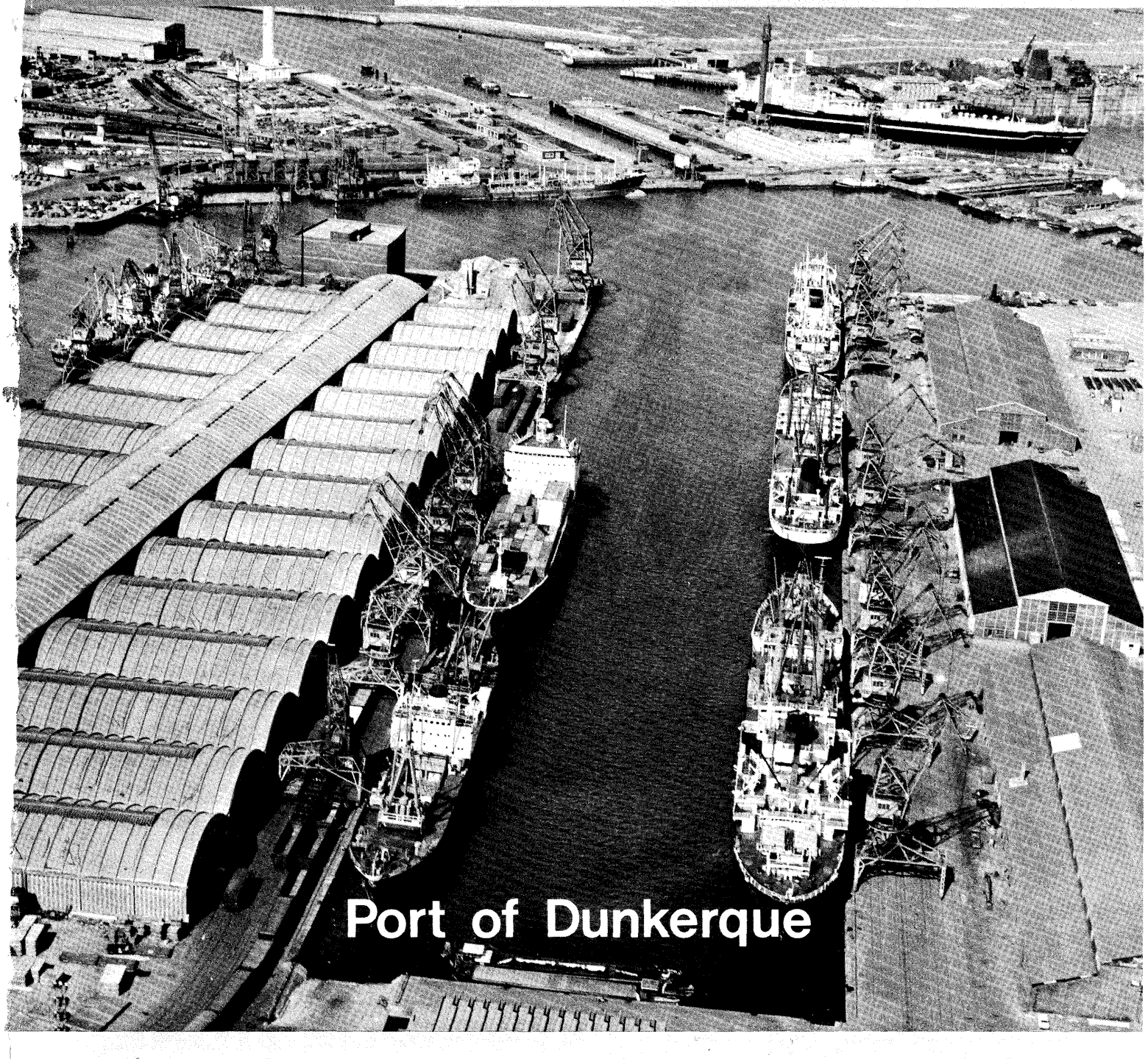
昭和44年11月15日第三種郵便物認可　昭和53年12月・昭和54年1月合併号　昭和53年12月20日発行　第23巻第12号-第24巻第1号(毎月1回20日発行)

PORTS and HARBORS

Dec. 1978-Jan. 1979 Vol. 23, No. 12-Vol. 24, No. 1



IAPH Conference Le Havre May 1979

The Publisher: The International Association of Ports and Harbors

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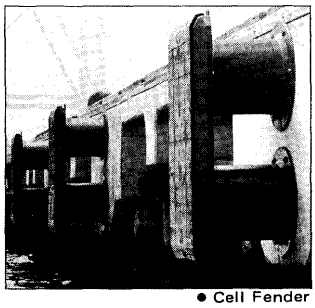

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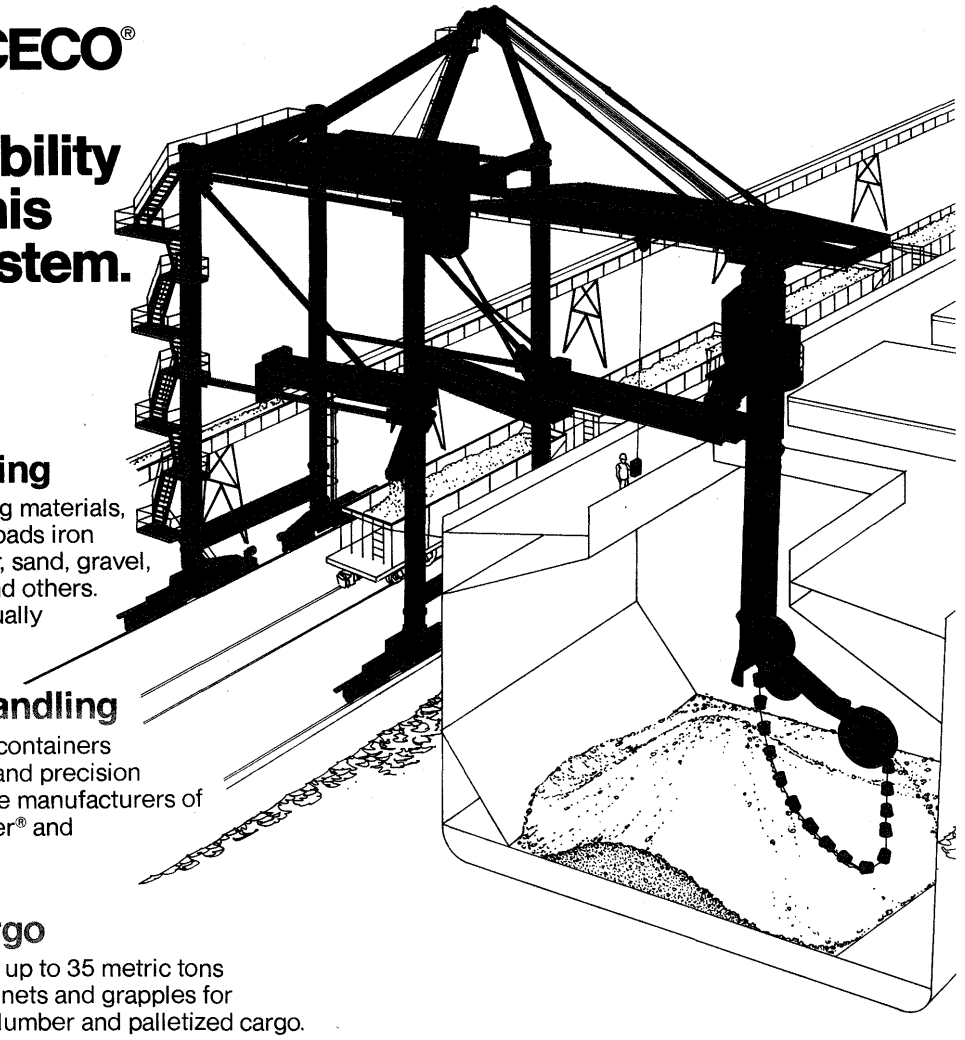

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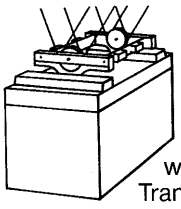

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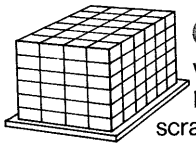

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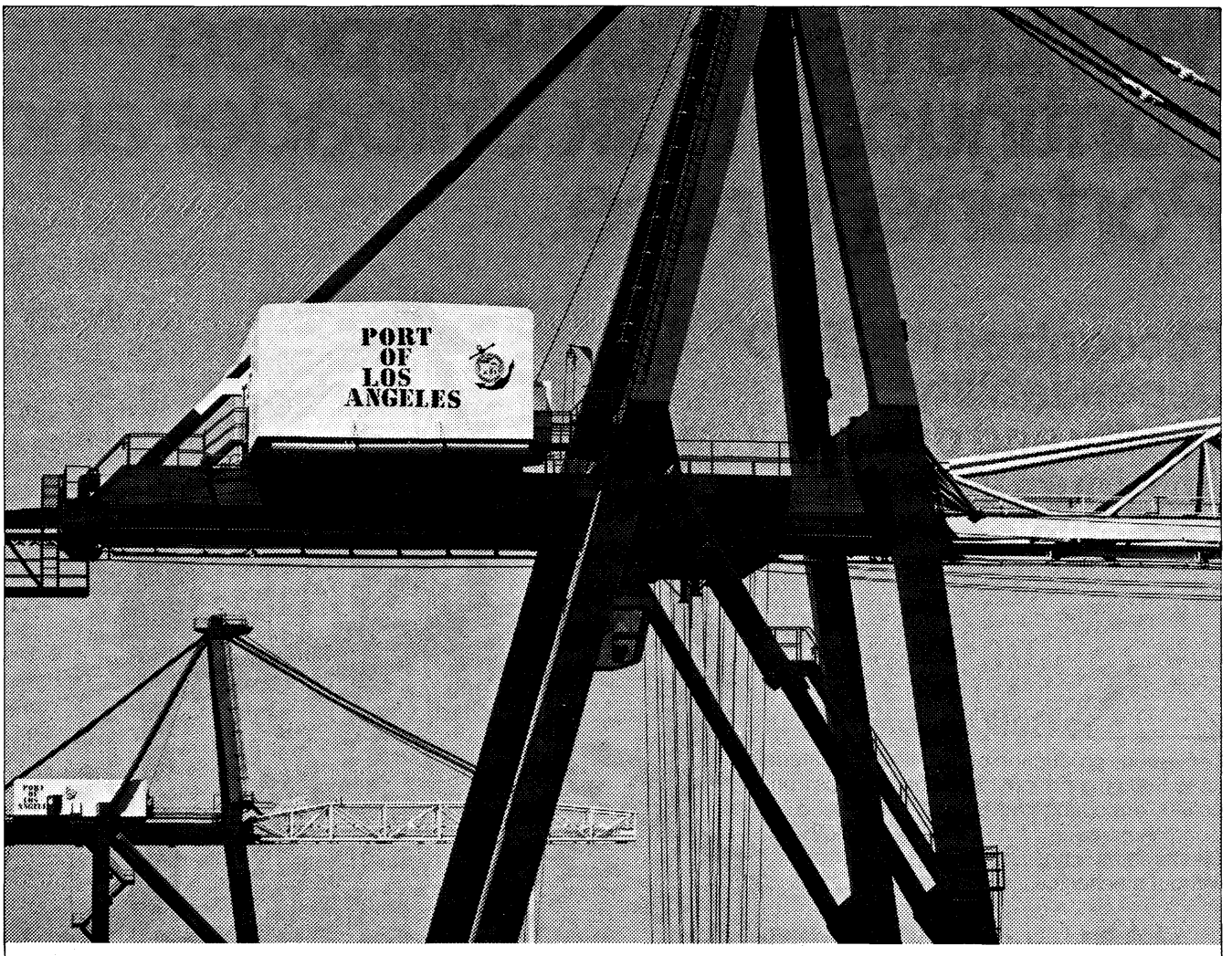


We're investing $1 million a week to stay No. 1 in the West.

Between now and 1982 Port of Los Angeles will invest $250 million to keep a firm grip on its position as the cargo capital of the West.

Thirty-two major projects will be undertaken to improve services and expand land resources.

The main channel will be deepened from 35 ft. to 45 ft. and widened to help provide smooth handling and safe navigation for the world's largest ships. The 16 million cubic yards of material dredged up from the bottom will be used with landfill and backland development to create 1000 additional acres of land in the Port's Outer Harbor and double its shiphandling capability.

Part of this increase will come from the new Seaside Container Terminal complex now being developed. With a 5000 ft. all-concrete wharf, six cranes and 135 acres of backland, it easily handles six containerships at berth and will be one of the largest and most efficient terminals in the world.

Whether the investment creates new services or improves existing ones, the Port's modern cargo handling methods — including 14 giant container cranes with total estimated lift capacity of 360 containers/hour — will reduce ship turnaround time.

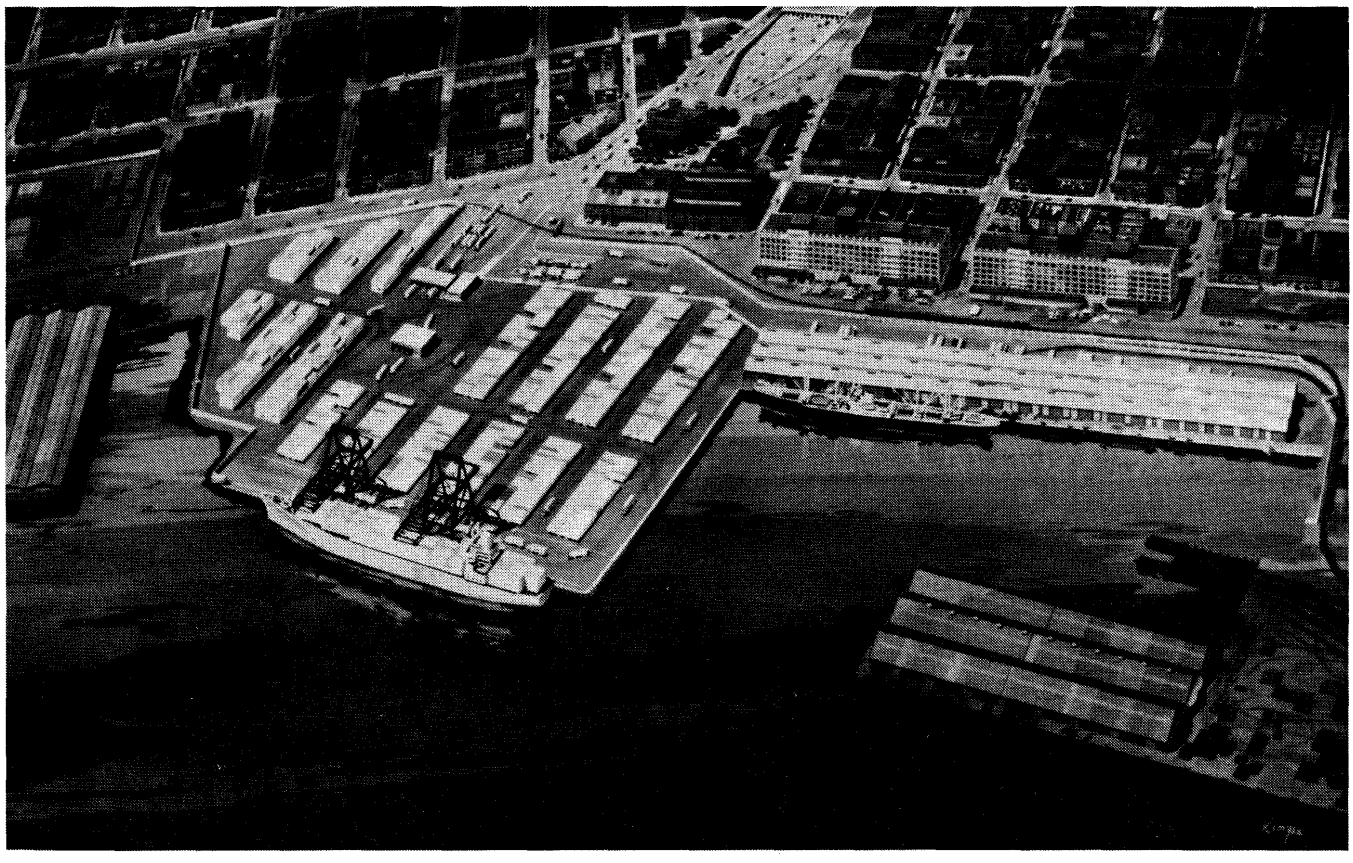
PORT OF LOS ANGELES

Katsuya Yokoyama
Far East Representative
Tel.(03)580-2697
Room 612, TBR Bldg., 10-2, Nagata-cho 2-chome, Chiyoda-ku, Tokyo100

The New Red Hook Container Terminal

Atlantic Basin-Brooklyn

Another major project undertaken for the Port of New York/New Jersey

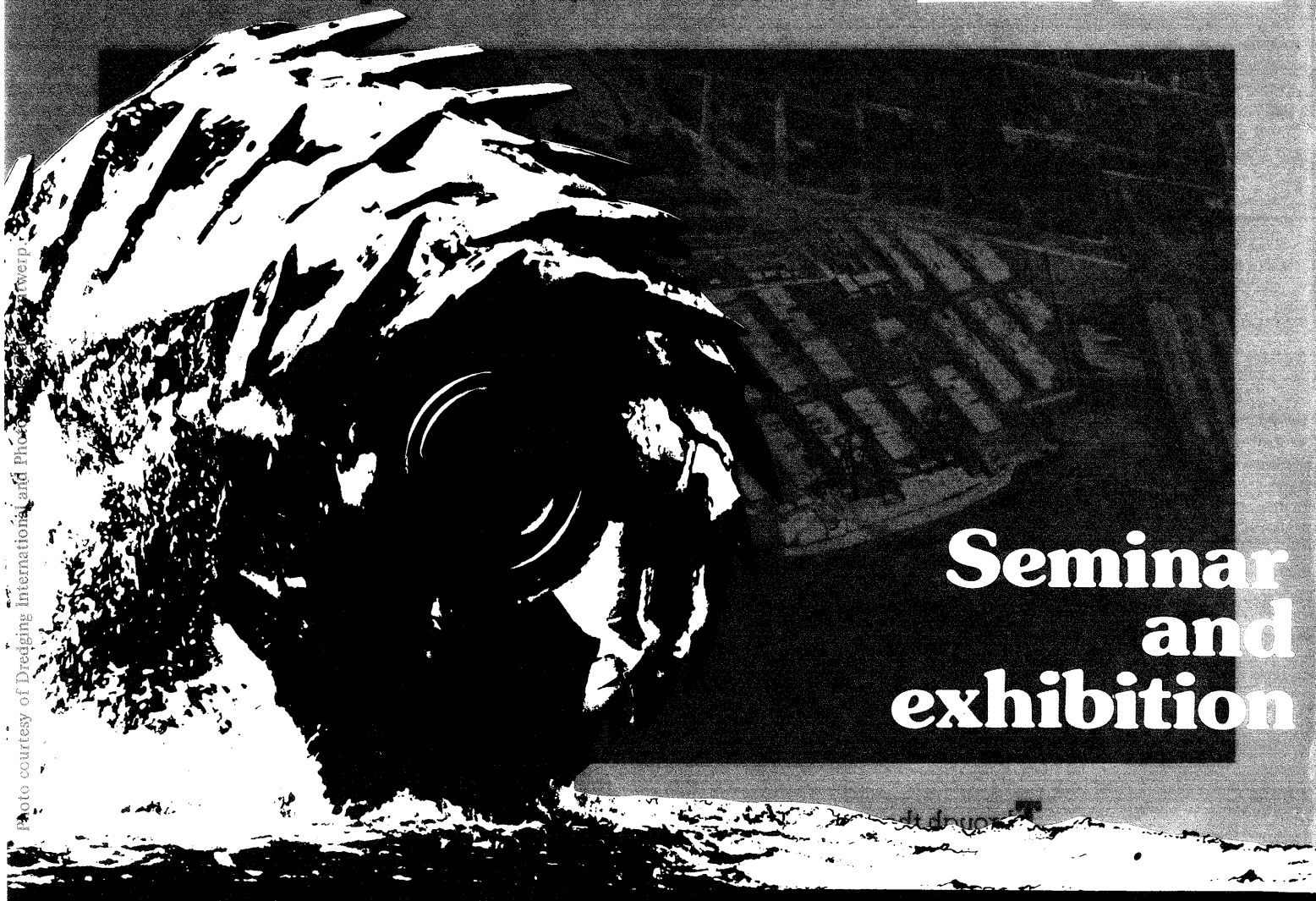


Through the combined efforts of the State of New York, the City of New York and the Port Authority of New York and New Jersey, construction has begun on the 1,000,000 ton capacity Red Hook Container Terminal. Designed with the newest container facilities available, it will provide over 1,200 new jobs, contributing $13 million to the Port economy.

