

PORTS and HARBORS

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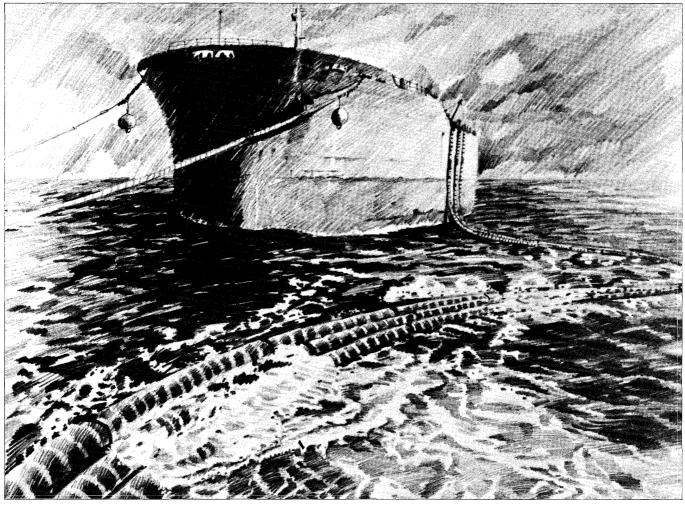
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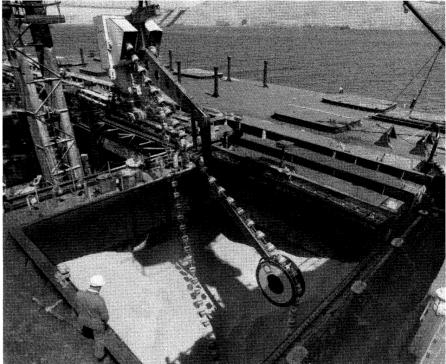
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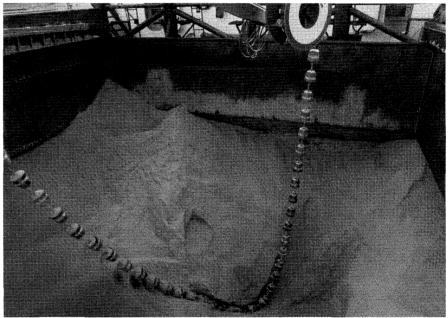
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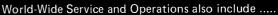
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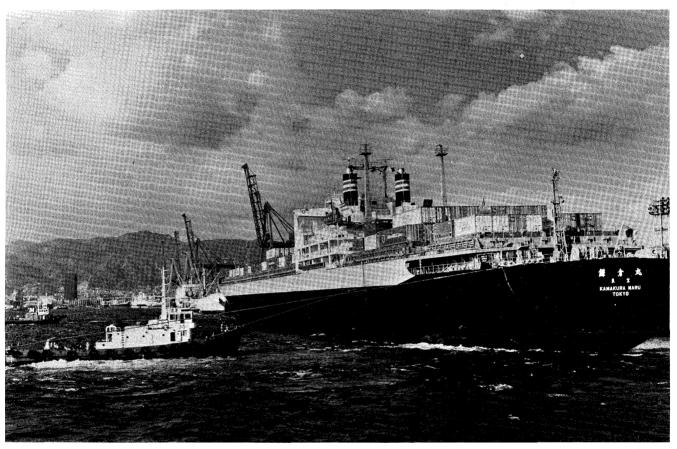
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PORTS and HARBORS

Editor: Yoshio Hayashi

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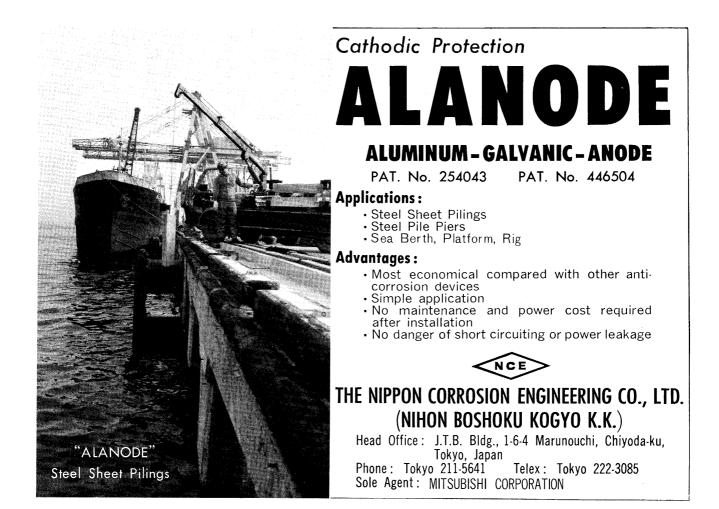
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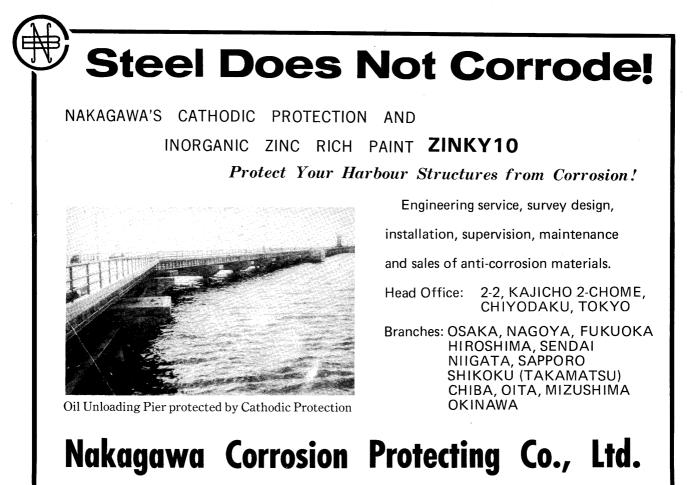
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The Cover:

Oakland, Calif., October 3 (Port of Oakland):-MAIDEN VOYAGE CHRISTENS NEW PORT OF OAKLAND TERMINAL — The Port of Oakland's newest cargo-handling facility, the 18-acre, \$4.3 million Middle Harbor Public Container Terminal, entered operations September 23 with the maiden voyage arrival of the T.S. Adrian Maersk. The first of nine new turbine-driven vessels to enter the Danish line's weekly full-container service between the United States and the Far East, T. S. Adrian Maersk and her sisters will be served at the Port of Oakland by a 721-foot berth and four 50-ton container cranes shared with other users of the 85-acre Middle Harbor complex. (See also story on page 36.)

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PORTS and HARBORS

IAPH Head Office Announcements: Pages 7~12

Mr. Brotherson Passes Away

The sad news of the death of Mr. W.H. Brotherson reached the Tokyo Head Office from Mr. H.B. Cadell, Secretary, The Maritime Services Board of New South Wales, Sydney, by telex on the morning of November 4th, Tuesday, 1975. It read "It is with regret that I advise of the passing of the Board's President, Mr. W.H. Brotherson who died in Sydney hospital on Saturday morning, November First, 1975, following a heart attack."

Mr. W.H. Brotherson, President of the Maritime Services Board of N.S.W., Sydney, Australia, was one of the most experienced members of the Association serving on the Executive Committee and various Special Committees since over 10 years. At the 9th Conference held in Singapore, in March, 1975, he was elected the Third Vice-President. It was only October 13th, 1975 that the questionnaire entitled "Container Handling Statistical Return" which had fully been worked out by Mr. Brotherson in the capacity of a member of the Special Committee on Containerization and Barge Carriers, was sent to all members of the Association from the Secretariat.

Especially, Mr. Brotherson was well known by IAPH members for the warm hospitality that the participants of the 6th Conference in Melbourne 1969 were privileged to receive from the Maritime Services Board headed by Mr. Brotherson who hosted the post conference tour of the 6th Conference in Sydney.

Secretary General Dr. Sato passed on to all members of the Association the sad news of Mr. Brotherson on the November 4th, 1975.

The following are the reproduction of the messages of condolence from President Howe and Secretary General Sato that have sent to the Maritime Board, Sydney and Mrs. Brotherson. Also reproduced is the message from Mr. Robert L.M. Vleugels, Immediate IAPH President and Director-General, Port of Antwerp, which was received at the Head Office on the morning of November 5th, by telex. (TKD)

Messages of Condolence

1. From President

It is with heavy heart that we in the IAPH learn of the sad loss of Bill Brotherson who had been associated with us for many years as wise counsellor and friend and who only in March 1975 was elected one of our three Vice-Presidents. His many friends in ports all over the world particularly those who are members of the IAPH join me in expressing to you our sincere condolences. We shall share with you the deepest grieve over this sad loss.

How Yoon Chong, President, IAPH



The late Mr. W.H. Brotherson

2. From Secretary General

It is our great sorrow to learn of the sudden death of Mr. W.H. Brotherson, the Third Vice-President of the International Association of Ports and Harbors.

On behalf of the Secretariat, we send our deepest sympathy and condolence to your Board and to Mrs. Brotherson for the loss of the great personality, without whose endeavors and outstanding contributions in the past years, the glory of the present day Association could not have been hoped for.

Mr. Brotherson served on the Executive Committee since the 4th Conference in London in 1965, and had ever been active concurrently in various Committees. He took the leadership in all important events of the Association. His presence at seven past conferences out of nine without a break shows how devoted he was to the cause of this world organization of ports and harbors.

Mr. Toru Akiyama, Secretary General Emeritus, who enjoyed the personal frinedship of Mr. Brotherson joins us in extending his sympathy to your Board and the bereaved family of Mr. Brotherson.

Hajime Sato

Secretary General, IAPH

3. From Immediate Past President

The sad news of the passing away of W.H. Brotherson, Vice-President of IAPH moved me deeply.

I had the highest esteem for him as a leading member of our Association and had the privilege to know him as an excellent friend.

He shall stay in my memory for ever.

I present my heartfelt sympathy to Mrs. W.H. Brotherson. May God bless her!

Robert L.M. Vleugels Director General, Port of Antwerp Past President, IAPH

Membership Committee Newly Established

At the post-conference joint meeting of the new Board and the new Executive Committee, held on March 14th, a Special Committee named as Membership Committee was established, as was announced in the May-June issue of this journal.

Under the date of August 30th, 1975, President Howe Yoon Chong officially appointed the following gentlemen to serve on this Committee.

Mr. A.S. Mayne, Chairman, The Melbourne Harbor Trust Commissioners and Chairman of this newly established Committee sent in his inaugural message to all Members of IAPH which we take the pleasure of reproducing in this issue. (TKD)

Message from Mr. A.S. Mayne Chairman of the IAPH Membership Committee

Now that the Membership Committee of the Association has been formed with regional representation, including our three Vice-Presidents, it is essential that every member of the Association does his best to promote the advantages of membership to prospective members in order to strengthen the Association. I would ask that members examine their area and if they consider an approach from the Association could be worthwhile they should contact either the Committee member in their area or Head Office, who will explain through correspondence the advantages of membership of the Association to the organization concerned. In the meantime an appropriate campaign letter has been approved with Head Office pointing out the many advantages of the Association.

Composition of the Membership Committee

Chairman: Mr. A.S. Mayne Chairman The Melbourne Harbor Trust Commissioners 29 Market Street, Melbourne Australia 3001

Members:

Mr. George W. Altvater Executive Director Port of Houston P.O. Box 2562, Houston Texas 77001, U.S.A.

Mr. D.E. Taylor Chairman National Harbours Board Tower "C", Place de Ville, 300 Sparks Street, Ottawa, Ontario KIA ON6, Canada

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Mr. A.S. Mayne

Mr. Anthony J. Tozzoli Director Marine Terminals The Port Authority of New York and New Jersey One World Trade Center New York, N.Y. 10048, U.S.A.

Mr. Stanley Johnson Managing Director British Transport Docks Board Melbury House, Melbury Terrace London NW76JY, England, U.K.

Ir. J. den Toom Managing Director Port Management of Amsterdam Havengebouw, De Ruyterkade 7 Amsterdam, The Netherlands

Mr. P.K. Kinyanjui Chairman East African Harbours Corporation P.O. Box 9184, Dar es Salaam Tanzania

Mr. W.H. Brotherson President The Maritime Services Board of N.S.W. Box 32 G.P.O., Sydney, N.S.W. Australia

Mr. Fumio Kohmura Executive Vice President Nagoya Port Authority 7, 6-chome, Minato-Honmachi Minato-ku, Nagoya 455 Japan

Season's Greetings and Best Wishes for A Happy New Year

IAPH Head Office Secretary General and Staff

IAPH Proposal to IMCO

Mr. Paul Bastard, Directeur de Ports, Maritimes et des Voies Navigables, Ministerie de l'Equipment, France, and Chairman of the Committee on Large Ships recently proposed to President Howe Yoon Chong that the key points on the problems of large ships discussed at Singapore Conference should be submitted to the attention and consideration of IMCO so that some international legislation or procedures may be formulated to protect the interests of ports.

UNCTAD Warns of Port Congestion in Developing Countries

"250 ships are outside Iran's largest part of Kohramshahr and Kwait, waiting for their turn to unload cargo, and many of them have been in the area as long as six months," reported local Tokyo daily Asahi Evening News on Oct. 16.

This alarming condition of port congestion is not Iranian monopoly but a worldwide tendency according to the recent UNCTAD press release. You will find what advice the world organization offers to you in the following article. (Mr. John Lunch, representing IAPH, covers further developments of discussion on this subject at the November 10th meeting of UNCTAD Committee on Shipping and will duly report on it in this journal.) (MK)

Port Congestion Noted by the UNCTAD Secretariat

1. Port congestion, which is a perennial problem, has recently begun to reach alarming proportions. The number of port congestion surcharges announced is not an accurate guide to the extent of congestion, but it is nevertheless strongly indicative. The statistics show a dramatic growth. The average number of congestion surcharges announced per year in the 1950s was ten. By the 1960s this average had risen to 25. In the early years of the 1970s the number had risen to 100 per annum. In 1974 no less than 300 congestion surcharges were announced.

2. At the same time as the number of ports which are congested has increased, so has the extent of congestion in those ports. A detailed analysis is not possible because complete data is not available. However, monthly figures for the first four months of each year since 1971, show that the average number of waiting days per ship in a number of ports intermittently subject to congestion was:

	Ų
1971	2.2 days
1972	2.3 days
1973	4.0 days
1974	4.8 days
1975	14.3 days

3. There is no region of the world which is now immune from the problem of port congestion. It may well be asked why has this situation come about? The answer is simply that the capacity of ports has not increased to match the Mr. Bastard in cooperation with Mr. S. Ulman, Director General, Port of Gothenburg and Chairman of Working Group No. 2 of the Large Ships Committee, prepared a draft proposal to IMCO comprising six points boiled down from the voluminous report of the Committee which was presented to the 9th Conference.

In accordance with the instructions from President Howe, Mr. Bastard's proposal was referred to the Board of Directors for consideration by Secretary General on October 2, 1975. If the draft should win approval, it will be proposed to IMCO after the November 1st, 1975, the closing date set for the voting of the Board. (TKD)

increased traffic wishing to pass through those ports. This simple answer, however, does not provide a guide to the ways in which the elimination of congestion might be approached.

4. Port capacity is determined by the physical facilities available within the ports, the amount, skill and working habits of the labour which is operating those facilities and by the administrative and institutional arrangements under which the port is operated. The demands placed on this capacity are determined principally by the amount of cargo which is passing through the port. This simple indicator, however, has to be qualified by taking into account the nature of the cargo and how it is carried—how much on each ship and how much in bulk, containers, break-bulk form, etc.

5. There is a wide range of factors which limit the capacity of ports to meet the demands placed on them. Some of the more important of these are:

- failure of planning ministries to take into account the fact that increasing economic activity in a country invariably leads to an increase in the demands placed on that country's ports;
- ineffective management, with a lack of continuity for senior management and too few middle managers and supervisors who are adequately trained for their jobs;
- poor labor relations, with no coherent policy for the creation of a contented and efficient labour force, leading to the adoption of uneconomic restrictive practices;
- lack of co-ordination between the various aspects of port operation (for example, customs clearance and delivery to and from inland transport being possible during only a proportion of the time the port is actually operating);
 unrationalized traffic due to erratic importation policies
- and unco-ordinated liner schedules;
- inappropriate charging policies which lead transit sheds to be used as warehouses, thus reducing berth throughput;
- inadequate maintenance which results in a high proportion of the equipment being out of service.

6. Port congestion is a world-wide problem but it is more serious for developing countries than for developed ones. This is partly because it is more widespread in developing than in developed countries, but also because developing countries are much less able to support the costs imposed by congestion. The frustration in the realization of development projects caused by irregular delivery of capital equipment and other imports, and the difficulties of marketing exports, caused by irregularity and uncertainty of delivery, are also more serious for the developing countries. It is evident that development plans should not, (Continued on next page bottom)

John Lunch, Director-General of the Port of London Authority, is retiring

Port of London Authority

(This article was received in June last from Mr. P. J. Bennett, Manager, External Affairs Department, Port of London Authority, accompanied by his letter of 17th June, 1975.)

John Lunch, Director-General of the Port of London Authority, is to retire from his position as Chief Executive of Britain's biggest seaport. He became Acting Director-General in February 1971 and was appointed Director-General in July 1971. Whilst the exact date has yet to be fixed, by the time he retires John Lunch will have been Chief Executive for about five years. His decision to retire has been influenced by medical advice. Currently he is fit and well, but the advice is that he should reduce his extensive and demanding executive commitments for the sake of his continued good health.

After wide experience of a variety of companies in the City of London, and subsequent business involvement in

and will not, be limited by the capacity of ports. However, if ports are unable to meet the demands created by those development plans, the effect will inevitably be that development achievements fall short of targets. To prevent this happening, all parties have a role to play.

7. At the national planning level, the question needs to be asked whether the resources devoted to port development are appropriate to the growing level of traffic. The need to provide additional physical capacity-both major capital works and minor handling equipment-of the right amount and at the right time, calls for early and soundly based planning. At the administrative level, the question of whether the administrative structure of the port is efficient and enables the physical capacity of the port to be properly utilized needs to be examined. At the institutional level, the manner in which other institutions or trade practices may hinder improvements in port performance have to be considered. The shipping lines also have a role to play since they may be contributing to port congestion by sending too many ships for the available cargo or by bunching sailings. There is no single cause of port congestion and therefore there is no single solution.

8. The Committee may wish to give thought to measures which could be taken to reverse the trend towards increased port congestion. One possible action might be to request the Secretary-General of UNCTAD to call a meeting of experts for a round-table on congestion to examine the questions which are involved and to produce an action programme consisting of specific measures which could be taken by countries whose ports are congested and which would be designed to prevent the situation getting worse while measures to identify the real cause and to produce long-term solutions are being implemented. most forms of surface transport, John Lunch joined the Port of London Authority in 1961 as Chief Accountant. In 1965 he was redesignated Director of Finance with additional responsibility as the PLA's first Marketing Director. Immediately prior to his appointment as Director-General he had general management responsibility for the PLA's harbours and docks.

The period during which John Lunch has headed PLA has been one of the most significant in the history of the international ports industry as technological changes in marine transport and associated cargo handling systems have rapidly taken effect. During this period John Lunch has led the reshaping of the PLA's business in all its aspects, adapting the port's physical facilities and its human resources to meet the demands of this new age. By so doing he has maintained London's position as Britain's major seaport and Tilbury as the nation's largest container port.

He is a firm believer in devolved responsibility, and as well as introducing modern business attitudes and methods throughout the PLA he has developed a new management structure designed to bring greater involvement, by encouraging people to work closer together at local level. This policy has contributed to a far more stable industrial relations climate in the Port of London, and a greater understanding of the affairs of the port by the people who work within it.

At the same time John Lunch has expanded the PLA by progressively acquiring stevedoring businesses so that the PLA is now by far the largest employer of dockers in the Port of London.

He has also extended the PLA's activities into international freight forwarding by acquiring a world-wide group of surface and air forwarding companies—the PLA is believed to be the first port to do this.

Shrewdly recognising the value of PLA expertise, he set up a successful commercial consultancy subsidiary—at that time a unique development in the ports industry. Of its many contracts, the Suez Canal navigation consultancy is perhaps the best known.

All these activities he has welded together to form the PLA Group, of which he is Group Chief Executive, so allowing him to move towards his objective of being able to offer customers an inclusive price for a wide range of port services.

Keenly interested in the environment, he has played a leading part in cleaning up the tidal Thames—the only heavily industrialised and populated river in the world to be so restored. There are now 83 species of fish in the Thames, including salmon, as well as the return of a host of wildfowl.

Following losses in the five previous years, in each of the four years 1971-1974 John Lunch has turned in a profit and in the same period he has eliminated some £20 million of the PLA's capital debt by careful handling of the PLA's extensive real estate.

John Lunch regards himself as an international businessman. He has always emphasised the importance of senior managers meeting customers on the customers' own ground (Continued on next page bottom)

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3 Candidate Ports for 11th Conference in 1979 visited by Head Office Staff

Mr. Rinnosuke Kondoh, under-secretary, visited ports of Le Havre, Bristol and Hamburg during the early part of October and observed various facilities for a conference, with eager help of relevant port authority. He was out in Europe as a member of Port Finance Study Mission of Bureau of Ports and Harbours, Ministry of Transport of Japan.

Each of these three ports has been expressing its willingness to the Executive Committee to host the 11th Conference of IAPH which is to be convened in 1979 in Europe. The matter will be raised in the agenda of the coming meeting of Executive Committee in April 1976 at Curacao.

Mr. Kondoh says that it is the first experience of IAPH to have plural number of candidate ports for a conference, and it is very crucial for all of us to select one out of three while the fact itself shows that IAPH really is a happy organization to have such eager members. He wanted to express his sincerest thanks and appreciation to those people who had assisted him during his visits for their cooperation. (MK)

9th Conference Proceedings mailed out

The Proceedings of the 9th Conference 1975 was completed and mailed out from the Head Office to all members and the officials concerned at the end of September.

Secretary General Dr. Sato extends his appreciation through this official journal once again to Mr. Howe Yoon Chong and his Port of Singapore Authority as well as to those people who supported the Conference.

Bound superbly with a fresh modern design, the 200-page book contains, as special features, a 8-page gravure highlighting the Conference and detailed information on the Conference facilities in addition to the customary items such as records of Plenary Sessions, Working Sessions, Secretary General's Report on Financial Affairs, and Social Events including Ladies Program and

and he has led a number of overseas trade missions. He and his wife have travelled over 150,000 miles in the last four years on PLA business.

He is a keen supporter of the work of the IAPH. He is Chairman of the International Port Development Committee, and is the Association's Liaison Officer with UNCTAD, and has achieved recognition as a leading figure in the world ports industry.

Recognition of the part that John Lunch has played in the British ports industry came when, on 14th June 1975, Her Majesty the Queen conferred upon him the honour of Commander of the British Empire.

John Lunch does not intend to sever his connections with the ports industry. He is already considering offers of a consultancy nature, and the wisdom and experience he has demonstrated over the last five years in one of the most demanding jobs in transport is not likely to be left untapped for very long. Sporting Events.

If members wish to receive additional copies, they are available at US\$25 per copy excluding mailing charge. (TKD)

IAPH Membership Directory 1976

The Membership Directory 1976 is due to be dispatched to all members from Tokyo towards the middle of November.

