it might also be of advantage to be familiar with the legal aspects of our work which vary from country to country, be it solely for the purpose of better organizing our professional cooperation. To terminate this all too brief comment, I

(Continued on Page 36)

## Offshore Disposal of Pollutants and Wastes

## Whitaker-Sarus towers system obviates hazards to health and ecology

(See diagram on opposite page)

South Melbourne, Victoria, Australia, 22 November:—Every community is obliged to find ways to dispose of the organic and inorganic wastes and pollutants which it creates in the course of everyday civic and industrial life. The methods currently used are varied, not always wholly satisfactory and, generally speaking, are expensive.

It is true that organic wastes such as faecal, petroleum, plastics and cellulose materials can be broken down by natural processes and fire and that these methods of disposal can be greatly accelerated by manmade mechanical devices which are able to make disposal relatively simple.

Inorganic materials, however, present more difficult problems. Many industries use strong acids and alkalis which, through use, eventually become impure and have to be disposed of. Similarly, metal ores in soluble form are frequently toxic and to get rid of such dangerous wastes on land is virtually toxic and to get rid of such dangerous wastes on land is virtually impossible. Leaching occurs with the result that the waste materials are carried into rivers and reservoirs with consequent risks to community health.

But if such materials are suitably treated and then injected into the ocean at a predetermined depth below sea level, they will quickly dilute to non-toxic levels and will be eventually re-absorbed into the natural cycle.

Recent research and development based on the versatility and capability of the Sarus marine tower has resulted in the evolvement of an offshore disposal system which can efficiently handle a wide variety of solid, liquid and effluent-type wastes.

Designed by Capt. C. T. Whitaker of Nautical Service (Australia) Pty. Ltd., the system comprises a group of five specially designed, interconnected Sarus towers located ten to twelve miles off-shore and linked to the land by means of a series of submarine pipelines. At the shore end of the lines is a relatively small pollutants reception station, uncomplicated in design and remote from the community centre.

Each Sarus tower (a cylindrical metal structure incorporating a buoyancy chamber and linked by a universal coupling to a sea bed deadweight anchor) has a different function.

The first tower in the system incorporates a pump room, filter, separator, storage and receiver tanks, electric coalescer, etc. and can handle, apart from the incoming wastes, tanker discharge, slop disposal and ship cleaning, slurry and product loading and ship refuelling. It has a capacity of 10,000 tons and can handle 6,000 tons an hour.

The second tower contains an electric power generator and desalination plant, total system control devices, communications equipment and living accommodation. In addition to fuel tanks and similar essential items it can house two 10,000 KVA gas turbine generators.

The remaining three towers have equipment comparable to each other and, respectively, can treat and dispose of 10,000 tons a day of solid wastes, liquid wastes and raw effluent.

Each tower is connected to diffusers at sea bed level and it is through these that the treated material is ejected into the ocean at a depth of 200 feet, where it will not pollute either the sea or the atmosphere.

It is of interest to note that the solids disposal plant is designed to treat garbage and industrial waste—including plastics, sludge and waste oils—by pyrolitic decomposition, this

being effected at high temperatures without the admission of oxygen.

During destruction, the garbage is decomposed to a residue which is sterile and free from fermentable materials, and to a gas which is used for heating purposes, primarily for firing the process itself.

The separator plant can handle up to 2,500 tons of oil/water an hour, the water being returned to the sea and the oil held in storage for subsequent transferance to a tanker. A complete oil pollution control system is incorporated in the design which includes oil barriers, detergents and surface skimmers.

An additional advantage is that the first (tanker terminal) tower can operate in either the vertical or horizontal position and should there be a major disaster in which a stranded tanker is leaking large quantities of oil, the tower would be uncoupled hydraulically from its base and flexible connections, ballasted into a towing attitude, and taken to the site of the disaster. There, depending on the depth of water, the tower could be established in either the vertical or horizontal position and could handle the leakage. In this context, it is relevant that the "Torrey Canyon" cost the U.K. in excess of \$6 million (Australian) and yet, using the Whitaker-Sarus tower method it would be possible to cope with such an event speedily, efficiently and economically.

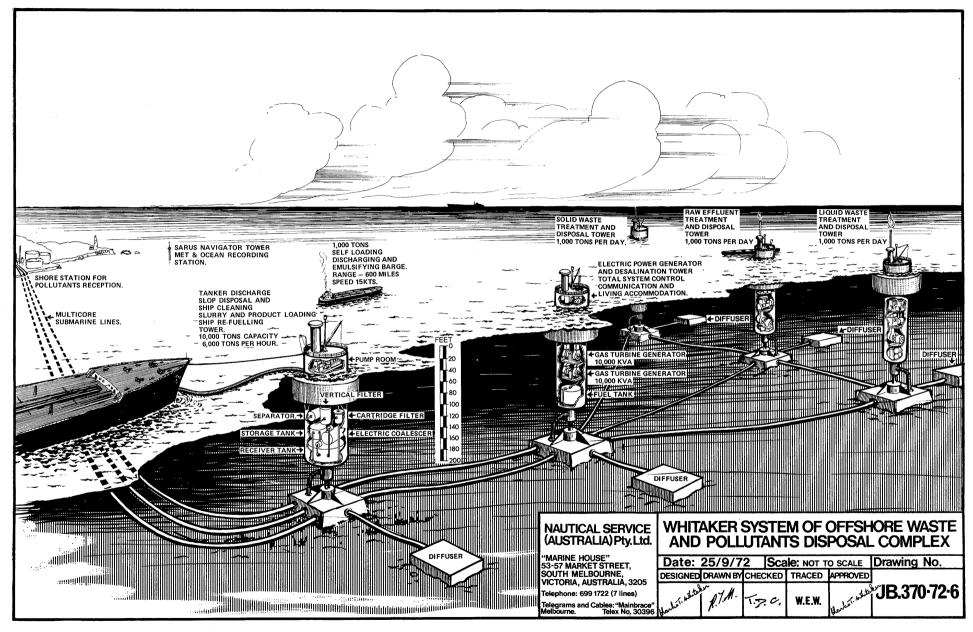
The offshore complex can be contemplated by the use of a self-loading, discharging and emulsifying barge of 1,000 tons capacity, plying between the shore and the towers. The whole installation can be varied in size, design and function according to the problems and factors with which it has to contend. Australian and overseas patents have been applied for.

Further information available from Nautical Service (Australia) Pty.

Ltd., "Marine House" 53-57 Market Street, SOUTH MELBOURNE.

Victoria 3205

Telephone: 699 1722, 699 1667.



## The Great Lakes—A New Push for World Trade

The Toronto Harbour Commissioners November 3, 1972

Serving a vast area that has the economic might to boggle the mind, the International Association of Great Lakes Ports is about to invade the world. Its prime objective is to make the Great Lakes and the St. Lawrence Seaway household words in the shipping and commercial circles of the trading nations.

The Association, made up of 17 United States and five Canadian ports, is gathering up its forces to visit the four corners of the world in a series of trade missions to reinforce existing trade ties and establish new ones with developing nations. Despite the border that divides them, the inland ports of the two countries have a common denominator—the St. Lawrence Seaway—a 2,000-mile marine highway that cuts a vital path into the heartland of North America.

"Sure," says energetic IAGLP president, F.D. Flori, "we are like a Johnny-come-lately. The coastal ports of Canada and the United States have been in business many

#### (Continued from Page 33)

would like to point out that the business of the forwarder is, by its very nature, carried out within the framework of foreign trade and that consequently he forwards the goods entrusted to him to all countries in the world. How could such a professional show indifference towards the practice in other countries?

Nobody would therefore contest the universality of FIATA. In some exeptional cases however, our work might have to be adapted and if necessary, be given a particular structure.

But it remains imperative that also the remotest countries pay their intellectual tribute as do the majority of our members. more years than we have and that is precisely why we must move as a force to establish our position in the world.

"The IAGLP is extremely important because it is the only international voice we have that addresses itself to the common issues of trade development and transportation. And more than ever we need this international voice . . . a voice that speaks for both our countries," says Flori, who is trade development manager with the Niagara Frontier Transportation Authority based in Buffalo, N.Y.

R.L. Schultz, executive director of the Cleveland—Cuyahoga County Port Authority, sees the Association's role in somewhat the same light when he says: "There is still a lot of missionary work to be done around the world in promoting the Great Lakes."

Schultz believes that at the pressent time it is more important to push the Great Lakes as a whole because the job may be too big for one port to handle alone.

"We must interest foreign lines in coming here because once they do, it is quite obvious that they will call at more than just one port," he says.

The first trade mission will set out next year at the beginning of January and will visit London, England; Hamburg, Germany; Split, Yugoslavia; Milan-Genoa, Italy; Rotterdam, The Netherlands; and Antwerp, Belgium. The second trade venture in the spring of 1974 will explore possibilities in Tokyo, Seoul, Taipei, Hong Kong, Kuala Lumpur, Singapore, Bombay, Tel Aviv, Odessa, Moscow and Copenhagen.