THE PORT AUTHORITY OF NY & NJ
Marine Terminals Department

Seatec II

June 11~15, 1979
Singapore



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PORTS and HARBORS

Editor: Yoshio Hayashi

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

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Combined Dec 1978-Jan 1979
Vol. 23, No. 12—Vol. 24, No. 1

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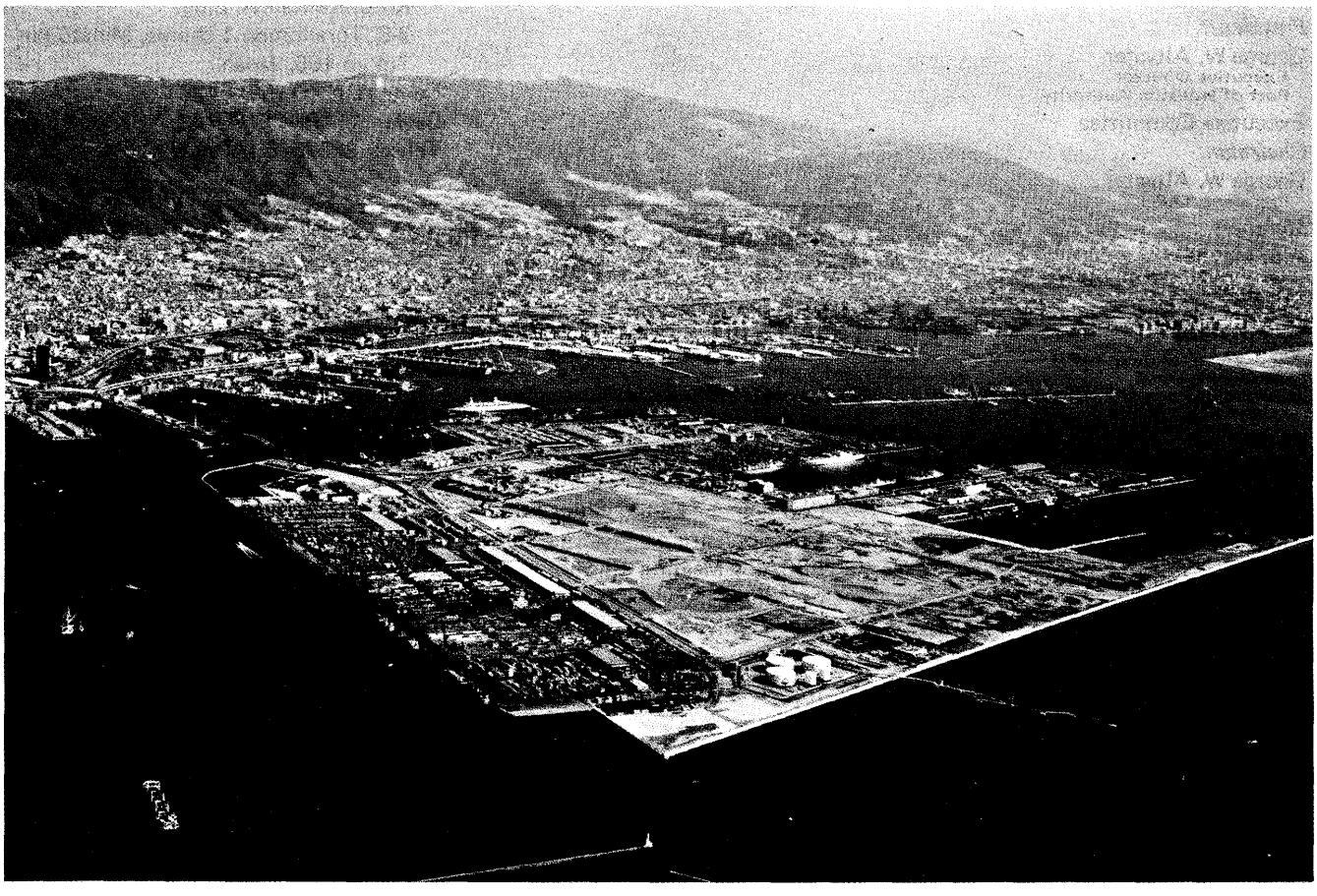
Port of Kobe



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PORTS and HARBORS

IAPH Head Office Announcements: Pages 7 ~ 25

11th Conference Registration Form circulated

Port Autonome du Havre, host of the 11th Conference circulated the registration forms to all IAPH members and other potential participants with a covering letter of Mr. J. Dubois, General Manager and the Conference Chairman under the date of October 1st, 1978.

All members are kindly requested to return the filled-in forms accompanied by the fees to the host "Port Autonome du Havre–B.P. 1413, 76067 Le Havre Cedex" France as soon as possible.

The fees of the relevant functions are as follows. (TKD)

1. Registration

	Alternative A including Versailles	Alternative B without Versailles
– Regular member	2,000 FF	1,500 FF
– Honorary member	1,500 FF	1,500 FF
– Founder honorary member	1,000 FF	1,000 FF
– Life supporting member	1,500 FF	1,500 FF
– Associate member (classe A to D)	2,500 FF	2,000 FF
– Associate member (classe E)	2,000 FF	1,500 FF
– Non member	3,000 FF	2,500 FF

2. Hotels

in Deauville for the conference period

	Single Room	Double Room
Hotel Normandy/Royal	180 FF	220 FF
Hotel Normandy/Royal (with sea view)*	210 FF	250 FF
Suite** (bedroom + drawing room)	430 FF	470 FF

Note:

* Bedrooms looking on to the sea being short in number, it is likely that applicants for these rooms may not all be given satisfaction.

** The number of suites available is short.

in Paris for the farewell party in the Château de Versailles

	Single Room	Double Room
Hotel Intercontinental	411FF	493FF
Hotel Meridien	340 FF	390 FF
Hotel Terminus St. Lazare or Lutetia	220 FF	260 FF

3. Restaurant

During the conference there are some non-organized meals (at delegate's own expense). The Normandy, and Royal Hotels as well as the Casino accept the reservation at a price of 90 FF (all-in price) for these meals.

4. Transportation

Transfer by car from airport to St. Lazare station in Paris . . . 250FF

Transfer by car from any Paris station to St. Lazare station . . . 180FF

Railway rates between Paris and Deauville are:

1st Class . . . . 82 FF

2nd Class. . . . 55 FF

5. Post Conference Tours

– Alternative I		
Vineyards and Gourmet Tour	1 pers.	2,385 FF
May 21st - 24th 1979	2 pers.	4,170 FF
– Alternative II		
Mont St. Michel and Châteaux de la Loire	1 pers.	1,150 FF
May 21st - 24th 1979	2 pers.	1,980 FF
– Alternative III		
Italy - Roma	1 pers.	2,230 FF
May 20th - 26th 1979	2 pers.	4,050 FF
– Alternative IV		
Gothenburg	1 pers.	1,170 FF
May 20th - 21st 1979	2 pers.	2,340 FF

IAPH Award Winners under Final Screening

The winners of US$500 cash plus invitation to the 11th Conference award in the IAPH Treatise Contest 1978 are now under the screening of a 5-man jury appointed by the Executive Committee on October 13th. The contestants subject to this screening totaled 29 on the closing date of September 30, participating from the following countries;

Nigeria (13), India (5), Kenya (3) and (one each from) Cameroon, Cyprus, El Salvador, Ghana, Haiti, Oman, New Zealand, Netherlands

The newly appointed judges for the job are:

Mr. Sven Ullman, Chairman of the International Port Development Committee;

Mr. Howe Yoon Chong, Chairman/General Manager, Port of Singapore Authority;

Mr. John Gituma, Managing Director, Kenya Ports Authority;

Mr. Keith Stuart, Director & General Manager, British Transport Docks Board;

Mr. Eric Willamson, Chief of the UNCTAD's Ports Section

The Committee on International Port Development expresses its appreciation and thanks to those who participated in the 1978 Award Scheme via this journal.

The names of the laureled will be announced in this journal as well, when they are announced by the panel. (TKD).

The Venue Is Le Havre —

Mr. Joël Le Theule

In 1955 at Los Angeles, the International Association of Ports and Harbors held its first conference, thus giving birth to an international organization which would be, from then on, an example by its way of working to all similar structures.

This Association has, since that date, held ten biennial conferences in the most outstanding ports throughout the world. Next May, after a well considered choice, the members of the International Association of Ports and Harbors have decided to reply favourably of the invitation of the Port Autonome du Havre.

We are very grateful to you, as your choice shows that for the last fifteen years the French Government's effort

Mr. George W. Altvater

As the time of the 11th Biennial Conference of IAPH draws near I would like to urge all of our members and interested friends to make plans to attend this valuable and exciting gathering of port people from throughout the maritime world. Those of you who have attended previous conferences are well aware of the benefits to be gained from meeting to discuss innovations, share solutions to problems, and develop strategies with which to face the challenge of rapidly changing port and shipping technology.

We in Houston had the pleasure of hosting the 1977 Conference which broke all attendance records and resulted in many concrete improvements in international understanding among ports. It was an honor and an experience

Mr. Jacques Dubois

At Houston in April 1977, you ratified the designation of the Port Autonome du Havre to organize the 11th Conference of the I.A.P.H. Allow me, first of all, to express my gratitude for the trust you put in me.

It will be at Deauville that we shall welcome you for a whole week from the 12th to the 19th of May 1979 and in Paris, or rather in the magnificent surroundings of the Château de Versailles that we shall part with an "au revoir".

Those of you who are already assiduous members of the I.A.P.H. will be pleased to meet your colleagues once more and thus renew acquaintance and friendship, essential elements of these conferences. Those of you to whom we have called upon even though you have not yet joined the

Let Us Be There May 12-19, 1979

has born its fruit. France possesses in Europe the most important seaboard, solidly established by the second and third place which the ports of Marseille and Le Havre occupy in the balance-sheet of European ports.

In a few months time, we really hope you will help us to beat a new record: that of the number of participants at an International Association of Ports and Harbors. I can assure you that the French Government, the whole of Normandie and the Port Autonome du Havre will be honoured by your visit, and we shall do our best to entertain you in the "real French way of life".

I am personally happy, in the name of the French Government, to wish long life to your Association, for a better international cooperation between our ports and for a greater future for the ports of the whole world.

Assuring you of my consideration at all times, I remain,
Yours truly,

Joël LE THEULE
Minister of Transport
Honorary President
11th IAPH Conference

---

which we will never forget. The 1979 Conference in Le Havre will, I'm sure, expand the accomplishments begun in Houston.

The business sessions to be held in Le Havre will be handled in a new fashion designed to ensure maximum delegate participation. All delegates will be divided into four or five groups which will hear committee reports and deliberations and then will report their views to the total Conference. This should provide a means for lively consideration of all matters to be discussed.

In addition, Mr. Dubois, as Conference Chairman, has planned an exciting program of fun and relaxation. It will afford us an opportunity to enjoy the French countryside with its particular grace, charm and beauty, with the added attraction of an overnight visit to Versailles.

As President of IAPH, I would like to extend a hearty invitation to all of our members and friends from throughout the world to attend the Conference in Le Havre. We look forward to seeing old and dear friends there and anticipate meeting many new ones.

G.W. ALTVATER
IAPH President

I.A.P.H. we hope to see you in large numbers. The work scheduled in the conference programme and the friendly atmosphere will make you want to become a member of the I.A.P.H. too.

To everyone, may we say we shall do our best to give you a pleasant welcome and the utmost for the conference to be an exchange of profitable ideas in a friendly and easy atmosphere.

Hoping to see you soon, please be assured of all our attention and consideration so as you may bring back the best possible souvenir of our "French Conference".

Please do not hesitate to write to us for all your personal problems, we shall do the maximum to help you the best we can.

Jacques DUBOIS
Conference Chairman
11th IAPH Conference

Mr. Ullman stresses International Port Cooperation at AAPA Bahama Conference

Mr. Sven Ullman, Chairman of Committee on International Port Development and General Manager of Port of Gothenburg, was a guest speaker at the International Luncheon held on September 27th, 1978 at Bahamas during the 67th Convention of the American Association of Port Authorities (AAPA).

In his speech on the subject of "International Port Cooperation", Mr. Ullman referred to this Association's Committee activities emphasizing the importance of the healthy operation of the Bursary Scheme.

"The world needs effective ports", Mr. Ullman remarked, "and an effective port needs trained staff." He further continued "I found as Chairman of the Committee on International Port Development that the training program for port officers is no doubt important to developing ports, but it might not mean much unless it's facilitated with appropriate financial support.

The available funds being limited, he concluded, he believed that they would have to be replenished by collecting voluntary contributions from member ports of industrial countries. He hoped that at the forthcoming conference in Deauville this matter would be properly treated and would win support from as many delegates as possible.

The full text of Mr. Ullman's speech is reproduced on page 15 of this issue. (TKD)

Large Ships Committee meets in Sydney in December

The last of the trio meetings of Special Committee on Large Ships chaired by Mr. F.L. Dixon, Jr. (EXXON Corporation, New York) will be called in December at the Hilton Hotel, Sydney, under the hostship of Mr. John Wallace, Vice-Chairman of the Committee and President of the Maritime Services Board of New South Wales.

The Committee first met in New York in September, 1977 and again in Glassgow in May, 1978 prior to the last now planned in Sydney on December 5, 6 and 7, 1978 in rotation among the three IAPH regions.

Chairman Dixon says that the work program of the last meeting is to finalize the committee report and guidelines for the 11th Conference. (TKD)

Questionnaire on Pressure Surge to IAPH Members

As reported in the January and March issues, IAPH has been working jointly with CEFIC (Federation of European Chemical Manufacturers Association), IACS (International Association of Classification Societies, ICS (International Chamber of Shipping), OCIMF (Oil Companies International Marine Forum) and related industries, being presented by Mr. A.J. Smith, IAPH Liaison Officer with IMCO.

It was expressed by the working group, according to Mr. Smith's report, that the enquiry on the pressure surge be circulated to members of each organizations in order to collect data from a wider range of industries concerned.

On November 13, 1978, Secretary-General circulated the questionnaire to all regular and associate members asking for their cooperation on the matter, setting the closing date on December 31, 1978. (rin)

IAPH sends Observer to ESCAP's Meeting on Shipping, Transport and Communication

ESCAP's Committee on Shipping, Transport and Communication will meet in Bangkok in November, 1978. IAPH is to be represented at the 2nd Session of it to be held over the period 14-22 November, 1978, by Mr. David Low, Second Secretary of Embassy of Singapore in Bangkok, through the good offices of Mr. Howe Yoon Chong, Chairman of Port of Singapore Authority.

The agenda to which Secretary General requested Mr. Low to pay a special attention at the session, will include among others, "review of developments in shipping, port and port management", "consideration of activities in the development of ports and port management" and "consideration of activities in inland water transport".

Mr. Low's report will be published in this journal in due course of the time. (TKD)

New Zealand welcomes IAPH Members in March, 1979

The Harbours Association of New Zealand will hold its 46th Annual Conference from the 14th to 16th March 1979 in Picton, New Zealand with the Marlborough Harbour Board as its host. All IAPH Members planning to visit that part of the world next year are cordially invited to attend the Conference, says the host.

Any member who may wish to attend the conference is requested to get in touch with the Chief Executive Officer, Harbours Association of New Zealand, P.O. Box 1765, Wellington, New Zealand. (TKD)

Port Administration and Finance Study Mission visited S. America

A five-men study mission headed by Mr. Hiroshi Kusaka, Director of the I.A.P.H. Foundation, visited Argentina, Brasil and Venezuela for five weeks during October and November. This mission was organized by the Foundation as one of its annual undertakings and intended to study about the present national system of port administration and finance, jointly with Overseas Coastal Area Development Institute of Japan.

The mission visited Administracion General de Puertos in Buenos Aires, Argentina, Portbrás in Brasilia, Brasil and Institute Nacional de Puertos in Caracas, Venezuela and was received by the respective administrators.

It also visited Ports of Buenos Aires and Bahia Blanca in Argentina, Ports of Rio de Janeiro, Santos, Belem and Manaus in Brasil, Ports of La Guiara and Puerto Cabello in Venezuela.