Regular Members and Associate Members of Grade One of Class A, Class B and Class C are entitled to receive 3 copies, Grade Two of Class A Associate Members, 2 copies, and other members, 1 copy per unit.

If members wish to receive additional copies, they are available at US\$5 per copy including airmail charge.

The distribution of the Membership Directory is limited to its members only. (TKD)

Membership Notes

New Member

Associate Member (Class A)

Tideland Signal Corp. P.O. Box 52430 Houston, Texas 77052, U.S.A. Office Phone: (713) 681-6101 Telex Number: 762327 (Mr. George F. Vietor, Vice-President) (TKD)

Visitors

• On October 2nd, 1975, Mr. Kim Joon Kyung, Chief, Port and Harbor Operation Division, Inchong District Marine Bureau and Mr. Yun, Chief, Marine Bureau, Port Development Division, Korea, visited the Head Office and were met by Mr. Masatoshi Kinouchi, Deputy Secretary General.

The two visitors from Korea expressed their eager wishes that their government should join IAPH in the near future. (TKD)

• Mr. P. Manser, Assistant General Manager of Auckland Harbour Board visited the Head Office on the afternoon of October 9th, 1975, and was met by Mr. Masatoshi Kinouchi, Deputy Secretary General.

Mr. Manser was accompanied by Captain H. Mitani, Manager Container Operation Centre, Swire Mackinnon, Tokyo Office, and was on his way to Nagoya, Osaka and Kobe. (TKD)

• Mr. George F. Vietor, Vice-President of Tideland Signal Corp., Houston, visited the Head Office on the evening of October 9th, 1975 for information required for membership application, and was met by Mr. Masatoshi Kinouchi, Deputy Secretary General.

Mr. F. Vietor signed in the application on the spot and became an Associate member (Class A-Category Three-Grade One) to be effective from January 1st, 1976. He was on the way to Singapore. (See the Membership Notes in this edition) (TKD)

• Mr. Robert J. Blackwell, Assistant Secretary of Commerce for Maritime Affairs, Department of Commerce, USA, has visited Japan and held a reception at American Embassy, Tokyo on October 15, 1975. Dr. Hajime Sato, Secretary General and Mr. Rinnosuke Kondoh, Under Secretary presented the reception. (RIN)

• Mr. Gunter Filter, Director, Free and Hanseatic City of (Continued on next page bottom)

Financing port expansion in Canada may mean increased transportation rates

Canadian Port & Harbour Association

Toronto, Ontario, Canada

Toronto, Ontario, Canada, October 7:-Members of the Canadian Port and Harbour Association (CPHA) were warned recently that transportation rates will likely increase in order to finance the cost of expanding and improving Canada's ports to handle future traffic.

Robert Andras, Minister of Manpower and Immigration told delegates to the Annual CPHA Conference held in September at Thunder Bay, Ont., that a report prepared by the Ministry of Transport estimated that increased tonnages moving through many Canadian ports would require \$1.2 billion worth of infrastructure expansion by 1990.

"To finance the kind of expansion we've been looking at," he said, "it's likely that transportation rates will have to be increased for many transportation services."

The minister added that the management of the systems involved will have to be improved.

"I'm confident that the new ports organization will make those improvements in management," he added.

Members of the CPHA heard details of the government's new ports policy from Transport Minister Jean Marchand. (In a subsequent cabinet shuffle, Mr. Marchand was appointed Minister without Portfolio while Otto Lang took over as Transport Minister.)

Mr. Marchand said that Canada's new ports policy will provide an appropriate mechanism for dealing with both the problems of today and the future.



Hamburg, Ministry of Economy and Transport, Department of Harbour, Shipping and Transport, Port of Hamburg Authority, accompanied by Mr. Hideki Miyanohara, Assistant Representative of the City's Tokyo Office, visited the Head Office on the afternoon of October 17th, 1975, and was met by Secretary General Dr. Sato and Deputy Secretary General Mr. Kinouchi.

The photo was taken on the occasion: from left to right, Messrs. Miyanohara, Kinouchi, Filter, Miss Takeda and Dr. Sato. (TKD) "I am convinced," he said, "that we must improve the overall planning for our national port activity—including the planning related to other marine activity and to rail and highway access to ports."

Mr. Marchand spoke specifically to the port managers among the CPHA delegates, telling them that they would be key figures in the total national port process.

"I would like to mention the important role of the port managers in making the new system work," said Mr. Marchand, "and in anticipating change." He also thanked port administrators for their efforts to date.

Robert Andras also referred to the new ports policy in his speech. He said that it is imperative to have one federal administrative structure for all ports to replace the troika of local commissions, the National Harbours Board and the Marine Administration section of the Ministry of Transport.

(The Canadian Ports Commission would be responsible for administering the 13 NHB ports, the 11 Harbour Commission ports and the remaining 375 harbours and wharves under the Marine Administration of the MOT.)

He did point out, however, that the new system would not be without problems.

"There is bound to be some dispute over the way ports should be managed," he warned.

He referred to the growing interest in port planning by all levels of government.

"The Federal Government is interested in regional economic expansion, urban affairs and the environment," he explained. "The provinces have a similar environmental interest as well as a concern for resource development, land use, regional development and highways. And municipalities, of course, see ports as a direct and indirect source of economic benefit from shipping and marine associated industries."

Other factors which will affect future port planning include civic pride in waterfront development, impact of technological change and emerging new patterns of world trade.

Mr. Marchand said a task force under the direction of Marine Administrator Roy Illing is developing the details and mechanisms to make the "new policy live and to translate it into legislation."

A steering committee has also been established which includes not only government departments such as the Privy Council Office, Treasury Board and Finance, but also representatives from harbour commissions and port authorities.

Mr. Marchand said that under the new Canada Ports Act, the local port commissions will operate with a considerable degree of autonomy as far as the day-to-day operations are concerned.

These local commissions would report to the central Canadian Ports Commission.

The minister explained that the new regional advisory boards to be set up under the new ports policy would allow provincial participation in the overall port planning process and also provide "a forum for ports to co-ordinate their efforts on a regional basis."

(Continued on next page bottom)

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Urban waterfronts need better mix of activities; harbour commissioner

Canadian Port & Harbour Association

Toronto, Ontario, Canada

Toronto, Ontario, Canada, October 7:-Toronto Harbour Commissioner H. Roy Merrens would like to see the urban waterfront developed with a healthy and economically viable mix of activities.

City redevelopment should facilitate access to, from and along the waterfront and encourage the viewing of maritime

"At the national level," he said, "I visualize a policy board made up primarily by representative chairmen of the port commissions which will review the national ports situation and provide advice on matters of national significance."

Mr. Marchand cautioned representatives from Canada's ports attending the CPHA meeting that it is necessary to keep aware of the possibility of partial erosion of traffic—particularly containerized cargo to the United States.

"We must at all times," he said, "be in a position to change and adjust and to deal with technological change which displaces labour."

Both ministers referred to expected growth in Canada's ports.

"In Thunder Bay," said Mr. Marchand, "significant bulk cargo development is expected to take place and other ports, particularly on the West Coast, will also experience substantial growth."

Mr. Andras quoted the most dramatic increases forecast in the Ministry of Transport report.

"Vancouver's volume could rise by some 25 million tons in the next 15 years," he said, "Nanticoke by about 10 million tons; Sept Iles 45 million tons; Quebec City around 10 million tons; Thunder Bay some 35 million tons."

While other ports listed in the table, he added, do not show such large increases, they certainly indicate "a pretty healthy growth."

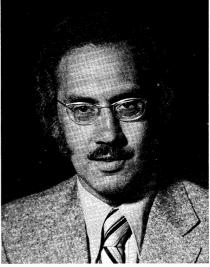
Mr. Marchand said that Canada's ports operation is closely connected with overall shipping policies.

"We could have the most efficient port system in the world," he explained, "but it would be of little use if we did not keep abreast of the international shipping requirements."

The minister warned CPHA delegates that ports cannot be unique entities if ability to export and import is to be maintained and developed.

"Ports must fit into firstly, an integrated national marine operation," he said, "and secondly, within a larger integrated national transportation framework which includes rail and highway."

"Ports are a very vital part of our national transportation system," he added, telling members of the CPHA that "in your hands they will continue to fulfil their vital role."



Mr. H. Roy Merrens

activities, Dr. Merrens told members of the Canadian Port and Harbour Association (CPHA) during their annual meeting held recently in Thunder Bay, Ont. Redevelopment should also be geared to the needs of the community as a whole, he added, providing housing and around-the-clock uses.

The Toronto Harbour Commissioner also listed the need to preserve the qualities of the area and to maintain an "authentic historical sense and context" as guidelines for waterfront development.

Dr. Merrens' paper, entitled "Re-cycling Urban Waterfronts" was presented in September at the 17th Annual Meeting of the CPHA which represents ports all across Canada.

He told delegates that the waterfront has borne the brunt technological growth to a greater degree than most parts of the city.

"Three economic activities that have left particularly strong imprints on the waterfront are transportation, sewage disposal and industry," he said.

Dr. Merrens, a geography professor at Toronto's York University, added:

"The waterfront represents a uniquely valuable resource which we have traditionally used, or abused, in a short-term careless fashion—and the way of using this resource now has to be re-assessed and re-evaluated."

Dr. Merrens cited two of the factors which have led to a rediscovery of waterfronts as a new emphasis on the quality of life and a growing concern about re-using our resources. A third, he said, is urban crowding which has prompted a search for ways of improving present urban amenities and a search for land suitable for development.

This re-discovery of the waterfront is going on in numerous waterfront cities and towns both in Canada and the U.S., the harbour commissioner said, adding that the Canada this process lags behind the United States by five to seven years.

(Continued on next page bottom)

Dirigibles Mooted

Extracts from Canada Japan Trade Council Newsletters

1. WESTAC's Valuable Initiative Should Be Used To Build Upon

Ottawa, Canada (Newsletter June 1975):-A recent meeting in Saskatoon, convened by the Western Transportation Advisory Council, produced remarkable results. In two and a half days of discussion, more than 100 participants of widely varying interests and views managed to identify, in general but clear terms, the major needs of our national transportation system and the host of problems which surround their fulfillment. The meeting was notable particularly for the restrained and realistic approach taken to the questions proposed for discussion. For once, government was not singled out as either whipping boy or milch-cow. No single mode of transportation incurred disproportionate criticism or blame. There was gratifying absence of finger-pointing or name-calling. Instead, there was refreshing willingness on the part of the representatives of all facets of the industry to talk frankly and seriously,

But this re-discovery of the waterfront has resulted in some friction.

"Conflicts arise," he said, "because of new, impinging and sometimes non-compatible goals."

"Some ports are feeling all of them," he added, "some a few and some haven't yet been exposed to them."

One of the major problems, Dr. Merrens explained, was the conflict between the traditional desire for port security and the new and growing desire for public access.

The use of the landfill process to create additional lands in harbours is also being questioned, the professor said.

"There is often real or potential conflict between the goals of port engineers and the aims of citizen environmentalists."

Changes in traditional shipping methods and the container revolution have altered the visual appearance, the character, the scale and the size of ports.

Container handling facilities, he said, need large expanses of flat land which may be prized areas as far as environmentalists are concerned.

However, new shipping requirements have, in many cases, released much needed waterfront areas and sites of finger piers for other uses.

"When shipping uses move elsewhere," he added, "opportunities for a considerable range of new uses open up."

Dr. Merrens listed these possibilities as industry, housing, commercial uses, open space, parkland and areas for walking, picnicking, bicycling and boating.

"The conflict represented by such competing uses is particularly difficult," he explained, "because, whereas in most cities, the greatest need is for moderate and middleincome housing and for open space, these are unfortunately two uses the developer is least interested in, simply because he stands to make much more income from other uses."

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without rancor or undue bias.

The WESTAC conference performed a very valuable service in identifying the proportions and the complexity of our transportation question. Perhaps equally valuable, considering future discussions of a similar nature, was the degree of unanimity of opinion achieved amongst such a number of diverse interests. The WESTAC meeting has created a sound base upon which to build. It could be the jumping-off place for equally well-prepared and wellconducted discussions. Understandably, the Saskatoon meeting offered only limited time and a specific agenda which somewhat limited the scope of discussion. This disciplined approach was, however, probably one of the chief reasons for the successful evolvement of practical answers to the questions posed. Too many topics, too loose an agenda, would have risked futile generalization. It is to be hoped that future meetings will include some of the areas necessarily excluded at Saskatoon. New transportation modes and methods and technological pioneering in the transportation field might well come under the same intense scrutiny and rigorous debate as did rail, highway and port facilities; financing; availability of skilled labour, and other aspects of transportation at the WESTAC meeting's five work-shop sessions.

One point which was made very clear at the Saskatoon meeting was the Homeric proportions of investment capital required for even the most modest expansion of existing plant, whether road, rail or port installation. Equally clear (Continued on page 16)

Dr. Merrens also told delegates that further problems arise when the scale and the density of waterfront development is considered.

He said that while high-density and high income developments are, in strictly financial terms, the best way to develop central waterfront lands, "such super-schemes now evoke a very negative response from the community at large."

The reasons for this include the blocking off of the waterfront and the prevention of small-scale diversity of use and users which characterize successful city fabrics.

The conflicts must be resolved, Dr. Merrens said, by the investment of a great deal of time, energy and imagination.

"It means groping for answers and resolutions," he told, delegates from Canada's ports, "and all the interested parties have to be involved in that groping towards a resolution."

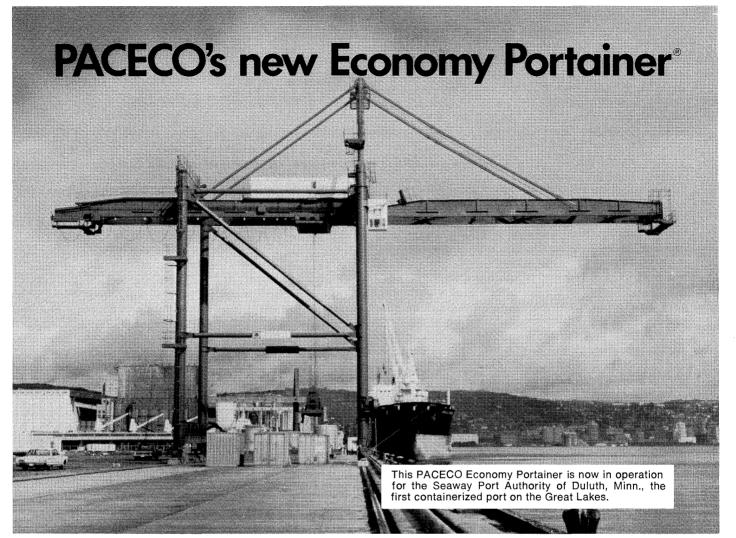
The overall problems of space required by container facilities cannot be resolved, he added, until technology is developed to reduce the area of land needed.

"The real answer to the problem of land consumption by the port," he explained, "lies in ship design and in inventing new container handling techniques and machines that will obtain for us a large measure of conservation of waterside land, marshes and beaches."

Computer-automated multi-storey container terminals which might alleviate the land-consumption problem bring with them many cost and construction difficulties which are yet to be worked out.

Dr. Merrens concluded that what he termed waterfront re-cycling should be based on the goal of diversity and variety of use and users.

"The scale of redevelopment is of critical importance," he said. "Mini-projects make more sense today than super-schemes."



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(Continued from page 14)

were the staggering demands in terms of manpower and materials which any such project would exert upon the national economy. Given the urgency of upgrading and expansion of our transportation system, often in areas of extreme difficulty and expense, and huge demands for capital, men and material, which must compete for priority with similar demands from other areas of the national economy, perhaps new modes, methods and technology should be more thoroughly explored. If scarce and expensive in-puts can be saved by these means, they must warrant serious consideration.

The science fiction of today has a habit of becoming the accepted technology of tomorrow. What, for instance, would be the saving to Canada in time, money and effort, if we were able to develop an alternative to the proposed rail line and highway down the Mackenzie Valley by serious consideration of proposals which today many of us may still look upon as impractical "science fiction"? An item in the May 20 issue of the Japan Economic Journal recalls that such an alternative may indeed exist-lighter-than-air craft. The Japanese are neither frivolous nor flighty in their approach to their national economy and international trends. When they act, it is usually the result of long, methodical study and analysis. It is this which gives importance to the report that the Society of Japanese Aerospace Companies Inc. has been impressed enough with the possibilities and economics of lighter-than-air transportation to send a mission abroad to study progress made in those nations actively working in the field. The Machine & Development Centre of the Japanese Society for the Promotion of the Machine Industry will shortly set up a study centre to specialize in this area.

Great Britain and Russia are the two nations most active in lighter-than-air development, although the United States, West Germany, Holland and Japan have at least done feasibility studies. Russia and Britain have already constructed prototypes of the new generation of airships and Russia is utilizing hers for forestry inspections and similar jobs in the vast spaces of Siberia and the Arctic. The new ships are constructed of such comparatively new materials as fibreglass and ultralightweight alloys. The key to success is, however, the safety factor now available-helium. The air disasters of the Thirties, which blackened the reputation of lighter-than-air craft, were largely due to hydrogen, a dangerous element. Boosters of airship transportation point out that they are pollution-free, do not damage fragile terrain such as the tundra, use comparatively little energy, carry bulk cargo and present a highly flexible mode. The Russians foresee their use in carrying LNG, oil and ores from inaccesible sites, in addition to many specialized jobs. They claim, for instance, that two small airships with 15-man crews could do more seismic work in one season than 2,000 using helicopters could in three. Existing technology has produced a prototype capable of carrying a cargo of 500 tons at an average speed of 100 miles per hour. The present power unit is the conventional diesel but turbo-prop and jet engines are being developed and a Boston professor is said to have developed plans for a nuclear power plant.

At a time when rail and road vehicles, ships and heavier-than-air craft are becoming increasingly expensive to build and maintain and their necessary loading-unloading facilities even more so, airships might prove to be an economical and practical supplement to our transportation system. Many experts believe transportation bottle-necks are seriously inhibiting world trade. Canadian initiative and ingenuity might well contribute to a solution.

2. International Interest In Dirigibles Revived And Growing

Ottawa, Canada (Newsletter July-August 1975):-This Newsletter last month mentioned the possibilities inherent in rigid, lighter-than-air craft for carrying bulk cargo without pollution, with comparatively little expenditure of energy and without damage to sensitive environment such as that of the Canadian Arctic. In July, Japan's Kyodo news agency reported that a West German firm will attempt to prove the practicality of a Zeppelin-type aircraft in 1978. The firm, Flugschiff Bau Hamburge GWBH, has the blueprint for such a craft measuring 218 meters long, 47 meters in diameter and weighing 181 tons. It will have a capacity of 400-500 passengers and will travel at about 250 kilometers per hour. The West German group has approached Japan's Society of Aerospace Companies Inc. for co-operation in constructing the ship, larger than the famous Graf Zeppelin which flew prior to World War II. They seek investment of approximately \$100,000. The Japanese group is already familiar with developments in this type of aircraft, having sent a mission to Europe in March to study progress being made in the field in other countries. The news agency reported that a group in the U.S. is planning a trans-Pacific flight in a 50-meter ship in 1976 in celebration of the 200th anniversary of the United States.

The Port of Bremen

(Bremen and Bremerhaven)

Freie Hansestadt Bremen

Der Senator für Häfen, Schiffahrt und Verkehr

Bremen:-The Port of Bremen is an all-round port with a world-wide reputation. It differs from all the other ports by the division into two port complexes, one of which--Bremen-is the southernmost German seaport, whilst the other-Bremerhaven-is situated direct on the coast.

The structure of the Port of Bremen combines the advantage of a river port and a coastal port.

The customers of the port (shipping companies and shippers) are free to choose the particular port complex most suited to their purposes.

The port complex of Bremen lies 125 kilometres (68 nautical miles) away from the point where course is taken for the river Weser and is therefore the southernmost German seaport. This location guarantees minimum freight rates between the port and the hinterland. Vessels of up to 25,000 dwt with a draught of 9.60 m (32') can sail into Bremen, according to the tide. Work has just been started on deepening the entrance channel of the lower river Weser from 8 metres at present to 9 metres at medium low water, with the result that vessels with a capacity of 35,000 dwt will soon be able to reach Bremen.

The port complex of Bremerhaven is situated only 59 km (32 nautical miles) away from the open sea. Owing to the deeper channel of the outer river Weser, large carriers with a capacity of 80/85,000 dwt or a draught of 13.50 metres (45') can call here. It is planned to deepen the channel from 12 metres at present to 14 metres. On an average there is a difference of 3.50 metres between the water level at low tide and high tide.

Both port complexes together have 25 basins and a

number of handling facilities on the open river-such as the Stromkaje at the "Container Crossroads Bremerhaven", which is 1.000 metres long, and the Columbus Quay for passenger services overseas and ferry services to England, which is also 1.000 metres long. There are very many special facilities for handling cargoes, whether for general goods, which amount to 50% of the total amount of goods handled (24.2 million tons in 1972), cars, or for bulk cargoes, such as grain, coal, ore, and petroleum.

Owing to this division of the Ports of Bremen into two separate port complexes 65 kilometres apart, each having its own particular advantages—either direct on the coast or deep inland—Bremen can react flexible to structural changes in transport and thus fulfil most of the special wishes of the customers of the port, shippers and shipping companies alike.

The best example of this adaptability is container traffic, introducted in Bremen as the very first German seaport in May 1966, when a special handling facility was constructed in the port complex of Bremen.

When, in the course of the further development of this new mode of transport, other shipping companies saw considerable advantages in the location of Bremerhaven close to the sea, a second container terminal was constructed there, at first behind the locks. Then Bremen took one more step forward and built a container quay outside the locks on the open river in order to make clearance even quicker and turnround times shorter. In the meantime all the full-containerized lines have concentrated their operations on the "Container Crossroads Bremerhaven".

The latest branch of intermodal transport, LASH-traffic (motherships, which transport fullyloaded barges overseas), has also chosen Bremerhaven as one of the very few ports of call in Europe. The three lines operating these services at the moment regulary call at Bremerhaven.

The Senator for Ports, Shipping and Transport, 28 Bremen 1, Kirchenstr. 4, is in charge of the administration of both port complexes; operations, at least as far as general goods and grain are concerned, are chiefly managed by the Bremer Lagerhaus-Gesellschaft, 28 Bremen-Überseehafen, Hafenhochhaus.