Former IAGLP president Charles Gress of Windsor, emphasizes the fact that the Association must promote the Seaway as a means of moving goods. "It's surprising how many people don't know where the Great Lakes are," he says. "Some haven't even heard of the St. Lawrence Seaway. Our job, as I see it, is to go to the emerging nations of the world and make them aware of what we have. They may not know of our great inland ports. This must change," he adds.

"We must show them," says Gress, "that it is just as easy and sometimes shorter in terms of nautical miles to ship directly into the Lakes as it is to the coastal ports."

A recent Seaway study showed there are 56 ports providing deep water facilities for ocean and lake shipping in the Great Lakes area. Many of these ports are closer to Northern Europe and Great Britain than East Coast ports. The normal great circle sailing distance from Baltimore to Liverpool is 3,936 miles while from Detroit to Liverpool via the Seaway it is 3,700 miles. Cargo shipped from Liverpool to Detroit via Baltimore requires an additional sea distance of 236 miles plus an overland distance of 604 miles to complete the transit.

"Keep one thing in mind," adds Gress, "when we promote traffic into the Great Lakes, we all benefit. It's not hard to explain to customers overseas and to the various shipping lines that our ports are as equally accessible and as convenient as those on the coast."

The Chairman of the Windsor Harbour Commission also says that as far as equipment and facilities are concerned, the inland ports can compare with any in the world.

For E.B. Griffith, General Manager of the Toronto Harbour Commissioners and this year's chairman of the Canadian section, the importance of the Great Lakes is a simple economic fact. He says it represents the largest manufacturing and commercial area in North America.

"The tonnage handled on the Canadian side is greater than in any other area in Canada," Griffith says.

"The IAGLP represents all independently run Canadian ports on the Great Lakes and has been effective in developing foreign and domestic trade in its area," he says.

He explains that the Association

has also made a major contribution to the extension of the shipping season working together with the St. Lawrence Seaway Authority and the St. Lawrence Seaway Development Corporation.

The governments of both countries are now showing renewed interest in the Great Lakes and the Seaway. Writing in a Canadian trade journal, Canada's Minister of Transport, Don Jamieson says: "For all practical purposes, winter navigation is now a fact, and it has necessitated new kinds of concerns such as the study of marine navigation in icecongested waters now underway. However, it has had a profoundly beneficial effect on the economy, and provided thousands of jobs.

"Because there has been pressure to extend the Great Lakes navigation season, two icebreakers were kept above the Welland Canal throughout the winter for the second straight season. They facilitated the later closing last winter and an earlier opening this spring."

Jamieson also writes that additional computer-assisted marine traffic control for the St. Lawrence—Great Lakes waterway is scheduled for next year. It will provide information and surveillance facilities for marine traffic over the 2,300-mile Seaway route. This integrated traffic control system will improve safety and facilitate the scheduling of intermodal traffic movements. The resulting increased efficiency will reduce ship transit time in the system and should realize new economic benefits for the shipping industry.

Dr. Pierre Camu, President of the St. Lawrence Seaway Authority, told guests at the 40th anniversary of the Welland Canal last August that recent traffic forecasts indicated that by about 1985 the present facilities may no longer be able to provide adequate service.

"The Seaway Authority has in the planning stage a long term program for expanding the present Welland facilities," he said.

Dr. Camu said that the new Welland By-Pass to be opened next spring will provide uninterrupted movement of water and land traffic and save vessels one hour in roundtrip time through the new section.

He said: "There is no doubt that

the United States and Canada have shared responsibility for ensuring that the Seaway System continues to be a viable transportation mode in the future.

"Since the passage of the Merchant Marine Act by the U.S. Congress in 1970, it has become apparent that the United States is willing and anxious to devote a larger amount of resources to improving what is now officially called in the United States—The Fourth Seacoast," added Dr. Camu.

Basically, the chief aim of the Association is to discuss matters of common interest so that appropriate action may be taken by members whenever situations of mutual concern arise. These can include anything from port construction to rate structures.

However, as indicated by the planned trade missions, it is in the area of trade development that the Association will be working more diligently in the future.

"The attractive market areas along the St. Lawrence Seaway and in the Great Lakes need to be exploited" points out Flori, "so that the total region can be sold to overseas customers in an attractive enough manner to interest shipping lines in providing the service necessary to bring goods here from world markets."

Flori is quick to explain that a ship making a trip along the great inland waterway is in a good position to pick up much export tonnage from both Canada and the United States.

"Of course," says Flori, "while we try to expand our overseas ties, we will also work to accelerate a program to bring about increased use of waterborne transportation between all ports on the Great Lakes."

A study made by the Department of Commerce, Maritime Administration, Office of Ports and Intermodal Systems, portrays the hinterland area, the area from which traffic on the Great Lakes System has its origin or destination, as a prime and vast market. Figures show the hinterland containing 35.6 per cent of the total United States population; 42.5 per cent of the nation's industrial activity; 50.2 per cent of its agricultural output and 25 per cent of its mineral

production. Other than for the huge impact of petroleum, produced elsewhere, the minerals index for the Great Lakes area would also stand as high as the others.

"The report indicates the importance of the region as a great demand area," says Flori. "Its materials, products and goods establish its value as a region requiring shipping links with the market centres of the world."

The figures on the Canadian side are not quite as comprehensive, but the Province of Ontario makes up more than a third of Canada's population. The port cities of Toronto, Hamilton, Windsor, Oshawa and Thunder Bay, with their metropolitan areas, represent more than half of Ontario's population.

Recent statements by Ontario's Minister of Transportation and Communications indicate that the Province is becoming concerned over Canada's transportation policies. "The St. Lawrence Seaway represents one of the most significant transportation assets in the Province of Ontario," Carton told a Transportation Day luncheon at the Canadian National Exhibition.

He also noted that the Seaway Policy of the Canadian Government discriminates unfavourably against Canada's inland ports because it is not constant with its other maritime policies.

Studies conducted by the Metropolitan Toronto Industrial Commission have shown that the middle third of the Canadian market lies within a 100-mile radius of the city. The analysis also revealed that Ontario accounts for 38 per cent of manufacturing production and 46 per cent of the country's buying power. These statistics become even more significant because the Seaway runs through one province . . . Ontario.

With these facts and figures at their fingertips, the IAGLP representatives feel their trade missions will be able to generate an increased awareness of the Seaway, spark the interest of foreign businessmen and convince line owners that they should increase their ship representations on the Great Lakes.

The IAGLP, formed in 1960, consists of two sections with United

States and Canadian representation based on an equitable geographic distribution basis. Six of the eight members making up the Board of Directors are from U.S. ports while the other two are from Canada. The presidency of the Association rotates each year. This year it is headed by an American, F.D. Flori of Buffalo. Last year's president was Charles Gress of the Windsor Harbour Commission.

Each of the sections is represented by a chairman. Flori heads the U.S. group while E.B. Griffith of the Toronto Harbour Commissioners is chairman of the Canadian side. Other members of the board of directors are: C.T. Burke, Duluth; R.L. Schultz, Cleveland; J.A. Seefeldt, Milwaukee; V.J. Soballe, Chicago; R.H. Van Derzee, Ogdensburg; and Harry Millen, Oshawa.

The constitution of the organization spells out the fact that when representations are made to the United States or Canadian Governments, each section will act on its own with its respective government

The IAGLP meets every three months in Chicago with the annual meeting alternating between Toronto and the Windy City. This year's annual meeting in June was held in Toronto.

Four committees make up the working structure of the Association: Engineering, Operations and Environment; Promotion and Public Relations; Traffic; and Port Security.

"Particular attention is going to be placed on the quality, multiplicity and frequency of service coupled with concern for the environment," says Flori.

"The Great Lakes must develop in an atmosphere of quality environment, otherwise all efforts of the IAGLP will be meaningless," he adds.

The following is a list of port authorities making up the U.S. section of the IAGLP: Bay City, Bay County Board of Supervisors; Buffalo, Niagara Frontier Transportation Authority; Chicago, Chicago Regional Port District; Chicago, Department of the Port of Chicago; Cleveland, Cleveland - Cuyahoga County Port Authority; Detroit, Detroit-Wayne County Port Com-

## Mammoth Turntable For Container Crane

Alameda, Calf., October 27 (PACECO):—A mammoth turntable capable of handling huge container handling cranes is currently being readied for shipment from the Paceco-Gulfport, Mississippi Plant to the Sea-Land Terminal at the Port of Elizabeth, New Jersey.

Paceco, a Division of Fruehauf

Corporation, designed the turntable to enable six Low Profile MACH Portainers\* to service berths at right angles to each other at the terminal. The new turntable will afford maximum utility of the six cranes. It will be in the shape of a large "doughnut" ring, which rotates around a solid concrete center. The turntable ring has a 94 ft. inside diameter and a 127 ft. outside diameter. To be placed in one corner of the large

PORT NEWARK

FLEET ST.