The Foundation had conducted in 1975 a similar study for European countries, U.K., France, Germany, Belgium, and the North America in Canada and United States, and published a 1700 page report in the Japanese language.

Dr. Sato, Executive Director of the Foundation expresses his thanks and appreciation to those port officers of the above said three countries for their assistance and cooperation given to the mission. (rin)

Dr. Sato awarded

Dr. Hajime Sato, Secretary-General of IAPH & President of the Japan Port and Harbour Association, was one of two recipients from the field of ports and harbours of Kotsu-Bunka Sho, a sort of Transport-Man of the Year award,

according to the announcement of Ministry of Transport of Japan, dated November 3, 1978. This award is given to those individuals who have contributed to the advancement of technologies and science relative to the transportation. (rin)

Visitors:

– On October 2, Mr. K. d'Angremond, Chief Engineer, Adriaan Volker Dredging International, Rotterdam visited the Head Office. Mr. d'Angremond, besides being in charge of maintenance, dredging and reclamation work in Rotterdam Harbour for many years, is teaching at the Delft Technological University on the construction of breakwaters. He is also known as the principal author of the report entitled "Assessement of Certain European Dredging Practices". While in Tokyo, he visited Mr. Hiroshi Suda, Director, Environmental Protection Division, Bureau of Ports and Harbors, Ministry of Transport, and the Reclamation and Dredging Association of Japan as well as the Port and Harbor Research Institute, Ministry of Transport seeking for the latest situation on the environmental protection in relation to the port development. Mr. d'Angremond was attending the Ocean Development Conference.

– On October 11, Mr. George W. Altvater, President of IAPH and the Executive Director, Port of Houston Authority visited Mr. Toru Akiyama, Secretary General Emeritus at the Head Office Dr. Hajime Sato having been absent. Mr. Altvater accompanied by Mrs. Altvater was in Tokyo as a member of the Port of Houston Trade Mission to Japan and the Far East and was en route to Sydney where he was attending the 26th Conference of the Association of Australia.

– On October 17, Mr. Kwan-Soo Lim, President, Korea Port & Harbour Association visited the Head Office. Mr. Lim, among others, conveyed the message from Mr. Kang, Chang Sung, Administrator of Korea Maritime and Port Administration to Dr. Sato assuring him that the Korean members are very much enthusiastic in the activities of IAPH and especially in the participation in the forthcoming IAPH Conference in Deauville, May, 1979.

– On October 26, Dr. F.A.F. Scheurleer, Managing Director, Rotterdam Municipal Port Management, City of Rotterdam visited the Head Office. Dr. Scheurleer, IAPH Director from the Netherlands was visiting Japan as a member of the Rotterdam Delegation consisting of 19 people including Governmental leaders, such as Mr. Andre van der Louw, Lord Mayor of Rotterdam as well as traders and businessman. The delegation's visit to Japan was projected on the occasion of the three sister ports seminar (Rotterdam-Seattle-Kobe) held in Kobe, under the hostship of City of Kobe.

– On October 30, Mr. D. Koludrovic, Chief, Staff Service for Shipping and Ports, ESCAP (Economic and Social Commission for Asia and the Pacific) accompanied by Mr. K. Enomoto, ESCAP's Senior Shipping Expert, visited Secretary General Sato. Mr. Koludrovic was in Tokyo attending the Seminar on Ship Management of ESCAP held from 24th to 30th October under the co-sponsorship of the Government of Japan.

– On October 30, Mr. Robin Crawshaw, Managing Director, Mr. Philip Forrest, Director, Business Department, Sharjah Port Authority, and Mr. Douglas Cullen, Manager, Sharjah Container Terminal visited the Head Office. The party disclosed the latest situation of development and tendency of containerization at their newly opened ports in United Arab Emirates.

– On October 30, Mr. Jan Jirblom, Director of Finance and Administration, Mr. Jan Lindgren, Manager of Container Operations, Mr. Gunnar Falk, Manager of Organization and Procedures, and Mr. Nils Birgrander, Engineer, of the Gothenburg Stevedoring Company visited the Head Office. The gentlemen from Gothenburg were visiting Japan to inspect the computerization program of container traffic control in major ports including the Tokyo International Container Terminal. They witnessed actual operations of the computer systems escorted by experts from Mitsui Engineering and Shipbuilding Co., Ltd. which manufactured it. They also observed the container berth operation at Port of Kobe through the good offices of Mr. Yukio Torii, Director General, Port and Harbor Bureau, City of Kobe.

–Maryland Port Administration, Baltimore, held a reception at the Tokyo American Club, Banquet Room, on Wednesday, November 8, 1978 six to eight p.m. to celebrate the tenth anniversary of the opening of the Tokyo Regional Trade Development Office where Mr. Gregory Halpin, Maryland Port Administrator and Mr. Edward G. Ryznar, Director of Trade Development were present along with Mr. Tadanobu Watanabe, Director, Far East Maryland Port Administration. As expected, the occasion was attended by a full-house of shipping executives and journalists.

Melbourne Port Renamed

The controlling body of the Port of Melbourne was renamed as of November 8, 1978, to "Port of Melbourne Authority" from Melbourne Harbor Trust Commissioners, which was formed by an Act of the Victorian State Parliament in 1977, according to a news release from PR Officer of the Port.

The major reason for the change of name is to more readily identify the responsibilities of the Authority in terms of its main function . . . management and operation of the Port of Melbourne, says the reporter.

It is reported in the news release that the Port of Melbourne Authority assumed all the responsibilities of the Melbourne Harbor Trust Commissioners and would consit of the same Board Members. (rin)

Port pricing—A philosophy for the future

**by G.W. Altvater, President
The International Association of
Ports and Harbors
Executive Director,
Port of Houston Authority**

An address to the 26th Conference of the Association of Australian Ports and Marine Authorities, Sydney, Australia October 16, 1978

Back in the 30's when I was attending college in Boston, Massachusetts, we had an old codger as an economic's professor and I will never forget his class. Some of his theories were quite far-out. Back in those days pump-priming by the Federal Government was frowned upon, whereas today it is an accepted principle in our nation; but he did manage to get across a few points that are still fresh in my mind.

Elementary as they may appear, he stressed that:

1. When expenses exceed income, your business is in a loss position.
2. When your expenses equal your income, you are a marginal operation, good if times are good, but certainly broke if times are bad, and
3. When your expenses are less than your income you have a profit—not an unholy, unsavory or unpalatable word.

One of the stories making the rounds in those days was about the two clothing merchants chatting over coffee in a restaurant in Times Square and one said to the other, "Harry, how can you continue to sell dresses for $8.95 when they are costing you $9.95? You are losing a dollar on every dress you sell." Harry replied, "That may be so, Moe, but look at the volume, look at the volume." I wonder sometimes if we are not in that posture in our port business. For the sake of the volume, we are forgetting the income side of the ledger.

Back then, we had not heard about television, jet planes, computers, LED calculators, and all of the other wonderful things of our present mechanical age, nor had our industry experienced just as recent as fifteen years ago words such as Containerization, LASH/Seabees, Roll-on/Roll-off, Mandated costs, Viable operating conditions, Environmental problems, Mini-Bridge rate structures and Regional Port Planning. All of these newer words and ideas and operating techniques have come about in my working lifetime, and it has been wonderful to see the changes that have occurred in recent years within our industry.

Until these new developments were thrust upon us, the only thing different from the days of Anthony and Cleopatra in the handling of cargo was the changeover from sail to steam which occurred in the middle 19th century. Thus, the qualifications for today's port administrator were probably best expressed by Harry Brockel, former port director in Milwaukee, who, in 1956, said the perfect port manager should have degrees in economics, law, civil engineering and mechanical engineering. This excellent foundation should be fortified by a CPA certificate and a thorough course in traffic management. With this academic background, our candidate should then plot his career. His working apprenticeship should include at least ten years with a steamship line in all departments and a similar hitch with a railroad. A few years of construction experience will be helpful and in his spare time he should perfect himself as a business analyst, a personnel man, a public relations expert and public speaker. After this, a few years in some governmental post is needed to acquaint our candidate with governmental gobbledegook in the particular ways of public bodies. He is now ready with these various backgrounds to run any port, large or small. There is only one drawback, our ideal port administrator is by now two hundred and forty years old and no port will hire him because his useful working years are numbered, as he is approaching pension age.

Yes, our responsibilities are becoming more complex each year, but at the same time we cannot afford to overlook the need to make a profit, an adequate profit to meet today's new demands for facility development. Dramatic technological improvements have been made in ocean transportation in both general and bulk cargoes in the past fifteen years. Each of these new developments has had a significant impact on transforming a highly labor-intensive port industry, characterized by low productivity and high operating cost, into a highly capital intensive, increasingly automated and more productive segment of the total ocean transportation system. U.S port management recognized clearly in the 60's that the efficiency of terminal facilities and cargo transfer methods must keep pace with vessel productivity increases if the full benefit of new high technology shipping in the form of reduced total system costs were to be realized. Thus, I thought we might take a look today at port pricing policies to learn and determine whether we are receiving an adequate return on our investment so that venture funds will be available for additional new port expansion.

Ten years ago and more, the usage charges sustaining our port structures were in a static state and had been so for several years. Moreover they were severely depressed! Unrealistically so. But no matter. Many ports' sacred mission was to attract ships and cargoes, induce industry, and generate jobs. The port public had the fruits of that mission as dividends from an investment in wharves and docks. Much of the Port Directors' charge, as operators, was to manage the public port plant at least so efficiently as not to add to the tax burden by creating operational deficits.

That was not a difficult management challenge in those simpler times, considering that the platform upon which our operations take place was being provided free. By that I mean depreciation often was not charged, maintenance was deferred more often than not, overhead was minimal, and debt service a continuing segment of the public investment. It would be accurate to say some concerned themselves very little with the plant proper, in a financial sense, and solely with the activities thereon and therein. The usage charges that sustained it were minimally fixed, and we managed as if there were no tomorrow.

All of this has changed radically in a very short space of time because of a series of forces that we all know about. I am going to recite these in no particular order because each has its own peculiar effect in the port world and all are important.

The impact of inflation has of course driven our construction costs up and our operating costs as well. The price index for industrial goods has risen almost 100 percent in the recent ten-year period; with the construction cost index up a like amount. We need more money just to stay even, but in a subtle way our capital base, historically the municipal bond type security, suffers from an inflation impact of its own. It is less appealing to purchasers because it is a long-term fixed income security in an era of diminishing dollar worth. This means to us a weakened ability to obtain capital funds from a traditional source.

The impact of social economics has diluted appropriations, our other major source of capital funds for port development because of a major shift in governmental philosophy at all levels. We see the human resource type demand for public funds consistently given first priority in the political arena, with our own classification, civil works, well down the list, although lately gaining a renewal of creditability as a job source, something we in the ports knew all along.

The impact of technological development has at the same time tumbled us into a capital intensive management climate, demanding increased investment on major scale during the very period of attrition of the traditional sources of funding that I have just mentioned. Intermodalism continues its gains, with our pivotal help and new means will continue to encourage international business.

The impact of environmental consciousness is a direct cost add-on, across the board, and I only wish that the inner glow of well being that we feel from our environmental contributions could be quantified in dollars because there is nothing else on the income side of the ledger that I can find.

The impact of specialization is, I suppose, a reflection of all of the other impacts. As we look about us today we have money experts, public relations experts, environmental experts and many other kinds of professionals necessary to us now, and they total up our overhead to a level far greater than that which we knew in the day of an elementary table of organization. As they say in industry, some of these jobs are a long way from the cash register and it is difficult to quantify return for the efforts.

The total of these various effects adds up to a pattern of fewer developmental dollars against substantially increased need for them, and they are forcing us, indeed have forced us, to take a first hard look at our prices and their collective ability to not only defray our costs but to create reserves for modernization and development. In many places these forces have widened the charge placed upon the seaport administrator to consider a rate of return on the public facilities investment, in addition to generating jobs and inducing industry and increasing the tax base thereby. This is not cast in the concrete of the port charter nor is it engraved upon formal board resolutions, but it is here and with us in many ways.

One of my fellow port managers put it this way in a port pricing discussion at the last convention of the American Association of Port Authorities (Mexico City, 1977):

"We analyze our costs very carefully. We use an industrial engineering approach to this initially, and then battle it out with our Finance Director to determine the appropriate assignment of overhead costs to each specific operation. We depreciate all of our investments according to standard accounting principles, and provide for debt service off the top. No element of cost is left unaccounted for in identifying our cost base . . . As a fundamental policy, we will not price any service below cost. We have no "loss leaders" . . .

"With our cost base well in mind, we then look to the right and left to see what our competitive pricing constraint may be. When these are identified, we compare with our cost base, and make quick decisions either to go along with the competition, or to price ourselves out of the market. We do not see ourselves as a benevolent organization, and will not artificially subsidize any class of traffic or service. In our view, this is the certain road to ruin for any enterprise, ports included.

In yet another part of our country a range of ports uses replacement cost in determining a target rate of return for its facilities, rather than historical cost, and it has been generally considered that 7 to 8 percent is a fair rate of return for a public marine terminal facility. While on the one hand no private business would attract investors at that rate, it is a large improvement, as an objective, over the 1-percent return rate shown by an AAPA survey of more than thirty ports just 10 years ago. I emphasize that these people are not receiving the 7 to 8 percent. They are working toward it.

These are the most advanced approaches that we have and I give them to you by way of illustrating the direction of the flow in the port pricing segment of management endeavor. Old timers and those not so old find them unbelievable, but a businessman would not. As I said, the port mission has broadened.

In my own port and indeed in my own coastal range we are not that far along but are moving steadily in the indicated direction. For example, we made one increase in our wharfage rate in the 1969/73 period, but have made an annual increase ever since. Our dockage charge has increased 100 percent over the 1968/77 period. We are working with other Gulf Coast ports on these rates in a form of self regulation permitted by our national shipping laws. It is an arrangement for discussing rates not unlike a steamship conference and it has been very effective on other coastlines. We have a keen interest in it as we have moved into a major program of revenue financing, that is, selling bond issues in which the revenues of the proposed facilities are pledged to the retirement of the issue. The buyer of this kind of bond expects that our rates, and charges will be realistically set on a cost-oriented basis rather than depressed for competitive inducement. A proper structure of port tariffs and a correct level of rates for port charges is therefore a crucial element of a port's financial situation.

I would like to emphasize that pricing in any enterprise has a marketing aspect as well, and you will recall how my fellow port manager "looked to the right and left" in building his cost-based pricing. We cannot forget the vulnerable position of the public port as it sits squarely between the prices of land transportation services and water transportation services. There have been times when one port parried against the other for small advantages at sometimes ridiculous levels. Haggling over a $100 wharfage charge for a locomotive shipped abroad under a total freight bill of $15,000, is one famous example.

In my opinion, the typical port usage charges such as dockage against the ship and wharfage against the cargo could be much higher in a marketing sense with very little effect upon the ship or the shipment. If we compare a three day dockage charge against a total voyage cost it becomes

miniscule. Again if we compare a wharfage charge with the total through-movement of an overseas shipment it again becomes miniscule. But when we deal in shipload quantitites of a low rated commodity, such as the sacked rice of my own region, then small differences in wharfage rates and handling charges must be multiplied by 10,000 and thus become meaningful. Shiploads of rice are very meaningful to some of our smaller Gulf ports and to the labor force of their communities. We see the real meaning of the modern port director's dilemma in that situation, and we also see the value of a collective approach protective to all and protective to each.

In a word, the public port industry has to present a united front in the marketing phase of its pricing. There never was anything wrong with good service fairly priced.

When I had the pleasure of speaking to this fine Association back in 1976 at your meeting in Melbourne, I had made reference to the growth in the world market. It seems I had mentioned something about world population by the year 2000 which could be as high as 6 billion people since we reached the level of 4 billion people back in 1970 and would be increasing at the rate of one billion people at least every ten years. The growth curve shows a 50 percent boom of trade development over the past ten years and higher ratios are projected. Presently, U.S. foreign trade amounts to over 800 million tons annually. Our maritime administration forecasts indicate this volume will increase to over 1.4 billion tons annually by the year 2000. There is more business for everyone now and in the future so that there is a good and increasing market for our services, thus permitting a more realistic pricing of those services in contrast to former days when some ports vied with one another to give away the store for small bits of scarce cargo.

All handling of cargo on the docks usually is charged to the shipper or consignee. It is my view such rates may vary considerably from one commodity to another because of the amount of work necessary to perform the service. Even though in our case the handling is performed by private car-loading firms, it is very important for the Port Management to have exact data about the actual cost for performing such service, so that rates published and assessed reflect a proper ratio to the actual cost, bearing in mind the competitive factors. The very technology that has brought the cost impact mentioned earlier is becoming a strong market factor and has also brought a certain stability. This has two facets:

In general a capital intensive shipping operation must make its port selections on a premise of ship deployment rather than a premise of comparative port usage charges. The difference is that between macro-economics and micro-economics. The range of competitive port usage charges does not have the breadth or the level to be a force in the port selection considerations of a major operator of container ships. Cost-based pricing of port usage is, of course, mandatory in high-technology shipping because of the cost impact previously noted.

On coastlines offering containerized cargo in great volume there is a range of lesser vessel operators more inclined to shop in terms of crane hire and accessorial charges, but by and large such charges are fairly priced by the ports and the real factors remain the volume of available cargo offerings and the operating efficiency of the facilities. It is a known fact ports located on major lanes of maritime traffic and ports with great opportunities for cargo offerings can have higher charges than where the reverse is true.

The second of the two facets involving pricing and high technology is one we might call volume pricing, or leasing. The container terminal used by a single large operator or by a consortium lends itself to lease arrangements of long term and this results in pricing by negotiation. When tariff rates figure at all under leasing arrangements they serve only as a means of determining maximum annual payments under the so-called "Mini-max" type lease.

Port developers who went into the original leases of this kind now regret that they did not build in a sharing feature after the maximum payment level is reached, because a raise in the usage charges on which the lease is based only causes the maximum to be reached sooner and does not result in added revenue at all.

The more typical U.S. port approach to leasing is a conventional arrangement involving a fixed annual payment which includes a fair rate of return on the land and its improvements based on a formula application adopted by the port.