The fact that two separate port complexes with different geographical and nautical data are run under one central

	Goods m	noved in the po (in 1.0	rt of Bremen in 000 tons)	n 1971/1972		
	Impo	orts	Exports		Total	
	1971	1972	1971	1972	1971	1972
general cargo bulk cargo	5.854,0 9.834,3	6.266,8 10.072,4	5.639,1 1.381,9	6.165,6 1.640,4	11.493,1 11.216,2	12.432,4 11.712,8
total	15.688,3	16.339,2	7.021,0	7.806,0	22.709,3	24.145,2
port of Bremen						
general cargo bulk cargo	4.113,5 5.541,8	4.063,1 6.109,5	4.136,2 1.338,3	4.153,2 1.588,3	8.249,7 6.880,1	8.216,3 7.697,8
total	9.655,3	10.172,6	5.474,5	5.741,5	15.129,8	15.914,1
port of Bremerhaven						
general cargo bulk cargo	1.740,5 4.292,5	2.203,7 3.962,9	1.502,9 43,6	2.012,4 52,1	3.243,4 4.336,1	4.216,1 4.015,0
total	6.033,0	6.166,6	1.546,5	2.064,5	7.579,5	8.231,1

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Container	Traffic	of the	Terminals in
Br	emen/B	remerh	laven

	Number (absolute)	Converted to 20-ft basis (without small containers under 20')	Weight in tons
1966	8.335	16.670	72.462
(May-Dec.)			
1967	35.358	51.258	318.310
1968	59.550	69.848	450.861
1969	81.887	118.001	828.800
1970	125.428	194.812	1.449.568
1971	156.962	252.118	1.933.960
1972	195.990	ca. 329.000	2.452.400

ght in tons Portugal. At present the Ports of Bremen are served by 16 fully-containerized lines and 50 semi-container lines.

LASH-traffic

were moved on the Atlantic routes-North America, Australia, Far East. The remainder was divided among the services to Scandinavia, Great Britain, France, Spain,

On the route between the US Gulf Coast and the seaport of Bremen were loaded or discharged in Bremerhaven from the motherships.

1970 incoming 138 barges loaded with 36.244 tons outgoing 142 barges loaded with 44.740 tons

1971 incoming 428 barges loaded with 132.245 tons outgoing 407 barges loaded with 82.284 tons

1972 incoming 764 barges loaded with 175.321 tons outgoing 722 barges loaded with 139.669 tons

Of the total number of containers moved, about
--

Seaborne goods transshipped in the seaport of Bremen (Bremen and Bremerhaven)

		(Diemen and Dien	lemaven)	
		Imports	Exports	Imp./Exp.	Total
1936:	bulk cargo general cargo	1.144.830 t 1.502.001 t	2.154.970 t 1.985.238 t	3.299.800 t 3.487.239 t	6.787.039 1
1938:	bulk cargo general cargo	2.409.587 t 1.613.390 t	3.201.131 t 1.770.099 t	5.610.718 t 3.383.489 t	8.994.207 1
1952:	bulk cargo general cargo	3.831.035 t 1.934.045 t	1.997.139 t 1.696.111 t	5.828.174 t 3.903.156 t	9.731.330
953:	bulk cargo general cargo	3.118.765 t 2.015.633 t	2.130.222 t 2.619.657 t	5.248.987 t 4.635.290 t	9.884.277
1954:	bulk cargo general cargo	3.004.225 t 2.116.862 t	1.980.707 t 2.715.380 t	4.984.932 t 4.832.242 t	9.817.174
1955:	bulk cargo general cargo	4.599.673 t 2.484.914 t	1.780.831 t 3.156.511 t	6.380.504 t 5.641.325 t	12.021.829
960:	bulk cargo general cargo	5.147.063 t 3.769.626 t	1.776.176 t 4.444.674 t	6.923.241 t 8.214.300 t	15.137.541
1965:	bulk cargo general cargo	6.616.364 t 5.009.359 t	1.538.736 t 4.329.571 t	8.155.100 t 9.338.930 t	17.494.030
966:	bulk cargo general cargo	6.573.516 t 4.982.026 t	1.591.779 t 4.173.471 t	8.165.295 t 9.155.487 t	17.320.792
1967:	bulk cargo general cargo	6.374.173 t 4.723.494 t	1.489.865 t 4.802.346 t	7.864.038 t 9.525.840 t	17.389.878
1968:	bulk cargo general cargo	6.819.117 t 5.148.036 t	1.805.017 t 5.213.633 t	8.624.134 t 10.361.669 t	18.985.803
1969:	bulk cargo general cargo	7.448.900 t 6.268.217 t	1.184.358 t 5.695.992 t	8.633.258 t 11.964.209 t	20.597.467
1970:	bulk cargo general cargo	10.152.030 t 5.814.777 t	1.497.258 t 5.919.887 t	11.649.288 t 11.734.664 t	23.383.952
1971:	bulk cargo general cargo	9.834.308 t 5.853.987 t	1.381.882 t 5.639.088 t	11.216.190 t 11.493.075 t	22.709.265
1972:	bulk cargo general cargo	10.072.400 t 6.266.800 t	1.640.400 t 6.165.600 t	11.712.800 t 12.432.400 t	24.145.200

management is the key to the quick reactions of Bremen to new developments and structural changes. Only by means of close co-operations between administration and operations was it possible to create two container terminals and LASH-facilities of the size to be found here in Bremen and Bremerhaven, with investments amounting to over 300 million D-Marks, and all that within 6 years.

Now that the third berth at the Stromkaje of the "Container Crossroads Bremerhaven" has been completed, construction of container facilities has come to an end for the time being.

(Continued on next page bottom)

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"Captains' Day 1975" Speech in Bremen

By Mr. Oswald Brinkmann Senator for Ports, Shipping and Transport, and President of Bremen Port Representation Inc.

at Old Bremen Town Hall August 8, 1975 (Released by Freie Hansestadt Bremen)

Mr. President, dear Members of Parliament, Senator Jantzen, Load Mayor, Captains and Officers, Ladies and Gentlemen,

It is a great pleasure for me to welcome you personally and on behalf of the Senate of the Free Hanseatic City of Bremen in this Upper Hall of the old Bremen Town Hall. This day is of very special importance for Bremen since we are celebrating the so-called "Captains' Day", as we have for 10 years now on every second Friday in August. It is thus the eleventh time that the Senate has arranged a Captains' Day on the occasion of Bremen's millenary in 1965. And it will not be the last time as this is the only possibility to express the official gratitude of the Senate and citizens of Bremen specially to you, Captains and Officers, the gratitude for calling at Bremen and Bremerhaven in your ships and aircraft, thus establishing the basis for the world-wide importance of this shipping, port and trading center.

But I would like to include in these thanks the crew members who in the course of one year come to Bremen/

With regard to LASH-traffic, which is still at the development stage, the present facilities are being extended at the moment, and new facilities are being constructed in Bremen's Überseehafen as a depot for the loaded or unloaded LASH-barges.

Roll-on/roll-off traffic on European routes is being expanded by the construction of a further ro/ro facility in the Europahafen, the first berth of which was put into operation at December 1972.

For conventional traffic, a completely new port area of 900 hectares (ca. 2.250 acres)—the Neustädter Hafen—was built in Bremen between 1960 and 1966. It has an outer harbour, turning basin, and 1.500 metres of quay, as well as all the necessary facilities for the handling of general goods and containers. It is planned to build four further basins for the handling of general goods and for the convenience of port-based industries; work here will be started when necessary.

As to the handling of grain and fodder, the capacity of the grain-facility is now being increased by the construction of two new jetties, which will be equipped with modern high-performance elevators.

Medium-term planning in the port provides for the reconstruction of the Columbus Quay in Bremerhaven, which is on the open river, for the purpose of handling sea Bremerhaven in more than 12,000 ships and 9,000 aircraft. You, Captains and Officers, are indispensable ambassadors of our ports. You are the umbilical cord which links us with the world. Your opinion about Bremen, the region and its people and the efficiency of our ports will often decide whether the name Bremen is associated in a positive or negative sense. I would request you to bear the name of our city state into the world and always to act in accordance with the motto: if you are content with Bremen, tell the others; if you aren't, tell me!

In my former speeches held on the occasion of the "Captains' Day" I always tried to make clear which problems exist in the fields of shipping and port activities, and I would like to continue this tradition today. Let me first say a few words about the situation on the international cargo markets where, following an express boom year 1974 with good employment, a high rate level and thus satisfactory profits, a development towards a serious rift between increase in tonnage and transport volume has made itself felt for some time already. The decline in sea-bound foreign trade resulting from world-wide recessive trends as well as the strongly expanding merchant fleets of many nations have seriously affected the sea cargo markets and mixed up the rate structure. Except for a few trade ranges such as the Near and Middle East, the general freight offering has substantially decreased. In some sectors, decreases of as much as 30 to 40 per cent are incurred. Of course, outsiders are called up by a lower freight offering at a growing tonnage, who continue to influence the cargo market by means of dumping rates.

The only ray of hope: another downward trend with regard to the cargo rates is not very likely to occur in the future as there are already indications of a new upswing in

going goods there, too; the eastern side of Basin No. II in the Neustädter Hafen (Bremen) is to be extended in order to handle general goods there, and, if it becomes necessary, the "Container Crossroads Bremerhaven" is to be extended. Adjoining the Stromkaje there is still an area of 2 million square metres, which can be used for this project.

In the long run, however, as foreign trade continues to expand, it will be necessary to build a further basin for the handling of general goods in the Neustädter Hafen in Bremen.

Sites for the settlement of new industries are available in both Bremerhaven and Bremen. In this respect it is important to note the intention of the state provinces of Bremen and Lower Saxony to open up together an area of 12.500 acres in the immediate proximity of the Bremerhaven docks—the Luneplate—for the purpose of industrial settlement. The German Government is also prepared to give its support to the project.

With regards to transport, there are excellent connections between the Bremen/Bremerhaven area and the main industrial and consumer centres in the hinterland, by full-electrified rail ways, autobahns, and inland waterways. Bremen also has its own airport near the city centre, which suitable for all kinds of air-freight. sea-bound foreign trade.

But the situation is different in the tanker business. The socalled oil crisis, which began in winter 1973, brought the tanker rates, which up to that time had been increasing, to a stop, and even a badly recessive development commenced in spring 1974; this has meanwhile led to a rapid decline in rates. We did not succeed in stopping this downward trend in this year, and we have to proceed on the assumption that it will not be possible to achieve an approximate balance on the tanker market before 1976/77. At present not less than 10 per cent of the tanker tonnage all over the world is unemployed. Tanker capacities for 23.7 million tons are waiting to be loaded or have been laid up. Further new vessels, constituting an additional burden for the market, will be delivered in the near future. These include six German tankers of 140,000 to 390,000 tons which account for the major part of the tanker program in the Federal Republic of Germany.

The catchword "tanker program"

The catchword "tanker program" has thus been born up. The German tanker operators now ask the German Government to initiate measures for the protection of loading shares in order to guarantee employment of their tankers. The Government is even called upon to pay company subsidies. I must say that I do not understand this attitude of the shipping companies. After all, investment stimuli, as represented by the DM 150 million tanker program, are not automatically coupled with the acceptance of the investment risk! What should we come to then? Precisely the operator's risk is one of the important characteristics of our free enterprise system. We must not let things reach such a point that profits made by the shipping companies thanks to a high rate level are put into private ownership, i.e. that in this case the companies fill their pockets, whereas losses are socialized, i.e. have to be borne by all of us. The tanker program of the German Government is-at least I have always understood it in this way-a possibility of safeguarding the procurement of energy and raw materials in times of crises.

If we were going to introduce loading guarantees, company subsidies and other "flanking measures", which were demanded as well, this branch of the German merchant fleet could be covered by a state-owned shipping company right away. As bitter as it may be for the operators concerned when they have to tie up new ships because of unemployment, I am still of the opinion: Be careful when calling for the state!

The distress calls from the tanker operators have at least confirmed my view that it is imperative to prepare a comprehensive future-oriented concept for German merchant shipping without delay. And I am happy about the fact that my colleagues from the other states along the coast have jointly approached the Federal Ministry of Transport and asked the Federal Minister of Transport to establish the bases for a joint shipping policy concept by means of a working group to be composed of representatives of the coastal states and the Federal Ministry of Transport.

Despite or, to be more precise, because of these rather more negative than positive developments in the merchant shipping sector the German coastal states have made efforts to improve the social status of the sailors working on German ships. Amongst other things, a decision was therefore made at the last conference of the Ministers for

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Economic Affairs of the coastal states to the effect that the sailors' training and further education will have to be in accordance with the technical progress achieved, that, irrespective of the employment situation in the shipping sector, the period of employment in the shipping trade will be extended by granting a legal claim to later retraining after a specified time at sea and that the sailors' social welfare organization will be supported and recognized as a special institution. Furthermore we asked the shipping companies to make use of the possibility of exchanging activities at sea and ashore to an increasing extent and to set up retraining facilities. The sailor may by no means be burdened with a deterioration of his social status when employment on board a ship is no longer possible. Personally, I am even a firm supporter of the opinion that in future the economic aids for the German shipping companies should on principle be linked with the sailors' social interests. In this respect considerable sins have been committed during the past years.

Recession in trade

The sea ports were, of course, also affected by the situation in the merchant shipping sector. After a positive boom year in 1974 with growth rates that were never experienced before, the port economy now suffers from a decline in the cargo handling development. All ports without exception are affected more or less by this lull. It goes without saying that the tendencies in the European universal ports also apply to the German sea ports, for the recession in foreign and domestic trade, which has made itself felt since the beginning of the year, had a negative effect on cargo handling as well. The ten most important German ports, for example, reached an overall volume of only 63.4 million tons during the first half of 1975, thus falling short of the volume for the same period in the previous year, i.e. January to June, when 77.8 million tons of cargo were handled, by almost 19 per cent. The bulk cargo handling sector, suffering losses of about 20 per cent or 11.8 million tons as against the first half of 1974, was as severely hit as the bag and general cargo traffic where a loss rate of nearly 14 per cent led to a result of 16.3 million tons, incidentally, 13.2 million tons-6.6 million tons each-were handled in the ports of Hamburg and Bremen/ Bremerhaven.

Naturally this negative development has not left the Bremen ports unaffected, although-I should like to emphazise this point here and the same general cargo handling figures in the two largest German universal ports would also prove this-they have come off relatively the best of all the universal ports. This is of course no consolation, but it is a consolation to know that the competitive position of the Bremen ports is stronger than was generally through and unfortunately often still is thought. What is definite is: the geographical location of Bremen and Bremerhaven between the rivals in the east and the west has certainly never had the negative affect that many pessimists had prophesied, but if anything it has proved to be a positive asset. The handling figures of the first half of 1975 also underline my assertion; while the handling loss in the Bremen ports came to about 11.1 percent, the average handling decline in the ten most important German sea ports came to 19 per cent. And I am not trying to make the handling development in the Bremen ports look better than it actually is, but anyone who wants to be reasonably fair and objective must also consider what is happening in the other ports.

Many would advise me to invest less or not at all in the face of the handling development of the Bremen ports. To all those who would support this view, let me say: anyone who gives up when faced with short-term developments, will suffer in the long run. I do not believe that we should allow ourselves to be blinded by figures which must obviously seem worse in comparison to the boom in 1974. It would definitely be wrong to take the present situation as conclusive for the future. It seems far more important to me to use the time which we have in hand now to gain clarity for the future. For one thing is certain: the next upswing is bound to come and anyone who does not have the corresponding qualified personnel and necessary modern facilities is out of the business. This danger is probably nowhere greater than in shipping.

I am optimistic

In any case this temporary negative development is no reason for taking any measures with respect to pending or existing investments or even the jobs available. We must arm ourselves for the future and this we have sufficiently done now. Never before has it been so clear, neither in times of recession nor prosperity, what is to happen in our ports in the next 10 years. Our planning, which has been put down in the first Bremen port development plan, has been carefully thought out, with definite targets in mind where the construction of new and modernisation of old dock facilities is concerned and also with respect to the training and further education of dock employees. For I would say that the education of people and the construction of handling and storing facilities is not a matter of days and weeks but rather of months and years. When this lull is over dockers and port facilities will have to be ready to ensure that the normal Bremen service is provided.

For example I am basing my policy on the prognosis which was worked out by experts for the port development plan stating that about 31 million tons of imports and exports will be handled in the Bremen ports in 1980, and about 37 million tons in 1985, For this we need qualified personnel, and we need modern facilities and equipment. We will get qualified personnel only by having a qualified training. And we do have something to show for ourselves in this field which is unique in the world, if only by its structure and nothing else: the "Training for Dockers in the State of Bremen", as is its official title. Due to the "industrialisation" of dock work which began about 15 vears ago a considerable change has taken place in the form of the docker's work. The utilization of the most modern and efficient conveying and handling equipment, the container, Lash and Ro-Ro systems, require the same degree of qualification of a docker as of a skilled industrial worker. But this change has not altered the social position of the docker correspondingly, for till shortly dock work was on a level with temporary and unskilled labour in the eyes of the social law. And so it was our task to put dockers on a par with skilled industrial labourers, both legally and socially. The aim which we set out to in 1971 has recently been achieved. We are now in a position to offer a training which gives the docker in the State of Bremen all the advantages of the labour and social legislation which other jobs requiring training also have. It is because of the high technical level of the equipment in the ports and because of the clear conception that technology can only be as good as those who handle it, that I believe that the quality of the available workers is just as important as the technical investments are for the development and progress of the Bremen ports. Other ports are already beginning to show a lively interest in this Bremen "model".

In the next years the Bremen dockers will receive further equipment and facilities, all of the most modern technical level, the first of these being the general cargo terminal on the Columbus Quay, which will officially be opened on the 1st of September, which is in 3 weeks time.

This investment programme will be continued by the expansion of the "Neustädter Hafen" on the east side; the first stage of this work will be completed in 1978/79, and the whole construction will be completed and ready for use in 1981/82. Taking the estimation for the handling figures by 1985 into consideration (I mentioned 37 million tons) a further port basin will be needed for general cargo handling by the mid eighties. In Bremerhaven the southern extension of the container terminal is of prime importance; work on this is to be started in 1978. The extension of the double lock in the "Fischereihafen" is also on the programme. In addition to these there are numerous new and replacement investments-I will spare you the details now-in the ports of Bremen and Bremerhaven, these always being considered and developed as one unit. My real aim in saying this is to make clear that we in Bremen are seriously thinking about and developing plans for the long range as to how the competitiveness and efficiency of the Bremen ports can be improved and how their position among the universal ports of northern Europe can be strengthened.

All this can of course only be put into practice if the ports remain a high priority in the budgerary plans of Bremen. But then there is no doubt this anyway.

Ladies and Gentlemen,

I hope I have managed to clarify some facts about the shipping and port economy in general and in particular about the Bremen ports. If you have been given the impression that Bremen is defending and trying to build up its position as an international centre of shipping and trade through its ports then I have achieved what I set out to tell you. I would like to thank you for your attention and hope that you will enjoy the meal.

Development of Major Ports

Ministry of Shipping and Transport Report for 1974–75 The Government of India

Reprinted from ``INDIAN SHIPPING'', Vol. XXVII Number 6/1975

(Journal of Indian National Shipowners' Association, Bombay)

THE major ports handled a total traffic of 63.96 million tonnes during 1973-74 as compared to 57.92 million tones in 1972-73. The traffic handled in 1973-74 was an all time high figure. This was primarily due to large imports of foodgrains which had to be resumed since the beginning of 1973. The imports of foodgrains through the major ports during 1973-74 were of the order of 3.87 million tonnes as against only 0.90 million tonnes in 1972-73. Simultaneously, the imports of fertilizers (including raw-materials) were also maintained at a level of over 3 million tonnes.

The imports of foodgrains had been coming down for some years in view of the increased productivity in the country. The Ministry of Shipping and Transport was advised in May 1971 that the quantity of imported foodgrains would decrease further. However, the need to resume large scale imports of foodgrains from the beginning of 1973 was a sudden development and no prior planning could be done to create the necessary port and infrastructural facilities to handle this traffic. The major ports, however, rose to the occasion and handled the additional imports by reserving a number of berths for foodgrains and fertilizers at different ports. Heaviest pressure was on Bombay and Kandla and this created other problems. The general cargo vessels at Bombay started suffering heavy detention in 1973 and the Conferences levied a surcharge. The situation was brought under control after the restoration of third shift working in December 1973. The surcharge was withdrawn thereafter. Unfortunately, the Monsoons which were abnormally prolonged in 1974 had an adverse impact. Although the situation was much better than in 1973 in spite of continued pressure of heavy imports of foodgrains and fertilisers, one of the Conferences levied a surcharge of 15% in December 1974. It has been possible after persistent efforts to get it reduced to 10%. Further efforts to get the surcharge withdrawn completely are continuing. There were similar threats of surcharge in respect of Madras and Kandla ports as well. However, these were averted by timely action and intervention.

The problems relating to unloading and clearance of foodgrains and fertilizers through the major ports continued to receive highest attention. The difficulties encountered were sorted out at frequent high level meetings. A statement showing the traffic handled by different

A statement showing the traffic handled by differe

major ports and the number of ships that entered these ports during the years 1972-73, 1973-74 and 1974-75 (upto 31-10-1974) are given in the table published on the next page.

Fourth and Fifth Plan Port Developments

At the time of Independence, India had only 5 major ports and each of them had developed very slowly, almost imperceptibly over a period of about a century, to cater to the limited needs of the economy. Today, India has 10 major ports. Modern cargo carrying ships are getting larger in size and it is becoming increasingly expensive to operate cargo ships of smaller tonnage. This sets a trend for deep sea ports equipped with facilities to load and unload bulk cargo with the utmost speed. Despite the development programmes carried out over the first three Five-Year Plans and subsequent Annual Plans for augmenting port capacities and handling equipment, port conditions remained deficient and resulted in costly delays. Draught limitations precluded the use of larger bulk carriers and tankers. The ports generally had not adopted mechanical cargo handling methods except cranes. Manual loading and discharging of vessels continued to be the rule. Forklift trucks were used in a limited manner and there was still less limited use of paletisation of general cargo.

The Fourth Plan aimed at completion of the Haldia Dock to supplement the facilities at Calcutta Port. Of the two major ports at Mangalore and Tuticorin and the Dock Expansion and Ballard Pier Extension Schemes at Bombay, as also of the outer harbour at Madras, construction of the outer harbour at Visakhapatnam to cater to large scale iron ore exports to meet the export obligations undertaken by the country in addition to port capacities in other ports were also planned.