ELIZABETH

TURNTABLE

TURNTABLE

TURNTABLE

TURNTABLE

mission; Duluth, Seaway Port Authority of Duluth; Erie, Port Commission; Green Bay, Brown County Board of Harbor Commissioners; Indiana, Indiana Port Commission; Lorain, Lorain Port Authority; Milwaukee, Board of Harbor Commissioners; Monroe, Port of Monroe; Ogdensburg, Ogdensburg Bridge and Port Authority; Oswego, Port of Oswego Authority; Superior, The Board of Harbor Commissioners of

Superior; and Toledo, Toledo-Lucas County Port Authority.

Membership on the Canadian side consists of: Hamilton, The Hamilton Harbour Commissioners; Oshawa, Oshawa Harbour Commission; Thunder Bay, Lakehead Harbour Commission; Toronto, The Toronto Harbour Commissioners; and Windsor, The Windsor Harbour Commission.

rectangular berth area, the turntable will permit cranes to change berths in only five minutes.

The Portainer cranes, driven onto the turntable from one side of the berthing area, are rotated ninety degrees and driven off on the rails of the adjoining berth. The turntable will be installed flush with the pier pavement, and when not operating will provide a storage capability of 600 lbs. per square foot.

The six new cranes servicing the berths will be Paceco's new Low Profile MACH Portainers, which are equipped with high speed power packages, specially designed sway stop trolleys, and provisions for the addition of automation components in the future. Provision has also been made to increase the crane capacity from 30 Long Ton to 40 Long Ton if required.

The Low Profile design limits the overall height of the cranes to 130 ft. The new Low Profile MACH Portainers are designed with a 300 ft. long sliding boom, which provides a 115 ft. outreach and an 88 ft. 6 inch working backreach over the terminal area. The cranes will ride on pier rails with 100 ft. gauge affording ample area beneath the crane for vehicular traffic and temporary container storage. The cranes will also be equipped with storage girders 35 ft. clear above the pier for the storage of hatch covers and stacking frames.

Each of the six new cranes will have its weight distributed over 32 wheels, eight wheels supporting each of the four legs.

Each of the six cranes will have a 35/40 ft. long telescoping lifting spreader for the handling of 40 ft. as well as the 35 ft. Sea-Land containers. All of the new cranes will have ship's trim and list adjustments to facilitate and speed the entry of containers into the ship's cell guides.

Full operation of the turntabe and six cranes is planned for early 1973. The diagram shows 19 Paceco Portainers operational in the area next year.

\* Registered trade name.

#### **Expansion of Storage Space**

Baltimore, Md., November 9:— Baltimore's Locust Point Marine Terminal has significantly increased its total cargo storage area according to a story appearing in the November issue of the Port of Baltimore Bulletin, just published.

The expansion of the terminal's storage space occurred when back-up area paving operations were recently completed near Pier 4–5, the magazine says. The Bulletin is the award-winning monthly publication of the Maryland Port Administration, an agency of the Maryland Department of Transportation.

The article quotes terminal superintendent Richard C. Anderson saying the 11-acre backup area will be leased on a month-to-month basis only to shippers who use the facilities at Locust Point. The area was paved over a period of three months at a cost of \$489,975.

Also featured in the November issue is a different look at Maryland's little known other seaport of Cambridge and a discussion of how that city typifies a new breed of Eastern Shore community by its development as a home for small industry. The Bulletin reports that the Cambridge Marine Terminal has played an important role in the city's industrial growth.

The Port of Baltimore Bulletin is a 32-page, full-color magazine designed to promote the use of Maryland ports by stimulating international trade. It is one of the world's widest circulated port publications, each issue reaching approximately 10,500 readers throughout the U.S. and 115 other nations.

The MPA publication won two awards recently during the annual publications competition at the American Association of Port Authorities' 61st convention in Miami, Florida. Its February and April issues earned a second place award for the best two-color periodical for 1971. The MPA also won second and third place awards in the competition for the best promotional literature during the past year.

As of the publication dated September 1972 the Port of Baltimore Bulletin upgraded its format to a four-color process in order to offer a more effective editorial foundation for the presentation of Maryland maritime commerce news. (News from Maryland Port Administration)

#### A Second COMBI LASH

Houston, Texas, October 30:—Houston's Barbours Cut Terminal adds a second COMBI LASH (Lighter Aboard Ship) vessel to its international shipping when the German flag MÜNCHEN, a new 43,000 ton, 857 foot vessel, docks here Tuesday, November 7th.

The MUNCHEN joins her sister ship, the M/V BILDERDYK, which officially opened the Port of Houston Authority's new facility last June. The new service offers a full Combi Line LASH schedule from Europe to Houston every 17 days. Combi is a combined service of Holland flag Holland-America Line and the German Hapag-Lloyd, AG.

George W. Altvater, executive director for the Port of Houston Authority, said the arrival of the new ship is "awaited with eagerness and gratification."

"The significance of the MÜNCH-EN's maiden voyage is not lost to us. We know of Combi Line's hard work—as we certainly know of our own—to prepare for this revolutionary new concept of quickly transporting cargo-filled barges across the oceans of the world.

"Although Combi's BILDERDYK initiated the Barbours Cut end of the U.S./Europe sailings this last summer, its sister ship, the MÜNCH-EN, will now help fill the constantly growing demand for this type of intercontinental service through the Port of Houston."

The Barbours Cut facility, at the junction of the Houston Ship Channel and Galveston Bay, is at Morgans Point near La Porte. It is a long term project by the Port Authority to accommodate barge carrying ships and full container vessels with all the necessary adjuncts to their considerable operations.

Delta Steamship Line, in early 1973, will begin docking its new combination container and barge carrying ships at the terminal. Work on a container marshalling yard nearby is underway.

T. E. Dugey, executive vice president of Biehl & Company, Houston, U.S. agents for COMBI LASH, said his company had been extremely pleased with the new service.

"We now look forward to expand-

ing our cargo volume through the Port of Houston," Dugey said.

The master of the new ship is Captain Hillard Smid, a veteran of Hapag-Lloyd service. The vessel has a cruising speed of 18 knots and carries 83 barges, each of which has a cargo capacity of 365 long tons and serves in effect as a detachable cargo cell.

The MÜNCHEN will also call at New Orleans, Charleston and Savannah as part of its regular service to U.S. South Atlantic and Gulf ports. European ports include Sheerness, England; Rotterdam, The Netherlands; and Bremerhaven, Germany. Its barges serve interior points in the U.S.A. and Europe.

In addition to its LASH service, Combi Line will continue to offer frequent sailings from Houston to Europe with container service and break bulk ships. (Port of Houston News Release)

#### Will Save \$2.7 Million

Long Beach:—The Long Beach Board of Harbor Commissioners this week (Nov. 1) authorized the awarding of \$21,900,000 in City of Long Beach 1972 Harbor Refunding Revenue Bonds to a group of 90 participants represented by the First Boston Corp.; Smith, Barney & Co., Inc.; Lehman Brothers, Inc.; and Halsey, Stuart & Co., Inc. as joint managers.

The winning bid was for a total net interest cost of \$15,091,186 representing a net interest rate of 5.0228 percent, which is approximately two percent below the interest rate of the original issue in May, 1970.

Harbor Department Comptroller Robert H. Johnson estimates that the refunding of the 1970 Harbor Revenue Bonds, Series A, which will occur on May 15, 1980, will save the Port of Long Beach some \$2,676,000 in interest costs over the remaining ten year term of the bonds. The proceeds from the 1970 bonds were used to finance a major expansion of facilities to handle containerships.

At the time of the 1970 issue, it was computed that service costs for the original \$30,000,000 in revenue bonds would be repaid several times over from increased revenues from the additional berths and backup areas being financed.

Financial consultants were Stone & Youngberg, while legal counsel was provided by O'Melveny and Myers. (Port of Long Beach News)

## Container Freight Station Opening

Long Beach:—Intermodal Consolidators, Inc., wholly owned subsidiary of Signal Trucking Service, has just announced start of a new service to shippers and steamship lines through the Port of Long Beach Container Freight Station.

The 140,000 square foot warehouse No. 5 on Pier A provides shippers and steamship lines with a diversified shipping package from the Ports of Long Beach and Los Angeles to points in the OCP territory.

Port general manager Thomas J. Thorley said that the CFS is designed so that freight will be expedited through the recently-converted facility, both locally and nationally.

Intermodal general manager Peter Duffy noted that Intercon will consolidate COFC and TOFC units to take full advantage of attractive FAK rates, all at no charge. Intercon will also devan containers and load into TOFC trailers. Warehousing is also available at extremely reasonable rates.

Intercon's address is Warehouse No. 5, 1405 Panorama Drive, Long Beach, Cal. 90802. Phone is 435-8311 in the harbor area, 775-8787 from Los Angeles. TWX is 910/341-7294. (Port of Long Beach News)

#### Top AAPA Award

Long Beach:—The American Association of Port Authorities coveted Advertising/Publications Award for 1971–72 has been won by the Port of Long Beach, bringing the honor to the West Coast for the first time.