The bright side provided by leasing is of course the long-term revenue commitment and the resulting ability to finance with the commitment in hand. The volume of container shipping has grown to the point where it is the major form of general cargo movement in most larger ports. There are some that contend containerization is carrying the deficit breakbulk operations being conducted on older, high-maintenance berths at still depressed tariff rates. While such rates have generally kept pace with cost curves, as noted previously, they were depressed when they started their climb, and in many instances they remain so. It will take doubling or tripling at some ports to make some port charges remunerative, however, this is not the case in Houston.

The answer is a pricing program that is objective, orderly, and organized. Its elements should be these:

1. Pricing should be collectively approached by the conference method. As practiced in the U.S., this is voluntary and a port may go its own way as it chooses, on a given item. The objective should be to elevate the entire structure of coastal rates.
2. Increase should be made at regularly fixed intervals, such as on an annual basis.
3. Increase should be of manageable size. The practice of delaying an increase until it is necessary to call for a sizable one creates shock situations in the trade and needless difficulty.
4. There should be ample notice of the increase.
5. There should be justification for the increase so that it can be defended on rational grounds as necessary.
6. There should be a mechanism for receiving and handling legitimate grievances.

Ranges of ports in the United States who have been operating their pricing on this basis report almost no difficulty in their trade relations. They also are the areas that have made the greatest progress in pricing approaching cost recovery.

In other areas where what we call the "fear effect" still haunts port directors, there is positive movement toward rational pricing and the early experience is good.

The broadened port mission is being accepted.

Improvements in vessel productivity will continue to be made and this will further stimulate the need for new or improved port terminal design and operation. Facility costs,

(Continued on next page bottom)

International Port Cooperation

By Sven Ullman

Chairman, Special Committee on International Port Development, IAPH
General Manager, Port of Gothenburg

(Speech given at the International Luncheon on Sep. 27, 1978 at Bahamas during the 67th Convention of the American Association of Port Authorities)

Ladies and Gentlemen:

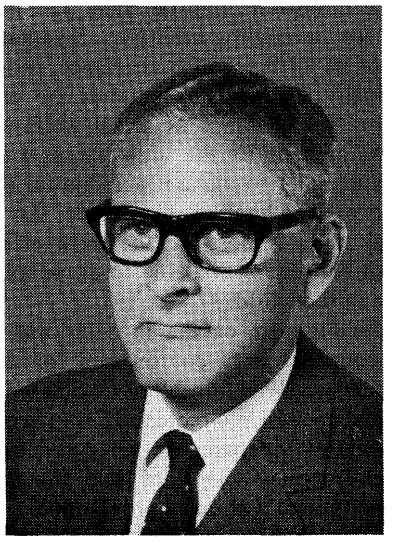
Let me first express my hearty thanks to your Association for the very kind invitation to come to this fantastic world of islands and to take part in this extremely important Conference—extremely important because it is a conference aiming at still better co-operation between ports.

May I also emphasize that I feel very much honoured to have the possibility to address this conference, and may I add that I look at my presence here as another example of international port co-operation.

A few words of general information as a background may possibly be useful.

Thus I should tell you that Sweden is a small nation, in the sense that the country has a comparatively small population—8 million people. U.K. for instance has a population of 56 million. With respect to surface area, Sweden, however is a rather large country with an area of 173,000 square miles, whereas the U.K. has a total area of 94,000 square miles, only half of Sweden's. Like the U.K. Sweden also has a very long coast-line, namely 11,800 miles, and consequently there are rather many ports.

The port industry is also particularly important, because 95% of the Swedish international trade is sea-borne and, which is also important, the export volume represents not less than 25% of the Swedish GNP. So from these few figures you can imagine that the nation is basicly dependent on its international trade and on its port industry to survive. Now, this is the current situation and that is possibly one of the reasons, why at this very moment I am standing here eye to eye with the entire port industry of the Western Hemisphere.



Mr. Sven Ullman

Some more points might be worth mentioning.

However, I am not going to say anything about the Vikings, who by some historical scientists are said to have been the first Europeans in America (in about 1000) long before Christopher Columbus. (Columbus reached the Bahama on the 12th October 1492.) No, I am not going to mention them, but I will point out the Swedish settlement in Delaware, which might be called a temporary Swedish colony. Delaware was colonized by Swedish people in 1638 under the name of New Sweden. But already in 1655—after 17 years—the Swedish colonists had to give up the colony to the Dutch West India Company.

I would also remind you of the fact that the island of St. Barthélemy, one of the Leeward Islands in the Lesser Antilles, was once a Swedish colony. The island was acquired from the French Government by the Swedish king Gustavus III in 1784 and was sold back to France in 1878 after a referendum, in which all citizens except one voted for reunion with France.

However, a much more important event in the common history of Sweden and the Americas is the period of emigration between the years 1850 and 1914. Not less than one million people emigrated from Sweden to North America during this period and these people represented as much as 25% of the total average population of the country. This loss of the most able and active part of the people was really a great tragedy in Swedish history, even if we have no difficulty in realising why those people left the country, namely in order to try and find a better life in the New World. In those days Sweden was a developing country.

However, the nation recovered and, again, one of the most effective means of recovery was of course the improvement of the international trade. And this leads us right up to 1978.

(Continued from page 14)

however, will rise due to continue high cost technology, inflation and mandated governmental requirements, and be accompanied by narrow financial margins for port bodies to absorb these increased costs. Increased port development funds from state and local governments to cover deficits that future facilities may incur will continue to be more difficult to obtain. This is because of the competition for limited local monies with other public priorities or the urban and state environment category and is likely to remain severe. Perhaps you might say we can learn, even today, from Mother Nature. Think, if you will, of the birds nesting in a tree. The parents are constantly feeding their fledglings to make them healthy and strong. One day, when the parents feel their children are strong enough to take their place in the world, the young birds are pushed out of the nest to fly or die. Will this be the situation in port development for the years to come? Has our industry been sufficiently "spoon fed" by the community to the point where now we must learn to fly on our own? Maybe so! In the future I feel public ports will be required to assume a more "pay as you go" position. They will depend more and more on the investment of port earnings for development purposes and the most efficient use of other financial resources. Depressed port usage charge over a period of time will have to become more remunerative to cover facility costs and increase revenues.

We know that a far too large part of the world is more or less suffering from lack of food, water and all sorts of necessary commodities,—the "developing countries". Very many of the industrial countries take part in the development of these developing countries. Sweden for instance spends 1% of its GNP for such assistance, roughly US$ 550 million annually. The assistance funds are of course used for education, for all kinds of social welfare programmes and for development of the industry, as I see it, among other things in order to make it possible for the developing countries to expand their foreign trade. An ever growing international trade is possibly the most effective way to create wealth or welfare available to all people and thus to secure peace in the world.

A considerable part of the international assistance to developing countries is of course used for the training of port staff members. We know all of us that well functioning ports is a fundamental pre-requisite for international trade, so we are certainly prepared to agree that this is a useful way to spend money. So does also the Swedish international development assistance programme.

In 1972 the Swedish International Development Authority, SIDA, started a co-operation with United Nations Conference on Trade and Development in Geneva, UNCTAD, with a view to running Senior Port Management Courses. The Port of Gothenburg has taken an active part in these UNCTAD/SIDA courses and I have the very great pleasure to have among the members of this Association some very good friends, whom I have met in connection with the courses.

My firm conviction is that this is a means of international co-operation which is very, very important. And this is not only because of the knowledge and experience acquired by people, who take part in the courses. Another and an even more important effect is that people from ports all over the world, from developing countries as well as from industrial countries, come together, exchange experience and views, and make friends. This has at least two spin-off effects.

The first one is that possibilities are created to co-ordinate port operation methods, and this goes for cargo handling in the ships as well as for all other kinds of activities within ports in connection with the ships' calls. Using similar cargo handling methods might seem simple from the point of view of the terminal operators of let us say the Port of New York or the Port of Rotterdam. But, unfortunately, even if universally practicable handling methods should form the basis for international shipping and trade, it is not as simple as that. I will come back to this point in a moment, but let me make quite clear that I know fairly well that we have still a very, very long way to go before international shipping and port industry is stream-lined so that the cargo flow and cargo handling are generally performed in an optimal way.

The other effect is of course an improvement of international understanding which is another necessary condition of the creation of a World of Peace.

Before I move to another area of international port co-operation, I think it could be worth-while to touch upon one sector of the international trade, which has been the subject for various international discussions and conferences during the last few years, namely shipping.

One inevitable consequence of recent development in the field of ports and shipping is an evergrowing role for governments. This is a controversial issue, and views vary considerably on the need for and the desirability of government involvement in the field of Ocean transportation. A more active role for governments is no doubt a fact we will have to live with, irrespective of whether we like it or not. But with the increasing number of states, and particularly of countries with state controlled economies, it is of the utmost importance to international trade and international transportation that government policies are co-ordinated and designed to recognize the undeniable fact that in international trade and international transportation there are always more than one government involved.

The Nordic countries have pursued a policy offering maximum freedom to commercial parties to solve their own problems. This should not be interpreted as a laissez faire policy, but rather as a deliberate government planning based on a confidence in the interest and capacity of commercial parties to solve their own problems in an orderly fashion. You will no doubt realize that our concept of transportation policy has clashed repeatedly with the strict government control particularly of liner shipping in the United States and the way in which United States authorities have sometimes implemented their own policy with little or no regard to the interests of other governments, but efforts are being made to bridge that gap and it would no doubt be beneficial to commerce if Western transport policies could be harmonized.

The United Nations' Code of Conduct for Liner Conferences is a more recent example of government involvement in Ocean transport policies. A convention was signed in Geneva in April 1974, and although it has not yet entered into force, it has already to a large extent affected liner policies throughout the world. The United States and my country were among the handful of states voting against the convention, while an overwhelming majority amounting to some 75 governments voted for it. Our main objection was based on the fact that the convention was linked with an artificial and government controlled principle of cargo sharing, giving ships from exporting and importing countries a right to share a majority of the trade between themselves, and leaving a smaller share to so called cross traders. The Scandinavian countries support the efforts to help developing countries build up strong economies and economic independence also in the field of transportation, but we cannot accept artificial cargo sharing, which will no doubt lead to a deteriorating service and to increased costs. Ports and shipping are servants to trade and should not accept systems which will create a cumbersome bureaucracy designating carriers and ports for each separate export parcel.

And now back to the ports' field.

I would like to use this occasion to express my respect to those people who in 1955 founded the IAPH. Those people were wise and far-seeing. It goes without saying that they understood the need for international co-operation. Two or three Swedish ports became members at a rather early stage, so I have been able to follow the development and the activities of the association for quite a long time.

Even if the association during the—maybe twenty or so—first years of its existence was somewhat hesitant in finding its right way, it is today an organisation full of life and activities and initiatives and I believe that it is correct to say that this change is to a considerable extent due to the important and interested work done by the late Mr. Lyle King.

In this connection I would like to mention another man,

who has done a lot of work and is still doing a lot of work for the benefit of IAPH, and that is Mr. Toru Akiyama, the well-known Secretary General Emeritus of IAPH.

I have already several times repeated, maybe boringly, the wording "international co-operation". But the reason is that this to me really means very much. Call it a philosophy or a confession, if you like, but my belief is that the way we have to go is towards more and more international co-operation, if we shall be able to create wealth and peace in our complicated world. And, of course, due to the nature and character of the port industry IAPH should have the most excellent possibilities to improve international co-operation—but again I know the difficulties, and they are many.

I just mentioned the desirability or rather necessity to bring about the use of similar and corresponding methods in all the ports of the world. This concerns of course in the first place the cargo handling methods, the way to load and discharge the ships. But the despatch of modern cargo liners designed for highly mechanized cargo handling demands port installations and mechanical handling equipment which are very, very expensive. There is also a need for a sophisticated terminal organization and terminal administration, a lot of labour training, technical maintenance etc., etc. which is complicated and expensive to achieve. But there are also other aspects which are of the greatest interest to the port owner: The safety of ships at berth, the protection of the environment, the treatment of dangerous cargo, legal problems which can arise between the port owner on the one side and the shipowner or cargo owner on the other. This list could be made much longer but I will just exemplify in this way to stress that there are lots of things in port business that must be standardized and internationalized in order to facilitate and improve international trade. This is the real field for the activities of IAPH and I doubt that there is any other body, national or international, which is able to deal with these matters and problems on an international basis. This is why IAPH is so important an organisation, a corner-stone in the general international co-operation system.

Since some years, IAPH has obtained a "consultative status" with the IMCO (Inter-Governmental Maritime Consultative Organisation). This is another essential point. If e.g. certain port regulations shall be internationally accepted and established, this must be made by a government supported international body and this one is IMCO. Consequently, an important co-operation is already going on between IAPH and IMCO—just at present there are e.g. activities going on in order to achieve international rules for the handling of dangerous cargo in ports. I will use this opportunity to stress the importance of the connection between IAPH and IMCO: it is a must that IAPH keeps its "consultative status" with IMCO.

International Port Development is one of the special activities run by IAPH, and certainly a very important one. Because of some vague reason I was appointed Chairman of the IAPH Special Committee on Port Development some years ago.

As you know, the aim of this committee is to try and find means to assist ports in developing countries to improve their capacity and productivity and so on, actually to reach the target I have just now mentioned.

As already has been said, various bodies and organisations do the same, for instance UNCTAD, the World Bank and so on. Those bodies are in some way or other connected to the governments, who form the UN, and accordingly they have financial resources given them by the governments. Mr. George Girard, Chairman of the Port Authority of St. Lucia, in his "Keynote speech" last Monday gave us an excellent description of how this co-operation works and which wonderful results it can achieve. However, it is necessary to remember that IAPH is an association of ports like the AAPA. Most ports of the world have to exist under the conditions of financial self-support and you know as well as I know that ports very seldom create large revenues. This financial situation is to a high degree applicable to most of the developing ports. Consequently the financial resources of IAPH are limited and consequently the resources of the Committee of International Port Development are also limited, not to say poor. And still the task is essential.

Now, what can the Committee do? I must admit that the results up to now are modest. But during the time I have been the chairman I have been still more convinced that one important way is just co-operation between developing ports and developed ports as well as co-operation between the developing ports themselves. A co-operation of this kind demands money, money to cover the cost of travelling and living in foreign countries.

In about 1975, IAPH introduced what is called the Bursary Scheme based upon a certain fund, which had been available because of some reason. The purpose of the Bursary Scheme is to make it possible for staff members of developing ports to be trained in developed ports or in various kinds of educational institutes. The available fund of the Bursary Scheme is very limited and will be spent within a short time. It has enabled only a few people to get the adequate training. And this at the same time as the need for training of port people in developing countries obviously is tremendous—not to say endless. You can always claim that various U.N. organisations, governments etc. supply means for educational purposes. However, such educational arrangements are always connected with a lot of bureaucracy and do obviously not suit what we are talking about now, i.e. training and education arranged in co-operation between ports. My experience as chairman of the IAPH Committee on International Port Development proved that the Bursary Scheme is of the greatest importance in the international co-operation between ports and that it could contribute very much to international understanding through training of people of developing ports in co-operation with people of developed ports. I am very much concerned about the fact that the Bursary Scheme fund will be finished within short and I am considering the idea to propose to the next International Conference of IAPH to build up another Bursary Fund through voluntary contributions. May I use this opportunity to ask for your support of this idea in order to construct another bridge between the north and the south to achieve peace in the world.

IMCO Reports by Mr. A.J. Smith

The reports on the meetings of the following five Committees and two International Conferences were sent to the Head Office from Mr. A.J. Smith, IAPH Liaison Officer with IMCO, who had covered those sessions.

1. *38th Session of the Maritime Safety Committee.*
2. *12th Session of the Facilitation Committee.*
3. *9th Session of the Marine Environment Protection Committee.*
4. *15th Session of the Committee on Technical Cooperation.*
5. *21st Session of the Sub-Committee on Safety of Navigation.*
6. *International Conference on Tanker Safety and Pollution Prevention, 1978.*
7. *International Conference on Training and Certification of Seafarers, 1978.*

Mr. A.J. Smith has also referred, in these reports, to areas of action which would be appropriate for IAPH to consider with a view to the formulation of an international port viewpoint. (D.S.G.)

1. Maritime Safety Committee

The 38th Session of the Maritime Safety Committee was held from 17–21 April 1978 and it is of interest to note that this was the first under the Assembly Resolution A315 which extended membership to all Members of IMCO, some 45 of which attended the Session.

There was no question, however, that the "Amoco Cadiz" disaster which happened off the coast of Brittany, France, on 16 March 1978, overshadowed the Committee's deliberations.

Proposals for action by IMCO circulated by the Government of France were given full consideration. Consequential decisions will entail detailed and urgent study by other IMCO Committees and Sub-Committees and it is to be hoped concerted action by Member States. Amongst the matters to be reviewed are problems related to failure in the steering system, propulsion and electrical power plant and means for improving the reliability of ship components, essential for adequate manoeverability of the ship in cases of emergency; the need for a mandatory system of reporting any failure of the steering, propulsion plant or electrical power generating system; a revision of the regime for rendering assistance; improvement of measures to deal with sub-standard ships; aspects of the question of "Flags of Convenience", in particular, the relationship between the master of the ship, shipowner and the maritime administration and the significance of having courts of enquiry in all shipping countries.

The Maritime Safety Committee always has a comprehensive work programme. It should, therefore, be appreciated that this Report must necessarily be selective of those issues which are considered to have a particular interest for the international port community. These included:–

Containers and Cargoes

The Secretariat has been asked to circulate a document to IMCO members containing agreed interpretations and recommended approaches to implementation of the International Convention for Safe Containers. IMCO has published the 1977 edition of the Code of Safe Practise for Bulk Cargoes and good progress has been made with the revision and expansion of the Code to include detailed information on hazards associated with the chemical properties of certain dry bulk cargoes.

As short guide to the essentials of safe packing of cargoes in freight containers will shortly be published by IMCO.

Carriage of Dangerous Goods

The Committee agreed that revision of Assembly Resolution A289 (VIII)–Recommendations on Safe Practice of Dangerous Goods in Ports and Harbours–was necessary and overdue and authorised the revision to be undertaken as a matter of urgency. All aspects of the carriage of dangerous goods are to be included in this work viz. the handling of dangerous goods in packaged and unitized form, solid dangerous materials carried in bulk and liquid dangerous substances carried in bulk. IAPH members will recall that the Association is closely identified with this work and will be represented at relevant meetings held under the auspices of IMCO.

Standards on Merchant Ships

Eight European administrations have agreed a Memorandum of understanding on the Maintenance of Standards on Merchant Ships to coordinate their activities in respect of the procedures for the control of ships with effect from 1 July 1978.