In assessing requirements of the development of major ports in the Fifth Plan period the capacity being created at different ports after the completion of the Fourth Plan schemes has been taken into account. Efforts have been made to integrate port development with other infrastructure facilities required for handling of the traffic. At the beginning of the Fourth Plan period, Madras and Visakhapatnam could handle ships of 35,000 dw.t. at berths and Mormugao 60,000 dw.t. in midstream. On completion of the Fourth Plan schemes, these three ports will be able to receive bulk carriers of 80,000, 100,000 and 60,000 dw.t. respectively. In the draft Fifth Plan an outlay of Rs. 308 crores has been envisaged for development of the major ports, the total cutlay having been assessed at Rs. 358 crores; about Rs. 50 crores are to spill-over to the Sixth Plan. Provision has been made in the draft Fifth Plan for developing capacity of the Visakhapatnam and Madras Ports for handling ore carriers of 150,000 dw.t. Mormugao is proposed to be developed to receive ore carriers of 100,000 dw.t. After completion of the schemes, included in the Plan, India will have three major ports, namely,

Ports	Year	Imports (in '000 n	Exports netric tonnes	Total s)	Ships Entered No.	'000 g.r.t.
Calcutta	1972-73	4,148	2,531	6,680	1,155	8,980
(including Haldia)	1973-74	3,890	2,435	6,325	1,054	8,855
	1974-75 (Upto October '74)	2,829	1,472	4,301	573	4,956
Bombay	1972-73	12,319	3,222	15,540	2,450	18,416
-	1973-74	14,246	4,217	18,462	2,381	19,177
	1974-75 (Upto October '74)	7,902	2,283	10,185	1,193	10,683
Madras	1972-73	4,069	2,747	6,816	919	9,050
	1973-74	4,688	3,062	7,750	854	9,413
	1974-75 (Upto October '74)	2,720	1,718	4,438	482	5,642
Cochin	1972-73	3,115	1,087	4,202	1,006	7,735
	1973-74	2,875	845	3,721	857	6,271
	1974-75 (Upto October '74)	2,077	772	2,849	500	4,174
Visakhapatnam	1972-73	2,372	5,017	7,389	563	6,648
*	1973-74	2,996	4,959	7,955	616	7,379
	1974-75 (Upto October '74)	1,639	2,126	3,765	293	3,409
Kandla	1972-73	2,085	342	2,428	284	2,546
	1973-74	2,903	218	3,122	314	3,161
	1974-75 (Upto October '74)	1,707	202	1,909	176	1,778
Mormugao	1972-73	486	12,360	12,846	647	9,115
	1973-74	629	13,706	14,335	687	9,635
	1974-75 (Upto October '74)	383	5,704	6,087	357	4,545
Paradip	1972-73	1	2,022	2,023	77	2,028
	1973-74	1	2,287	2,288	103	2,288
	1974-75 (Upto October '74)		930	930	50	930
New Mangalore	1972-73	·			_	_
	1973-74				_	
	1974-75 (Upto October '74)	(63)	(42)	4	19	·
New Tuticorin	1972-73		_	_	_	
	1973-74	_				_
•	1974-75 (Upto October '74)	43		43	· 4	49
	1972-73	28,595	29,328	57,924	7,101	64,514
Total (for all Major ports)	1973-74	32,230	31,729	63,959	6,866	66,179
	1974-75 (Up to October '74)	19,300	15,212	34,512	3,647	36,166

Visakhapatnam, Madras and Mormugao each capable of receiving bulk ore carriers of 1.5, 1.5 and 1 lakhs dw. tons.

For 1974-75, an outlay of Rs. 119.47 crores was envisaged, out of which the Central Sector outlay was assessed to be Rs. 84.01 crores. After review of the outlay at the revised estimate stage, it was anticipated that for 1974-75 the expenditure on this Sector would be Rs. 115.98 crores out of which the Central Sector outlay would be Rs. 99.76 crores.

Haldia Dock Project

Construction of an enclosed dock basin consisting of 6 berths—a coal berth, an ore berth, a fertiliser berth, a general cargo-cumcontainer berth, a berth for handling heavy lifts and a finger jetty for handling salt and an oil jetty outside the dock system to receive oil tankers bringing crude oil for Haldia and Baraumi Refineries is in progress. The oil jetty was commissioned in August 1968. According to the present indications the project is estimated to cost about Rs. 127 crores. Attempts are being made to have the dock system completed and brought into operation this year.

All civil works of lock entrance are nearing completion. Civil construction of the ore, coal phosphate berths and finger jetty has been completed except for some fixtures. The general cargo and container berths have also been completed except for laying railway and crane tracks which are now in progress. The ore and coal loading plants are likely to be ready in the latter part of 1975. Orders for 2 Nos. 700 TPH Marine Clam Sheel Unloaders for phosphate handling plant have been placed. Fabrication of 150-T unloader crane for the finger jetty is almost complete and is being erected. 50% of the dredging in the dock basin was carried out prior to March 1968. The contractors have now carried out 60% of the balance dredging involving 4.5 million cu.ms. Seven diesel locomotive wrecking cranes have already been procured. Out of 5 tugs ordered 2 tugs have since been delivered while the rest are under manufacture by Garden Reach Workshops. The Estuarian Dredger being manufactured by Garden Reach Workshops is expected to be delivered by September 1975. Construction of 789 units of quarters has been completed and work on 484 units is in progress.

Bombay Port

The main marine works under the Dock Expansion Scheme and Ballard Pier Extension Scheme and construction of passenger-cumcargo terminal building were completed in 1968. Transit sheds at Berth Nos. 20, 21 and 13 B, three passenger sheds at New Ferry Warf have also been completed. Parts of the Wharf and storage areas at the new berths have been paved. 9 Nos. 6 Tonne capacity electric wharf cranes have been installed at the Indira Dock. Electrification works of most of the new berths and structures have been carried out. To complete the project, construction of transit sheds at Berth No. 12 A at Indira Dock has advanced to 60% completion, orders for electrification of the sheds and for 30-tonne cranes for Berth Nos. 13 and 13 A have been placed. The work of pile foundation for the crane rail track has commenced and the construction of a new transit shed, providing cranes, paying of the wharf aprons and storage areas at the existing berth has also been started. Steps have been taken to provide underground water storage tanks and water mains at the existing berth.

Super-structure work of the first set of six buildings (240 units) at Timber Depot has advanced to 35% completion. Construction of new buildings and shed for store department and a building for the hydraulic establishment at Prince's and Victoria Docks has also been taken up.

For providing facilities for container traffic at Indira Dock, construction of a groupage shed has been taken up.

Bombay Port Trust proposed to construct a satellite port at Nhava-Sheva to relieve traffic pressure at the present port. Three small Working Groups have practically finalised their report and construction of the satellite port for Bombay at Nhava-Sheva has been agreed to by the Planning Commission after the economic viability of the project and other aspects thereof have been considered in great detail. For this project the work of marine borings has been completed. The Bombay Port Trust has been asked to take steps for having a detailed project report.

Madras Port

The construction of an outer harbour consisting of an oil berth and an ore berth was taken up. The oil berth was commissioned on 15th September, 1972. The oil berth is designed to provide facilities for oil tankers of 77,000 dw.t. A foreign dredger was deployed at Madras in August 1974 and as a result of her dredging effort, the port was able to handle 38 ft. draught tankers during the North East Monsoon months from October 1974 to January 1975 to supply crude to Madras Refineries. The port is being

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developed to handle 46 ft. draught vessels by the end of 1974-75.

The construction of the ore berth and dumper house has been completed and of the other civil works like roads, railway tracks and drive houses is in progress. The mechanical and electrical equipment like ship loaders, reclaimers, wagon handling system, conveyor system etc. already ordered are at various stages of progress. The work is expected to be completed in 1975, with one stream being commissioned.

Madras Port Trust have also proposed construction of an Outer Arm as a conventional rubble mound break-water to meet the navigational requirements of the large sized tankers during the North East-Monsoon, at an estimated cost of Rs. 7.65 crores. The proposal is being examined.

Cochin Port

Construction of the extension of the open berth was completed in all respects in September 1974. The construction of two dredgers—one hopper suction dredger and one grab suction dredger, orders for which were placed on Garden Reach Workships is in progress and these two dredgers are now likely to be delivered by March June 1975.

The construction of a super tanker oil terminal at a new site in Bolghatty Channel was approved by the Government in 1973. A detailed project report prepared by the consultant has been received and is under consideration in consultation with the concerned authorities. The work of constructing the reclamation wall connected with the project as advance action is in progress. Advance action for procurement of necessary material has also been taken.

Visakhapatnam Outer Harbour

At Visakhapatnam, an outer harbour capable of handling ore carriers upto 100,000 dw.t. initially and 200,000 dw.t. ultimately is under construction. The Outer Harbour is being provided with a mechanical ore handling equipment, with a rated capacity of 8,000 tonnes per hour which can be stepped upto 16,000 tonnes per hour ultimately. This project is fast nearing completion and is likely to be commissioned by mid-1975.

South Breakwater has been completed except the placement of armour blocks at East round head. North Breakwater has ince been completed. The work on East Breakwater is in progress and 52.2% of work has been completed. All the civil works have been awarded and are under execution. In respect of mechanical works all the contracts have been finalised. Necessary procurement action has been taken in respect of imported equipment and some works are under erection. Almost all the electrical contracts have been finalised.

Kandla Port

Out of the five general cargo berths, four berths were completed in first stage for the development of Kandla Port and the fifth was commissioned in 1973 after construction of a diaphragm wall in front of it and dredging. The work relating to modification to Oil Jetty has advanced considerably and it is expected to be ready for commissioning in the middle of 1975.

To step up the loading rate of salt for export, Consultants have been appointed to undertake investigation work and preparation of techno-economic report. Consultants have also been appointed for site investigation and preparation of a Project Report (Phase I) in respect of a Captive Jetty required for handling material for the Phosphoric Acid Plant for Ms. Indian Farmers Fertilizers Corporation Ltd. (IFFCO), who will put up the handling plant.

To handle the siltation in the breach channel (navigation channel) at the mouth of Kandla Creek, the dredger of the Kandla Port is working in three shifts for 5 days in a week. A foreign dredger was also chartered to carry out dredging in the breach channel. The problem of dredging for maintenance of minimum depth over the bars also is under active study of the Central Water and Power Research Station, Poona. The work on construction of a diesel driven twin screw twin side trailing suction dredger with a hopper capacity of 2,500 cu.m. ordered on Mazagon Dock is in progress and the dredger is expected to be delivered within this year.

The work relating to provision of infra-structure facilities for the off-shore oil terminal at Salaya has been entrusted to the Kandla Port. The preliminary works relating to soil investigation, hydrographic survey, land acquisition etc. have been undertaken.

Mormugao Port

The Mormugao Port Development Project envisages construction of an ore berth and installation of mechanised ore handling facilities capable of handling 12 million tonnes of iron ore per annum at a rated capacity of 8,000 tonnes per hour, a mineral oil berth and improvement to existing facilities. The Port will be able to handle ore carriers upto 60,000 dw.t. in the initial stage and it has been planned to develop its capacity to handle ore carriers of 100,000 dw.t.

The dredging and reclamation work is the most critical item of the Mormugao Port Development Project. Under the terms of the further supplemental agreement concluded on 8-6-1974, the dredging work is now scheduled to be completed by May 1976. The construction of ore and oil berth is in full progress and contracts for the fabrication and erection of component of the iron ore handling plant and other connected work have been awarded.

A 2,500 cu.m. hopper capacity dredger under construction by Rajabagan Dock Yard is expected to be delivered by March 1975. The two tugs of the Port for which orders have been placed will be delivered in the first half of the year 1976. The Port is scheduled to be completed by May 1976.

Paradip Port

The Paradip Port has a designed draught of 39 ft. After capital dredging in February 1974, a draught of 39 ft. was declared in March 1974. At present, the Port has one Ore Handling Berth. With the addition of 3 shovels and the commissioning of the third reclaimer, the handling capacity of the ore handling plant has increased to 3 million tonnes per annum. A scheme for railway wagon tippler is under consideration of the Government. Certain modifications are also proposed to be carried out to the ore handling plant for stepping up its handling capacity of 4 million tonnes per annum. The report of the Consultants who were appointed to suggest suitable modifications to the ore handling plant to improve its functions, is under consideration.

The construction of General Cargo Berth has been completed and dredging at the berth is in progress. It is expected to be commissioned by April 1975. It will handle the export of chrome ore, manganese ore, timber, jute, jute products etc. and import of fertilizers, salt etc.

New Mangalore Port

The project, which was sanctioned in April 1969, envisaged the construction of one General Cargo Berth, one berth for Iron Ore, Manganese Ore, Coal, Coke, one for raw material imports other than Naptha for fertilizer, one oil Jetty for Naptha petroleum products and a shallow draught berth for loading vessels upto 6 meters draught. The New Harbour was inaugurated by the Prime Minister on the 11th January 1975.

A proposal to export iron ore from Kudremukh deposits to Iran through the New Mangalore Port is under consideration of Government. If this materialises, a new berth with suitable facilities for handling 7.5 million tonnes of ore will be required and the present draught of 30 may have to be increased.

New Tuticorin Port

The scheme for the construction of an all-weather port at Tuticorin envisages the formation of an enclosed basin by the construction of two breakwaters, South and North each about 400 meters long out into the sea and 1,275 meters apart with an entrance width of 122 meters. All the sheds and berths etc. will be located in this basin by reclaiming the area. It is proposed to have four berths, one for coal, one for salt, one for cement and one for general cargo. All the preliminary works such as land acquisition, formation of roads, construction of quarters, providing water supply, drainage and municipal facilities have been completed. The railway approaches from harbour quaries have also been completed for conveyance of stones. The major civil works are at an advanced stage. The Southern Breakwater is almost complete and the North Breakwater is at advanced stage of progress. The construction of wharf wall is also in progress. The required dredging in the approach channel and for foundation of the wharf wall has since been completed. Ore berth is ready. The port project is likely to be completed during the course of this year.

The port was declared as a major port in July 1974 and since then, it is handling tankers carrying naptha for the fertilizer factory.

Bhagirathi-Hooghly River Training Works

Corrective works in the Bhagirathi and the Hooghly rivers suitably phased over a period of years have been undertaken by the Calcutta Port Trust so that full benefits of the Farakka Barrage Project are derived by the Calcutta Port. While the Port Trust are the executive agency for carrying all these works, the entire capital cost of the works is being borne by the Government of India. An estimate amounting to Rs. 8 crores was sanctioned in October 1971. An amount of Rs. 6.11 crores has been reimbursed to the Calcutta Port Trust for these works so far.

Port of Rouen visited by **Minister of Equipment**

"I have been most impressed by the dynamism of the port and by her integration with industry".

Rouen, France, July 8th (Rouen Port International Issue, Information bulletin of the Port Authority of Rouen):-

Accompanied by M. Jean LECANUET, Garde des Sceaux, Minister of Justice and Mayor of Rouen, M. Robert GALLEY, Minister of Equipment, spent the day of the 2nd May at Rouen. He was accompanied by M. BASTARD, Manager of Ports Maritimes et Voies Navigables, by M. MAYET, Manager of Financial control and Town Planning, by M. PERRIN, Ponts et Chaussées Engineer, Technical Adviser to the Minister and by M. FAVRE, Cabinet Director.

The day began for the Minister with a working meeting with the Equipment officials. This was followed at 10.30 by a working session at the Port Authority, then at midday by a visit to the port by launch. Then, M. GALLEY proceeded to the City Hall in Rouen for a meeting with Council and various services' directors. Finally, after walking around the pedestrian streets, the Minister returned to the Prefecture to give a press conference and to meet elected representatives of the district.

In welcoming M. Galley, M. Cintrat, President of the Port Authority of Rouen, had briefly to outline and introduce the Port, and to insist on its being included in the regional planning scheme of the Basse-Seine. Rouen and Le Havre is the second port complex in Europe, after Rotterdam. It is just for this very reason that the Plan has clearly recognised the maritime dominant feature of the region. Rouen is an industrial and commercial metropolis, and by virture of its situation on the Seine, at the end of an estuary, a maritime metropolis. It is true that Rouen is not a port of spectacular dimensions. It does not stand on the route of ships of very large tonnage, but it has another function. By reducing the costs of inland transport, its inland position enables it to offer an very real economy on goods costs, in the region of 10 to 15 francs per ton, according to the kind of merchandise. This saving by reason of its situation, coupled with its nearness to the main French markets, is the reason for its commercial and industrial success.

M. CINTRAT then reminded his hearers that the port of Rouen did very well in 1974 in a climate generally unfavourable, and increased its trade by 6%. Rouen's commercial dynamism has already enabled her to bring off an exceptionally heavy trade link with the African Coast; she has brought off a remarkable penetration into the Mediterranean and the Near East. Rouen thus appears to be a port that is very specialised in third-world connections. At the present juncture, when the new perspectives now taking shape are considered, Rouen must right now, and more especially in the near future, prove herself to be a very valuable means for export and consequently of very great

value to the French economy.

The president CINTRAT, then went on to explain to M. GALLEY the main needs for Port Authority in the following terms:

FINISH ADAPTING THE PORTS FOR THEIR ROLE AS EXPORT OUTLETS

The studies made by the two Basse-Seine ports on the investment to be brought about during the course of the VIIth Plan are well advanced. For her part, Rouen needs a rate of investment of 100 million francs a year to reach her three objectives;-

- improve her depths to cope with bigger and bigger ships; develop the infrastructures in the port which are needed for ships and for merchandise;

prepare areas for industrial activities and for warehousing and distribution.

The most urgent operation, on which I should like to emphasise above all, is without doubt the construction of a new suction dredger for maintenance works. This dredger must replace two old types which, with 120,000 hours of use by each, have reached their limit of useful life, and are literally at the end of their gasp.

Now, in carrying out previous projects, the State and the Port Authority have already, in the matter of improving depths, gone most of the way. It would now be best to finish what has been undertaken. This new dredger must allow the port to pursue her development with a better return.

Under the drive of her director, the Port Authority, patiently but purpose fully, has brought its management methods in line with those of a modern industrial enterprise. This concern with good management has been shown by Port Authority just as much in the personnel field. From a figure of 1,650 employees in 1966, the year the status of autonomy operated, 1,350 is the figure at the beginning of 1975, without one dismissal being made.

VALUATION OF INVESTMENTS; IMPROVEMENTS IN INSTALLATIONS

The development of Haute-Normandie and its competitive potential internationally requires other action in parallel. I should like to talk about our liaison with our hinterland.

a) ROAD AND RAIL

We are sure, and we feel it has been proved, that Rouen takes a great deal of interest in French export. But our efforts will be in vain, if better road and rail links are not at our disposal with North and South Normandy.

It is a fact that Port of Rouen is tapping markets further and further away and is finding herself limited by the inadequate communication network. And so, it is truly dramatic to think of a district like Amiens (a district quite close to Rouen) where we have just been having a day's public relations drive, directs little of her trade outlet towards Basse Seine. Forty per cent of Picardy exports are routed through Antwerp. The same problem arises for the



regions south of the Seine, but concern here is less, as their trade is not abroad.

b) NAVIGABLE WATERWAYS

Rouen, as you know, also attaches great importance to liaison with East France. It would be well to pursue the efforts already made right to Compiègne for this liaison, and to extend in due course to Reims. These efforts would allow the hinterland to be extended and would allow Basse Seine to tap sources of great export tonnage that at present are being steered through Benelux ports.

We are convinced that return on such an investment would compare very favourably with other river projects.

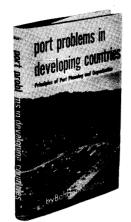
During his press conference at the end of the day, M. GALLEY offered his congratulations on seeing a project put forward in such careful detail. When budgetary decisions come to be made, such clear detail can but operate in favour of the Port of Rouen. ({Here}), the Minister was pleased to acknowledge, ({they know what they want.})

M. GALLEY did not reply precisely on the data on which the suction dredger (of 3,000 cubic metres capacity working) so earnestly wanted by the Port Authority might arrive, but he recognised that it was of vital importance for the Port.

The Minister of Equipment was much more pessimistic on the subject of liaison with East. Althrough he stated his interest for this sort of way, M. GALLEY pointed out that the State was doing its utmost to finish the canal programme in the Escaut basin, and that development of the valleys took second priority.

Finally, as far as the road links with the North from Rouen were concerned, M. GALLEY gave the assurance that in 1976 and 1977 a co-ordinated development programme will be undertaken the length of Route Nationale 28; M. LECANUET had to insist particularly that the Minister of Equipment takes into consideration the need to improve this liaison when he sets out the options of the VIIth Plan for Haute-Normandie.

It seems that the port visit in a launch interested M. GALLEY. Coming off the boat, he stated in fact; «I have been agreeably surprised by the extent of the Port, and by its diverse activities. Thanks to her policy of reserves, and of installations, the possibilities for the Port are greater than I thought. I was struck by the importance of possible extensions, both at Grand-Couronne and in the Honfleur zone. I have been impressed by the dynamism of the Port and by its integration with industry.»



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Orbiter Probe

NPC BOOK: How ships behave in shallow and confined waters

National Ports Council London

London, 23rd September, 1975:-The modern trend of shipping companies to seek economies of scale by using bigger ships is not confined to the oil and ore trades. It applies to virtually all classes of traffic and creates problems for the ports which are highlighted in a report on ship behaviour* published today by the National Ports Council.

The complex nature of the subject is illustrated by the extent of the research which has already been carried out, throughout the world, into various aspects of the matter. Mr. John Williams, the Council's Director of Technical Services, emphasised that in preparing the report no fewer than 326 relevant papers and reports had been examined and summarised.

"Yet it is clear that further research, particularly of a quantified nature, is needed if ports are to achieve the optimum solution to the problem of designing their seaward approaches for the modern generation of large ships".

The majority of large U.K. ports are reached through an estuarial or river approach, and the problem many of them now face is the definition of the appropriate approach channel widths and depths, related to the size of vessels using them, and the safety margins involved. The dredging which may be required is costly.

Mr. Williams defined the 'optimum solution' as one provided at lowest cost compatible with the requirements of capacity while taking full account of safety.

The core of the report is a survey of all known research work relating to the problems of handling large vessels in shallow water, with an analysis of the present state of knowledge in each of the relevant areas. The areas covered are: ship lane; bank suction; ships in channel bends; two-ship interaction; stopping of vessels; turning of vessels; wind effects; currents; squat; vertical motions caused by waves and swell, and operational factors.

The survey lists a series of topics on which there is insufficient quantified information for port approach design purposes as suitable subjects for future research. These are:

Interaction at the slower speeds used in port approaches The effect on ship lane of very small underkeel clearances

The effect of bank design on bank suction

The requirements and design of channel bends

The effect of wind on vessels in ballast

The effect on squat of narrow shallow port approach channels

Full scale tests on the vertical motions caused by swell likely to be encountered at ports

Human capabilities

Ways of improving ship response and manoeuvrability at low speeds, for instance by fitting larger rudders.

The survey was originally undertaken by the Council as an internal exercise to assist them in identifying areas in which further research was necessary.

"When the work was completed it became clear that it provided valuable source material for other research workers and for port designers, hence our decision to publish", said Mr. Williams.

The report is in two volumes. Volume I is aimed more at the port designer, and identifies and explains the factors affecting the behaviour of vessels in confined waters. Influencing parameters are quantified where known and priority areas for future research are identified. Also included is the reprint of a report which examined the relationship between vessel size and port approach features and dimensions on the Tees. This is included to demonstrate how the research to date can be interpreted and applied in a specific port context.

Volume II is aimed mainly at the research worker, and shows in more technical detail an analysis of the results of the survey of the ship behaviour studies, and discusses the merits of the methods of research by which the results have been obtained. A brief description is included of each of the 326 references examined during the course of the study.

Ist ICHCA Air Cargo Symposium

London (ICHCA Press Information):-"THE IMPACT OF AIR FREIGHT ON THE AIR INDUSTRY" is the title of an International Cargo Handling Co-ordination Association (ICHCA) two-day Symposium to be held in London at the Tara Hotel on 17th/18th November, 1975.

The rising world trend in the carriage of goods by air has resulted in considerable changes being adopted in the air transport industry. These changes, in conjunction with the rapid growth in the carriage of air freight, have caused several physical and documentary limitations to be placed on the advantages to be gained through transporting goods by air.

By gathering together international speakers from both the User's and Manufacturer's sides of the air transport "system" and allowing them to identify and discuss their own specific problems resulting from this growth in trade, ICHCA is providing a global or co-ordinated approach to the solution of these problems.

^{*} Port Approach Design: A Survey of Ship Behaviour Studies. Volumes 1 and 2. Published by the National Ports Council, Commonwealth House, 1-19, New Oxford Street, London WC1A 1DZ. Price £10.00 each volume (available separately).