A panel of five experts judged entries from some 20 ports during the AAPA's recent convention in Miami and awarded the group's highest honor to Long Beach for general excellence in both advertising and publications. The trophy is the actual brass speaking tube from the bridge of the late Admiral Richard E. Byrd's Antarctic exploration vessel.

In addition to the Byrd award, Long Beach placed high in two other competition categories—annual reports and promotional literature.

The Port's annual report, titled "Harbor Highlights," has earned numerous other honors this year, including the American Advertising Federation Best in the West and National Addy awards, the Association of Industrial Advertising plaque and the Belding Award. It also recently won the 19th annual Exhibit Industrial Graphics-International competition of the Los Angeles Museum of Science and Industry.

Designed by president Chuck Davis and creative director Mike Glover of Davis and Associates Advertising, the contents were developed by Port of Long Beach public relations director Elmar Baxter. (Port of Long Beach News)

## East-West Trade Conference at World Trade Institute

New York, Nov. 16:—Opportunities for increased business between the United States and seven eastern bloc nations—Bulgaria, Czechoslovakia, East Germany, Hungary, Poland, Rumania and the U.S.S.R.—will be explored at a major East-West Trade Consultation Conference at the World Trade Institute in the Port Authority's World Trade Center on November 28, 29 and 30.

The Conference will be held in the World Trade Institute on the 56th Floor at One World Trade Center, Church and Dey Streets, starting at 9:00 A.M. on Tuesday, November 28.

Representatives of seven Eastern European nations, as well as United States Government officials and businessmen experienced in trading with the COMECON countries (the Eastern European counterpart of the European Economic Community), will participate in the Conference.

In preparing this Conference, World Trade Institute officials took note of the increased economic rapprochement which offers new opportunities in East-West trade. Soviet Foreign Trade Minister Nikolai S. Patolichev visited The World Trade Center and the Institute recently during a trip to this country to negotiate the new trade agreements between the U.S.S.R. and the United States, and at that time

expressed great interest in the Trade Center concept and its potential for furthering international business. Officials of most of the Eastern European countries also have visited the Trade Center and the Institute, as have members of the delegation of the People's Republic of China to the United Nations.

#### Speakers Include Top Officials in East-West Trade

The keynote address for the East-West Trade Conference will be given on opening day by Willis C. Armstrong, Assistant Secretary of State for Economic and Business Affairs. Romanian Ambassador Bogdan heads the list of distinguished Eastern European representatives in the United States who are participating in the Conference. Other senior trade officials from the embassies of the Eastern European nations who will address the Conference are Valentin P. Akselenko of the U.S.S.R., Jozef Soldaczuk of Poland, Napoleon Fodor of Rumania, Lajos Regos of Hungary, Vladimir Novacek of Czechoslovakia and Boyan Christov of Bulgaria.

In addition, Dr. Gerhard Beil, Secretary of State for Foreign Trade of the German Democratic Republic, will speak on Thursday, November 30, the final morning of the Conference.

Among the prominent American businessmen and government officials who will participate in the Conference are Steven Lazarus, Deputy Assistant Secretary of Commerce, who will discuss planning for trade negotiations: George B. E. Hambleton, Director of International Affairs of Pan American World Airways, who will speak on the importance of people-to-people relationships; Robert V. Roosa, Partner in Brown Brothers, Harriman & Co.; who will moderate a panel discussion on multi-national financing; and Eugene Theroux, Special Counsel of the Joint Economic Committee of the United States Congress, who will review the outlook for trade with China. Cochairmen of the Conference will be Tino Perutz, Vice Chairman of the New York Regional Export Expansion Council, and John P. Morgan of the First National City Bank.

Registration for the East-West

## Full Containership Services Offered at Port of New Orleans

New Orleans, La., October 5:-Two new, fully containerized shipping services are commencing operations at the Port of New Orleans in early October, bringing to five the number of full containership services offered at the U.S.A.'s second largest

Farrell Line's American flag vessel S/S AUSTRAL ENVOY sailed from New Orleans October 2 on its between maiden voyage Orleans, U.S. Atlantic Coast ports and the Australian and New Zealand ports of Sydney, Melbourne, Brisbane, Auckland and Wellington. The ship can carry up to 1,098 twenty-foot equivalents including 288 containers for frozen cargo. Biehl & Company represents the line in New Orleans, which will be the first U.S. port and only Gulf port of call on the return trips. Three other Farrell ships will join the service by mid-1973, when the service will operate on a bi-weekly basis.

Sea-Land Service, Inc. will provide American flag, direct, full containership service on a bi-weekly

Trade Conference may be made by calling or writing the World Trade Institute, Room 1369, One World Trade Center, New York, New York 10048, telephone (212) 285-4452.

The World Trade Institute was opened by the Port Authority in September 1971 under the direction of Dr. Jack Zwick, former professor of Finance and International Business at Columbia University Graduate School of Business, and is unique in its practical and timely approach to international trade and commerce. It offers courses in all aspects of world trade, and is a forum where businessmen of all nations can meet to explore new markets, discuss mutual problems and develop concepts, techniques and procedures that can lead to expanded international trade. (News from The Port Authority of New York and New Jersey)

basis between New Orleans and the North European ports of Bremerhaven and Rotterdam commencing October 12 with the sailing of the SL-180. Sea-Land's SL-180 and SL-181 vessels, which can carry up to 733 thirty-five or forty-foot containers, also offer a variety of container types, including temperature controlled units, open tops, bulk and bulk liquid tanks. Feedership service to other U.K./European ports will be offered.

In addition to the two newest services, Seatrain Lines, Inc. provides New Orleans with a fortnightly full containership service to U.K./ North Europe. Gulf Container Lines, represented in New Orleans by Furness Withy Agencies, offers a fully containerized service to U.K./ North Europe/Scandinavia, while Gulf Puerto Rico Lines, a Sea-Land affiliate, provides full containership service to Puerto Rico and the Caribbean.

In addition to these full container services, some 56 steamship lines offer partial container services between New Orleans and major world ports. These companies, among them Lykes, Delta, Combi. Cartainer, Atlantic Gulf Service, Orient Overseas, Marine Express, Zim, Mitsui OSK, K Line, NYK, Y-S Line, Bank and others, feature modern conventional ships, many of them modified to carry upwards of 200 containers in addition to conventional break-bulk cargoes.

Lykes Lines' new SEABEE ships, DR. LYKES and ALMERIA LYKES now in service between New Orleans and the U.K./Continent range, can carry up to 1,800 containers or as many as 38 fullyloaded 800-ton barges. When all three SEABEES are operating, Lykes will offer sailings every 10 days on the U.K./continent run. The vessels are being modified to handle regularly at least 600 containers on the ships' upper deck, permitting them to operate, in effect, as



San Francisco:—Cargo expeditors had a reunion recently by the Golden Gate when key officials of the San Francisco Customs Brokers and Freight Forwarders Association conferred with the top national official of their industry. William Bosque (left), J. E. Lowden Company, and James Burns (right) president of Thornley and Pitt, Inc, and president of the local chapter, were among the local association's hosts of John N. Grose (center), executive vice president of the National Customs Brokers and Forwarders Association, headquartered in New York. The group met in continuing discussion with Grose of industry responses to ever-increasing needs for serving growing U.S. overseas trade.

full containerships of that capacity and as barge carriers simultaneously.

About 4,500 containers per month move over New Orleans wharves. The port's first specific containership berth at France Road Terminal has been leased to Sea-Land Service.

The second container berth, with Paceco-type crane, scheduled to serve as a common user terminal, is under construction and will be operating in late 1973.

The port's modern conventional terminals at Nashville-Henry Clay Wharf, at Napoleon Avenue and elsewhere on the Mississippi riverfront, are heavily utilized for containers and have been modified to provide adjacent container marshalling yards. High-speed, gantry-type floating derricks provide efficient container handling at the river berths.

## A 4-member Promotional Contingent

San Diego, Calif., November 4:— San Diego's new container crane will be discussed next week with officials of the Japanese shipping industry by a four-member promotional contingent from the Port of San Diego.

Leaving Monday for Tokyo are Dudley D. Williams, Vice Chairman of the Unified Port District's Board of Commissioners, and Port Director Don Nay.

Robert Mercer, Trade Development Director for the Port, and Commissioner C. R. Campbell of Chula Vista will join the group later in the week.

While in the Orient, they will visit the Hitachi-American container crane plant and review design progress on the 600-ton container crane

programmed for construction in San Diego next fall. Installation will be at National City Marine Terminal. (Port of San Diego News Release)

#### **Trade Mission**

SAN DIEGO, Calif., Nov. 5:—A 20-member trade mission to Central American countries left San Diego today. The trade development effort is being sponsored by the Port of San Diego and the San Diego Chamber of Commerce. First stop for the group will be Guatemala City where the party will be greeted by members of the U.S. Embassy staff.

Among those forming the traveling promotional contingent are Dr. J. W. Ravenscroft, representing Mayor Wilson of San Diego; Mr. David Porter, Consul of El Salvador to San Diego; Commissioners Milton Fredman and Walter Vestal of the Port of San Diego and William Stonehouse, Port Marketing Manager.