2. Facilitation Committee

IAPH through its Standing Committee on Trade Facilitation has a particular regard for the work of IMCO's Facilitation Committee, the 12th Session of which took place in London from 24 to 28 April 1978.

IMCO's facilitation activities merit wider attention and IAPH members should invite their respective States to advise them as to upcoming seminars, promotional literature and the availability of briefing programmes.

Documentation associated with the arrival, stay and departure of ships, persons and cargo were considered by the Committee as an ongoing exercise to which IAPH should give its full support. This support would be particularly beneficial in my view when the Committee is giving consideration in the near future to the use of electronic data processing (EDP) of shipping documents.

3. Marine Environment Protection Committee

The Ninth Session of the Marine Environment Protection Committee took place in London from 1 to 5 May 1978.

In a full Agenda were many matters of interest to port authorities including the outcome of the International Conference on Tanker Safety and Pollution Prevention 1978; the provision of reception facilities; technical assistance in the field of marine pollution with particular emphasis on the needs of developing countries; a comprehensive anti-pollution manual; the enforcement of the Convention requirements and identification of the sources of discharged oil; and the "Amoco Cadiz" disaster.

IAPH members will no doubt make their individual assessment of the importance to them of these matters. In

so doing it may be the case that additional and detailed information may be required. This will be provided on request. In briefly summarising the discussions however I have dwelt on particular issues which seem to me to have a particular significance for ports. Such as:

(i) The Outcome of the TSPP Conference

The detail of the conference has already been reported to IAPH members. The Conference Resolutions bear repeating however–

1. Target Date for the Entry into Force of the Protocol of 1978 Relating to the International Convention for the Prevention of Pollution from Ships, 1973.
2. Target Date for the Entry into Force of the Protocol of 1978 Relating to the International Convention for the Safety of Life at Sea, 1974
3. Future Developments aimed at Eliminating Pollution
4. Control Procedures for Existing Crude Oil Tankers of less than 40,000 tons deadweight
5. Further Developments of International Standards for Inert Gas Systems
6. Procedures for the Effective Enforcement of Conventions Relating to Safety of Life at Sea and the Prevention of Pollution from Ships.
7. Development of Guidelines for the Performance of In Port Inspections of the Result of Tank Cleaning by Means of Crude Oil Washing
8. Improvement of the Standards of Crews on Tankers
9. Protection of Particularly Sensitive Sea Areas
10. Development of Guidelines for the Performance of Statutory Surveys and Inspections, including Unscheduled Inspections and Mandatory Annual Surveys of Ships
11. Marine Safety Corps
12. Improved Steering Gear Standards
13. Carriage of Collision Avoidance Aids
14. Specification of Oil Tankers with Dedicated Clean Ballast Tanks
15. Specifications for the Design, Operation and Control of Crude Oil Washing Systems
16. Existing Tankers Engaged in Specific Trades
17. Protective Location of Ballast Tanks in Segregated Ballast Tankers
18. Possible Replacement of 'Deadweight' by Another Parameter in the Protocol of 1978 Relating to the International Convention for the Prevention of Pollution from Ships, 1973 and the International Convention for the Safety of Life at Sea, 1974 and its Protocol.

The importance of bringing the SOLAS and MARPOL Protocols into force as soon as possible is emphasised and work programmes of Sub-Committees have been adjusted to meet target dates. IAPH should consider their effect on members and prepare in particular, a port response dealing for example with the reception of sub-standard ships at ports.

(ii) Provision of Reception Facilities

Approval has been given to Guidelines on Means for Ensuring the Provision of Adequate Reception Facilities in Ports, Part IV–Garbage.

The appropriate Working Group has also completed its assigned task of developing Guidelines for Reception Facilities for Oily Wastes (Part I), Sewage (Part III).

(iii) Technical Assistance

Training courses and seminars have been developed by a number of Member States. IMCO itself is always ready and willing to arrange and conduct training programmes.

(iv) Comprehensive Anti-Pollution Manual

Section II of the Manual dealing with Contingency Planning has been adopted and will soon be published. Section III–Salvage and Section IV–Methods for Dealing with Oil Spillages are still under consideration. Section V which deals with Legal Aspects is not yet underway. IAPH however should examine and prepare a port viewpoint on the legal aspects of marine pollution and submit same for consideration by IMCO.

(v) "Amoco Cadiz"

It is a cliche to express the hope that out of bad will come good. The fact is however that a marked urgency is discernible in the delegations of Member States to come to grips with and overcome the problems isolated clearly by France relating to:

(1) Ship design and operation:
- Revision of traffic separation schemes
- Study of reliability of ship component and equipment
- Possible duplication of steering systems, propulsion and electric plant for ships of a certain tonnage carrying dangerous cargo
- Study of manoeuvrability of VLCCs

(2) Response to an accident:
- Review of Salvage regime
- Co-operation on combating pollution and anti-pollution measures
- Review of limits of liability

(3) Sub-standard ships
- Enforcement of conventions
- Training and qualification of crew

(4) Consideration of the flag of convenience phenomenon
- Relationship between the ship master, the shipowner and the Administration.

It is in my judgment essential that IAPH should also examine and assist in the solution of these same problems with similar urgency.

4. Committee on Technical Cooperation

At the 15th Session of the Committee on Technical Cooperation held in London on 18 and 19 May 1978 emphasis was placed on the very special regard held by IMCO's Member States for the work carried out under the aegis of the Committee.

All IMCO's projects are financed by voluntary contributions of Governments and it is heartening therefore, in this time of world economic crisis, to note that the number of projects continues to increase.

It is also evident that a projected Marine Safety Corps to be developed within the IMCO structure will play a notable part in due course in building up expertise in marine safety administration and in the avoidance of marine pollution.

5. Sub-Committee on Safety of Navigation

Ports have responsibility for and are concerned to ensure safe navigation in port waters and approaches for a number of reasons. It is pertinent therefore to question whether the views of Member States on the issues dealt with by the Sub-Committee on the Safety of Navigation have taken due account of "port opinion" as represented by IAPH members. In the absence of definitive policy statements by IAPH on emerging issues this is difficult to judge.

The 21st Session of the Sub-Committee was held in London from 31 July to 4 August 1978.

In the context of the 1972 Collision Regulations which are now enforceable the Sub-Committee said that it was essential for an Administration which had been made aware of infringements of the Regulations by a ship flying its flag to take action against those concerned. It was understood of course that Administrations would report contraventions in their respective areas by foreign registered vessels to the States concerned.

The Sub-Committee is expected to be asked to advise on signal requirements for ships carrying dangerous goods in port waters. IAPH will no doubt comment on this matter at the appropriate time on the basis of collated opinion which has clearly indicated the need for a signal to be displayed.

Within the broad heading of Ships' Routeing the Sub-Committee considered the need for a ship movement reporting system in the English Channel and its approaches. The Maritime Safety Committee had earlier expressed the opinion in principle that such a system should apply to large ships carrying oil or dangerous cargo. It was held however that recent shipping accidents indicated clearly that serious pollution did not arise solely from large ships. The United Kingdom and French Governments have therefore proposed that any reporting system should apply to loaded oil tankers, gas and chemical carriers of 1600 grt and over and also ships unable to navigate without constriant which could themselves pose a potential hazard. A draft Recommendation and related Rules are being prepared for consideration at the next session.

IAPH members should ask their respective Governments to supply them with copies of "Guidance on the Use of VHF at Sea" prepared by the Sub-Committee for circulation to Member States.

It is now extremely likely that two regionally harmonised buoyage systems will be established and in operation by 1986. The final time-table for the implementation of Systems A and B as they are styled will be agreed at an international conference to be convened by IALA probably in November 1980.

6. International Conference on Tanker Safety and Pollution Prevention, 1978

After a series of tanker accidents in United States' waters during the winter of 1976-77, the United States Government put forward a number of proposals for improving tanker safety and preventing pollution. These were discussed at a number of IMCO meetings which culminated in an International Conference on Tanker Safety and Pollution Prevention held in London from 6–17 February 1978. There were some 460 participants at the conference representative of 65 Member States and 17 international organisations including IAPH.

The main purpose of the Conference was to consider and adopt Legal Instruments relating to tanker safety and pollution prevention, to modify the Solas Convention 1974 and the international Convention for the Prevention of Pollution from Ships 1973 (Marpol Convention).

Legal Instruments

The Conference adopted the Protocol of 1978 Relating to the Solas Convention 1974 (SOLAS Protocol) and the Protocol of 1978 Relating to the Marpol Convention 1973 (MARPOL Protocol).

The SOLAS Protocol is an instrument legally separate from and independent of the SOLAS Convention, i.e. only States parties to the SOLAS Convention are entitled, but not obliged, to ratify the SOLAS Protocol. It may enter into force concurrently with the SOLAS Convention, or later, but not before.

The MARPOL Protocol is merged with the MARPOL Convention into one single instrument. The MARPOL Protocol is open to ratification by any State, which by so doing must give effect to both the MARPOL Convention and the MARPOL Protocol. The MARPOL Protocol will enter into force concurrently with the MARPOL Convention (although the formal entry into force of the MARPOL Convention as such will not take place).

Each Protocol consists of Articles and an Annex which, apart from contractual provisions, contains modifications and additions to the parent Convention.

Major modifications and additions to the SOLAS Convention included in the SOLAS Protocol are briefly summarized in the following paragraphs.

Inspection and Certification

The validity of the Cargo Ship Safety Construction Certificate is restricted to 5 years without the possibility of extension. Cargo ships are subject to periodical surveys at intervals not exceeding 5 years and, in addition, tankers of 10 years of age and over are subject to intermediate survey at least once between the periodical surveys.

In addition to the biennial survey for the issue of a Cargo Ship Safety Equipment Certificate as provided for in the SOLAS Convention, tankers of 10 years of age and over are required to undergo intermediate surveys at 9–15 months after the date of issue of the Certificate.

More detailed provisions have been included for the arrangements and procedures for surveys and the control of ships by Port States, such as the institution of unscheduled inspections, a clearer delineation of the authority Administrations may delegate to bodies to act on their behalf, actions to be taken when deficiencies are found and so on.

Steering Gear

All new and existing tankers of 10,000 tons gross tonnage and above must have two remote steering gear control systems, each operable separately from the navigating bridge. The main steering gear of new tankers of 10,000 tons gross tonnage must comprise two or more identical power units and be capable of operating the rudder while operating with one or more power units. These new tankers must also be fitted with an alarm on the navigating bridge in the event of failure, and an alternative power supply to be operated automatically within 45 seconds of such failure. For existing tankers these requirements must be implemented within two years after the date of entry into force of the Protocol (H + 2).

Radar and Collision Avoidance Aids

All ships of 10,000 tons gross tonnage and above must be fitted with at least two radars, each capable of being operated independently of the other.

Inert Gas Systems (IGS)

New and existing tankers must be fitted with an inert gas system as follows:–

(a) all new tankers of 20,000 tons deadweight (dwt) and above;
(b) all existing tankers of 70,000 dwt and above, as from "H + 2";
(c) all existing crude oil tankers between 20,000 and 70,000 dwt as from "H + 4"; except that tankers between 20,000 and 30,000 dwt not fitted with a high capacity tank washing machine may be exempt from this requirement; and
(d) all existing product carriers between 40,000 and 70,000 dwt as from "H + 4".

Inert gas systems are mandatory for all tankers operating with crude oil washing systems.

Major modifications and additions to Annex I of the MARPOL Convention included in the MARPOL Protocol are briefly summarized in the following paragraphs:

Inspection and Certification

The inspection, survey and certification requirements have been aligned with the SOLAS Protocol. In particular, no extension of the five year period of validity of the International Oil Pollution Prevention Certificate is permitted.

Segregated ballast tanks (SBT), clean ballast tanks (CBT) and crude oil washing (COW) and protective location of SBT

New and existing tankers must be provided with SBT, CBT and/or COW as follows:–

(a) (i) all new crude oil tankers of 20,000 dwt and above must be provided with SBT and COW;
(ii) all new product carriers of 30,000 dwt and above must be provided with SBT;
(iii) the segregated ballast tanks (SBT) must be located as to comply with the requirements to provide protection against oil outflow in case of collision or stranding;
(b) (i) all existing crude oil tankers of 40,000 dwt and above must, as from "H", be provided with SBT or CBT or COW;
(ii) all existing product carriers of 40,000 dwt and above must, as from "H", be provided with SBT or CBT;
(iii) the clean ballast tank (CBT) arrangement mentioned in paragraphs (b)(i) and (b)(ii) will be accepted during the following interim period:
(1) between "H" and "H + 2" for existing oil tankers of 70,000 dwt and above; and
(2) between "H" and "H + 4" for existing oil tankers between 40,000 and 70,000 dwt.

Existing oil tankers engaged in specific trades and those having special ballast arrangements are exempt from SBT, CBT or COW requirements.

Drainage and Discharge Arrangements

Requirements for improved stripping systems for new and existing oil tankers have been introduced to reduce the amount of oil remaining in the tank after discharge.

Both SOLAS and MARPOL Protocols define a "new oil tanker" as a tanker for the purposes of the implementation of the requirements for SBT, CBT, COW, IGS and steering gear built after the following dates:

– Contract: 1 June 1979
– Keel laying: 1 January 1980
– Delivery: 1 June 1982

except that the definition of "new ship" in Regulation 1(6) of Annex I of the MARPOL Convention remains unchanged for the application of SBT requirements to new oil tankers of 70,000 dwt and above.

With regard to existing oil tankers, the implementation date of the above mentioned requirements is based on the date of entry into force of the relevant Protocols. The Conference adopted, however, resolutions (Resolution 1 and 2) which recommend the following target dates of entry into force of the Protocols:

SOLAS Protocol	June 1979
MARPOL Protocol	June 1981

and the following dates for putting the requirements into effect:

SBT, CBT and COW	June 1981 (H);
IGS	June 1981 (H + 2); or June 1983 (H + 4) as appropriate (see paragraphs above);
Steering gear	June 1981 (H + 2)

7. International Conference on Training and Certification of Seafarers, 1978

General

It is an accepted fact that the majority of accidents at sea are the result of human error rather than mechanical break down or failures. It was therefore entirely appropriate that the largest ever IMCO Diplomatic Conference should be convened from 14 June to 7 July in London to deal with matters relating to the training and certification of seafarers. Some 540 persons attended the conference representative of 72 Member States and international organisations including IAPH.

At the conclusion of its deliberations, the Conference unanimously adopted the INTERNATIONAL CONVENTION ON STANDARDS OF TRAINING, CERTIFICATION AND WATCHKEEPING FOR SEAFARERS, 1978. This treaty, including its annex, and the resolutions of the Conference are summarized below and the attention of IAPH is directed specifically to the section headed "Control".

Articles of the Convention

Kindly make reference to the article "International Conference on Training and Certification of Seafarers" carried on the October 1978 issue of this journal.

Industrial Ports and Economic Transformations

Series No.8

By Paul Hanappe and Michel Savy

CHAPTER III

RECENT TRENDS IN PORT ECONOMICS (Part 3 & 4)

3.3. THE ORGANISATION OF TRANSPORT
- 3.3.1. Transport auxiliaries
- 3.3.2. Containerisation and barge-carrying vessels

3.3.2. Containerisation and barge-carrying vessels

Transport by containers has experienced a major expansion over the last ten years. Whilst often spoken of as a "revolution" it should be noted that the container is far from being an innovation. In 1928 at Rome, at the World Automobile Congress, it was proposed as a way of coordinating road and rail transport.

The true revolution has arisen from the massive use of containers in transport, a utilisation which has certainly been made possible by the standardisation of their dimensions, but, even more fundamentally, by the development of those patterns of internationalisation of the economy of which we have already spoken (increasing trading in finished and intermediate products between the industrial countries and, more recently, between the industrial countries and certain Third World countries).

Transport by containers was launched by American ship-owners (SEALAND) in about 1956 in the form of national coastal trading between the Atlantic coast and the Caribbean (Puerto Rico). This coastal trading aroused opposition from the dockers' unions and could not therefore expand. However at the same time Sealand and American Export Istbrandtsen Lines studied the possibility of using containers for intercontinental transport. The first links with Western Europe began in 1966 (Moore MacCormack Lines, US-Lines, Sealand, American Export Istbrandtsen Lines). At that time links with the Far East had already been inaugurated to meet the needs of the Vietnam War (Sealand links with Danang and Saigon).

Containerisation then extended, at various levels, to practically all the world shipping lines. First of all, and after the USA-Europe lines, it was extended to cover Europe-Japan, Europe-Australia, Japan-USA, Australia-USA, Japan-Australia and then Europe-Antilles, Europe-Western Mediterranean, Europe-South Africa, etc. It can be seen that links between the major sections of the capitalist industrial world were the first to be developed.

The extension of containerisation necessitated the building of a relatively expensive fleet of containerships, European and Japanese shipping lines reacting to American competition by the creation of consortiums (the main three in Europe being the Atlantic Container Line, the Dart Line, and Hapag-Lloyd).

Table 3.3. shows the national containership fleets in 1971.

TABLE 3.3.

NATIONAL FLEETS OF CONTAINERSHIPS
(VESSELS ACCEPTING MORE THAN 300 CONTAINERS OF 20 FEET AND ABOVE)

(1) Number of vessels
(2) Size in tdw
(3) Total capacity for 20-foot containers

COUNTRY	In service as at 1 January 1971			Under construction or on order as at 1 January 1971		
	(1)	(2)	(3)	(1)	(2)	(3)
1	2	3	4	5	6	7
United States	106	1,456,000	70,677	24	671,000	31,662
Great Britain	20	403,000	19,131	32	782,000	45,026
Japan	14	247,000	11,143	13	345,000	20,769
West Germany	9	151,000	7,894	17	300,000	18,597
Sweden	7	107,000	4,694	7	157,000	10,720
Belgium	7	131,000	3,568	7	–	–
France	3	64,000	3,424	5	87,000	4,718
Australia	5	84,000	3,245	2	40,200	2,225
Norway	4	112,000	2,100	3	70,000	4,716
Denmark	–	–	–	5	111,000	7,080
Liberia	–	–	–	6	128,000	6,354
Holland	1	17,500	966	3	101,000	6,189
Other countries	6	59,500	2,085	8	118,200	6,550
TOTAL	182	2,832,000	128,928	125	2,910,000	164,606

Source: From Containerships Register, 1971, in Ch. Verlaque, op. cit., p. 207.