The Americas

By examining all aspects of the carriage of goods by air from consignor to consignee, ICHCA is fulfilling its role in providing a forum for discussion where all sectors of the air industry can meet to discuss and hopefully solve, the most pressing problems confronting them today.

The programme is:

Day 1

- Paper 1: "Aircraft Design"-Mr. L. Aschenbeck, Director, Cargo Market Development, Douglas Aircraft Company, U.S.A.
- Paper 2: "Cargo Aircraft Needed by Airlines"-M. J. Lelievre, Assistant to Vice President, Cargo Logistics, UTA, France.
- Paper 3: "Air Cargo in Developing Countries"-Mr. F.H. Russell, Associate, Sir William Halcrow & Partners, U.K.
- Paper 4: "Some Aspects to be Considered when dealing with Air Cargo Constraints on Airport Design"--Mr. E. Dreyfous, Deputy, Vice President (Cargo), Air France, France.

DAY 2

- Paper 5: "Documentation from Shipper to Receiver"-Mr. Bruno Fortunato, Air Cargo Reservations Manager, Alitalia, Italy.
- Paper 6: "Air Cargo Trends—A Freight Forwarder's View" —Mr. P.D. Jackson, Vice President and General Manager, U.K. and Ireland, Air Express International.
- Paper 7: "What is the User Looking for in the Air Freight Industry?"-speaker from a major shipper of air freight.
- Full particulars can be obtained from:

Mr. Campbell Smith, Technical Secretary, ICHCA Central Office, Abford House, 15 Wilton Road, London SW1V 1LX.

1975 navigation closing

Cornwall, Ontario, Canada, September 22 (The St. Lawrence Seaway Authority):-The official closing dates of the 1975 navigation season will be as follows:

- A. MONTREAL-LAKE ONTARIO SECTION-December 18, 1975
 - i) No upbound vessels will be accepted at CIP-2 for transit through St. Lambert Lock after 0800 hours on December 18, 1975.
 - ii) No downbound vessels will be accepted at CIP-13 for transit through Iroquois Lock after 0800 hours on December 18, 1975.
- B. WELLAND CANAL–December 30, 1975
 - i) No upbound vessels will be accepted at CIP-15 hours (noon) on December 30, 1975.
 - ii) No downbound vessels will be accepted at CIP-16 (Lake Erie) for transit of the Canal after 1200 hours (noon) on December 30, 1975.
- C. SAULT STE. MARIE CANAL (CANADIAN)-December 12, 1975

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No vessels will be accepted for transit either upbound or downbound after 1200 hours on December 12, 1975.

Ecology stressed at meeting

Nanaimo, British Columbia, Canada (Nanaimo Harbour News, September):-Planners, builders and managers of ports must strike a balance between economics and the environment, delegates were told at the annual meeting of the Pacific Coast Association of Port Authorities held in Everett, Washington recently.

Delegates from the Nanaimo Harbour Commission were Commissioners Capt. Jack Clarke, Don Beaton, Frank Crane and Port Manager John Dunham.

"Nobody would dispute that the Port of Seattle has been a great stimulus to the economy, but it shouldn't become such an economic monster that it dominates all our lives" commented John Biggs, director of the Washington Department of Ecology. In response to a question he added: "We can't have jobs at any price, nor have the environment at any price. We are still groping for a balance."

Biggs said Washington State is "clearly five years ahead of other states in managing the shorelines."

Lyn Greenwalt, director of the U.S. Fish and Wildlife Service said that waterfront development should be limited to uses which were totally dependent upon water.

According to a study presented to the conference, foreign shipments through public ports in Washington State and at Portland are expected to increase two and a half times by the year 2,000. The study, made by a group of competing ports, showed that "ports in the Pacific Northwest have the authority, know-how and the willingness to work together on trade growth and development and to plan realistically" said one speaker.

The address at the final luncheon was given by Senator Henry M. "Scoop" Jackson, junior senator for the State of Washington who lives in Everett, and the prime contender for the Democratic nomination for president.

Mr. Jackson spoke on the challenges affecting North American ports with respect to world trade and commented on the oil crisis, both present and future.

United voice for IAGLP

Toronto, Ontario, Canada, October 9 (IAGLP= International Association of Great Lakes Ports):-The International Association of Great Lakes Ports has published a brochure which promotes shipping via the St. Lawrence Seaway and the Great Lakes.

"The Great Lakes Basin produces one-fifth of the United States Gross National Product (GNP) and one-half of Canada's Gross National Product," the brochure says.

"If one considers that the GNP of the North American continent is collectively the highest in the world, then the contribution made by Great Lakes States and Ontario is extremely high," it adds.

The publication points out that the region is a great demand area which is well served by modern port facilities and that the Great Lakes are actually the Fourth Seacoast of the United States and the sourthern border of the Province of Ontario.

The association's goal is to make the Great Lakes and the Seaway household words in the world of shipping and commerce.

Copies of the brochure which lists all ports belonging to the association are available by writing to: The International Association of Great Lakes Ports, 60 Harbour Street, Toronto, Canada, M5J 1B7.

CPHA new president

Toronto, Ontario, Canada (Canadian Port & Harbour Association):-Montreal port manager Nick Beshwaty is the new president of the Canadian Port and Harbour Association. Vice-president is Chris Brown of the Fraser River Harbour Commission.

Mr. Beshwaty, who was elected during the association's annual meeting held recently in Thunder Bay, Ontario, succeeds William B. Rest of the Toronto Harbour Commissioners.

Other members of the Board of Directors are: Frank Crane, Nanaimo Harbour Commission, B.C.; Fred Quenneville, Windsor Harbour Commission, Ont.; Bill Selby, Oshawa Harbour Commissioners, Ont.; Charles Trudelle, Port of Trois-Rivieres, Que.; Gord Mouland, Port of Saint John, N.B.; William Adams, Port of St. John's, Nfld.; and Fred DeVos, Ministry of Transport.

Ian C.R. Brown of the Port of Toronto was re-appointed as secretary-treasurer.

Failure to support Seaway could affect Canada's transportation costs

Toronto, Ontario, October 2 (Toronto Harbour Commission):-Members of the Canadian Manufacturers' Association (CMA) were urged to maintain their support in fostering and promoting the St. Lawrence Seaway and the Great Lakes as a commercial highway because failure to do so could have an adverse economic effect on Canada's trade with the rest of the world.

"If we collectively fail in this objective," said Walter Culbertson, director of terminal operations at the Port of Toronto, "there is a very real danger that, with the restraint of direct water rates removed, cost of transportation will soar under the influence of near monopoly conditions."

Captain Culbertson directed his remarks to the 150 CMA members at the Export Forum of Ontario held recently (September) in Toronto.

He reminded delegates that the Port of Toronto "has an obligation and a desire to provide any distribution service required by the economic community it serves."

This point was especially significant when he quoted a recent statement by the Canadian Importers Association which said: "The future of the Port of Toronto rests on its importance to central Canada as established and continuing competition to other forms of transportation."

U.S. flag service returns

Toronto, Ontario (Toronto Harbour Commission):-After an absence of six years, U.S. flag overseas liner service has returned to the Port of Toronto with the arrival of the Lykes Great Lakes Line ship Jean Lykes October 1, 1975.

The last lines to provide a U.S. flag service were the American Export Isbrandtsen Line and the American Republic Line in 1969.



Toronto, Ontario (Canadian Port & Harbour Association):-The new members of the Board of Directors of the Canadian Port and Harbour Association meet for the first time in Thunder Bay, Ont. Front row, from left: Ian C.R. Brown, secretary-treasurer, Port of Toronto; Chris Brown, vice-president, Fraser River Harbour Commission; Nick Beshwaty, president, Port of Montreal; and William B. Rest, past-president, Port of Toronto. Back row, from left: Fred DeVos, Ministry of Transport, Ottawa; Fred Quenneville, Windsor Harbour Commission; Bill Selby, Oshawa Harbour Commissioners; Frank Crane, Nanaimo Harbour Commission; and Gord Mouland, Port of Sait John.

Absent: Charles Trudelle, Port of Trois-Rivieres, Que.; and William Adams, Port of St. John's, Newfoundland.

Lykes uses combination container break-bulk vessels in its monthly service between Great Lakes port and the Mediterranean area.

Ro-ro ships call

Toronto, Ontario (Toronto Harbour Commission):-CARE Line's service to Toronto marks the first time in the port's history that roll-on roll-off ships have made it a port of call.

By mid-October, the vessels Montmorency and Mont Louis will have made a total of four trips to Toronto Harbour.

CARE Line, specializing in ro-ro and container movements between Scandinavia, the Continent, Montreal and Toronto, is made up of the Wallenius Line of Sweden, the French Line and the Swedish American Line.

Canadian agent is Colley Motorships Ltd.

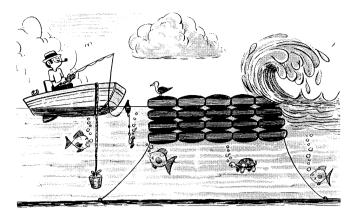
Prize won by Toronto reporter

Toronto, Ontario, Canada (Canadian Port & Harbour Association):-A Toronto reporter has been named first winner of the Canadian Port and Harbour Association's (CPHA) Medal of Merit for his work in the marine writing field.

Albert Sigurdson, 47, who covers the shipping beat for the Globe and Mail's Report on Business, received the gold medal during the association's recent (September 7-10, 1975) annual meeting in Thunder Bay, Ontario.



Toronto, Ontario (Canadian Port and Harbour Association):-Toronto Globe and Mail reporter Albert Sigurdson receives the Canadian Port and Harbour Association's Medal of Merit from past president William B. Rest of the Port of Toronto.



Dunkirk, N.Y., U.S.A. (Goodyear International Corporation):-WAVE BREAKERS-This cartoon illustrates how scrap tire breakwaters control the slashing power of waves. The structures are made by lashing together bundles of discarded tires with high-strength cables, ropes or plastic bands, explain Goodyear scientists who developed them.

The Globe and Mail is one of Toronto's two morning dailies.

The Medal of Merit, awarded for the first time, was instituted by the association to honour those individuals it feels have made significant contributions in port, shipping or related marine areas.

Only candidates nominated by CPHA members are eligible for the award.

"This year we elected to choose our medalist from among Canada's shipping writers," said Toronto Harbour Commission solicitor William B. Rest, past president of the association.

"It was difficult to select a winner," he said, "because the candidates, all expert marine writers, are respected by the people in the port and shipping business."

Candidates who received honourable mention are: Denis Masse of La Presse in Montreal; Norman Hacking of the Vancouver Province; and Brian Gallery, editor and publisher of Seaports and the Shipping World, a monthly trade journal.

Mr. Sigurdson has covered the shipping beat for the Globe and Mail for the past five years.

New floating breakwater

Dunkirk, New York, U.S.A. (News Bureau, Goodyear International Coporation, Akron, Ohio, U.S.A.):—A newly designed, floating breakwater utilizing discarded tires has been installed for the first time on the Great Lakes to provide needed protection to the harbor of this eastern Lake Erie city.

The final section of the structure, built of 8,000 scrap tires, was towed ceremonially into place on August 7 escorted by the Goodyear blimp America and a fleet of boats from the marina that will be sheltered by the rubber barrier.

The 212.8-meter (700-feet) long breakwater will guard Dunkirk from the ravages of northwest storms that have swept unchecked into the harbor since the lake level rose

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1.2 meters (4 feet) above the stone breakwater that previously provided protection from that direction.

The detailed plans for the floating breakwater were based on the results of Goodyear-sponsored research at the University of Rhode Island.

Volunteer Navy reservists assisted the city in the construction which will be completed at an estimated cost of less than \$5,000. Worn-out tires were supplied by local tire dealers and by Goodyear outlets in Buffalo and in Erie, Pennsylvania.

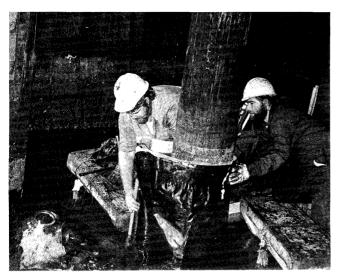
The breakwater is assembled from bundles of 18 tires, laced together by cable and chain, that ride vertically in the water supported by air trapped in the crowns. Similar structures in the Rhode Island tests proved capable of absorbing as much as 80 per cent of the energy in .9- to 1.2-meter (3- to 4-foot) waves. One scrap-tire breakwater at Newport, Rhode Island, is credited with helping to prevent a million dollars in damages to the International Sailboat Show when the area subjected to winds in excess of 20 knots.

In addition to having a cost advantage over fixed structures, the floating breakwaters allow the natural currents to maintain water quality in the protected areas and they do not interfere with natural shore processes or fish migrations. And, because they lie low in the water, the breakwaters do not detract from the aesthetic values of the seascape.

Researchers in New England found that the floating breakwaters in salt water created an added bonus for fishermen. Seaweed and other growth appeared on the tires in a few months, as they do on artificial reefs, providing food for small fish that soon attracted larger fish.

Nation's Number One Cotton Port

Galveston, Texas, September 5 (News Release from Port of Galveston):-The Port of Galveston exported nearly one-fourth of the cotton shipped out of the United States last year, according to figures compiled when the cotton



Los Angeles, Calif. (Port of Los Angeles):--Watery warfare is waged by divers and pile drivers of the Port of Los Angeles against an invasion of destructive marine organisms. The Los Angeles Harbor employees are wrapping thousands of wooden pier and wharf supports with plastic sheets to protect them from microscopic Teredo and Limnoria wood borers that are proliferating as a direct result of the Port's successful efforts to create a clean marine environment.

season ended July 31, once again establishing the city as the nation's Number One Cotton Port.

Approximately 915,000 bales were moved through the Galveston Wharves or 24 per cent of the total U.S. export of 3,800,000 bales.

Most of the cotton was shipped to the Far East with Korea receiveing 193,000 bales. The People's Republic of China received 150,000 bales of Galveston cotton while Taiwan received 143,000 bales and Japan 113,000. Hong Kong received and additional 38,000 bales.

Other major destinations of Galveston cotton included Africa, Germany France, Itlay, Poland, Thailand, South Vietnam, Singapore and The Phillipines.

Galveston has no peer in the Gulf Coast in cotton volume. The Port of New Orleans exported over 300,000 bales last year-one third of Galveston's exports-with Houston handling approximately 183,000 bales. Corpus Christi exported 72,000 bales while Brownsville handled only 1,700.

Even though Galveston continues to lead in the Gulf, the entire area is steadily losing cotton to the West Coast via truck and rail movements. The Galveston Wharves is striving to offset this steady loss by diversifying its cargo mix and by fighting the loss of this naturally tributary cargo in the courts.

Galveston opposes 'Mini-Bridge'

Galveston, Texas ("Port Galveston", June-July, 1975):-The Board of Trustees of the Galveston Wharves approved a strongly-worded resolution at the June meeting, reaffirming the port's position of fighting the "mini-bridge" transportation systems which divert naturally tributary cargo from Galveston and Texas to competitive ports in



Los Angeles, Calif. (Port of Los Angeles):-Skeleton of large 18,100 sq. foot maintenance shop building takes form on new site of Los Angeles Container Terminal, Berths 127-128. Scheduled for a November, 1975 completion date, the barn-like structure will be one of three buildings on the expanded, 42-acre Main Channel terminal.

other states.

The position of the Board is that the system is illegal and extremely detrimental to Texas ports by tending to eliminate steamship service from Texas to foreign ports, especially to the Far East. The major commodity lost by Galveston to mini-bridge is cotton. The Port of Galveston is currently involved in litigation before federal courts and in hearings before the Federal Maritime Commission.

Far East sailings from Galveston in 1974 were 58% below the 1973 figure and the trend is continuing, the Wharves Board noted. Meanwhile, California ports report a 900% increase in cotton exports the past six years despite the fact that cotton production in California and Arizona has remained fairly constant.

The Board made it clear that cotton will continue to be "most welcome" at the Port of Galveston, "World's Largest Cotton Port." Sales efforts have intensified to attract export cotton to Galveston and to promote scheduled ship service on the essential trade routes required by U.S. export cotton.

In passing the resolution, the Board praised Gov. Dolph Briscoe, Atty. Gen. John Hill and Galveston State Senator A.R. Schwartz and their staffs "for their dedicated assistance in fighting the vicious mini-bridge system. This is a battle that concerns not only U.S. cotton but also the very preservation of ocean services for Texas shippers and (Continued on next page bottom) The Americas

Coastal Plan Parley at Los Angeles

Los Angeles, Calif., 9/24/75 (CMANC= California Marine Affairs and Navigation Conference):-Former Governor Edmund G. "Pat" Brown will be the concluding speaker at a one-day conference focusing on the nearly finalized California Coastal Zone Conservation plan. The more than 500 California civic officials, commercial port and recreational boating spokesmen, and industry and labor representatives, will hear the two-term California Governor in his role as chairman of the California Council for Environmental and Economic Balance. Brown's remarks-"The Future of the Coast-A Possible Dream"-will conclude the review at the Hyatt Regency Hotel, Los Angeles, which will open with a summary of "The Coastal Plan-Arbiter of Equitable Use of a Finite, Unique Resource?" by Joseph E. Bodovitz, executive director of the California Coastal Zone Conservation Commission.

Conference chairman and meeting moderator, William L. Dick, director of Community and Government Affairs for the Port of San Diego, announced that other speakers will include Fred B. Crawford, chairman of the Government Relations Committee of the California Association of Port Authorities, and general manager, Port of Los Angeles, describing the impact of the proposed plan on California's fastest-growing activity-world trade; "The Coastline and Water-Related Recreation-Confrontation or Consensus?" review by Robert R. Leslie, president of the California Marine Parks and Harbors Association; William T. Ward's views as coastal labor relations committeeman for the International Longshoremen's & Warehousemen's Union-"Rationalization of Resources-Organized Labor Looks It Over and ... Reacts", and "The Economic Aspects of the Coastal Planning Area-Catch 22?"-the insight of banker Conrad C. Jamison, vice president and economist, Security Pacific National Bank, Los Angeles.

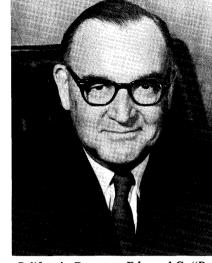
Ample opportunity for questions and answers of the panel and participants will be provided. The major review of the Coastal Plan will be presented by the California Marine Affairs and Navigation Conference (C-MANC) with the cooperation of 23 other civic, labor, trade, port, recreational boating and similar groups. The \$20 registration fee includes the opening continental breakfast, conference registration, and luncheon. Inquiries or registration should be sent to C-MANC, 303 World Trade Center, San Francisco, California 94111.

The event will be preceeded by the fall meeting of C-MANC at the Hyatt Regency on Thursday, October 30, which will feature reports on the study of dredging permit processing improvements, recommended federal appropria-

receivers who would otherwise be forced to ship their cargoes to distant ports in other states than to use port facilities which were built for their use in this state.

"The results," the Board said, "are quite clear to us; once competition is eliminated, the give-away programs can and will'be eliminated."

"The Port of Galveston will not rest until this unlawful system is stopped."



Former California Governor Edmund G. "Pat" Brown

tions for California port, small craft harbor and beach erosion projects, and annual elections.

Televised meeting of President and Emperor

Los Angeles, Calif., September 25 (News from Port of Los Angeles):-Port of Los Angeles Trade Development Director Robert D. Kleist has been selected to participate in a televised panel discussion following and commenting on the televised meeting between President Gerald Ford and Emperor Hirohito of Japan, scheduled for October 2, 1975 in Washington, D.C.

The panel discussion, like the Emperor's visit with the President, will be broadcast live from the United States and relayed by satellite to Japan, where an estimated 75 to 80 percent of the people will view it.

Professor Hans Baerwald of the University of California at Los Angeles, will head the panel.

Kleist was chosen because of his broad knowledge of Japan and its people, especially in the area of international transportation and trade. He joined the Los Angeles Harbor Department staff in January 1974 after 25 years experience in international trade, during which he rose to the position of vice president with the Pacific Far East Line.

New general cargo terminal

Los Angeles, Calif., October 8 (News from Port of Los Angeles):-An increase in cargo handling for the Port of Los Angeles was indicated today (Wednesday, Oct. 8) as the Los Angeles Board of Harbor Commissioners authorized preparation of a lease for a 23-acre general cargo terminal at Berths 199-200A in the East Basin.

The agreement, with Koppel Dock and Storage Co., of Wilmington, is expected to provide approximately twoand-one-half million dollars in revenue for the Port over the lease's five-year life.

Berth 200A is at the entrance to a long, narrow slip owned by Union Pacific. Principal user of this slip is Koppel, with facilities at Berths 200F-H, the wharf furthest from the slip's entrance. Ships tied up at 200A are generally required to be moved—an expensive and time-consuming operation—if another ship must pass en route to 200H. By leasing 200A to Koppel, these moves will no longer be at the expense or inconvenience of other tenants.

Plans for the general marine terminal include receipt and temporary storage of a number of imported automobiles, including such Japanese-made vehicles as the Luv pick-up truck, Dodge Colt, Buick Opel, and a yet-unreleased Plymouth sub-compact. Koppel will also handle general break bulk cargo.

National Port Week

New York, N.Y., September 29 (New York-New Jersey Port Promotion Association):—Observance of National Port Week, to remind Americans of the importance of the port industry of the United States to our national life, was marked today in the nation's leading port, the Port of New York-New Jersey. Some 300 civic leaders, port officials and members of the maritime community attended a Port Week ceremony this morning (Monday, 10:00 A.M.) at the New York City Passenger Ship Terminal followed by an inspection of Port facilities in the bi-state harbor aboard a Circle Line vessel.

National Port Week is celebrated throughout the United States from September 28 to October 4.

A message from President Ford, urging that during National Port Week, "public attention be directed to the important role of our Nation's ports in the American economy," was read at the ceremony by Captain Thomas A. King, Director of the Eastern Region of the United States Maritime Administration, at the ceremony.

The President noted that "As the American economy has grown, the United States has become more and more dependent on its waterborne commerce. The ability of our ports to perform their vital function of transshipping cargoes between land and water carriers has been crucial to the expansion of this trade. A healthy U.S. economy demands trade. Trade demands the continued development of ports."

The President added that "U.S. ports are valuable assets making direct and significant contributions to the economic well-being of our cities and states—in fact, the entire nation. By providing services to promote the expansion of United States exports, our seacoast and inland ports play a central role in improving our balance of trade."

Proclamations of Port Week by Governor Hugh L. Carey of New York, Governor Brendan T. Byrne of New Jersey, and Mayor Abraham D. Beame of New York City were also read at the ceremony.

Governor Carey said, "From the earliest days of its history, the ports of New York have been gateways for trade between this nation and all nations of the world. The ports have helped to bring our State to its position of pre-eminence in commerce and industry and continue to play an essential role in its economic well-being. Activities generated by New York's ports provide jobs for a quarter million citizens who earn more than \$2.5 billion a year." Governor Carey asked "all New Yorkers to join in this nationwide observance and to honor the vital contribution of our own State's ports."