The tour leader and official representative of the Chamber of Commerce is Don Shubert, a director of that body.

The mission's itinerary will take them to Managua, Nicaragua, El Salvador, Costa Rica and Panama, in addition to Guatemala. The party will return to San Diego on Saturday, November 18. (Port of San Diego News Release)

#### 1971-72 Annual Report

San Diego, Calif., November 8:—Copies of the Unified Port District's 1971–72 Annual Report are now available, it was announced today.

The District utilized a "decade in review" theme in the full color report, and both text and illustrations highlight the first ten years of the Port of San Diego's growth and progress.

A cover photo features a fish-eye camera lens' view of San Diego Bay, which gives a moon-shot effect against a black cover that is dramatic. The picture combines with the numeral one for a "10" to depict the theme.

Editorial contents review progress of the fiscal year 1971–72 and generally suggest the District is in a strong fiscal position. Signing of legislation organizing the District by State Senator James R. Mills is

featured and quotes him today as offering a "well done."

Color photographs of outstanding construction projects during the first ten years are carried in a three-page foldout section and, again, against a black background.

The report notes that private industry has invested in excess of \$110,000,000 in tideland properties during the first decade of the District's existence. (Port of San Diego News Release)

#### **New Recessed Dock**

Antwerp, 13 September:—In view of the construction of a new recessed dock, to be built to the order of N.V. B.A.S.F.—Antwerpen, and which upon completion will be delivered in unrestricted ownership to the City of Antwerp, the City Council decided to buy some 100 a (2.471 acres) of State-owned sites located within the 5th district (Zandvliet) close to Canal Dock B3. (Press Release from Port of Antwerp Promotion Association)

#### **Container Traffic**

Antwerp:—In the course of the first quarter 1972, 33,598 containers were handled in the port of Antwerp, or say 16,259 discharged and 17,339 loaded. These figures cover laden containers only, not empty ones. Of the latter kind, 4,140 were handled, in addition.

The weight of the goods involved amounts to 495,363 tons (236,786 tons discharged plus 258,577 tons loaded).

In comparison to the first quarter 1971, the number of containers rose by 10.9%, the tonnage of the goods by 16.8%.

Traffic with North America still represents the lion's share of the container traffic. Same aggregated not less than 21,588 containers with a cargo content of 329,233 tons. (Antwerp Port News, July)

#### Port Labour Act

Antwerp: — Belgian Parliament recently sanctioned a bill from the Minister of Labour, Mr. Major, on port labour. It is mainly being made compulsory now that no port labour may be caused to be done by any but recognized port labourers, inside the port zones. The obvious purpose



Antwerp:-Travelling bridge crane plant set up by the N.V. STOCATRA

the Act aims at is to ensure steadiness of work to approximately 15,000 Belgian port labourers.

The Act does not actually innovate anything, though it purports to bring more order into an existing situation, also with the purpose of avoiding the kind of troubles that occurred in certain countries. (Antwerp Port News, July)

#### **Managing Director Appointed**

Felixstowe, 1 November:—Mr. Stanley Turner, Group Managing Director of the Felixstowe Dock & Railway Company, has been appointed a member of the East Anglia Economic Planning Council by the Secretary of State for the Environment, the Rt. Hon Peter Walker, M.P.

Mr. Turner joined the Port of Felixstowe in 1970 from the Port of London Authority where he was Director of Industrial Relations. He served with the PLA from 1936 until his appointment at Felixstowe, apart from his Army service between 1939-45 when he was promoted to the rank of major in the Royal Engineers. He also became, at the age of 25, deputy assistant Director of Transportation and he helped to plan the Burma campaign.

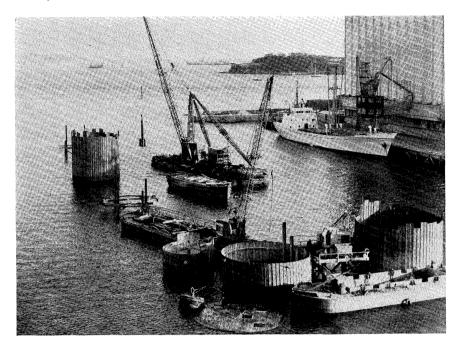
Mr. Turner has played a leading part in the International Cargo Handling Co-ordination Association and he is the honorary treasurer and vice-chairman of the Association's international executive committee. A Freeman of the City of London, Stanley Turner is also a Fellow of the Chartered Institute of Transport and of the Institute of Materials Handling. He is also a Member of the British Institute of Management and a member of the training committee for the National Ports Council. (News from Port of Felixstowe)

#### Peace-keeping Committee for Southampton

London, 7 November (B.T.D.B.): —A committee representing dockers, road transport workers, and their respective employers has been established in the port of Southampton to provide effective consultation between the two industries in the area in the interests of the smooth running of the port.

The committee, which has been formed by the Transport and General Workers Union, the Road Haulage Association, the Southampton Port Employers', and the British Transport Docks Board, is believed to be the first of its kind in the country.

Speaking at the committee's inaugural meeting in Southampton, Mr. Ernest Allen, regional secretary of the T.& G.W.U., said that it had been realized some time ago that there was a need to improve communications between the two indus-



PLYMOUTH ROLL-ON/ROLL-OFF FERRY TERMINAL: Work on the construction of a new roll-on/roll-off ferry terminal being developed by the British Transport Docks Board at Millbay Docks, Plymouth is going rapidly ahead, and is due for completion by the end of the year. The terminal will accommodate a new ferry service operated by Brittany Ferries (B.A.I.). The service, which is scheduled to start in January 1973 will run daily. Initially, it will cater for freight only, but it is intended to introduce accommodation for passengers and their cars in November 1973. (British Transport Docks Board)

tries to avoid possible friction between workpeople on both sides. A lot of work had been done on this in Southampton before the national dock strike, he said, and now it was the aim of the liaison committee to provide the means of dealing peacefully with any problems which might arise in the future.

As an example, Mr. Allen quoted the new lorry park and container depot which is being developed at Nursling, near Southampton. It had been possible he said, to go to the developers 18 months ahead of completion with a clear definition of those operations which were regarded as dockers' work and those which would be carried out by members of the Transport Branch, and the company had welcomed this.

The liaison committee will not have a fixed schedule of meetings, and its membership will be drawn as necessary from panels elected by each of the constituent organizations to represent them, so that experts are available to deal with specific problems which might arise.

#### Feasibility Report on Humber

London, 8 November (B.T.D.B.):
—The natural deep-water approach channel to the Humber could be deepened at a reasonable cost of permit fully-laden vessels of 250,000 tons to enter the estuary, according to a feasibility study carried out by the British Transport Docks Board.

The study, part of the Docks Board's overall research programme into the long-term development of the Humber, showed that the cost of deepening the channel for ships drawing 66 feet would be in the region of £2 million—a small sum compared with similar projects elsewhere.

In undertaking the study, the Docks Board set out to establish firstly whether fully-laden ships in the 250/300,000 tons range could safely negotiate the sea approaches to the Humber, and secondly, to what extent capital dredging would be necessary to allow them to enter. This knowledge was clearly essential to any long-term development planning of port facilities.

Two shipping routes to the Hum-

ber were examined: from the south, via the Dover Strait, and from the north of Scotland. Both were found to enable 300,000-ton vessels to approach to within 18 nautical miles of Spurn Point before dredging became necessary.

Further examination of this 18-mile approach disclosed that, because some areas had sufficient natural depth, dredging would be necessary for only  $10\frac{1}{2}$  nautical miles.

It was also discovered that the amount of dredging necessary, and, therefore, the cost, rose steeply for vessels of more than 250,000 tons with a draught of over 66 ft. (20 metres) and this was, therefore, considered to be the practical limit of deepening.

Commenting on the report, Mr. Kenneth Bantock, Port Director, Humber, said that it had clearly established that the tankers and bulk carriers of a quarter of a million tons, which were expected to be predominant for many years to come, could be catered for in the Humber.

"Obviously, this enables us to do some positive thinking about the Humber's future port development, and then we shall be in a position to consider, with other interested parties, all the implications of the sort of developments which I am sure we will see and which could be the basis of future prosperity on Humberside," Mr. Bantock said.

Geophysical surveys of the Humber's approaches indicate exceptionally favourable conditions for development, the report says. The material which would be dredged in the approach channel is almost entirely sand and gravel which can be removed cheaply by large trailer suction dredgers and is highly suitable for land reclamation.

To date the largest vessels arriving at the Humber have been a partly laden 260,000 ton deadweight tanker carrying 120,000 tons of crude oil with a draught of 39 ft. and one of 115,000 tons deadweight with a fully laden draught of 50 ft. 6 ins.

## Port of Le Havre Flashes October

7 Car Ferries A Day on the Cross-Channel Run: The introduction of Seagull Ferries' SAINT GEORGE on August 25th brought the number of round trips between Le Havre and Southampton to seven a day. Townsend-Thoresen use two ships for passengers and private cars and one specialized vessel for goods vehicles. The DRAGON and the LEO-PARD cross daily for Normandy Ferries, while the SAINT CHRISTOPHE and the SAINT GEORGE specialize in wheeled freight for Seagull Ferries.