However as a result of the intoxication of ship-owners with containerisation there was soon excess capacity on certain lines, resulting in a very severe struggle between shipping companies. According to Paul Mingret[1] in the case of traffic between Great Britain and the United States, the excess capacity in 1970 reached 150%. This gap between available capacity and effectively containerised freight can simply be explained by over-estimation of the growth of the traffic, a growth largely affected by the economic crisis but, certainly also partly by the over-estimates on the part of the ship-owners of freight which could be containerised in the immediate future together with the ability of ports to provide the technical resources needed to handle this type of traffic.

[1] MINGRET P.–op. cit. p. 473.

Nevertheless traffic in containers between the major ports has continued to increase in value and in percentage, if at a slightly slower rate during recent years (1973-1974) because of the general slowing down of port traffic due to the economic crisis.

Containerisation can be seen to be a system of high flexibility, allowing a high level of integration into the various methods of transport. Furthermore rationalisation of handling operations by sophisticated mechanisation makes it possible to effect major economies in transport costs. For this reason the system of transport by containers must expand; this may take place slowly or rapidly, but it is inevitable.

This will not take place without involving a certain number of changes at transport organisation level, changes which will be felt at the level of all industries linked with transport.

Firstly containerisation, at least in the form of door-to-door transport, leads to the avoidance of a number of technical, legislatory and commercial operations, operations which form the major part of the activities of transit agents. Avoidance, or at least the simplification, of these necessary operations is encouraging ship-owners to approach the loaders directly to obtain the maximum freight necessary for the profitability of their vessels. For this reason, as we saw in the previous section, the transit agents will be directly threatened if they do not diversify.

Furthermore the penetration of ship-owners into the field of land transport, which is already considerable, cannot fail to be accentuated because of the development of containerisation which involves considering transport not as a succession of distinct operations but rather as a chain which, logically, should be handled from the start to the end.

On the other hand the use of containers by small and medium sized companies has given rise to new functions, many industrial companies having only small batches to despatch, which do not make it possible to fill a container. In order to meet this problem certain companies now specialise in the "packing" and "unpacking" of containers. That means that the containers are loaded or unloaded at a centre where goods from different origins are assembled together or are redistributed. These centres may be located in various places and are situated either in the ports themselves (for example Antwerp or Rotterdam) or inland.

These inland bases, often created by road or rail transport companies but sometimes also, as in Great Britain, by ship-owners who are seeking to make their fleet of vessels and their stocks of containers more profitable, can offer a range of services. For export the "full containers" are centralised and sent to the ports of embarkation (groupage of containers). As far as the groupage goods are concerned these are inspected on arrival, palleted if necessary, and loaded into groupage containers. On importation the groupage containers are unloaded, the goods are inspected and cleared through customs at the site, then sent on to their final destination.

Parallel with the expansion of these centres there have developed companies leasing containers. In fact the purchase of a container represents a major investment, and industrial companies generally prefer to use leased containers, even if they have the resources to build up their own store.

Setting on one side the companies specialising in the leasing of containers (a practice which is tending to increase) there are many owners of containers: shipping lines, industrial companies, rail companies and road transport companies. Recently companies have begun to make savings according to the various formulae which seem to be most fiscally advantageous for this category of user.

The development of maritime traffic in containers necessitates vast storage areas, efficiently connected to the road and rail networks, together with large handling installations. It also increasingly involves recourse to data-processing, the management of container parks being a very complex operation.

In Europe there are so far no container terminals which are entirely automated, largely because of the size of the investments required. However their use is increasing to the extent that only a data-processing system can allow all the advantages to be obtained from containerisation. The Mitsui terminal in the port of Tokyo is the most sophisticated example of an automated system applied to the processing of containers.

All the handling operations are automated. The computer arranges the acceptance and departure of containers, their loading and unloading onto different systems of transport (vessels, trains or trucks). It determines the order in which all the operations should take place and the place where each container should be stored, both in the container park and in the vessel, so as to minimise handling.

The following diagram indicates the various operations carried out by the computer.

The development of containerisation is also accompanied by modifications in port geography.

The size of the necessary investments on the one hand, coupled with the need to limit as far as possible the ports of call so as to make containerships profitable, have contributed to reinforcing the movement towards port concentration which began at the end of the Second World War, for reasons which we have already pointed out. The major demands on space have operated against certain European ports, particularly London. However it is more the dynamism of the port organisations and the policies of maritime conferences than technical problems which have contributed towards establishing container traffic in certain ports rather than others.

According to Christian VERLAQUE[1] the traffic in Western Europe is concentrated in the following ports: Göteborg for Scandinavia, which has taken traffic extensively from Oslo, Stockholm and even Copenhagen; Bremen-Bremerhaven and Hamburg for Germany; Rotter-

[1] Ch. Verlaque, op. cit. p. 196.

dam and Antwerp for the Benelux countries; Le Havre and Fos for France; Felixstowe and Southampton and London, when the new port at Maplin is built, for Great Britain; and Tokyo and Kobe-Osaka for Japan.

The concentration of container traffic in a reduced number of ports has important consequences on the ranking of ports, which may undergo major modifications. For example in 1974 the Japanese port of Kobe was ranked below Rotterdam for total goods traffic, whereas it is ahead of the others for containerised traffic; Tokyo and Oakland have replaced Yokohama and Chiba (cf. figure 3.3.).

Although transport by containers still presents some problems, and arouses the opposition of certain groups of workers (in particular the dockers, who are most directly threatened and who see an increasingly important part of their traffic escaping from them), it represents such progress at the level of ship turn-round and presents such economic advantages that its growth seems to be inevitable.

Barge-carrying vessels

This system, which is derived to a certain extent from containerships, arose like the latter in the United States in 1969 under the joint initiative of the army and the American paper industry.

The American paper industry, and in particular the International Paper Company, saw in the barge-carrying system the most effective means of reducing transport costs for papermaking pulp and cellulose between plants located in the Mississippi valley and European mills located in the Rhine Valley (Cologne and Mannheim), and were the first to use the system, to the launching of which it had largely contributed.

The first crossing between the United States and Europe took place in November-December 1969 on a vessel chartered by the Central Gulf Steamship Company on behalf of the International Paper Company.

Barge-carrying vessels represent a true technical revolution. They make it possible to transport goods from point to point without any trans-shipment.

There are two types of barge-carrying vessels, corresponding to the two different systems; the Lash system, which was the first to appear, and the Seabee system.

The barge-carrying system involves embarking already-loaded river barges onto the vessel at the maritime port itself, or at a river port. The vessels are equipped to carry out loading and re-launching of the barges themselves, either using a mobile gantry (Lash) or a lift (Seabee). For this reason the operations of loading and unloading the vessel do not involve any recourse to handling installations in the port.

Since the Lash system is of a modular type it necessitates the use of standardised barges, whereas the Seabee system accepts barges of various sizes. Both systems have also been designed so that they can accept containers.

Barges of the Lash type are 19 metres long and 9.5 m. wide. The Seabee barges are larger, being 29.7 metres long and 10.6 m wide. The vessels used have a deadweight of 43,000–44,000 tons and draw 11–13 metres of water.

The cost of building such vessels is very high. In 1972 a vessel of the Lash type, fitted with three sets of barges, represented a total capital investment of $ 35 millions ($ 30 m for the vessel, $ 5 m for the barges, which practically all belong to the shipping lines). It should be noted that subsidies granted by the American Federal Government to ship-owners for the construction of these vessels cover about 43% of the total investment costs[1].

[1] the barge-carrying vessels are designed to transport combattants, with all their equipment, weapons and fuel, in the event of a war.

Because of the size of the capital investments involved this type of vessel cannot be used for all types of freight, nor can it serve all ports.

Bulk traffic, of fairly low unit value, cannot justify the use of this system of transport. For example for the same deadweight the price of an ordinary bulk carrier is about a third of that of a Seabee barge-carrier. Barge-carrying vessels are therefore used solely for the transport of general goods, in the same way as the containerships. Whilst papermaking pulp and cellulose originally formed the main freight the system has rapidly been extended to other goods: automobiles, machine tools, cotton bales, chemical or food products. There is even the case of an American wine company (Wiederkehr Income) which exports wine in tanker-barges! However papermaking pulp, cellulose and, increasingly, chemical products, constitute the freight which is most extensively transported by this system. At the present time research is in hand on the costruction of special barges, better suited for the transport of certain chemical products.

TABLE 3.4.: STATE OF THE BARGE-CARRYING FLEET IN 1972

Type of barge-carrier and ship-owner	In service				On order			
	Number of vessels	Size tdw	Number of barges	Equivalent in 20-foot containers	Number	Size tdw	Number of barges	Equivalent in 20-foot containers
1	2	3	4	5	6	7	8	9
Seabee type (850 t. barges)								
Lykes Bros. Steamship Company	1	27,050	38	1,478	2	54,100	76	2,956
Lash type (375 t. barges)	(12)	(406,704)	(780)	(16,200)	(12)	(436,353)	(975)	(18,960)
Central Gulf	2	86,000	146	3,300	3	117,000	222	5,240
Combi Line	2	86,000	146	3,300				
Pacific Far East Line	5	147,315	305	6,000	1	29,463	61	1,200
Prudential Grace Line	3	88,389	183	3,600	2	58,926	122	2,400
Delta Steamship Line					3	117,000	222	5,240
Waterman Steamship Corp.					3	117,000	222	5,240
TOTAL	13	433,754	818	17,678	14	490,493	1,051	21,916

Source: Association of Shipping Consultants. "Containerships Register, 1972-1973", London.
in Mingret, op. cit. p. 517

Geographically the barge-carrying system is mainly of interest to ports in the Gulf of Mexico, principally New Orleans which is situated at the mouth of the Mississippi, and European ports from Le Havre to Hamburg, in particular those located at the mouths of the Seine, Rhine and Elbe. Certain British ports and ports of the Mediterranean are also used by barge-carrying vessels, but visiting them presents numerous disadvantages and does not make it possible to ensure adequate profitability for the vessel. The Prudential Grace Lines, an American shipping line, which attempted to start up a regular service of barge-carrying vessels in the Eastern Mediterranean basin, had to give this up after a series of setbacks. The use of such a system necessitates the existence of an industrial fabric capable of producing a regular flow of traffic, if it is to be profitable.

The industrial development and type of production in the Mediterranean countries are unable to give rise to regular traffic in general goods. Furthermore the absence of major rivers which can easily be navigated inland, coupled with the need for the vessel to serve all the ports as a result of the lack of waterway links between them, easily explains why a regular service to the Mediterranean ports could not be profitable.

Barge-carrying transport has however been able to take an important place between the southern United States and North-Western Europe because these are two powerful economic areas capable of ensuring major trading flows, favoured by the presence in Europe of many subsidiaries of American multinational companies having privileged relationships with their parent company within the framework of complementary production.

On 1 January 1972 the fleet of barge-carrying vessels was made up as shown in table 3.4.

In the same year (1972) the seven barge-carrying vessels in service between the USA and Europe carried 4 million tonnes of goods.

However this transport system, which should allow door-to-door service, still does not operate perfectly, the penetration of the barges inland by way of the European navigable waterways raising many technical and legal problems.

Firstly waterway links in Europe are not always very easy. Many canals and the engineering works on them have not yet been adapted to the European gauge, and are not suited to navigation by large pusher convoys. In addition the technique of pushing is much newer than in the United States, and a major part of the goods is still handled by the traditional barge system. Furthermore on the Rhine, the most important inland waterway, many of the pusher convoys are chartered by groups of iron and steel companies so that the routes are often outside the normal chartering circuits.

The ports served are also frequently private ports (belonging to companies); integration of the barges into convoys is impossible under such conditions. Again in the case of the Rhine a major technical problem sometimes arises when the latter cannot provide the necessary depth of water. In such cases the barges cannot be loaded to their maximum capacity.

All these factors make it possible to understand why barges are still largely loaded and unloaded in the maritime ports, the system not yet operating very well on the European coast.

By contrast the system operates reasonably well on the American coast. The existence of the Intercoastal Waterway, which allows easy links between the ports on the Gulf of Mexico, has made it possible to concentrate the traffic on the single port of New Orleans. Furthermore the Mississippi is very suitable for large pusher convoys, this technique having been developed over a longer period in the United States.

As in the case of containerisation the development of the barge-carrier system has met with opposition from certain groups of workers. We have seen how the objective pursued by containerisation was a reduction in the time spent in port as a result of highly sophisticated mechanisation of trans-shipment operations. Whilst the consequences of this mechanisation on the work of dockers is obvious containerisation does not, however, bring into question the port function since it will always be necessary to break down the loads and to trans-ship them, using quays and handling equipment.

By contrast the transformation which is brought about by the use of barge-carrier vessels is of a totally different type, since this system is in fact a negation of port function, the port now appearing as a useless intermediary. Generalisation of this system would bring into question not only the organisation of maritime transport of general goods but also the organisation of land transport. For this reason the use of this system in the United States has not only aroused the opposition of the dockers but also that of the rail companies who see an increasing part of land traffic escaping from them because of the success of this type of transport.

The barge-carrier system affects the dockers from two points of view. If loading and unloading of a vessel escapes from them, since the latter are equiped to carry out the operations themselves, at the same time a large part of the trans-shipment of the barges also escapes from them. In practice, and because of the very high cost of the equipment used, shipping lines entrust such operations to their own specialists. When trans-shipment takes place at the factory the ship-owners send a specialist to supervise loading before departure.

As we have already emphasised the development of this new transport technique has not taken place without posing problems and upsetting existing situations. However it is very probable that the technical problems will be solved in the near or more distant future, and transport by barge-carrier vessels will offer major advantages for certain types of traffic, particularly at an economic level. According to P. Mingret[1] the cost of trans-shipment in the case of the barge-carrying vessel is reduced to 0.9 FF per tonne, whereas it reaches 13.5 FF per tonne for a container and 50–68 FF per tonne for conventional traffic.

The First Banker

Early in man's history, he learned to specialise. A man that did his best work with a hammer became a carpenter. The one that grew the biggest vegetables became a farmer. And goods and services were traded.

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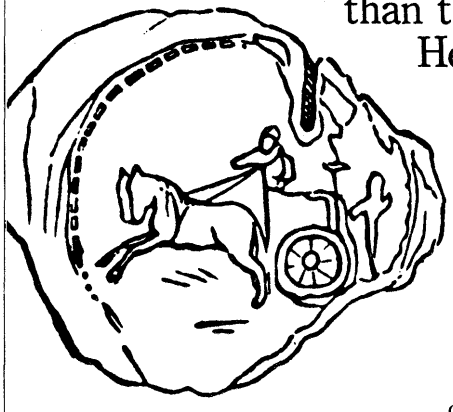

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Orbiter Probe

Business needs leadership, not regulation

26th ICC Congress:—"Deregulation" emerges as a leitmotiv of businessmen's preoccupations after five days of sessions at the 26th Congress of the International Chamber of Commerce here in Orlando, Walt Disney World resort. Deregulation, but at the same time the need for clearer and more determined leadership, both in government and business enterprise.

The assessment of the present situation made both by the rapporteurs and Congress participants leaves no doubt as to the fact that government regulation in most countries and internationally has now reached a level beyond which business operation could hardly still be described as free enterprise.

Internationally, the question of deregulation takes on the double aspect of tariffs and non-tariff barriers.

A special session of the ICC's Commission on International Trade Policy and Trade Relations Matters resulted in a statement being sent to GATT, in which the ICC, while taking note "of the framework of understanding in those negotiations", nevertheless notes that these developments, in its view, "have not yet created enough confidence and certainty in the resolution and ability of Governments to create the conditions for continued expansion of world trade in an open market trading system."

(Statement by the ICC on the Tokyo Round Negotiations adopted by the Commission on International Trade Policy and Trade-Related Matters on 2 October 1978 for submission to GATT)

The ICC is greatly concerned about the increase in protectionist practices and sentiment in many countries in the world, including some of the major trading countries. The ICC. has noted that both the OECD Council at its meeting in Paris on 14-15 June and the meeting of Heads of Governments of some major countries in Bonn on 16-17 July condemned protectionism, and urged the necessity for a successful outcome of the multilateral trade negotiations in Geneva. The ICC has also taken note of the "framework of understanding" in those negotiations agreed by a number of countries in Geneva on 13 July.

These developments, however, have not yet, in the ICC's view, created enough confidence and certainty in the resolution and ability of governments to create the conditions for continued expansion of world trade in an open market trading system, and the avoidance of mutually damaging protectionist policies. The dangers of such trade conflicts are, moreover, increased by the growing involvement and intervention of governments in the day-to-day affairs of business.

The ICC is aware of the many problems which affect world trade, and recognises that the July 13 Geneva framework of understanding includes considerable progress on a number of the issues in the negotiations. But there remain a number of areas where the eventual outcome is still very uncertain and where it is by no means clear whether that outcome will be conducive to a more open and liberal world trading system.

The ICC also looks to the Geneva negotiations to contribute to a development of world trade which will be beneficial to developing as well as to developed countries.

The ICC, therefore, urges all governments participating in the negotiations to ensure as rapidly as possible an outcome of the negotiations which will clearly contribute to the renewed expansion of world trade by restoring confidence, will help to turn back the growth of protectionism, and will ensure the continued strengthening of the international machinery for the solution of the world's trading problems.

67th AAPA's convention held

Nassau, Bahamas:—The 67th annual convention of the American Association of Port Authorities concluded here today (September 28), with election of new officers and statements of policies for future Association activities.

The week-long sessions were highlighted by working panel discussions, debates and special presentations by leaders in the port, transportation and shipping industries and by government officials representing several nations of the Americas. Under the leadership of President Nicholas Beshwaty, Port Director of the Port of Montreal, Canada, the convention opened Monday, September 25, 1978 with colorful opening ceremonies.

At the conclusion of the convention, Edmundo Rostran, of Corinto, Nicaragua, was elected the Associations President for the coming year.

The next AAPA convention will be held in Honolulu, Hawaii, November 4-8, 1979.