Governor Byrne, in the proclamation establishing Port Week in New Jersey, noted the important role ports and commerce have played in the State over the last 200 years and lauded maritime interests and port agencies as having "contributed so substantially to the economy and general



New York, N.Y., October 10 (The Maritime Association of the Port of New York):-PRESIDENT WITH NEW MARI-TIME QUEEN-President of the Maritime Association of the Port of New York Thomas J. Smith poses with new Association Maritime Queen Susan Butler of United States Lines following her selection from contest finalists at the group's annual golf outing recently. At far left is Deborah Smith, last year's Queen. Next to her is Nona Haimer, one of this year's Maritime Princesses. The other Princess is Carlen Roman (far right) of ITT Mackay Marine. Both Miss Smith and Miss Haimer are with The Port Authority of New York and New Jersey.

The Queen and her Court will reign in the port for one year at maiden voyage arrival ceremonies (110 ships arrived here for their first visit during last year) luncheons, receptions, shippers parties, other official affairs sponsored by the maritime community and at civic functions.

Top awards for the contestants include a 7-day cruise for two aboard the SS DORIC from New York to Bermuda, a 7-day cruise for two aboard the SS BRITANIS from San Juan, Puerto Rico, to St. Thomas, Martinique, St. Vincent's, Caracas and Curacao, and a 17-week modeling course at the Barbizon School of Modeling and many other prizes.

well-being of New Jersey."

Mayor Beame said that "New York's role as one of the world's great ports has been an important factor in the City's economic development since the founding days. The excellent maritime facilities of New York City, recently expanded for even greater capacities, provide a steady source of employment for a large section of our population."

Mayor Beame urged "all our citizens to become aware of (Continued on next page bottom)

Oakland is base of new Trans-Pacific fully-containerized service

Port of Oakland

(See front cover also.)

Oakland, Calif., September 24:-A hulking, blue-hulled containership-representing a \$250 million investment by Denmark's Maersk Line in new U.S.-Far East ocean freight service from the Port of Oakland-sailed today on its maiden Pacific crossing.

The Oakland fireboat arching streams of water, helicopters and a flotilla of small craft accompanied the T/S Adrian Maersk through San Francisco Bay upon her arrival.

The turbine-driven Adrian Maersk—almost 700 feet long and 100 feet wide, displacing 26,500 deadweight tons and capable of 26-knot cruising speeds under the thrust of a revolutionary turbine power plant rooted five decks deep in her hull and extending through the heart of her seven-story superstructure—is only the first of nine such vessels which will be built for Maersk by the end of this year.

Fifty-one more departures in Maersk's weekly Far East container service are scheduled over the next 12 months from the Port of Oakland's newly completed Middle Harbor Public Container Terminal.

With the switch to fully containerized service, Maersk Line today shifted its Northern California operations across the Bay from San Francisco's Pier 50 to the modern 18-acre Oakland facility.

As up-to-date and versatile as Maersk's new 1,500container-capacity turbine ships, the Port of Oakland's Middle Harbor Public Container Terminal offers a 721-foot berth worked by four mammoth low-profile container cranes each designed to handle loads in excess of 50 tons.

Maersk ships built or under construction for the new service feature a novel "artificial tweendeck" platform

the importance of maritime commerce in the life of all New Yorkers."

The Port Week proclamations were presented by Joseph F. Brady, Chief of the Office of International Trade of the New Jersey Department of Labor and Industry; and Edgar C. Fabber, Commissioner of Ports and Terminal for the City of New York.

Also participating in the ceremony were James P. McAllister, President of the New York-New Jersey Port Promotion Association; Francis J. Barry, Chairman of the New York City Council on Port Development; and Clifford B. O'Hara, Director of Port Commerce for The Port Authority of New York and New Jersey. The three agencies were joint sponsors of the ceremony and the harbor inspection.

A feature of the program was the presentation of certificates of appreciation by Ambassador Emil Mosbacher, Jr., Chairman of Operation Sail 1976--the bicentennial gathering of international sailing ships next July 4. Ambassador Mosbacher hailed the bi-state Port Promotion Association, the New York City Council on Port Development, and the Port Authority for their support and encouragement of the maritime community.



Oakland, Calif., October 3 (Port of Oakland):-NEW SHIP, NEW TERMINAL, NEW SERVICE PROMPT SMILES AT PORT OF OAKLAND-The maiden voyage of the containership T.S. Adrian Maersk christening the Port of Oakland's \$4.3 million Middle Harbor Public Container Terminal was the cause for elation among Maersk Line officials-celebrating the inauguration of full container service between the United States and the Far East-and Oakland Board of Port Commissioners President Robert E. Mortensen. From left: Ib Kruse, Executive Vice President, Moller/Maersk, Copenhagen; Mortensen; Poul A.P. Rasmussen, President, Moller Steamship Company, New York; and Bengt I. Henriksen, General Manager, Maersk Line Agency, San Francisco. The new 18-acre Port of Oakland facility will serve as Northern California base for Maersk's weekly trans-Pacific container operation.

designed to accommodate heavy machinery, bulldozers, drill rigs and similar non-containerizable cargoes within the ships' usual container stacks.

Maersk Line has also instituted a world-wide electronic data processing communications system to accomplish cargo documentation and maintain records on the farflung whereabouts of all containers and units of cargo in transit.

Maersk joins American President Lines, Seatrain Lines and United States Lines as the principal users of the \$35 million, 85-acre Port of Oakland Middle Harbor Terminal complex.

Port of Oakland officials estimate that some 1,000 new jobs will be generated directly and another 2,000 created indirectly by today's completion of the four-year Middle Harbor development project.

"This," Oakland Board of Port Commissioners President Robert E. Mortensen declared at welcoming ceremonies for the T/S Adrian Maersk, "Translates as an annual economic impact to the city of more than \$175 million."

Some 700 Bay Area shipping representatives attended a dockside buffet supper and tour of the vessel hosted by Maersk Line at the Port of Oakland last night, inaugurating

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The Americas

the terminal and Maersk's new container service.

Ib Kruse, executive vice president of A.P. Moller-Maersk Line, Copenhagen, accepted the key to the city from Oakland Vice Mayor George Vukasin. Also present were Edmund J. Flynn, president of the Pacific Maritime Association; William Chester, vice president of the ILWU; Roger Lehmeier, consul of Denmark; Poul Rasmussen, president of Moller Steamship Company, New York; and Captain Max Christensen, master of T/S Adrian Maersk.

"The hallmark of the Port of Oakland's progress since 1962, when the first sea-going containers were offloaded here, has been our capability of adjusting rapidly and efficiently to technological trends in world maritime trade," Port of Oakland Executive Director Ben E. Nutter announced in response to Maersk's decision to enter container trade from Oakland.

"From a cargo volume of 2.5 million tons 13 years ago, the Port of Oakland now handles nearly 8 million tons annually," he continued. "And from 54,000 tons of container freight shipped through Oakland in 1962, we're now recording more than 5½ million container tons a year.

"We are extremely pleased to add Maersk Line to the roster of major ocean shippers who have responded to the Port of Oakland's efforts to provide unsurpassed facilities, equipment and know-how in the speedy handling of ocean freight," Nutter concluded.

With 11 of its 25 berths devoted to full containership operations, two combination container-breakbulk berths, one container-ro ro berth, 14 container cranes and 300 acres of container terminal facilities, Oakland now ranks as the largest container port in the Pacific Basin and one of the three largest in the world.

The Executive's Corner

Savannah, Georgia ("The Executive's Corner", Georgia Anchorage, July-August 1975, Georgia Ports Authority, Executive Director, Mr. J.D. Holt):-IN TODAY'S society, where bigness is frequently eulogized, we often lose sight of the contribution made by ideas somewhat smaller in magnitude.

Some years ago, the idea was conceived that barge terminals be built along Georgia's navigable waterways, to serve the local communities involved, in addition to the development of Georgia's deepwater ports of Savannah and Brunswick.

The idea came to fruition and, as a result, Georgia reaps the benefits of three inland barge terminals—One at Augusta, on the Savannah River; one at Bainbridge, on the Flint River; and one at Columbus, on the Chattahoochee.

In each instance, industry has been located on port property, so today we welcome two additional industries, both choosing Augusta, on the Savannah River, as their new plant locations.

In alphabetical sequence, Automotive Recycling Company of Georgia is investing 2.5 million dollars in the port city of Augusta and will improve the environment by, among other ventures, recycling abandoned automobiles within a multi-country area.

Modern Welding Company, Inc. has also chosen Augusta for a one million dollar facility, and will be fabricating pressure vessels, towers and storage tanks for the chemical, petroleum, agricultural and mining industries.

Access to barge transportation via the Savannah River



San Francisco, Calif., 10/2/75 (San Francisco Customs Brokers and Freight Forwarders Association):-SAN FRANCISCO INTERNATIONAL AIRPORT = Air cargo expeditors recently agreed to unite in efforts to facilitate the soaring flow of shipments here. An airport unit of Customs brokers and freight forwarders was formed-the first specialized group at a major U.S. air cargo facility outside of JFK, New York. Congratulating just-elected executive committee members is Ted Raush (left), president, Ted L. Rausch Co., and director of the San Francisco Customs Brokers and Freight Forwarders Association, with which the new air unit is affiliated. Key organizers shown are Mary Chojnowski, vice president, BBC International; Kathy Cocklin, import manager, Air-Oceanic Shippers; Carl Leen, marketing director, Airport Drayage Co. and Art Wilkerson, marketing manager, Seaport Shipping Co., Inc. Not pictured is committeeman Mike Rabette, vice president, Hecny Brokerage Services, Inc.

and the Intra Coastal Waterway lends credence to the idea born some years ago-that of building barge terminals at Augusta, Bainbridge and Columbus.

Tampa Port open house

Tampa, Florida, 9/22/75 (News from The Tampa Port Authority):-Free boat tours of the Port of Tampa will be a special feature of the second annual Tampa Port Open House set for Sunday, October 12, 1975, from noon till 5:00 P.M.

Piers and wharves will be open for inspection and various types of vessels which do business in the Port will be conveniently docked for the inspection by the public. Also, exhibits of various types of cargoes which move through the port will be on display. Among these will be an exhibit by U.S. Customs.

The Coast Guard Cutter "STEADFAST" will be open for inspection along with tug boats, shrimp boats, pilot boats and the Tampa fire boat.

The free cruises will be aboard the "TOM SAWYER" sight-seeing boat which is scheduled to make tours from Berth Number 5 at the Holland Terminal at Hookers Point.

Adequate signs in the Hookers Point area will give visitors directions.

As part of the port appreciation functions WTVT, Channel 13, will air a documentary film about port activities on Saturday, October 4 at 7:00 P.M.

The Port of Tampa ranks among the largest in the U.S. in tonnage. Upward of 4,000 vessels call at the Port each year and it is one of the chief factors in the economy of Central Florida.

Open House is being sponsored by the Tampa Port Authority and the Port Council of the Greater Tampa Chamber of Commerce. The arrangements committee is chaired by Michael Thomas of Port Sutton, Inc. Thomas said additional details are being worked out and will be announced at a later date.

Port Institution Law

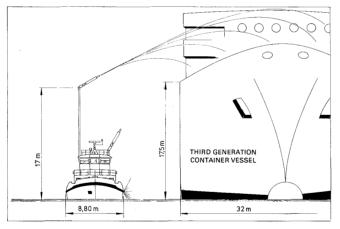
Caracas, Venezuela (Carta de la C.A. Venezolana de Navegación, August):-During the third week of August, the Senate initiated discussions on the Bill that establishes the National Port Institution, as an autonomous entity of the Venezuelan State. The purpose of this Institution is to coordinate everything relating to port administration and to impart greater agility and efficiency to the services and functions connected with the operation of ports. Discussions on this Bill shall continue during the next ordinary sessions of Congress, starting October the 1st.

New tugs for the port

Antwerp (Bimonthly review of the port of Antwerp, 1975 June/July):-April 1976 is the time scheduled for delivery to the City of the first new tug out of a series of 7. Time for delivery of the last tugs belonging to this series is January 1977.

The corresponding order had been given by the Board of Burgomaster and Aldermen on 7th November 1974 to the Temporary Association of 2 important Belgian shipbuilding yards.

The order involves expenditure exceeding 427 million BF.



In respect of their size (about 28.5 m in length by about 9 m beam), installed propelling power (2×1100 hp), pulling (about 24 tons) and speed (about 22 km/hour), the new tugs will be identical to the set purchased previously, numbered from 70 to and including 76, which have been successfully operated as from 1968.

Their propulsion and steering will also be ensured by Voith-Schneider propellers as the latter have constantly proved very safe and handy for tugs operating inside ports. This driving technique has been successfully used in Antwerp as from 1958 and, up to the present day, the City tugs have been working with them for over 930,000 working hours, which fact results in specialists from all parts of the world having come to Antwerp to acquire experience in said driving technique. Obviously, some slight improvements and adaptations will be introduced comparatively to those tugs 70/76 referred to above. The new tugs (to be numbered from 80 to and including 86) will be characterized by a quite unique fire fighting equipment. From a port safety point of view, this feature is not to be underestimated.

Following are the technical characteristics of the said fire fighting equipment:

- 2 water pumps each of 12,000 litres per minute at a pressure of 18 kg per cm²; the most powerful of today's City tugs(merely) has 1 pump of 6,000 litres per minute at a pressure of 10 kg per cm²; this increases the output per tug fourfold whereas the pressure is almost double;
- 3 water guns each of which is apt to cast either 8,000 litres of water or 56,000 litres of foam mixture per minute up to 100 metres away; these monitors are able to describe a complete circle and can move upwards and downwards;
- one of the water guns is fitted to a telescopically extensible mast, thanks to which the gun is apt to find itself at 17½ m above the level of the water in one minute's time. This enables any vessel likely to call, however high she may be lying, to be extinguished from above, which is certainly preferable to extinguishing from below (cfr drawing);
- a tank with 16,000 litres of foam extract, which ensures one monitor to spout foam mixture at full force for 40 minutes continuously (by way of comparison we would remind that the current Antweep fire trucks possess a foam tank of 2,000 litres whilst the one oversize truck has one of 6,000 litres);
- at each ship's side are 8 nozzles apt to bring about a water curtain of about 4,000 litres per minute, whereby the tugs can approach the fire without danger;
- 2 delivery collectors equipped with 5 nozzles for the sake of delivery on shore of water and foam along hoses: the boats thus are turned into floating pumping plants to feed a fixed set of conduit pipes on the shore or fill the trucks of the fire brigade;
- remote control of the entire fire fighting plant may be done by one centrally located person, safely installed in the wheelhouse and in contact, by wireless telephony, with those leading the work of extinguishing either on shore or on board of another vessel.

Upon delivery of the new set of tugs, the port of Antwerp is bound to boast, to still a larger extent than ever before, the best equipped and most sizeable fire fighting fleet in the world i.e. 26 extremely mobile boats with and aggregate fire extinguishing capacity of over 270,000 litres per minute.

INTERPORTS

Antwerp (Bimonthly review of the port of Antwerp, 1975 June /July):-Early in May 1975 the Young Economic Chamber of Antwerp organized an ((INTERPORTS)) congress which was attended by delegates of 18 European Seaports.

The theme of the meeting was ((The present and future structure of a port, approached by the J.C.I.)). During five Committee Sessions ideas were exchanged with regard to the present day problems in connection with general cargo traffics, industrialization, scale increase in shipping, port promotion and distribution of goods.

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Within the framework of the Congress, Messrs. J. Chabert, Minister of transport and R. Lhonneux, President of the Antwerp Chamber of Commerce and Industry acted as guest-speakers.

Besides a reception at the Town Hall where the congressists were welcomed by the General Manager of the Port, Mr. R. Vleugels, there was also a port visit programmed which was introduced by an explanation by Mr. J. Feyerick, Vice-President of the Port of Antwerp Promotion Association (ASSIPORT).

Antwerp and the barge traffic

Antwerp (Bimonthly review of the port of Antwerp, 1975 June/July):-The port of Antwerp is getting more and more involved in the traffic by barges from Kongaroo vessels. In 1970 and 1971 said traffic was restricted to the LASH barges of Central Gulf Lines; in March 1972 came the first barges of Combi-Line and in July 1972 the first Seabee barges.

The most recent specimens of this kind-the BACT barges-arrived in February 1975. The total number of barges that received cargo or were discharged along the various berths in the port, evolved as folows:

1970:	758 barges
1971:	993 barges
1972:	1,586 barges
1973:	2,192 barges
1974:	2,470 barges

The overall goods traffic, both ex and into barges substantially developed in the course of the last five years, during which the tonnages of cargo handled showed the following figures:

1970:	250,390 tons
1971:	331,023 tons
1972:	509,759 tons
1973:	708,705 tons
1974:	871,324 tons

The nature of the cargo carried by the liner services of these Kangaroo vessels considerably varies from one company to the other. However, the share (percentage) of the main commodities in the overall incoming traffic is as follows:

	1972	<u>1973</u>	<u>1974</u>
Paper	33	22	26
Wood pulp and celulose	28	33	45
Cattle fodder, grains and seeds	7	15	4
Ironware		7	3
Ores and stones		6	5
Synthetic rubber	22	4	6
General cargo	3	4	3
China clay		—	3

As regards outgoing traffic it strikes once again that iron and steel products actually are the backbone of exports in the port of Antwerp. In 1973 exports by barge were mainly made up by iron and steel, viz. 88.2% whilst a further 4.8% were nails and wire. The balance of exports was mainly machinery, materials and cars.

New navigation service for the Forth

Radar development aids surveillance

Edinburgh, 11th September (Forth Ports Authority Press Information):—The rise in the importance of the Firth of Forth is marked by the successful establishment of the Forth Navigation Service, offering information to any vessel with normal VHF radio.

The Service is operated from the dockyard at Leith by the Forth Ports Authority and incorporates radar equipment which was specially developed by Kelvin Hughes at the request of the Authority and marks a significant advance in the monitoring of shipping movements.

The Service was established when experience suggested that with the increase in the size and diversity of the vessels and structures using the estuary, some kind of radar guidance was required.

Soon, very large crude carriers, some more than 200,000 tonnes dwt., will start to call at the Hound Point offshore loading terminal, just below the Forth Bridges, to take away the output of BP's Forties Field. And they will be using the same water space as the oil rigs, drilling and pipe laying barges, pontoons and mini-submarines which have joined the estuary's conventional vessels since the North Sea oil development.

Charged with establishing the navigation service was Captain Gray, the Chief Harbourmaster for the estuary. He realised that the conventional, radar equipment in major ports and estuaries had one major handicap. They all demanded a darkened control room, and the total attention of at least one man, 24 hours a day.

Remembering a research paper, detailing a radar unit which had been developed for trawlers and permitted daylight viewing, Captain Gray approached its makers, Kelvin Hughes, and suggested modifications which would fit the system for the Forth. For this type of radar, which allowed a trawler skipper to view his set while doing many other things as well would spare FPA harbour staff the mentally arduous business of constant plotting in a darkened room and would free them to perform other duties when the estuary was quiet.

The secret of the Forth's radar unit is that when a ship's image appears on the screen, so do previous images of the same ship, caught in previous scans.

"This means that a moving vessel develops a tail, like a little tadpole," said Captain Gray. "The result is that you can very quickly tell how a ship is heading, what her speed is and how all the other vessels in the estuary are moving in relation to each other. What is more, any number of people can view the plot at the same time and even to an untrained man the display he sees makes sense".

All the radar operators at Leith are men with a master's ticket and it is their liaison with the pilots of the Forth, along with full naval approval, which will make the navigation service really work. For priority will go to the pilots in charge of the VLCCs using the Hound Point terminal, since their bulk and impetus allows them less margin for change of course and action in restricted waters.

An armchair look around Clydeport

Glasgow (Clydeport News, September):-Shippers in Canada and the USA will be having a look around Clydeport next month-without ever leaving their own hometowns.

When Managing Director Mr. J.P. Davidson and Marketing Manager Mr. J. McCreath visit Vancouver, San Francisco and Los Angeles, they will be taking with them a new visual aid which has been prepared specially to help in the task of selling Clydeport to potential customers overseas.

It is said that a picture is worth a thousand words, so the shippers will see the whole story of Clydeport and the modern facilities available to them encapsulated into a nine-minute slide show with synchronised commentary, background music and sound effects.

The presentation has been produced by Templar Films of Glasgow whose film on Clyde shipbuilding, "Seaward the Great Ships", won many international awards some years ago and is regarded as a classic documentary.

VIEWPOINT

Glasgow (Clydeport News, September):-Reflections of today's topsy-turvy facts of economic life are showing clearly on Clydeport's 450 square miles of water.

Tankers and bulk carriers laid up in Loch Striven mirror the down-turn in world trade while, just around the corner, a bustling oil platform yard at Ardyne Point, a multimillion-pound ore terminal progressing apace at Hunterston, a second Clyde platform yard taking shape at Portavadie and a third now scheduled to go ahead at Hunterston.

Apparently, there are signs that world trade will pick up next year—but less certain is the degree to which the U.K. will be able to take advantage of it, in view of what the experts diagnose as a special British brand of economic illness.

Whatever the precise nature of the disease or the cure, it seems that Scotland will on this occasion be relieved of some of the worst symptoms by North Sea oil.

In the past, sneezing in the London area has resulted in widespread pneumonia north of the Border, but this time there are massive injections of capital for oil-related developments.

Of course, not all industries will get such a jag and for the rest the message is clear that only the fit will survive.

Now's the time to redouble efforts to attract new business and go hardselling as never before—and that is what Clydeport is doing both at home and abroad.

Now's the time, too, to polish every facet of the service which keeps existing customers and encourages new shippers and shipowners to use Clydeport.

The first task, must by its nature, fall to the marketing specialists—but the second contains something for every-one.

EEC group to visit Southampton

London, 3 October (British Transport Docks Board):-A party of four members of the European Parliament's Committee on Regional Policy and Transport, and their advisers, are to visit the port of Southampton on Thursday, 9 October, as guests of the British Transport Docks Board.

The delegation is on a five day fact finding visit to Britain and will look at port facilities at a number of British ports. The visit is sponsored by the British Ports Association.

The leader of the party, Mr. Horst Seefeld from Germany, is the author of the consultative document on a seaport policy within the Community. Other members of the party are Mr. Charles McDonald, Ireland, who is Chairman of the Committee on Regional Policy and Transport of the European Parliament; Mr. Paul de Clerg, Belgium; and Mr. Fazio Fabbrini, Italy.

The party will be accompanied on their visit to Southampton by Mr. J.H. Collier-Wright, deputy managing director, British Transport Docks Board; Mr. D.A. Stringer, port director, Southampton; and Mr. W.D. Noddings, docks manager.

During their tour the party will see the fast growing Southampton Container Port, which is used by North Atlantic operators, and by Trio Lines' Far East container service, and will view the site for the South African container service due to commence in 1977. They will also visit Princess Alexandra Dock, the base of the port's roll-on/roll-off cross channel ferry services, and other installations at the Eastern Docks, including the port signal and radar station.

Europort South

Marseilles (Editorial in the September 1975 issue of Europort South, The monthly magazine of the Port of Marseilles Authority):-This number will appear in a holiday period, appropriate to thought.

Thought, on the results of actions undertaken at the beginning of the year; a pause for reflection; a time to examine and to orient the outlook for the future.