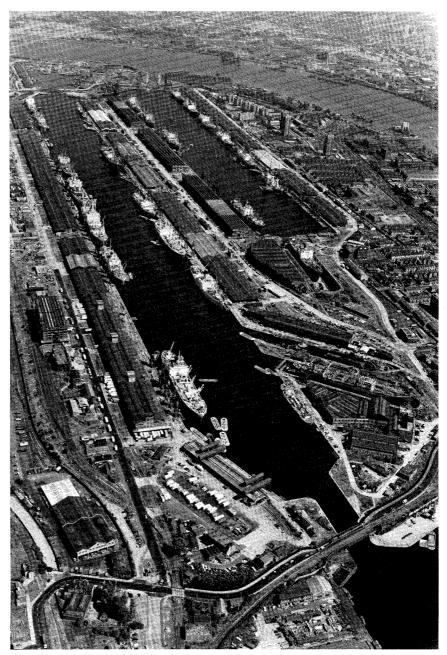
French Grain For USSR: France is selling 500,000 tons of barley and 500,000 tons of wheat to the Soviet Union under the terms of a recently signed contract. The first ship to load was the Vilnyus, which arrived in Le Havre on September 1st. She later sailed for the Baltic after taking on 6,000 tons of barley.

Le Havre To Supply A 9th Refinery: The construction of a new refinery in the industrial zone is at present the subject of detailed discussions between the Port Authority and the Elf and Antar petroleum companies. It has been decided that it should occupy a site of about 500 acres (200 ha) to start with. The new refinery will be the ninth to be supplied from Le Havre and the third to be owned by the Elf group. Its initial annual capacity is expected to be in the region of 6 million tons.

From Door To Door: In 1968, 70% of the containers passing through Le Havre were grouped before loading and split up on arrival. Today, 70% of the "boxes" go straight through from door to door.

The Quai de L'Europe: The new container terminal that began full-time working on September 25th is to be known as the Quai de l'Europe. A single administrative building houses both the Customs authorities and the various offices of the shipping companies. The new terminal is situated above the sea lock that came into service on December 22nd, 1971, and which is soon to be officially opened by Mr. Olivier Guichard, the Minister for Regional Development.

Work Continus At Antifer: August 26th saw the completion of the rough stone jetty begun on July 10th. It has been built to provide the data necessary before a decision can be made on the exact form of



London:—The three docks making up the Royal Group of Docks are the Royal Albert Dock, the Royal Victoria Dock and the King George V Dock. The three together form the largest sheet of impounded dock water in the world, a total of 230 acres, with a depth ranging from 34 to 38 feet. There are 11 miles of quay and 52 deep-water berths. The Royal Docks on their own form the fifth largest port in the United Kingdom in terms of shipping tonnage. Many of the foremost companies operating over the world's trade routes are based in the Royal Docks. Cargoes to and from Australia, New Zealand, Canada, South and East Africa, the West Indies, Far East and North and South Africa pass over the quays. (Port of London Authority)

the permanent works and the most appropriate methods of construction. The jetty is 720 ft long (220 m) and now has only the wave action test still to undergo. The result will show what special protective measures need to be taken.

The Seine To Get Another Bridge: By 1985 there will be a new bridge across the Seine estuary. It will link Honfleur with Sandouville, on the outskirts of Le Havre, and will be a tremendous asset both to the port and to the industry of the



Manchester, Runcorn Docks

entire region. Not only will it provide quicker communication with western and south-western France but, still more important, it will make possible the establishment of a port/industry complex of international dimensions.

Two New Ro-Ro Berths: Work began on May 15th on two new berths above the sea lock to cope with the increase in wheeled traffic. The first is expected to be ready in November and the second early in 1973.

Tankers Get Bigger: During the first six months of the year, tankers with a deadweight capacity of over 200,000 tons discharged 39.5% of all crude oil arriving in Le Havre.

Stowage Areas: Special attention has been paid to increasing the amount of stowage space available to port users, and in the course of the last two years a further 90 acres have been added to bring the amount of usable space up to 1,550 acres (584,000 sq. m.). The main beneficiaries are the roll-on/roll-off and container services.

## Only Alternative: Nuclear Energy

Bremen: — During the Bremen Nautical-College-Day in October, a spokesman for the German Society for Nuclear Energy in Shipping and Shipbuilding affirmed that nuclear energy was the only alternative to oil-propulsion for ships. Some 200 ships, mainly submarines and ice-breakers, are already powered by nuclear reactors. A nuclear-powered German 80,000 h.p. containership is to demonstrate, in the second half of this decade, the profitability of nuclear energy for vessels of this size. (Bremen International, 11-1972)

## Blue Riband for "Sea-Land Galloway"?

Bremen: — The Blue Riband, which since 1838 has been awarded to the fastest ship to cross the Atlantic, would now actually be due to the containership, built by the Krupp shipyard, AG WESER, in Bremen, the "Sea-Land Galloway", which has just crossed the 'pond' at 33 knots. The world's fastest containership has 120,000 w.h.p., generated by two steam turbines, and accommodates over one thousand containers (35 and 40-foot) on the trip from Bremerhaven and Rotterdam to New York. Incidentally, it would not be the first time that the Blue Riband would be going to a Bremen built ship. Already in 1929 the, at that time, new Lloyd passenger liner "Bremen", won this distinction with a record passage from Bremerhaven to New York. The "Sea-Land Galloway", is the first of a series of eight ships of the SL-7 type being produced for the large American container company. Three of them are being built by the AG WESER. (Bremen International, 11-1972)

## Majority of General Cargo Shortly in Containers?

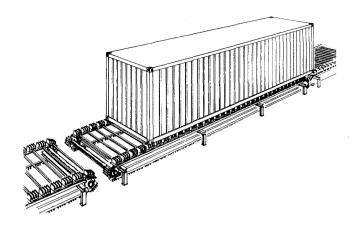
Bremen:—The German Institute for Economic Research in Berlin prophesies that already in the middle of the 'seventies, the majority of general cargo moving between West-Europe, North America, Japan and Australia will be carried in containers. In the long run, a flatteningout of the development curve of the ship container trade is to be expected and-particularly in respect of urgent and valuable container commodities—an increase in the air container trade. The German overseas container trade is practically wholely operated in two ports, whereby Bremen/Bremerhaven handles about twice that number of containers as Hamburg (Bremen / Bremerhaven 1971, some 1.51 million tons: Hamburg some 0.84 million tons). (Bremen International, 11-1972).

## Instrumentation of A World Port

Bremen:—The distinguished rating of the Bremen/Bremerhaven port-group on the European Atlantic coast is confirmed by the presence of 58 shipping company offices (51 in Bremen and 7 in Bremerhaven), 279 forwarding agents, some of world repute, 24 commodity handling undertakings, 84 shipping agencies, 8 maritime insurance companies, 13 maritime insurance brokerage companies, 35 maritime insurance agencies, as well as numerous cargo tallyfirms, average adjusters, claim adjusters, cargo surveyors, experts for casualties and ship-construction, cargo measurers, stevedoring companies and ship-chandlers (Bremen International, 11-1972)

## The MEEUSEN Containoveyor A Conveyorbelt for Containers

Barendrecht, Holland, October 27:—For many years various types of conveyorbelts have been known in industry to transport all kinds of goods. Consequently a conveyorbelt for containers would not seem anything special.



Insiders, however, know that the bottom of a container is not flat and that the cornerpieces, called cornercastings, usually protrude under the bottom. This makes it difficult to transport a container on a belt, especially if it is desired to carry one on top of another. In such case cornerloads can set up on the cornercastings  $(15 \times 17 \text{ cm})$  of 20 tons, and even more due to possible shockloads (when the crane puts the container down too hard).

Therefore normal types of conveyorbelts provided with roller bearings or wheels are too vulnerable for this purpose and not suitable to absorb large cornerloads.

MEEUSEN CONSULTANTS have looked into this problem for several years and have developed a new type of conveyorbelt. This has been called CONTAINOVEYOR and is suitable for all kinds of containers of different lengths even placed in mixed lengths. With continuous transport large throughput capacities can be obtained. The distances of transport are unlimited.

The CONTAINOVEYOR consists of separately driven units with standard dimensions of  $13 \times 3 \times 0.70$  metres, coupled electrically driven, and can be remote controlled, automated or computer controlled.

Each unit is easy removable. It consists of a fixed frame and a movable transporting part. The movable part is at both sides driven by an endless chain and carried by a System of Rollers without bearings. The container rests with its sidelongitudinals on the toothshaped rubber pads. These pads can bend to suit the cornercastings, so that corner-

loads are eliminated.

Possible shockloads are for the greater part absorbed by the rubber pads. The remaining part of the load not absorbed by the rubber pads is transmitted to the fixed frame and not critical for the new Roller System.