Publications

1. **"International Conference on Tanker Safety and Pollution Prevention, 1978"**, (Final Act of the Conference with attachments, including the Protocol of 1978 Relating to the International Convention for the Safety of Life at Sea, 1974 and the Protocol of 1978 Relating to the International Convention for the Prevention of Pollution from Ships, 1973.) by IMCO (Inter-Governmental Maritime Consultative Organization). In either English, French, or Spanish. Sales No. 78.09.E price £3.25 and 78.09.F price £4.50.
   IMCO Secretariat, Publications Section
   101-104, Piccadilly, London, W1V OAE
2. **"Public Enterprise in the EEC"** edited by William Keyser and Ralph Windle. US$835.00.
   Sijthoff & Noordhoff International Publishers by
   Order- and Accounts Department
   P.O. Box 66
   9700 AB Groningen
   The Netherlands

St. Lawrence Seaway Authority—Annual Report 1977 (extracts)

The year in review

The past year was the most successful in the history of the St. Lawrence Seaway. All-time highs of 63.3 and 71.7 million tons of cargo transited our facilities on the Montreal to Lake Ontario and Welland Canal Sections. These volumes, in addition, exceeded by substantial margins the previous records set in 1973.

The traffic level of last season produced record revenues of $32.1 million, made up of $26.6 million from toll charges and $5.5 million from investments and other sources of income. Parliamentary appropriations of $19.3 million augmented this revenue, but did not quite cover total expenses of $54.1 million resulting in a deficit of $2.6 million, after depreciation of $8.4 million. Nonetheless, these better-than-anticipated financial results allowed for repayment to the Government of Canada of $6.4 million against the accumulated deferred interest due to Canada.

It is appropriate to note that the revision of the Canada-U.S. St. Lawrence Seaway Tariff of Tolls, proposed by Canada in 1976 and agreed upon in 1977 by the two partner countries, is expected to eliminate any need in the future to depend on the public purse for contributions to the operating costs of the Seaway Authority. Increased user charges will be phased-in over three years beginning with this 1978 navigation season and the Seaway should thereby become the self-supporting transportation facility it was originally intended to be. Indeed, except for this year, surpluses are anticipated that will allow for an annual return to the Government on its investment in the deep waterway. (In 1978, with only 50% of the approved toll increase being applied, a loss after depreciation is expected).

On April 1, 1977, a revision of the Seaway's financial structure, recommended by the Authority and accepted by the Government, was implemented. In effect, Parliament has approved the conversion to equity of Authority borrowings of $625 million and cancellation of further accrual on the $216.4 million of deferred interest accumulated.

Balance Sheet as at March 31, 1978

	1978 ($000)	1977 ($000)
Assets		
Current	16,100	13,375
Investments	23,807	19,975
Fixed	627,744	637,536
	667,652	670,887
Liabilities		
Current	11,323	7,743
Other	216,929	847,506
	228,253	855,250
Equity of Canada		
Contributed capital	624,950	119,527
Deficit	(185,551)	(303,890)
	667,652	670,887

Statement of operations for the year ended March 31, 1978	1978 ($000)	1977 ($000)
Total income	32,117	27,535
Total expenses	54,079	89,107
Net income (loss) for the year before parliamentary appropriations	(21,962)	(61,572)
Parliamentary appropriations	19,315	32,014
Amount transferred to the statement of accumulated deficit	(2,647)	(29,557)

Saint Lawrence Seaway Development Corporation—1977 Annual Report (extracts)

It was a banner year for the Seaway. In 1977, over 63 million total tons of cargo was moved through the Montreal-Lake Ontario section, smashing the previous tonnage high of 57.6 million set four years ago. Contributing to the Seaway's best shipping season were: record-breaking tonnage volumes of wheat, iron ore and containers; a sharp increase in iron and steel products; a more vigorous national economy; continued labor stability; and ongoing navigation season extension work.

The total tonnage of 63.3 million that moved through the Seaway in 1977 represented a 16.4 percent increase over the previous year. This raised cumulative tonnage transported via the system, since its 1959 opening for deep-draft shipping, to over 811 million tons.

1977 Seaway Records

- Overall Tonnage ..... 63,334,777 tons
- Bulk Cargo..... 56,542,590 tons
- All Grains ..... 22,760,192 tons
- Wheat ..... 12,663,453 tons
- Iron Ore..... 22,272,504 tons
- Containerized Cargo ..... 425,381 tons
- Loaded Containers..... 22,524

For Calendar Year 1977, the Seaway Corporation's earnings totaled $8.6 million, which is $1.3 million higher than last year. Expenses totaled $5.2 million, with the balance available for capital acquisitions, revenue bond retirement and other purposes.

Through Calendar Year 1977, the Seaway Corporation has redeemed $18.3 million in outstanding revenue bonds, reducing its bonded debt to $115.5 million.

FINANCIAL SUMMARY (in Millions of dollars)

	1977	1976
Revenues	$8.6	$7.3
Operating Expenses	5.2	4.5
Unapplied Revenues and Other Assets, Net	2.4	.8
Payments to Treasury	1.0	2.0
Cumulative Advance Bond Payments	–	1.0
Revenue Bonds Outstanding	115.5	116.5

The Saint Lawrence Seaway Development Corporation is a wholly government-owned enterprise responsible for the construction, development, operation and maintenance of that part of the Seaway within the territorial limits of the United States. It is one of the operating administrations of the Department of Transportation. The Seaway Corporation also is self-sustaining, being financed by income received from tolls and other charges assessed for the use of its facilities.

"Portos e Navios" June 1978

Ports and waterways

- The river port of Caracaraí, in Roraima, has been recently inaugurated; its construction required an investment of 32 million cruzeiros.
- The access bridge to the new container terminal of the Port of Manaus is in its final construction phase; wholly steelbuit by Shipyard Rio Negro–ERIN, the bridge weighs about 550 tons.
- The Port of Rio de Janeiro handled, during the first four months of 1978, 8,233,431 tons of cargo, increasing its export index with respect to the import index; during the above mentioned period the port received 919 ships of various flags.

Former Seaway Official receives Canadian port group's Medal of Merit

Former president of the St. Lawrence Seaway Authority, Dr. Pierre Camu, has been awarded the Canadian Port and Harbour Association's (CPHA) 1978 Medal of Merit.

The Medal of Merit, awarded for the first time in 1975, was instituted by the association to honour those individuals it feels have made significant contributions in port, shipping, or related marine areas.

"The association feels that Dr. Camu's qualifications make him a deserving Medal of Merit recipient," said Hamilton Harbour Commissioner Mowbray Alway, past president of the association.

"He has served the port and marine community exceptionally well as marine administrator and as president of the St. Lawrence Seaway Authority," he added.

Nanaimo Harbour News

1) Lumber exports at record high

In the first nine months in 1978 lumber shipments through the Port of Nanaimo have broken all records.

For that period the port shipped 424,669s. tons of lumber compared with 319,163s. tons for a similar period last year, a 33 percent increase. The previous highest shipment of lumber for one year, 1977, was 390,419s. tons.

"There is no doubt that we will reach the 500,000s. ton mark for lumber shipments by the end of the year and that total exports through the three berths of the Assembly Wharf will be an all-time record," says Bob Chase, manager of marketing and public relations.

2) Port Days

Nanaimo celebrated its contribution as a port to the economic life of the surrounding area with two Port Days, this 1978 year.

Hundreds of people enjoyed the two days port celebrations in Nanaimo, with the theme: "Gateway to the World".

Among them were 350 students from Nanaimo Senior Secondary School Social Studies, grade 11, who toured the port facilities and visited the Emma Johanna loading pulp, lumber and plywood.

Students said they hadn't realized the amount of activity that went on in the port–there were three ships loading during the tour. "It makes you appreciate the number of jobs the port is providing" commented one of them.

Port of Nanaimo, B.C. Canada

The largest forest products carriers to visit the Port of Nanaimo, on the west coast of Vancouver Island, are four sister ships built in Flensburg, Germany. One of the ships is M.V. "Warschau" left, which is 700 ft. long and 50,000 tons. The hatch covers on the ships, at 80 ft. across and weighing 100 tons, are the largest in the world. Other ships in the series are the "Dresden", "Emma Johanna" and "Thamesfield".

Chinese Study Group visits Port of Toronto

A 14-man fact-finding mission from the People's Republic of China visited the Port of Toronto recently (Sept. 11-13) to study weighing and measuring equipment.

The group's findings will help China modernize its equipment and bring it into line with the universal weighing and measuring systems already in operation around the world.

Ottawa, Vancouver, Montreal and Halifax were also visited by the Chinese before they left for London, England.

Baltimore container tonnage nears all time port record

Nearly two million tons of container cargo has moved across Dundalk Marine Terminal during the first eight months in 1978, the Maryland Port Administration reported recently.

"Predictions that 1978 will be a banner year for container cargo movements in the port of Baltimore are being sustained by statistics as they come in month-by-month," W. Gregory Halpin, Maryland Port Administrator, declared.

According to the MPA, Dundalk's container tonnage of 1,980,759 tons for the first two-thirds of 1978 is 10 per cent higher than the container figure of 1,794,140 tons for the same period last year.

WTC Baltimore 92% rented

Exactly one year after its dedication, The World Trade Center Baltimore, (WTCB), has already rented over 92 per cent of its available office space, the Maryland Port

Administration announced recently.

"The dream of the Port Administration, to establish a focal point for the maritime community and international business organizations, has been achieved I would say," Richard C. Anderson, director of the trade center said.

Over 80 firms employing more than 700 people occupy the WTCB's 30 floors and the vast majority of them are involved in maritime and international commerce.

The WTCB is owned and operated by the Maryland Port Administration, a division of the Maryland Department of Transportation. The MPA occupies five floors.

The WTCB, however, is more than just an office building. As a member of the World Trade Centers Association, the WTCB provides services and programs in support of international commerce and communication. This includes maintaining the WTCB Information Service which ties in to 25 data information banks and operating the WTCB Institute which offers seminars, conferences and lectures on international commerce and maritime affairs. Additionally the WTCB provides multilingual services to visitors through the Baltimore Council for International Visitors. The WTCB is one of 101 members of the World Trade Center Association in 40 countries.

New terminal construction commences in Charleston Harbor

The S.C. State Ports Authority today recently (October 10) announced the start of construction on the Wando River Terminal in Charleston Harbor.

Making the announcement, the SPA emphasized the need to provide facilities for port growth and to alleviate congestion at existing facilities in Charleston Harbor. The Port of Charleston is the leading general cargo port in the South Atlantic.

The project, which has been in planning since 1972, was delayed for many months by the federal environmental review process. Phase A of the terminal project, budgeted at $56 million will provide three containership berths and support facilities.

Record for break-bulk shipments established

(South Carolina Port News):—Break-bulk cargo tonnage soared to a record level at State Ports Authority terminals during fiscal year 1978, which ended June 30. Containerized shipments would have done the same except for the two-months' dockworkers strike against intermodal shipping last fall.

Totalling 1,377,278 tons, conventionally-shipped commodities easily topped the previous high of 1,181,778 set in fiscal 1971. The new record exceeded last year's figure by a surprising margin, 215,507 tons.

The SPA's overall volume of 3,773,383 tons was well below last year's all-time high of 4,223,515, however. Bulk cargo activity declined 615,543 tons, led by sharp downturns at the grain elevator and at Georgetown's State Pier 32.

Authority budget at record level

(South Carolina Port News):—A record operating budget totalling $18,712,454 has been adopted by the State Ports Authority for fiscal year 1979 ending next June 30.

The new budget represents an increase in operating revenues of $1.26 million over the figure for fiscal 1978. A net gain of $997,235 was projected in operating and other income for the 12-months' period which began July 1.

Since the SPA receives no annual appropriation from the state legislature, budget figures must be based solely on estimated, port-generated revenues. The key factor in that estimate is cargo tonnage, which is predicted to increase more than 17 percent this year.

Harbor Island—A new dimension for America's deepest inshore Gulf port

(Port Corpus Christi Port Book 1978):—Efforts to get the Harbor Island deepwater port project approved and into construction have been moving through a dramatic and decisive period.

Recently given the name DEEPORT for simplicity, the plan calls for modifications to the Corpus Christi Ship Channel and existing port facilities so they can accommodate modern deepdraft vessels.

The U.S. Army Corps of Engineers issued its long-awaited draft environmental impact statement on the project in July. A public hearing was held and the corps is now working on preparing a final environmental impact statement.

The Corps decision on granting a permit to the Navigation District will come after the final EIS is submitted to the Council on Environmental Quality in Washington.

DEEPORT is unique and offers some special advantages for future growth and multi-purpose use in three phases. The first phase will serve the oil industry but the total concept looks to the need to handle dry bulk cargoes in the future using large, economical vessels. Phases II and III would extend 60 feet of water to Port Ingleside and along La Quinta Channel, already 45 feet.

The permit application pending with the Corps for several years covers the first phase, a modification program which will allow the present oil terminal at Harbor Island to accommodate fully-loaded tankers of 275,000 deadweight tons (DWT) at new public docks. These larger vessels provide a major savings on ocean transportation costs—costs that must be paid by product consumers.

As sponsor of the 72-foot DEEPORT project, the Port is seeking only a construction permit from the Corps of Engineers. Federal funds will not be required for actual construction.

While DEEPORT will be a public facility, no tax dollars or tax bonds are being requested. The Port will issue revenue bonds guaranteed by five major oil companies which now have operations in the local port complex. The user fees from these firms and other users of the multi-purpose deepwater port will go to pay off the bonds.

Port Everglades gantry crane to port facilities

Port Everglades recently announced a major advance in its plan to be the first fully operational containerport in South Florida. An agreement for the erection of a container handling Gantry Crane was given the approval of the Federal Maritime Commission. The installation of the crane is a joint venture between the Port Everglades Authority and Sea Land Service, Inc.

In announcing the approval for the crane, Ernest Pinto, Chairman of the Port Everglades Commission, said that this

will make the Port a world gateway for containerized cargo. Port Everglades is already the deepest Port in Florida and has the added advantage of being only 7300 feet from the ocean shipping lanes.

Cruise passengers soar to a record

Hollywood-Fort Lauderdale, Florida:—A 70.1 per-cent increase in cruise passengers in August sent the eight month totals soaring at Port Everglades, Port Commissioner Michael J. Marinelli announced.

Marinelli said, the number of embarking and in-transit passengers rose from 31,903 in August up from 18,757 a year ago.

For the eight months, Marinelli continued, the passenger total was 278,276 compared to 112,056 in the corresponding period in 1977.

Waterborne commerce at Port Everglades for the first eight month of 1978 is up 3.9 per-cent over the corresponding period one year ago.

Port Commissioner Fred J. Stevens said, trade reached 8,793,792 tons compared to 8,461,987 as of August 31, an increase of 331,805 tons.

Sea-Land signs lease for Barbours Cut berth

(Port of Houston Magazine):—Sea-Land, which sailed the first containership in the world from New Jersey to the Port of Houston, has signed a 20-year lease with the Port of Houston to move its operations from the Turning Basin area to the new multi-modal Barbours Cut Terminal.

The lease, which represents a joint investment of $60 million, calls for the Port to construct a third container berth as well as shore facilities.

Beginning October 1,Sea-Land will start moving 250 employees and its operations from the Turning Basin area of the Port of Houston to Container Berth 2 at Barbours Cut, which the ships will use until the third wharf is completed. Options for a ten-year renewal and expansion as needed also are written into the lease.

Port of Long Beach sets new records for world trade

The Port of Long Beach continued to establish new highs in all cargo handling categories during fiscal year 1977-78, as a record 33,368,535 tons arrived and departed aboard 3293 vessels. Value of commodities imported and exported topped the $10-billion level for the first time, it was noted by Harbor Commission president Richard G. Wilson.

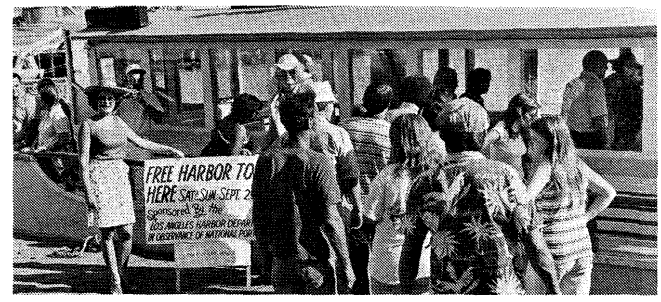
As is traditional, the Far East continued as top trading area, with countries in that region accounting for 12.9 million tons or 66 percent of all foreign cargo, which reached 20.5 million tons during the year ending June 30, 1978.

European countries provided 2.7 million tons or 14 percent of foreign commerce, followed by South America with 1.9 million tons and 10 percent, the Middle East with 4 percent and Africa and Canada with 3 percent each.

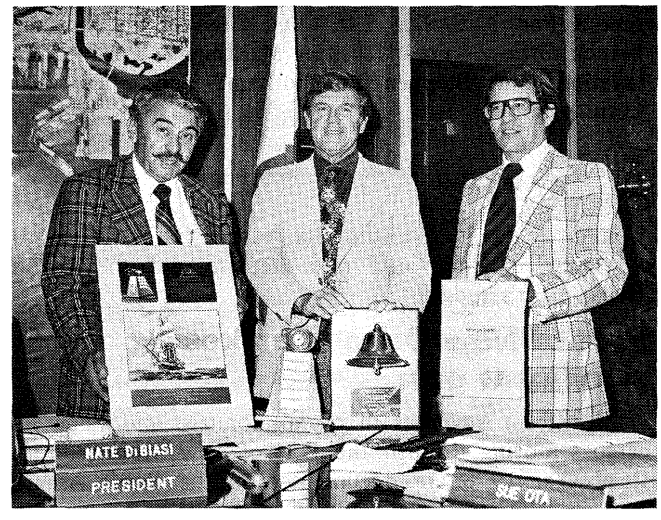
To no one's surprise, bulk petroleum products continued to lead all other cargoes at Long Beach, with 18.8 million tons being handled by 762 tankers at the various terminals.

General cargo movements reached 9.6 million tons, led by steel at 1.5 million tons, electrical machinery with 430,000 tons, followed by plastic products, lumber, and so forth.

Los Angeles



The Los Angeles Harbor Department recently observed National Port Week, Sept. 17-23, by providing free harbor tours for the public. During the two days' of excursions more than 20 boatloads of passengers viewed shipping activities and facilities in the Port's 7,000 acres and 28 miles of improved waterfront. Here, Pat Reid, Los Angeles Harbor Department public relations representative, left, and Marga Jean Lucas, Las Angelenas (volunteer civic-assistance group) greet the first boatload of seafarers.