We know what hopes, legitimate and measured, have been engedered by the reopening of the Suez Canal. The Managing Director of the Port of Marseilles Authority gave a rigorous analysis in this colomns of the No. 4 issue.

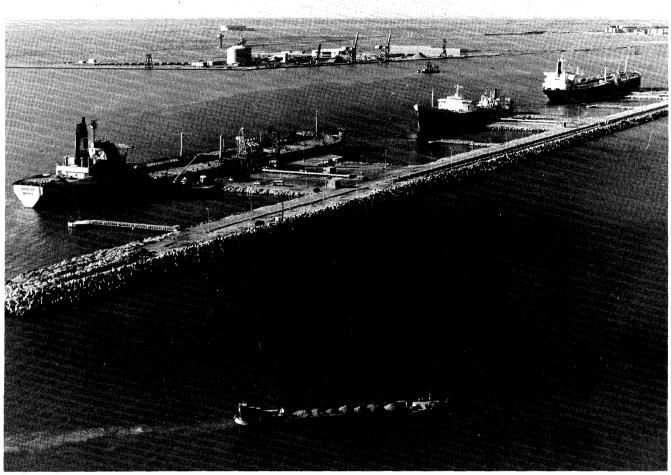
Putting the Canal into service only heightens the place of Marseilles in the heat of the realities of Mediterranean expansion.

Our promotional activities in Germany, our meetings, in the very near future, in Switzerland, our coordination of effort within the Regions to speed up the link between the Rhone and the Rhine, make clear to all the role of Marseilles in the European context.

It is hardly by chance that, this year, the International Fair of Marseilles will be opened by M. Claude CHEYSSON, the man responsible to the European Community for Cooperation with Countries that border the Mediterranean.

European verities, Mediterranean realities . . . These are the portents of the year.

And these will have consequences on our commerce and traffic; the Port of Marseilles Authority must orient its genius, modify its techniques, and modernise its plant and machinery, to be ahead of requirements.



Fos: oil dike (Port of Marseilles Authority)

And this the Port is doing, to the end that it may give its users the service they expect.

Pierre BLUM Chairman of the Board Port of Marseilles Authority

Marseilles—news in brief

Marseilles (Europort South, September):

• Passenger traffic through the Port of Marseilles has increased by 20% during the first four months of 1975, as compared with the same period in 1974.

• Export of plant and machinery, via Marseilles, during the first quarter of 1975 is up 20% on the same period in 1974.

• The transit of export cargo from Germany, via Marseilles, has more than quadrupled in two years.

• An average of 8 to 10 ships per month use the Methane Terminal at Fos; an import of about 1.75 million tonnes of L.N.G. is expected in 1975.

• M. COUSQUER, an Engineer from the great school of Ponts et Chaussées, was nominated as Technical Director of the Port of Marseilles Authority on 1 August 1975; he replaces M. DICHON. M. DICHON has been nominated as Director for all aspects of Fos.

• The throughput of the Container Terminal at Fos is up by 111% for the first quarter of 1975, compared to the

same period in 1974.

Communique

The Administrative Council of the Port of Marseilles Authority, under the Presidency of M. Pierre BLUM, met on the 27th. of June, and the 25th. of July 1975.

Various papers were tabled for consideration:

- the probable effects on the traffic through the Port due to the reopening of the Suez Canal. The Council thought that Marseilles might well profit, partilarly if the quality of service improved and the costs thereof were of an order such that it could better compete with the Adriatic and North Sea Ports for trade.

- the part played by the Port of Marseilles in the evolution of Exports from France in the period 1969-1973. The Council decided to press the relevant Authorities to complete, in the shortest possible time, the work required to make the Rhone-Saône an international waterway, so that, from Saint-Symphorien, the Rhone could take a fuller share in serving its hinterland and increasing the traffic through the ports of the Port of Marseilles Authority.

The Council agreed:

- the construction of the new wet-dock for ship repair in the Northern part of the East face of the Leon Gourret môle;

- various decisions concerning the new fishing port at

Europe-Africa

Saumaty; the purchase of land to dredge there a second dock; the rerouting of the Route Nationale 568B. on the heights above Saumaty, and actions required resulting from putting into service of the first dock;

- Sharing in the cost of a study relating to automated freight handling (TRIM);

- an increase in the tax for the use of oil pipelines to 0,55 $\ensuremath{\text{Frs/T}}$.

During the meeting of the 25th. July, the Council:

- noted the traffic figures for the first quarter, and how receipts compared with forecasts;

- examined propositions for costincreases for port usage, to take effect on 1. January 1975.

- agreed the draft of an Arrete to control shipping movement in the Gulf of Fos; a new draft of the conditions under which the Container Terminal at Fos should be operated; the financing of a 5th. section of the green-belt in the industrial zone at Fos; alterations to some rail routes within the Marseilles Docks and the construction of a new roll-on/off berth at the angle between Berth 152 and the transverse sea-wall of Mourepiane.

Finally, the Council examined an important programme for control of pollution by crude oil, with particular reference to the existing Port Installations and voted money immediately to implement the first section of a plan vastly to improve the capacity and efficiency of these installations. The next meeting will take place on 26th. September 1975.

I.D.I.T.: an international audience

Rouen, France (Rouen Port International Issue, August 13th):-The Institut du Droit International des Transports (Institute of International Transport Law) I.D.I.T.⁽¹⁾, held its 6th Annual General Meeting on Wednesday the 18th June at the Chamber of Commerce and Industry.

The I.D.I.T. this year captured an audience of international calibre which exceeded all the expectations of its founders. It established contacts on a permanent basis with international organisations such as the transport departments of the O.N.U., C.N.U.C.E.D., the Commission of E.E.C., the O.M.C.I., F.I.A.T.A., UNIDROIT, the Belgian Transport Institute and many more.

This international audience of the I.D.I.T. came together in a most striking way on the occasion of its last meeting on «The legal problems of transport by ships of liquified gas», which brought together at Deauville on the 17,18, and 19th April last, 147 participants, of whom 48 were foreigners from 14 nations. The ground covered on those days is in course of being printed.

Moreover, the I.D.I.T. wants to raise to national level its contribution to the improvement of laws already in cooperation with the professionals.

Running parallel to this collective work, the I.D.I.T. is sponsoring a certain number of studies which have been asked for by State or by professional organisations; further, the Institute is putting forward to students, for their doctorate, subjects for memoranda or theses, and is busy with idea of training French and foreign students.

Lastly, the I.D.I.T. has followed up the teaching courses for professionals this year.

New mineral port in Gabon

New York, N.Y., U.S.A., September 29 (Soros Associates, Consulting Engineers):—The Government of Gabon contracted Soros Associates for the design of a new mineral port. Located at Santa Clara, 25 kilometers from Libreville, the new port will load 150,000 to 250,000 DWT class vessels seven kilometers offshore.

The TransGabon Railway, now under construction, will connect the new port with the manganese operations of Comilog and the Mekambo iron ore project under development by Somifer.

The controlling interest in Comilog is held by U.S. Steel. Somifer is jointly owned by the Government of Gabon and a group of steel companies, with Bethlehem Steel holding a 20% interest.

Soros Associates engineered such well-known ore ports as Tubarao and Narvik, as well as the majority of the world's offshore mineral terminals. They will complete the site investigations and the detail design of the new Santa Clara port facilities within 18 months.

Lash, Seabee and Bacat already operating throughout the world

Hapag-Lloyd experts predict great future for barge carriers

Bremen, 27.10.75 (BremIn):-The Barge Carrier System, better known as Lash (Lighter Aboard Ship), has extended in the last six years over all the oceans. Since Central Gulf Lines commenced the Lash trade in 1969 from US-Gulf ports to Rotterdam and Bremen, shortly followed by the parent ships of Lykes Lines, New Orleans, with their Seabees, the Barge Carrier traffic has increased steadily, if not sensationally. Meanwhile Central Gulf is also serving Southeast Asia; the Combi-Line (Holland-America + Hapag-Lloyd) is also trading between North European ports and the Gulf; the Prudential Grace Line connects the USA eastern seaboard with the Mediterranean; the Pacific Far East Line, the US-westcoast with Eastasia, Australia and New Zealand; the Delta Line, the Gulf with the Caribbean and South America's Eastcoast (and is planning a feeder service to Central America) the Waterman Line, the US-Gulf, together with US-Eastcoast, with the Red Sea, Persian/Arabian Gulf and India; Lykes Lines, US-Gulf with Rotterdam and Bremen (and planning feeder services to Hamburg and to Scandinavian and Baltic Sea ports); and the Danish owner Droese/Rudköbing, using his Bacat ships, Hull with Rotterdam-and simultaneously as a feeder service for Lash-carriers (Bacat=Barge Aboard CATamaran).

Further steps in this broad development are already recognisable: the Polish Ocean Lines have advanced plans for 25,000-ton Lash ships, each with 75 lighters and 2 push-craft, for the lash trade to West Africa, the US-Gulf and Southeast Asia; the USSR, with its near 200,000-kms of inland waterways, is most interested and is at present having 2 barge carriers of the Lykes Seabee type being built in Finland; Finland itself is carefully studying the bargecarrying, combined sea/coastal/inland-water way traffic possibilities; Japan's Nippon Yusen Kaisha lines at present are developing their own barge-carrier type along the lines

⁽¹⁾ Any information by I.D.I.T.'s secretary: 3, rue Jacques Lelieur -76000 ROUEN (FRANCE); phone (35) 71.33.50.

of the lash system, for the Japan to Southeast Asia, Africa and South America trades. Brazil, too, intends employing 2 lash-type barge-carriers, whilst the Chinese Peoples Republic is observing the new carrier closely; as is Hong Kong. The president of Pacific Far East Lines himself was recently in Peking to win over the Chinese to the lash system.

Also in Bremen the world-renowned shipping expert, Capt. Helmuth Möncke, adviser to Hapag-Lloyd, has just published, as No. 10 in the 'Lectures and Contributions' series of the Institute of Shipping Economics, Bremen, a 20-page review entitled "Developments and Prospects of Barge Carrier Systems". Upon being asked as to the reasons for this lash success, Capt. Helmuth Möncke told us:

"The Barge Carrier system offers three considerable advantages over the conventional freighter.

- 1. A Barge Carrier, with a 29-man complement, replaces five to six general cargo ships each having a 35-man crew.
- 2. A Barge Carrier doesn't require such extensive port organisation, neither technically nor in manpower, as does the container carrier. If required, the lighters can be discharged at a primitive landing stage with the use of wheel-barrows.
- 3. A Barge Carrier is able to avoid all too frequent lengthy periods waiting for berths, cargo and stevedore gangs and can drastically reduce times in port by placing her cargo to water immediately upon arrival off the destination port and to forthwith subsequently take up other, already filled, barges—and so continue her voyage without experiencing any 'dead time'. The Barge Carrier is the first ship-type to be practically fully independent of ports".

How did this actually come about?—we asked the Captain—and how do you see the future?. His reply:

"The idea is no longer new, Barge carriers-parent ships with landing craft-were employed during the war by the Americans in the Far East and also for the invasion across the English Channel in 1944. New conceptions were developed in New Orleans at the end of the 50'ies. Thought was given to parent ships which could submerge for some 70 feet, permitting the lighters to float in and out-the original form of the subsequent Lykes-Lines Seabee system, brought to production stage by the New York shipbuilders, J.J. Henry & Co. At the same time Jerome L. Goldman invented and developed the Lash-system in New Orleans: a parent-ship carrying her cargo in lighters and setting them down with own crane off the port of destination, independent of the conditions prevailing in the port. West German shipyards produced their own designs at the end of the 60'ies. The Central Gulf Line, which chartered the lash-ships built by Sumitomo in Japan for Norwegian principals and-again already in 1969-sailed them under the names ARCADIA FOREST and ATLANTIC FOREST as the first shipping company across the Atlantic to Rotterdam and Bremen, was quickly followed by the Seabee ships of Lykes Lines and again, later, by the third system, the Bacat-the Catamaran carrier of the Danish owners, G. Droese. The development undoubtedly has not yet been finalised. The idea of Aristoteles Onassis for the building of mammoth lash-tankers has, for the moment, been retained in the drawing offices.

There are 28 parent ships operating at the present time, 24 being of the lash-type and having about 6,000 lighters, 3

of the Seabee type having around 250 lighters and one of the Bacat type with approximately 60 lighters. All this up to now only covers a small proportion of the many possibilities. Above all the barge carriers are trading off the west coast of South America, in the Amazon area, along all the African coasts, as well as to Indonesia, Canada, China, Scandinavia, the Baltic and the Black Sea. By 1985 the number of transocean parent ships should have about doubled and the towage companies will have increased their push-craft and tug potential to meet the new lighter traffic".

Hamburg as venue for the world ports conference 1979?

Hamburg (Hafen Hamburg Report, 2/1975):-Hamburg has good prospects of being the venue in 1979 of the World Ports Conference. This view was expressed by Hamburg's Port Director Dr. K.-L. Mönkemeier following his return from Singapore, where he took part as "Director of Germany" in the ninth meeting of the International Association of Ports and Harbors-IAPH. On this occasion he submitted, on the instructions of Hamburg's Economic Senator Kern, to the IAPH body the application of the Free and Hanseatic City of Hamburg to be the venue of the next but one World Ports Conference in 1979.

In his letter the senator points out the Hamburg is not only the biggest German seaport, but is also an excellent location for congresses and conferences of every kind. In addition to Hamburg, the port cities of Bristol and Le Havre have submitted applications. An official decision on the conference venue will not be taken until April next year. The next IAPH conference takes place in 1977 in Houston, Texas.

Home port Hamburg still heads the list

Hamburg (Hafen Hamburg Report, 2/1975):-Hamburg has retained its position as the biggest home port for Germany's mercantile fleet. Annual statistics published by the Association of German Shipowners (VDR) show that two thirds of the national tonnage are registered in the Hansestadt. This means 390 vessels with 5.48 million GRT.

Last year alone the seagoing tonnage registered in Hamburg rose by over 1 million GRT—the share now being 67.4%. The shares of the other coastal provinces taper off accordingly: Bremen/Bremerhaven 22.7%, Schleswig-Holstein 9.1% and Lower-Saxony 0.8%.

According to VDR data, as of 1st January, 1975, the German mercantile fleet (excluding coastal and fishing vessels) consisted of 658 units totalling 8.13 million GRT and with a carrying capacity of 13.06 TDW. The number of vessels thus fell by 47 units compared to the preceding year, but nevertheless there was a tonnage growth of 11.3%.

With an average age of seven years, German ships are among the most modern in the world. The trend towards larger tonnage is also continuing. The vessels in the fleet have an average of 12,000 GRT.

AMSTERDAM SAIL—A brilliant success

Amsterdam (Amsterdam news letter press edition):-Not only Amsterdammers, but also many from outlying districts, showed an unprecedented interest in Amsterdam's harbor, where the four-day manifestation "Sail Amsterdam 700" turned out to be the highlight of the city's jubilee year. The international character of the event was not the least reason for the unabated stream of visitors, estimated at some hundreds of thousands. The sight alone of the huge naval and merchant training ships from more than 10 countries-viewed by a teeming mass of people lined up along the shores of the North Sea Canal from limuiden to Amsterdam-was a unique spectacle. Add to this the armada of old-fashioned Dutch round and flat-bottom ships, the flagships, the sham battles, the harbor exhibits and many other happenings of the manifestation-one for one unequalled attractions. It is expected that this nautical occurrence will repeat itself in the coming years, although of a less international allure. The Amsterdam harbor received an unquestionable spurt in the arm; a great deal of goodwill was established, although the commercial effects will not be immediately discernable. The fact is, the harbor has balled its fist, the more so through cooperative effort. This cooperation must continue in the future, not only in the eastern harbor area, but should be directed as well to the developing western area. Because in this area the future of the Amsterdam harbor is vested.

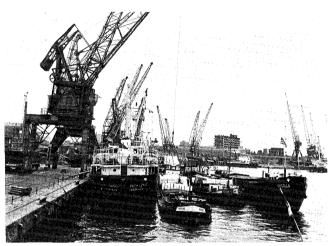
To maintain interest for harbor activities—that is one of the plus points of SAIL AMSTERDAM, also applicable to the economy in and around the city. Amsterdam was clearly in the picture nationally and internationally. Royalty came, as did members of the ministry. Waves of enthusiasm indicated that Amsterdam could not repudiate such an occurrence when the very significance of sailing was at stake. Those who were witness to this spectacular show can only agree that the spotlight on this part of Amsterdam's harbor occasioned an excellent "tour de force" which can only be promising for the future.

A first mandate is now to accentuate the importance of the essential sphere of action, which is the western area of the harbor. Because it is in this area that employment opportunities, the merchant service, the carrier and tanker trade, must be maintained and expanded. With AMSTER-DAM SAIL, the Amsterdam harbor gave itself clear marching orders, a continuing mission. And harbor alderman Lammers is in complete agreement.

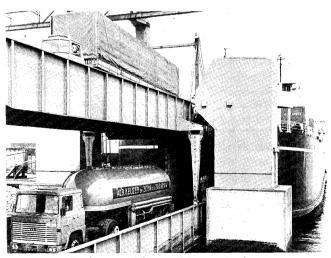
Port of Rotterdam



One of the oil harbours (Port of Rotterdam)



Cargo handling in the Port of Rotterdam



Ro/ro vessel (Port of Rotterdam)

Improved service at Port of Helsingborg

Port of Helsingborg Sweden

Helsingborg, September 29, 1975 (Press Release):-The rapid development towards a diversified cargo traffic, which in recent years has turned Helsingborg into an all-roundport, has required and is still requiring new equipment in order to meet wishes from all customers. A great many measures have been taken to improve the handling of bulk and break-bulk cargo as well as containers and RoRo-cargo.

Typical for the development at Helsingborg is that transhipment of cargo to other Scandinavian ports and to the Swedish hinterland is becoming more and more common. The most efficient methods that have been worked out by the terminal company for handling of transhipment cargo has been observed by Swedish and foreign shipping circles. Ordinary break-bulk cargo from liner vessels is discharged directly on terminal waggons for further forwarding by ferries and RoRo-ships to other destinations. The system is working very well and the transit time has been reduced considerably.

Heavy Lift-New Speciality

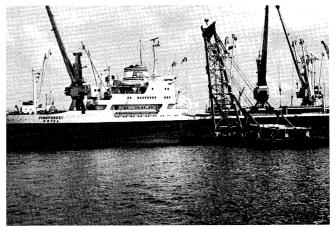
The number of heavy lifts has shown a remarkable tendency to increase at Helsingborg. Common are today the transformers, machinery, crane parts and other heavy constructions that have to be loaded or discharged. A new record was set up last July, when the largest Quintus-press of the world weighing 115 tons was loaded aboard a special vessel with destination to USA. In order to improve the service to customers requiring heavy lifts the Port Authorities have now acquired access to a floating crane having a capacity of 200 tons. The crane is based in the North Harbour easily accessible also at short notice.

Tugboat Fleet to be increased by Ultra-Modern Unit

By next summer a powerful unit will be added to the tugboat fleet of Helsingborg. Recently an order for a new tugboat has been placed with a Dutch shipyard. Length and width will be 27.7 m and 8.62 respectively and the main engine will be of Nohab-Polar make of 2,640 hp. The speed will be 13 knots and the tugboat is being built at highest class by Lloyd's Register of Shipping, Finnish ice class 1A. The main propeller will be of Seffle's turnable make while the bow propeller of 200 hp is to be delivered by Brunvolls. The engine room will be constructed for unmanned operations meaning that the boat is bridge-controlled. Fire-fighting equipment is also to be installed and constructed for the use of either water or foam. The foam tanks will have a capacity of 10 cu.m.

RoRo-Cargo is dominating

The total cargo volume has now reached 7.5 million tons a year, out of which the RoRo-cargo contributes with 4 m tons appr. In this figure ferried railway cargo accounts for 2.1 m tons while truck and trailer goods accounts for 1.8 m



PORT OF HELSINGBORG Heavy lifts at Helsingborg are now performed by a floating crane with a lifting capacity of 200 tons—here doing service at the Ocean Terminal.

tons. The movements of shipping is unprecedented high owing to the frequent ferry sailings. The number of arrivals and departures has now reached 150,000 annually corresponding to a tonnage of 80 million net.reg.gons, a gain of 8.7 pct compared with the year before.

The number of vehicles ferried is 1.2 million, out of which private cars account for 0.9 m. The international profile of Helsingborg is reflected to a great extent in the passenger traffic oscillating around 15 million passengers a year and going to touch the 16 m line in 1975. This means that Helsingborg is the largest international passenger terminal of Scandinavia.

Units

The traffic included in the conception of unit cargo is considerable. Lift-on units are in principal handled at the Skane Terminal—the sole fully equipped container port in South Sweden. The RoRo-units previously operated entirely in the North Harbour are now also being handled at the Skane Terminal. In 1974 the number of LoLo- and RoRo-units altogether came up to 324,000 containers, flats and trailers measured in 20-ft equivalents, and lorries.

Sundsterminalen–New Harbour ready for Inauguration in December 1975

The sole largest investment object having been made all since the building of the South Harbour is the construction of a completely new RoRo-terminal. The inauguration of Sundsterminalen—as it is named—will be made in December 1975. The terminal is equipped for all methods of RoRo-handling in an area of some 55,000 sq.m with a maximum water depth of 8.5 m. The total cost of the new harbour is more than 20 m SwCrs. There will be two ferry berths available for both cargo and passenger vessels in addition to one auxiliary berth.

Asia-Oceania

The overall investment requirements for 1975, 1976 and 1977 are estimated at 48 m SwCrs. The money is booked for new sheds, dredgings and other improvements in order to further increase the services of the port.

Chairman's Report, Port of Cairns

Cairns, Queensland, Australia (extracted from Annual Report, Year Ended 30th June, 1975, The Cairns Harbour Board):-The financial year 1974-75, being the second year of office for the present Board, has been distinguished in the way of works by the decision to proceed with the reconstruction of the oil wharf (No. 10) and the extension of the Marlin Jetty to provide more moorings for smaller craft. Faced with rising costs, the Board was compelled to increase harbour dues.

The cordial relations among Board members and their harmonious participation in all the Board's administrative activities were a feature of the year. It was again characterised by efficient service and complete co-operation on the part of the executive officers and the staff as a whole assuring smooth operation of the organisation.

Search for stricken ships

Hong Kong, October 24 (The Week in Hong Kong):-The hunt for two freighters missing at sea since typhoon Flossie passed Hong Kong on Tuesday, October 21, when the vessels sent out distress signals, was resumed on Friday.

The drama began when the Marine Department received distress signals from a Liberian-registered freighter, the 'Kinabalu Satu', and a Panamanian-registered freighter, the 'Ming Sing.

Both were carrying logs: both were reported to be listing; and both were being affected by the high winds and rough seas associated with typhoon Flossie. One was 100 miles south-east of Hong Kong, the other 70 miles south.

Six ships headed for the scene HMS Chichester, the Hong Kong guard-ship, sailed at one a.m. on Wednesday and an aircraft of the Royal Hong Kong Auxiliary Air Force took off from Kai Tak.

At 11 p.m. on Tuesday a Dutch vessel, the 'Felania', had reported sighting floating logs, a lifebuoy and a sign board with 'Kinabalu Satu' on it.