This new Roller System is based on the principle applied when building pyramids i.e. moving of heavy loads by placing these on rollers. At that time the rollers were romoved from behind the load and replaced at the forward end of the load.

With the CONTAINOVEYOR these handlings are one might say automated by connecting the rollers to an endless chain. The solid steel rollers which have no bearings can absorb heavy shockloads without necessitating a heavy construction.

As a result the CONTAIN-OVEYOR has great reliability, requires little or no maintenance and small power consumption. When applied properly optimal economical results can be obtained.

For anyone interested MEEUSEN CONSULTANTS will be pleased to give information as to various possibilities of application. (Meeusen Consultants)

#### **Port Police**

Lourenço Marques:—Decree n.° 127/72 has been published in the Mozambique Government Gazette (Boletim Oficial) emanating from the Overseas Ministry creating the Police Corps for the Port, Railway and Transport Services of Mozambique, which was proposed in Decree n.° 47 043 of 7.6.1966. In terms thereof, the Police Corps is a militarized organization destined for

the service of policing and the security of the areas under the jurisdiction of these Services, its being their duty to maintain order and public tranquility and to assure the security of the personnel, of the property, of the users of the Railways and of the public in general. (Monthly Bulletin of the Mozambique Harbours Railways and Transport Administration, April 1972)

### To Remove Sunken Tug From Iron Cove

Sydney, 1st Nov.:—The Maritime Services Board will remove the tug "Swan" which has sunk in Iron Cove near the Miller Street baths.

In making this announcement today, Mr. W. H. Brotherson, President of the Maritime Services Board of N.S.W., said that all attempts by the Board to cause the owner to remove the tug from the bed of the Port had been unsuccessful.

Mr. Brotherson said that successful prosecutions of the owner by the Board had been instituted on two separate occasions, for failure to comply with statutory notices to remove the vessel, but the necessary removal had not been effected.

The first case resulted in the owner being fined \$40.00 with \$4.00 Court costs whilst on the second occasion he was fined \$60.00 and \$4.00 Court costs.

The Board has now been left with no alternative but to tender for the removal of the vessel and, in terms of its powers, when the vessel is refloated, it will be offered for sale, in order to recover as much as possible of the cost incurred in its recovery. Should the sale price exceed the recovery costs, the balance will be paid to the owner.

In commenting on the matter, Mr. Brotherson said that people owning boats in the State should be aware of the responsibility resting on them to cause their vessels to remain afloat. He said the expenses incurred could be very heavy in cases where a vessel was neglected and it became necessary for it to be raised from the bed of the waterway, and the owner becomes liable to reimburse all public monies which are expended as a result of his failing to maintain the seaworthiness of this vessel at all times.

In recent years, the Board has been committed to heavy expenditure in ridding the ports under its control of hulks. (The Maritime Services Board of N.S.W.)

## Preparations for Opera House Opening

Sydney, 30th Oct.: — Mooring buoys are being placed in the water on the northern frontage of the Opera House and streamers will be draped from the roof of the building to the buoys as part of a test to be conducted to ensure the feasibility of certain proposals put forward for the official opening of the Opera House on 20th October, 1973, by Her Majesty The Queen.

This was announced in Sydney to-day by Mr. W. H. Brotherson, President of the Maritime Services Board of N.S.W., who is also Chairman of the Harbour Carnival Committee set up by the Citizens Committee arranging the opening of the Opera House.

In making this announcement, Mr. Brotherson said that there would, no doubt, be a certain amount of public interest in the activities being undertaken in the area and he felt that there would be some advantage if the media were aware of the reasons behind the activities.

He said that the results of the tests would be submitted to the Citizens Committee so that final consideration could be given to the detailed plans for this section of the opening procedure. (The Maritime Services Board of N.S.W.)

## Port Rashid Official Opening Ceremony

Dubai:—Port Rashid was officially opened by H. H. Sheikh Rashid bin Said Al Maktum, the Ruler of Dubai, on the 5th October when Senior Directors of the Consultants, Sir William Halcrow & Partners, and the Contractors, Costain Civil Engineering Ltd., stated that the construction of the Port was subsequently complete.

The Port which has 15 deep water berths and ample cargo handling and storage facilities, has been operated by Dubai Port Services, a subsidiary of Gray Mackenzie & Co. Ltd., since the first four berths came into use in 1970.

# Rapid Build-up of Container Traffic Through Port of Auckland

#### **Auckland Harbour Board**

Auckland, N.Z., Oct. 26:—Container traffic through the new terminal which the Port of Auckland is still developing continues to expand more rapidly than originally expected and two new services will begin early in 1973.

Pacific Far East Line, previously Matson, is replacing conventional ships on the Pacific run with two C-8 LASH vessels which will call at Auckland every 25 days after early January and Farrell Lines also plan to put American cellular ships into Auckland.

Pacific Far East vessels will open container trade between Auckland and the West Coast of North America. Farrell Lines ships this November are joining those already servicing the East Coast of North America.

In addition, Columbus Line which in June 1971, put the first container ship through the Auckland terminal will have vessels transporting boxes to West Coast of North America ports as well as to the East Coast of North America.

By the end of the Auckland Harbour Board's year on September 30, 1972, a total of 37 container ships had used the terminal which from its opening in June, 1971, had then

It is the aim of the Government of Dubai and the Operators to provide Shipping Principals with a Port second to none in the Gulf and to give merchants the facilities to import and export their goods safely and quickly. Port Rashid lives up to these aims. (Gray, Mackenzie & Co. Ltd., October Bulletin—1972)

handled 11,386 box movements.

Vessels of Columbus, Associated Container Transportation Ltd. and Australian National Line are now regular callers. New Zealand boxes are going to the United Kingdom and before the end of 1973 P & O's large container ship Remuera under charter to ACT/ANL will join vessels serving UK/Europe.

More than 100 ship calls are expected at Auckland in the next year to September 30, 1973, when terminal throughput will exceed 32,000 ISO containers.

Development of the Auckland container terminal to the capacity where it can handle what has been a remarkable build-up of traffic was accomplished in the face of unpredictable anxieties, financial and operational.

The four British Lines in the New Zealand trade had announced in 1969 their intention of introducing a four-ship container service with large vessels starting fortnightly calls in the latter half of 1972.

While the Auckland Harbour Board already had preliminary work under way on the development of facilities for future handling of containers at the eastern end of the downtown waterfront, British requirements necessitated costly speedup of plans and the completion of a much larger development in a considerably shorter period than envisaged.

Therefore plans were adopted for construction in stages of a fully equipped container terminal complex comprising two berths and some 34 acres of back-up area. Estimated to cost a total of about \$13 million the complex was to be completed by 1975.

Tenders for the first stage of wharf construction and for the portainer crane were called in the middle of 1969. Auckland was thus heavily committed financially by May 1971 when the British Lines cancelled plans for their joint container service.

The Auckland Harbour Board considered such a terminal was still needed and pressed on with the development. The less ambitious container services to the East Coast of North America would go ahead and other overseas shipowners were showing interest.

As a result 950 ft. of Fergusson Wharf, the portainer crane, straddle carriers, fork lifts, tractors, trailers, stacking and washing areas were ready for the arrival of the first container ship in June, 1971.

In late August, 1972, the final pour of concrete was made on the next 550 ft. of Fergusson Wharf. Construction of an 80,000 sq. ft. base where containers could be packed and unpacked had also been approved.

When the Auckland Harbour Board year ended on September 30, more mechanical equipment was in use for longer periods, electrical facilities and installations had been extended, stacking and washing areas expanded and increasingly skilled composite gangs were steadily improving work records.

Approximately \$6.6 million of the estimated requirement for the whole complex had now been invested or committed and the terminal is already contributing to the income of the Board.



Aerial view of the Port of Auckland, New Zealand, looking up-harbour over roll-on/roll-off berth with trans-Tasman vessel alongside (right foreground), a container stacking area (left foreground), the 1500 ft container berth (empty) now handling vessels at the rate of one a week in the east coast North America and U.K. trades, with wharves for conventional ships facing downtown Auckland and (left background) one of Auckland's pleasure boat marinas at the city end of the harbour bridge. (October 1972)



Aerial view of the Port of Auckland, New Zealand, looking over a part of downtown Auckland across some of the wharves for conventional ships towards the seaward end of the container terminal (extreme right, beyond wharf cranes). The tall building in the middle (centre) is part of Auckland Harbour Board's downtown redevelopment now entering its second stage. Ships entering and leaving the Port of Auckland round the headland (across harbour, right) and pass between the headland and the volcanic island of Rangitoto in background. (October 1972)

## Mr. Lunch in Auckland







/ From left—Mr. R. W. Carr (Chairman, Auckland Harbour Board), Mr. John Lunch (Director-General, Port of London Authority), Mr. R. K. Trimmer (Chairman, Northland Harbour Board) and Mr. K. Calder (Chairman, Bay of Plenty Harbour Board) in Auckland, New Zealand. (October)

Auckland, October:—An association dating back more than 100 years was celebrated in Auckland, New Zealand, during October when Mr. John Lunch, Director-General, Port of London Authority, exchanged gifts with the Auckland Harbour Board when he called at Auckland on his way to the Australian ports' conference in Adelaide, South Australia.