The Master of the 'Felania' believed that the 'Kinabalu Satu' was lost with all hands, and discontinued the search.

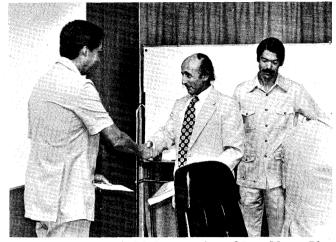
A British freighter, the 'Strathardle', also had to abandon the search with the engine trouble.

At about six o'clock on Wednesday, a message received from the 'Ming Sing' said that the crew had abandoned ship and were in a lifeboat. The ship's last reported position was 70 miles south of Hong Kong.

But, due to the seriously deteriorating weather, with 35 ft. high waves and winds up to 65 knots, the search was called off that afternoon. 'HMS Chichester' and the aircraft returned to Hong Kong.

On Thursday, with the weakening of typhoon Flossie to a tropical storm crossing the South China coast about 180 miles west of Hong Kong, it was decided to resume the search.

At first light on Friday the Royal Hong Kong Auxiliary aircraft was to take off for another search, and 'HMS Chichester' was standing by.



Jakarta, September 1975. Presentation of Port Master Plan for Tanjung Priok by H.A. Mann, Vice-President, Swan Wooster, Canada to Rear Admiral H. Nimpuno, Director-General, Sea Communications, Government of Indonesia.

Port master plan in Indonesia

Vancouver, B.C., Canada, September 23 (Swan Wooster Engineering Co., Ltd., Vancouver):—A Master Plan for the Port of Tanjung Priok, Indonesia's largest harbour, was handed over to the Indonesian Government recently by Swan Wooster Engineering Co. Ltd. The 22-months study was conducted in the Company's Jakarta office by a resident team whose members were the Project Manager, F.G. Culbert, and the Engineering member, W.G. Allen, both of Vancouver. They were supported by a number of specialists from Indonesia, England, the United State and Canada who were called in for short-term assignments. Project Principal was H.A. Mann, Swan Wooster, Vancouver.

The Tanjung Priok Master Plan contains proposals for port facilities to handle the forecast traffic growth up to the year 2000. When implemented, these proposals will make Tanjung Priok one of the most modern harbours in the Southeast Asian Region. Among the facilities in the Master Plan are container terminals, new wharves and sheds for domestic and foreign general cargo and an improved roadway system to ease access to the port.

The eleven volume study is currently being evaluated by the Government of Indonesia and the World Bank and it is expected that its key recommendations will be implemented shortly.

Assembly of Japanese ports

Tokyo:-The 47th Ordinary General Meeting of Japan Port and Harbor Association (JPHA) was held in Wakayama City, Wakayama Prefecture, Japan, on October 23, 1975. The meeting lasted from 9.30 a.m. till 3.00 p.m. at the Bunka Kaikan Hall.

Nearly one thousand delegates from all over Japan assembled to review the activities of the Association in the past year, and lay out the plans for the next year. Among the delegates were IAPH Secretary General Dr. H. Sato (Continued on page 49)

46 PORTS and HARBORS - DECEMBER 1975



$C^{2} = b^{2} + a^{2}?$

Exactly. The square on the hypotenuse equals the sum of the squares on the other two sides. You see NKK is a kind of right-angled triangle insofar as it has three sides to its business, and the activities of two of them are closely related to those of the third.

Thus the world's sixth largest shipbuilder occupies

one side, with heavy industries on the second side and steelmaking on the hypotenuse...three NKK divisions converging at an angle but working in parallel.

Sharing their individual expertise, they have helped to mould NKK in its present form—a strong, rectilineal structure and the world's fifth largest steelmaker.

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Wellington Harbour Board

Chairman's Annual Address

Mr. R. O'Regan November, 1974

The Members of the Wellington Harbour Board:

I have pleasure in reviewing the operations of the Board for its 95th year, which ended on 30 September 1974.

Shipping Arrivals for the year reached a record total of 7,868,845 net register tons, an increase of 564,245 tons or 7.7% on last year's figure of 7,304,600 tons which was the previous record for shipping arrivals.

For the sixth year in succession there was a record manifest tonnage of cargo passing through the port. The total of 5,206,122 tons was an increase of 573,792 tons or 12.4% on last year's record tonnage of 4,632,330 tons. The principal increases were in general cargo; coastal inward and outward increasing by 270,090 tons (11.5%) and other overseas ports by 175,552 tons (23.6%). Cement in bulk increased by 9,666 tons (8.8%); oils in bulk by 75,085 tons (8.5%) and bitumen in bulk by 3,847 tons (35.3%). Decreases were recorded in Australian general cargo inward and outward by 29,081 tons (8.6%), coal by 694 tons (5.4%), timber by 3,087 tons (20.7%) and wool and skins which decreased by 295 tons (0.4%).

The Annual Accounts, which will come formally before the Board in March next year after completion of the Government Audit, show a balance of \$1,519,873 in the Working Account as compared with \$757,374 last year. However, after meeting loan repayments, payments to Sinking Funds and contributions to Special Funds, there was a surplus of \$645,818 (which included a transfer from Employers' Liability Fund of \$64,500) in the Appropriation Account compared with \$223,086 last year.

Income rose to \$9,222,817 (last year \$7,741,959) as a result of the buoyant level of trade during most of the year and continued with the granting of further leases at the Thorndon Container Terminal and an increase in interest received, a record in revenue was set.

Working expenditure increased to \$4,928,146 (last year \$4,295,783) mainly due to increases in salaries and wages and the first year's levy of \$79,407 due to the Accident Compensation Commission. Expenditure on repairs and maintenance \$855,340 (last year \$838,909) also showed an increase although the physical amount of general maintenance decreased. Interest increased in line with the past trend although the increase of \$79,444 was less than last year's increase of \$126,135. Depreciation charged in the Working Account decreased by \$9,879 due to a greater proportion of assets being created from loan monies. Payments to sinking funds and loan repayments also increased significantly to \$435,885 (last year \$402,566), overall loan standing charges increased from \$1,607,752 to \$1,720,515 or by \$112,763.

The Board's total wage bill this year was \$5,073,042

compared with \$4,577,863 last year. The introduction of the New Zealand Superannuation Act as from next April together with more wage increases which are inevitable, will further esculate wage costs in the next financial year.

Loan money raised during the year amounted to \$1,721,260 Loan Liability increased from \$22,028,644 to \$23,340,981 of which \$9,789,901 is repayable on a table bais and \$13,551,080 by the sinking fund method. Sinking funds now held amount to \$1,324,695.

Capital expenditure totalled \$1,798,960 of which \$1,490,160 was provided from loan money and the balance, \$308,800 from revenue sources.

The principal items of capital expenditure for the year were:

Thorndon Wharf Development	\$626,551
Seaview Wharf Development	\$378,272
Lambton Harbour Development	\$334,994
Second Container Crane Progress Payments	\$114,942
Second Rail Road Ferry Berth	\$ 43,337
Purchase of Customhouse Site	\$ 40,004
Lowry Bay Boat Harbour Development	\$ 38,550
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A Meeting of the Harbour Survey Sub-Committee was held on 19 October 1973 at which a proposal to initiate a harbour survey was considered. The General Manager was requested to prepare an outline of the survey and list the agencies which would assist in the organisation of the survey. The following month the Board decided that a survey of the Wellington Harbour be undertaken by the Board at the Board's cost and that it should be under the control of the Board. An Executive Committee comprising Board Members and Officers was set up to consider reports from various sub-committees and make recommendations to the Board. The following nine sub-committees have been formed and the work of each is progressing.

- (a) Earth Sciences
- (b) Life Sciences
- (c) Environmental
- (d) Commercial
- (e) Recreation
- (f) Legal
- (g) Hydrographic
- (h) Civil Defence
- (i) Transport

The Board adopted a policy in an endeavour to assist owners of pleasure craft of proceeding with the development of much needed facilities and a special fund, the Port Recreation Account, was formed to assist in the financing of the works. All revenues from recreational facilities will be paid to this account and all maintenance costs paid from it, monies borrowed for recreational facilities and servicing charges of such loans are to be held in the account and if necessary an annual appropriation to it will be made by the Board.

It was with pleasure that I was able to report to the Board in February that the agreement between the Wellington City Corporation and the Board relating to the Lambton Harbour Development scheme H/1 had been finalised. The agreed area which includes the lagoon was handed over to the Council and is now being beautified by the Parks and Reserves Department for the benefit of the citizens of Wellington. The Board was pleased to be in a position to make loan monies available for the beautification programme. This project which reflects credit on both the Council and the Board was the subject of many years of negotiation and discussion prior to its conclusion.

Due to the unusually large volume of cargo and the consequentialy large number of vessels arriving congestion occurred at this port over a period and caused the facilities of the Board to be taxed to their limit as were the facilities of all those organisations associated with the movement of cargo. Other major ports in New Zealand were similarly affected, some to a much greater extent than at Wellington.

Despite the Board's clearly stated intention to proceed with the development of the Lowry Bay Boat Harbour expeditiously, it is with regret that it is necessary for me to report that progress on this development has been held up pending a preparation of an Environmental Impact Report to be submitted to the Commission for the Environment.

At a Special Meeting of the Board held on 16 September amendments to the Bylaws affecting certain dues, fees and charges and the maximum penalty for offences against the Board's Bylaws were adopted by the Board. The increase in dues etc. amounted to approximately $12\frac{1}{2}$ % and was necessary to offset increased costs which had occurred since the last increase in 1972 and increases which could be foreseen in the immediate future.

The Board authorised the General Manager and myself to have discussions with the Housing Division of the Ministry of Works and Development concerning the use of the Board's land at Kainui Road for housing purposes. The Wellington City Council had earlier shown an interest in the development of this land for housing and had formed some views on its development which would be conveyed to the Housing Division.

Since the modifications proposed by the Manufactures Representatives were carried out the Board's container crane has been operating very efficiently with only a few minor difficulties being experienced. Delivery of components for the second container crane is under way and the completion date of March 1975 is expected to be met by the contractors.

Due to the Ministry of Transport requiring the Board to prepare and publish an Environmental Impact Report on the proposal to relocate an area of the Kaiwharawhara Reclamation it had not been possible to proceed with the reclamation on a major scale. Prior to the receipt of a letter from the Secretary of Transport containing this requirement it was thought that the Board's application under Section 185 of the Harbours Act to relocate approximately 15.3 acres of the Kaiwharawhara Reclamation would be agreed to. It is expected that the acceptance of free fill at the reclamation will have to cease before the end of this year.

During the year meetings of the Harbour and City Liaison Committee continued to be held as required. These Meetings which were of value to both the Wellington City Council and the Board provided the opportunity for representatives of both bodies to discuss the many matters which were of mutual concern.

Items for display in the Board's Marine Museum continue to be received from members of the public. During the past year a total of 17,574 visited the Museum of which approximately 5,000 were school children on conducted educational tours of the Port.

The Board agreed to make a contribution towards the cost of a bow thruster propellor from the "Wahine" as well

as making a contribution to the Wellington City Council's proposal to commemorate the tragic loss of "Wahine" with a suitable Memorial at Break Bay.

During the period under review various significant extensions to the Thorndon Container Terminal were brought into service. Two further extensions to the backup area giving additional paved space of about 12 acres are in hand. Other works in hand include additional refrigerated container power outlet points, exterior lighting, container washing and repair facilities, additional plant repair facilities and further staff amenities. A substantial canopy is being added to one of the break bulk stores. Construction of a new break bulk store of some 100,000 sq. ft. is in hand. Construction of Seaview Wharf for oil tankers was also commenced. Work is well on towards completion of the second stage of the Lambton Harbour Development. Works completed or in hand include the demolition of the Jervois Quay breastwork and a number of old cargo sheds along the Quay, the resiting of the main gates and provision for a new Tolls Office at the entrance to Queen's Wharf, provision of a car park for waterfront workers, further paved areas for traffic access and cargo handling, the extension of city stormwater culverts and the development in conjunction with the Wellington City Council of improved facilities for rowers and a marine park and gardens for citizens. Extension of the open stacking area towards the east of Taranaki Street Terminal is under way and further development to meet short term future needs is planned.

Other development schemes contemplated include further development of the Thorndon Container Terminal to keep pace with the demand, and extensive development of various port facilities at Kaiwharawhara. New Administration, workshops and civil defence control buildings are proposed as is a new port control tower for shipping control. A substantial replacement programme for cargo handling plant and plans for new cargo handling and floating plant are under consideration.

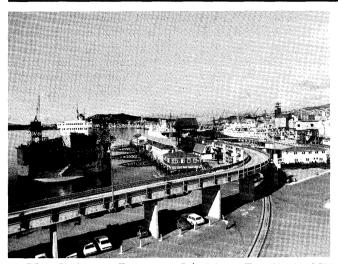
The year under review has been a very busy one with records for shipping arrivals and cargo tonnages being established. While it is expected that the very high level of imports being experienced will taper off there is every reason to believe that the coming year will also be one of achievement.

I desire to express my thanks to the Members of the Board for their attention to the business of the Board and for their co-operation and support at all times. I also extend to the General Manager, the Chief Engineer and other officers and staff in all Departments my sincere appreciation of their conscientious and loyal service.

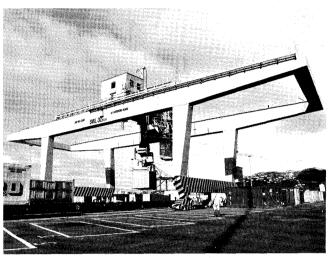
(Continued from page 46)

(JPHA Vice-President) and IAPH Deputy Secretary General Mr. M. Kinouchi (JPHA Counselor). Prominent throughout the occasion was the presence of Dr. S. Kuroda, the JPHA President (IAPH Founder Honorary Member) who presided over the entire session.

Port of Wellington, New Zealand

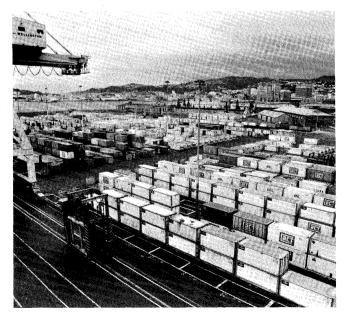


WELLINGTON 2 BERTH RAIL/ROAD FERRY TERMI-NAL-Vessel Service: The New Zealand Government Railways owns and operates two Rail/Road ferry vessels and two Rail/Road freight vessels plying between Wellington in the North Island across Cook Strait to Picton in the South Island, a distance of 52 nautical miles, the voyage takes approximately three hours twenty minutes, at a service speed of 17 knots. 5,000 crossings of Cook Strait are made during a year by these four Rail/Road Rollon/Roll-off vessels. 2 million tons of cargo cross the two Rail/Road linkspans each year at Wellington. More than 500,000 sea going passengers use the Wellington Rail/Road ferry terminal building facilities each year. Containers can be transhipped from Wellington to any rail/head in New Zealand within 24 hours. (Wellington Harbour Board, September 1975)



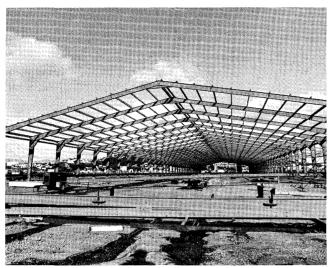
PORT OF WELLINGTON-RAIL TRANSFER CON-TAINER CRANE: The Rail Transfer Terminal Crane is used for lifting containers on to or off rail wagons

used for lifting containers on	to or off rail wagons.
Hoisting Capacity	- 32 ¹ / ₂ Tons - 33.02 Tonnes
Lifting Height	- 28 Feet - 8.8 Metres
Container Capacity	- Single Lift One 20/40 foot container with automatic telescopic spreader.
Hoisting Speed	
Full Container	- 60 ft/min - 19 M/min
Empty Container	- 90 ft/min - 27 M/min
Working Range	- 6 Rail tracks 700 feet in length - 213.4 Meters
Crane travel speed	-
over working range	- 250 ft/min - 75 M/min
Rail span Outreaches outside crane	- 78 Feet - 23.7 Metres
rails	- 25 Feet - 7.6 Metres
Horizontal overall length of structure	- 164 Feet - 49.9 Metres





Thorndon 2-berth container terminal (Port of Wellington-New Zealand)



Wellington, New Zealand, 17 June, 1975 (Wellington Harbour Board):--The 2 berth, 12 hectare Thorndon container terminal has fully integrated back-up facilities including sub-surface power points for refrigerated containers; container washing, dangerous goods and break bulk depots. Picture shows new break bulk depot under construction with gross floor area 9,451.32 m² or 231.65 \times 40.80 m.

Growth in container traffic

Penang (July 1975, Berita Pelabuhan, publication of the Penang Port Commission):-Container traffic through the Port of Penang showed a substantial growth in 1975 compared to 1974. The port handled a total of 2,994 containers for the 12 months in 1974 while it handled 3,099 containers for the first five months of 1975. The number of 40' containers handled has also increased. In May 1975 alone forty-three 40' containers were handled by the port.

This increase in container traffic is largely the result of improved facilities provided by the Commission and the introduction of scheduled container feeder services to the Port of Penang. In February 1975, M/s. Pelangi Trade & Transport Sdn. Berhad introduced a feeder service between Port Kelang and Penang with the 'Asean Pioneer'. In March, Oyama Line introduced the 'Henrich Jessen' and 'Emma Jessen' on a regular service between Hongkong, Singapore, Port Kelang and Penang. The latest arrival in June was the 'Maersk Mondo' operated by Maersk Line between Singapore, Port Kelang, Penang and Belawan. Conventional vessels also bring substantial container traffic.

The Commission's two newly acquired straddle carriers are now operational, handling both 20' and 40' containers. Two units of 40' trailers and two units of 20' trailers were also delivered recently. An area behind berths W4 and W5 which were reclaimed and surfaced recently are now used for the storage of containers. The Marshalling yard and the Container Freight Station are also nearing completion.

When fully developed by September 1975, the container handling facilities provided by the Commission at Butterworth Wharves will include:—

A Marshalling yard of 16.5 acres with storage space for 2,400 containers.

Two units straddle carriers for handling both 20' and 40' containers.

A Container Freight Station with storage area of 42,000 sq.ft. One mobile 30 ton crane.

Two units 20 ton prime mover with six 20' trailers.

One unit 40 ton prime mover with two 40' trailers.

3 units short masted forklift truck for stuffing and unstuffing containers.

3 units forklift truck for the Container Freight Station.

20 power points for refrigerated containers.

With the availability of all the facilities, the Commission will have the capacity to handle 57,500 containers a year A mobile crane with the capacity to lift 20' containers at 80 feet radius and capable of plumbing the hatch of vessels berthed alongside the wharves will be available by 1976.

The Port Commission will also be constructing at Butterworth Wharves a sixth berth which will be exclusively a container berth, as an extension of the existing berths. A gantry crane will be installed at the sixth berth.

Little ships with big hearts

Whangarei, New Zealand (Points North, Mid-Year 1975, published by The Northland Harbour Board, New Zealand):--Nuzzling with determination and precision at the flanks of huge supertankers at Marsden Point; squirting farewell plumes of spray from their fire nozzles as they watchfully escort big cruise liners from the Bay of Islands; tucking overseas freighters neatly into their berths at Whangarei; ready to speed out to sea on a short notice rescue mission to ships in trouble--these are but some of the duties of the Northland Harbour Board's fleet of tugs.

To some, tugs may lack the glamour of the ocean-going giants. To men of the sea, tugs have a glamour all their own. They are rugged, tough craft and they are essential; above all, they require a very special type of skill and knowledge in their handling.

Regarded as one of the most powerful tug combinations in the Southern Hemisphere, the NHB fleet is modern and versatile. It comprises the Parahaki (1500 hp), Raumanga (1500 hp), Herekino (2100 hp), Waitangi (1700 hp), Busby (300 hp) and Marsden (300 hp). In support, of course, is an assorted flotilla of line boats, launches and barges designed to handle specific tasks throughout the Board's widespread area.

The diesel-electric Parahaki and Raumanga were built to the specific requirements for ship handling at the Marsden Point refinery. Fire-fighting and salvage duties were also carefully considered in their design. Both vessels have particularly spacious wheelhouses with near all-round vision and topped by large tripodmounted fire-fighting positions. Bridge control of the machinery from any of four positions, coupled with a Kort nozzle rudder of exceptionally large design give a high degree of manoeuvrability.

Waitangi features the Voith Schneider Cycloidal propeller system first invented by on Austrian in the 1920's. The first experimental propeller was fitted in 1931 but it was still many years before the advantages were realised. Most importantly, these are all around control and rapid manoeuvrability.

With this propulsion system the tug-more correctly

Asia-Oceania



known as a Voith Water Tractor-does not have the usual rudder and propeller. Instead, a flat plate in the centre line known as the "skeg" serves to give directional stability of the thrust of water from the propeller and also acts as a form of water brake which, when at an angle to the flow of water, increases the tug's brute strength above that available from the propellers and engine when in a direct line with the towline. The propulsion units forward have five blades outside the hull and a shaped sole plate to force the water in a horizontal direction. Pitch control is so positive that a gentle strain can be taken up on a towline. Indeed, the water tractor can even be made to go directly sideways.

The dictionary definition of a tug is "a strongly built, heavily powered vessel for towing other vesels". Fair enough, as far as it goes. But it neglects to mention that without tugs and the skilled men that crew them, any harbour would be a shambles.

Year round tourist trade

Whangarei, New Zealand (Points North, Mid-Year 1975, published by The Northland Harbour Board, New Zealand):—No off-season in the Northland tourist trade? Ten years ago any thought of this seemed like dreaming an impossible dream.

But this year statistics show that the dream is becoming a reality. Not only are visitors coming to Northland in vastly increased numbers-they are coming the year round. Certainly, the greatest numbers still come in the traditional Christmas/New Year rush-but the peak season appears to be starting earlier and finishing later, and the former doldrum period between statutory and school holidays is less and less noticeable.

Between January 1st this year and December 31st, it is expected that 650,000 tourists will come to Northland, generating a minimum cash flow of \$14.5 million.

In the national tourist stakes, the region is attracting three times more (9.8%) of the total New Zealand tourist trade than the famous resort areas of Rotorua (3.2%) and Taupo (2.7%).

The run of extraordinarily fine summers has kept the summer influx on the up and up-but whether or not this continues is not a matter for concern, says Major A.J. Voss, chief executive officer of Northland Travel Promotion Inc.

"Nature has been on our side recently," says Major Voss. "But from now on we are not particularly worried about getting an increase in peak loading. What we are interested in is making maximum use of our facilities, by using them all the year round."

You can't say "Steel" without a smile.

Steel's usefulness adds to people's happiness and well-being. Nippon Steel has a two-fold involvement. First in making steel better and more plentiful. Then in seeing that it is put to most effective use. Nippon Steel is active in the areas of ocean development, in urban and regional development schemes, in transportation and distribution systems, environment technology and other projects of national importance. These endeavours are satisfying people's needs and contributing to social progress in many countries.

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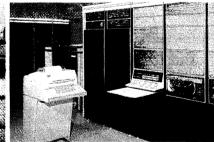
COMPUTER ROOM



OPERATION ROOM

GATE OFFICE





CENTRAL CONTROL UNIT



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