Mr. Lunch also entertained Chairmen and representatives of the Northland Harbour Board and the Bay of Plenty Harbour Board before proceeding to Wellington for business talks with Government leaders, officers of farm produce boards and heads of export-import organizations.

At Auckland Mr. R. W. Carr, Chairman of the Auckland Harbour Board, Captain J. Forbes, Deputy Chairman, and Mr. R. T. Lorimer, General Manager, showed Mr. Lunch the new container terminal with a 1500 ft. berth and modern facilities now handling container traffic at the rate of one ship a week. (Auckland Harbour Board)

From left—Captain J. Forbes (Deputy Chairman, Auckland Harbour Board) receives from Mr. John Lunch (Director-General, Port of London Authority), at an Auckland, N.Z. function the gift of a water color of the ship "Waimate" painted in 1972 by F. Gardiner from an early Port of London print showing "Waimate" at an old Port of Auckland wharf in 1890. (Octo-

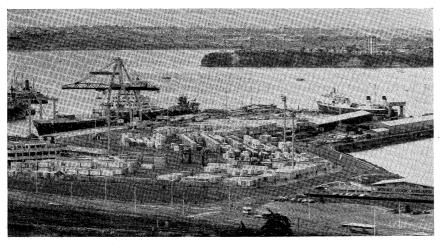
← From left—Captain J. Forbes (Deputy Chairman, Auckland Harbour Board), Mr. John Lunch, (Director-General, Port of London Authority) and Mr. R. T. Lorimer (General Manager, Auckland Harbour Board) at the Auckland, N.Z., lunch when Mr. Lunch on behalf of PLA received from the Auckland Harbour Board the gift of a carved Maori treasure box, a replica of those used by Maori chiefs centuries before Europeans settled in New Zealand. (October)

## First Farrel Lines Ship at Auckland Container Terminal

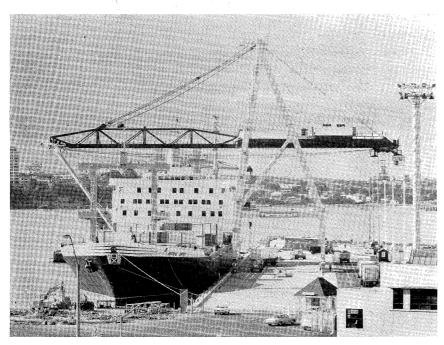
## **Auckland Harbour Board New Zealand**

Auckland, November 13:-Tribute to the pioneering work of Farrell Lines in development of container shipping was paid by Mr. R. W. Carr, Chairman of the Auckland Harbour Board, when Austral Envoy was welcomed to Auckland on November 13, 1972, its first New Zealand visit.

Mr. Carr recalled that Admiral Wauchope and Captain Legnos of Farrell Lines first met the then Chairman and senior officers of the Auckland Harbour Board in early



Austral Envoy, shown beyond part of the stacking area and the portainer crane at the Port of Auckland's terminal.



Austral Envoy, shown under the portainer crane at the Port of Auckland's terminal.

January, 1967. They discussed requirements for a container shipping service to link New Zealand with the southeastern and eastern coasts of the United States.

"Admiral Wauchope and Captain Legnos made the point that Auckland had to be ready to service container ships or miss participation in what they then saw as a revolution in sea transport, the carriage of fully containerized cargoes," said Mr. Carr.

"Our General Manager, Mr. Rober T. Lorimer, followed up that initial talk with a call on Farrells in New York during July, 1967.

"In the same month Mr. C. Carlton Lewis of Farrells advised the Auckland Harbour Board that ships which Farrells planned to build for the Pacific service to New Zealand and Australia would be the 'most efficient container ships possible to build.'

"Our investigations confirmed what Admiral Wauchope and his associates had said—any port failing to provide adequate facilities for handling container ships and their boxes soon would disappear from international shipping schedules.

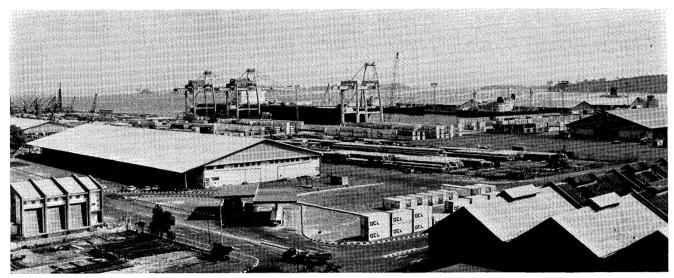
"So we set about building the Auckland container terminal. Today about \$6 million has been invested or committed in the terminal which upon completion will have cost about \$13 million.

"Already since the first container ship called on June 4, 1971, the terminal has successfully handled 45 ship calls (before the arrival of Austral'Envoy) and 13,365 box

"By the end of our 1973 year 11 different container vessels in the East Coast North America trade will be using the Auckland terminal, two LASH vessels to the West Coast of North America will be calling and five other container ships serving the United Kingdom will be regular visi-

"This will mean about 103 ship calls a year for the Auckland terminal with an annual throughput of about 32,000 containers. We are already well equipped to handle what is proving to be rapidly increasing traffic through the Auckland terminal."

## Singapore's East Lagoon Container Port



A sectional view of the East Lagoon Container Port showing the 55,000 g.r.t. 'Hamburg Express' alongside the main container berth. The two giant container quay cranes, each with a maximum lift of 35.56 tonnes, can be seen loading and discharging containers from the vessel. Slightly to the right is the third container quay cranes in the process of being assembled. The third crane will be fully operational in January while the fourth is expected to arrive in July 1973. Concrete piles to be used for the further extension of the main container berths to 914 metres (3,000 ft.) can be seen in the centre of the picture. (The Port of Singapore Authority)

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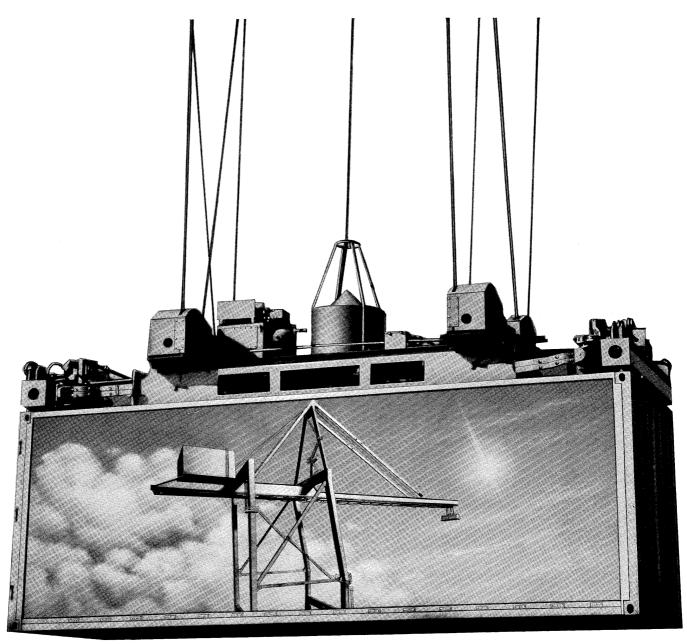
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## How can you put perspective into your containers?

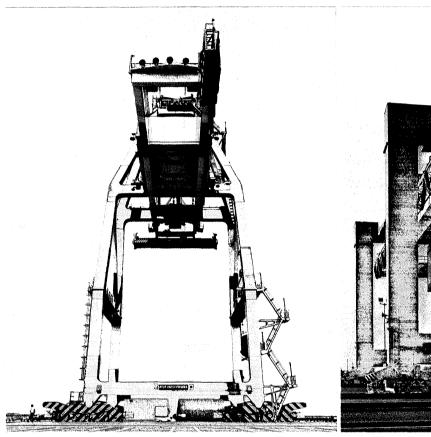
Before you were born (we presume), we began to make cranes. That was 60 years and 10,000 cranes ago.

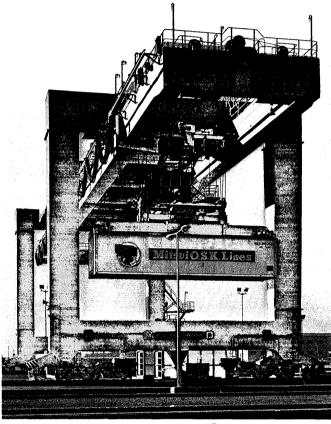
Today, you can get more than a crane with our know-how. You can get a system.

You can get operation plans, plus, cranes for dock-side, ship and yard. And, with our container handling systems, you can be fast, safe and efficient. You can load, unload, stack and unstack—all at the same time. With less personnel. With less cost. With one name. Ours. That's how. Please write.



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Containerization is now being exploded widely, and containers must be handled quickly, safely and inexpensively.

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