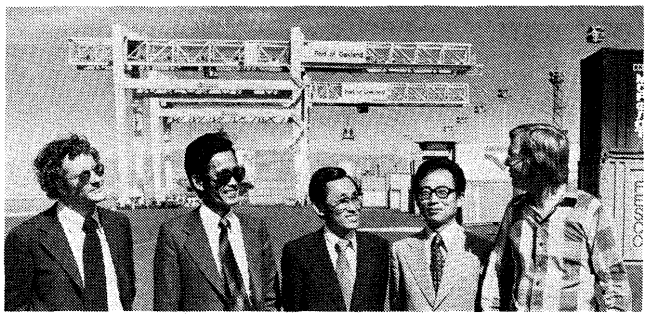
Los Angeles:—Informational and promotional efforts by the Los Angeles Harbor Department were awarded top honors in recent nation-wide competition conducted by the American Association of Port Authorities. Here, Harbor Commission President Nate DiBiasi, left and Commissioner Fred Heim, right, present Harbor Department Public and Community Relations Director Lee Zitko with the AAPA's symbols of top excellence.

Port of Los Angeles adopts new tariff

The Board of Harbor Commissioners on October 18, 1978 adopted a tariff rate increase of 12.7 percent for port services commencing Nov. 1, 1978. In addition to the tariff increase, the rates are now based on the metric system.

The proposed rate increases were developed by the Port of Los Angeles together with other members of the California Association of Port Authorities (CAPA) and the rates apply to all association members. The other member ports placed them into effect on Aug. 1. The Port of Los Angeles rate increase was delayed earlier this fiscal year by the City Council's Industry and Economic Development

How it's done in Oakland



Korean Maritime & Port Administration officials recently visited the Port of Oakland for an intensive review of operational procedures at the leading West Coast container-port, the first of a series of such cooperative programs between the Korean agency and Oakland. On the wharf at the Port's Seventh Street Terminal were, from left, Michael Beritzhoff, Port of Oakland Marine Terminals Department; J.K. O, Assistant Director of the Financial Management Division, Korea Maritime & Port Administration, Seoul; K.Y. Choi, Director General of the Mukho District Maritime & Port Authority; I.H. Choi, Chief of the Janghang Branch Office, Kunsan District Maritime & Port Administration; and Stephen Longbotham, Marine Terminals Corporation.

Committee's request to the City Administrative Officer for a review of the tariff rate increase and the Harbor Department's budget.

Port of New Orleans makes a significant gain

Significant advances in overall tonnage and value for cargoes moving through the Port of New Orleans during fiscal year 1978 are documented in the Port's Annual Report, delivered to Governor Edwin Edwards.

In his letter to the Governor, Michael J. Molony, Jr., President of the Board of Commissioners of the Port of New Orleans, noted "The Board's business was conducted with a net gain of $4,156,477 from revenues (totaling more than $25 million) over expenses." Molony also emphasized progress of the Port's Capital Facilities New Construction Modernization Program which when completed will represent a $91 million investment–$75 million of which was appropriated by the 1976 Louisiana Legislature in the form of general obligation bonds.

Figures which highlight the report state that volume of general cargo passing over public facilities during fiscal year 1977-1978 was up six percent over the 1976-1977 period. Bulk cargoes passing over public facilities were down for a number of reasons, the principal ones being the western coal strike and the suspension of activities at one of the export elevators disabled because of an explosion.

Significant gains were also made in the number of containers handled and the volume of cargo moving across the Port's public facilities in containers. The volume of container cargo was up eighteen percent in fiscal year 1977-78 over 1976-77 and the number of containers (20' equivalent units) was up six percent.

Growth From Within

With New Emphasis and Investment in Central City Manufacturing, The Port of New York and New Jersey Plans for Industrial Parks

("Via Port of New York-New Jersey"):—Nearly three years ago the Board of Commissioners of The Port Authority of New York and New Jersey directed a major staff study of the physical, economic and marketing factors essential to stimulate industrial development in the port's major cities. The commissioners' deep concern with reduced industrial jobs, the number of manufacturing establishments and capital investment in new plants spurred the study. Such action was consistent with the Port Authority responsibility to promote and protect port commerce, an objective which would be realized by turning around the adverse trends in local manufacturing.

As a result of the extensive Port Authority industrial development studies which ensued, a report entitled "Industrial Revitalization in the New York-New Jersey Region" was recently issued by the bi-state agency. The report presents the Port Authority findings on manufacturing employment and outlines a program of action that might be carried out under the aegis of the States of New York and New Jersey, the legislatures of which are now reviewing the Port Authority proposals.

Basically the Port Authority program calls for the development of industrial parks on large tracts of land currently available within the inner cities of the port. The creation of these inner city industrial parks, the report concludes, cannot be accomplished by the private sector alone. Intervention of the public sector is required to assemble and prepare the land, provide a suitable infrastructure and environment, assure continuity of capital funding and management and develop sources of competitively priced energy. The program envisioned would create nearly 30,000 jobs in the New York-New Jersey Port, generating about $300 million in annual payroll. The proposal would require an investment of up to $1 billion in public and private funds over the next ten years. Of this sum, the Port Authority would invest from $300 to $400 million on a self supporting basis.

The intervention of a public "developer," supported by local authorities, could reduce tax costs, improve traffic flows and public transit access, insulate the manufacturer from governmental red tape and assure continuity of a responsive, credible management with adequate long-term financial resources.

To provide the lower cost reliable energy required, the Port Authority proposes the development of resource recovery facilities within each of the industrial park sites. These facilities would create energy from solid waste sufficient to meet the power needs of the parks themselves, while at the same time, recovering basic materials such as metals, glass, paper, etc. The recovered material could serve as a source of supply and, therefore, become an attraction for certain forms of primary industries, such as a mini-steel mill, detinning plant, paper production and many others.

To learn problems which may be encountered in the

preliminary stages of development, planning and engineering, assessments were prepared for three sites selected in consultation with state and municipal officials from among the more than 30 inner city sites that were evaluated. While final site selection might not yet have been determined, normal industrial location criteria such as size, accessibility to highways, mass transit and rail lines; availability of labor; and adequacy of power and other utilities were used in the evaluation. The initial sites explored, the general locations of which are shown in the accompanying map, are: (1) Spring Creek, Brooklyn; (2) Greenville Yards, Jersey City; and (3) Doremus Avenue, Newark.

As part of the evaluation prepared for the three sites, local zoning ordinances were considered and provisions were made for buffer zones to insulate the surrounding communities from the industrial activities. Environmental considerations also were taken into account in evaluating each site's suitability for industrial use. The engineering study determined all recognizable costs of site preparation such as soil stabilization, internal roads, sewers and other utilities; off-site improvements to access roads; off-street parking lot paving and lighting; off-street loading areas; landscaping of buffer zones; median strips; and building setback areas.

In essence, the Port Authority seeks to develop at sites such as the three outlined a concept of urban industrial renewal which would recreate advantageous conditions within the central cities through industrial parks. Such parks would be of sufficient size to enable the developer to create a secure, attractive environment, provide adequate space for single-story construction and off-street vehicular needs and make possible the delivery of a variety of needed centralized services, including day care, manpower training, cafeteria facilities and computer and other business services.

The successful marriage of the port's outstanding international transportation facilities to the modern industrial parks of the next decade bodes well for the port. By duplicating suburban conditions for manufacturing plants within the inner cities, the Port Authority may well hold the formula for the continued growth of industry and commerce in America's Premier Port.

Stevedoring companies in NY-NJ harbor area cited for reducing level of pier accidents

(New York Shipping Association Bulletin):—The event attracted upwards of 210 leaders of marine industry management, longshore labor, the federal government and the City of New York among others. New York Shipping Association's President James J. Dickman noted that the gathering at the Downtown Athletic Club was the largest waterfront safety function ever held in the port.

"This is a fitting climax to the efforts of both labor and management to make marine facilities in the New York-New Jersey harbor as safe as possible. The success of these efforts is a testament to our committment to advance the safety and health of the longshoremen and others who work on the piers," he said.

Seventeen stevedoring and marine terminal companies

(Continued on next page bottom)

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New container terminal under construction; Redevelopment of the Brooklyn waterfront

(News from The Port Authority of NY & NJ):—Governor Hugh L. Carey, Mayor Edward I. Koch and Port Authority Chairman Alan Sagner jointly announced agreements under which the State and City of New York and the Port Authority will finance, construct and operate a new Red Hook Container Terminal in the Atlantic Basin area of Brooklyn.

The terminal, to cost an estimated $20 million, will be built in two phases. Construction began on the site which includes Piers 10 and 11 of the Brooklyn-Port Authority Marine Terminal.

"The State's share of the initial project is $12 million and I am making this available now so that we can get this project under way," Governor Carey said.

The City will provide the remaining $8 million subject to the approval of the Board of Estimate.

Ceremony at Pier 10, Brooklyn
Containerization Important to New York

Governor Carey, along with other speakers, stressed his commitment "to keep New York the most important port in this nation."

"The shipping industry is increasingly moving to containerization and we in New York intend to keep pace," the Governor said. He noted that the Red Hook development means immediate construction jobs and eventually a $13 million payroll for 300 employees and another 900 workers indirectly connected with the operation. It also means the retention of more than 5,000 waterfront jobs.

Project Phases

When completed in the fall of 1980, the first phase of the project will combine Piers 10 and 11 into a 30-acre site to provide a 1,000-foot containership berth as well as two breakbulk berths at Pier 11. It will be able to handle 20,000 containers a year.

The second phase, to be completed in the fall of 1981, will increase the new terminal's capacity by 5,000 containers per year, through the addition by the City of about 10 acres of land located at the foot of Hamilton Avenue. The terminal will then have the capacity to handle an estimated one million tons of general cargo or approximately 25,000 containers per year.

In a third phase, for which no timetable has been set, the Red Hook Container Terminal may be further expanded to include Brooklyn-Port Authority Marine Terminal's Piers 9A and 9B.

Port Authority to Construct and Operate

Under the agreements announced today, the Port Authority will provide the initial 30 acres surrounding Piers 10 and 11 and construct and operate the new Red Hook Terminal.

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were honored recently here today for safety efforts over the past two years that helped reduce the frequency of accidents among some 11,000 waterfront workers in the bi-state Port of New York and New Jersey.

The awards were designated by the NYSA Safety Committee under categories of manhours recorded annually by each of the stevedoring companies in a range of work that covered more than one million hours for larger organizations to as low as 15,000 for others.

Companies reporting work in excess of one million manhours a year could qualify for a trophy. Those reporting at least 500,000 manhours annually could earn a plaque. All companies were eligible for a citation if they met the reduction level specified for that award.

Liner trade increases remarkably

(Port of Oakand):—World liner trade was up significantly at West Coast ports through the first half of 1978, the Port of Oakland reported recently today, with gains in both export and import tonnages recorded against the same period a year earlier.

Liner exports showed the way, increasing by more than 17 percent—and 725,000 short tons, to a total of nearly 5 million tons—over the first-half 1977 figure of 4¼ million tons.

Liner imports grew almost 14 percent in the same period, from 3.4 million to 3.9 million short tons, the Port of Oakland indicated.

Just under half the West Coast liner export increase—45.8 percent—was accounted for by San Francisco Bay Area ports. The Port of Oakland recorded a stunning 43 percent growth in outbound liner cargoes for the first six months of this year compared to last, leading all ports on the Pacific seaboard.

Liner import increases were shared relatively equally among the major West Coast ports, up 24 percent at Los Angeles, 22.5 percent at Oakland, 21 percent at Seattle and Portland and 17 percent at San Francisco.

Overall, some $4.5 billion worth of American products were exported from West Coast ports aboard liner vessels in the first six months of this year.

Liner imports for the same period totaled $9 billion in value.

Portland's foreign-trade zone offers modern location

Port of Portland's foreign-trade zone occupies 66.1 acres in the Rivergate Industrial District. Included in this area is a 200,000-square-foot modern warehouse which was built in 1976.

The modern 200,000-square-foot warehouse presently has a U.S. Customs secured 40,000-square-foot area within it. The building, its loading docks and the paved area around it occupies 14.8 acres.

The zone is 15 miles west of Portland International Airport, and 4.5 miles west of Interstate Highway 1-5. It borders on Port of Portland Terminal 6 which has two container vessel berths, three container cranes, and one auto vessel berth.

The zone operations will commence immediately upon issuance of grant which is expected in January 1979:.

Dredging talks in New York

East-West discusses on regulation of dredging:—NEW YORK CITY—Recent East-West discussions on regulation of navigational dredging held at the offices of the Maritime Association of the Port of New York involved Frank C. Boerger (left), chairman of the dredging committee of the California Marine Affairs and Navigation Conference (C-MANC); Anthony Tozzoli, director of the Marine Terminals Department of the Port Authority of New York and New Jersey; Anthony Gliedman, New York City Commissioner of Ports and Terminals; Anthony Scotto, vice president of the International Longshoremen's Association, and C-MANC's executive director Bob Langner of San Francisco. The conference, representative of California ports and harbors affected by excessive state and federal regulations and permit-processing delays for harbor dredging projects, culminated a four-year effort with presentation of a "white paper" July 13 to the Congressional Port Caucus in Washington, D.C.—"The Regulation of Dredging: A Muddle Over Mud". Co-chaired by Merchant Marine and Fisheries Committee Chairman John Murphy (D, NY) and California's Congressman Harold "Bizz" Johnson, Public Works and Transportation Committee Chairman, the problem definition, analysis and recommended actions stirred Capital Hill interest. Oversight hearings are proposed for in the next Congress through the co-chairmen to determine needed amendments to the enabling acts under which the federal regulatory agencies operate. In New York, North Atlantic response was initiated by the Maritime Association inviting Boerger and Langner to meet with industry leaders to explain their program and to offer assistance in organizing a similar regional response agency. On behalf of the Association, Paul Preus, chairman of its Harbor and Environment Committee, announced that an in-depth dredging conference would be scheduled January 16-17 in New York City to review growing problems affecting ship channels resulting from deferred maintenance or lack of initiation of deepening projects, such as in New York and Baltimore harbors.

2 news from Venezuela

(C.A. Venezolana de Navegación):—

1) New installations at Puerto Cabello

In the Puerto Cabello port area there was placed in service a new Delong type of speedy construction floating wharf, with capacity for two berths and at the cost of 43 million Bolivars. The new marine terminal is 180 meters long. The full docking capacity of the Puerto Cabello port installations with the new addition is 23 berths for simultaneous docking.

2) Fiscal cost of the free port

The support of importing activities in the Margarita Free Port represents for the National Treasury a sacrifice of customs duties which is estimated at 625 million Bolivars for the first semester of 1978, in accordance with the indications of Mr. Rene Rincon, Administrator of the "El Guamache" (Island of Margarita) Customs House. Fiscal revenue is obtained through the application of 3-1/2% on the value of imports, which means a revenue of only 25 million Bolivars per semester, of 50 million Bolivars per year. The national Treasury sacrifices some 25 million Bolivars per month, on the item of liquor imports alone.

ACT sign five year contract with Liverpool

Port of Liverpool:—Another major user of Liverpool's Royal Seaforth Container Terminal has signed a long term contract with the port.

Associated Container Transportation have agreed the contract.

The agreement, won by Liverpool in the face of fierce competition from other ports, gives ACT a continuous ten year link with Royal Seaforth.

After the formal signing at Southampton, Managing Director of the Mersey Docks and Harbour Company Mr. James Fitzpatrick said: "The new contract is a measure of the confidence and importance with which ACT view Liverpool as a major port of call. For the Port itself, the agreement helps us to plan ahead to give the best possible service.

General cargo slump hits half-year profits

Port of Liverpool:—The Mersey Docks and Harbour Company made a trading profit of £1,780,000 in the first six months of 1978.

But as forecast by Chairman Sir Arthur Peterson earlier this year, the profit is less than in the same period of 1977.

Said Sir Arthur: "We continue to work hard through energetic marketing and improved productivity to try and maintain a good share of the reducing general cargo traffic".

The Company's operating revenue for the first half of 1978 was £32,111,000 nearly £1½ million up on the same period last year. And cargo handling losses after overheads, interest and depreciation, were the same as in the first six months of 1977—£2 million.

Over-capacity warning to grain trade

Port of Liverpool:—A meeting in Liverpool of top men in Europe's grain trade has been warned of the dangers of over capacity in import, export and storage facilities.

The warning, to the annual international meeting of Unistock, the Union of Professional Grain Warehouse Keepers in the EEC, was issued by Managing Director of the Mersey Docks and Harbour Company, Mr. James Fitzpatrick.

He told the members, meeting for the first time in the UK: "While it is imperative that facilities exist, it is essential that an over capacity is not created. Some hard lessons have been learnt by Port Authorities managing

Lowestoft cold store

(B.T.D.B.) View of the Christian Salvesen cold store at Lowestoft. With a capacity of 204,000 cu.m, it is the second largest in the country. Stored here along with frozen vegetables and fish are Spanish cauliflowers, Dutch butter and orange juice from the U.S.A.

container terminals with too much capacity chasing too few boxes".

As Europe's Common Agricultural Policy developed, said Mr. Fitzpatrick, terminals and grain stores would need to ensure that they had a voice in the corridors of power to ensure that decisions made by Ministers were practically possible and that facilities existed to store grain.

Newport to handle £70 million Dowty export order for China

British Transport Docks Board:—The port of Newport has been awarded a major 18-month contract by the Dowty Group to handle the shipment of a £70 million export order won by its mining division from the People's Republic of China.

The Dowty contract, Britain's biggest-ever export order for underground mining equipment, was gained in the face of 'fierce competition' from other UK ports, the British Transport Docks Board said today.

Welcoming the news of the deal, Newport's docks manager Mr. Alf Pidduck said. "This is a tremendous boost to Newport docks and is a reward for some persistent and enthusiastic marketing."

At the Board's headquarters, BTDB managing director Keith Stuart, who was himself in China earlier this year, described the Dowty business as a major success for the Board's efforts to increase its share of Chinese trade.

"We see the development of Britain's trade with the People's Republic as being of prime importance and BTDB ports are already handling increasing quantities of Chinese traffic," Mr. Stuart said.

Peter Murdoch elected chairman of ICHCA

(British Transport Docks Board "Docks"):—At a meeting of the International Council of the International Cargo Handling Coordination Association (ICHCA), in June, Peter Murdoch, the BTDB's director of small ports and operational services, and chairman of ICHCA U.K., was elected chairman of the Executive Board and Council of the Association.

Southampton's first decade of containers

(Photo A) The Southampton Container Port today.

Saturday, 28th October 1978 marked the 10th anniversary of container terminal operations at Southampton.

Southampton has indeed come a very long way in the expansion and development of its container trades since 1968. Capital exceeding £30 million has been invested by the British Transport Docks Board to reclaim from the River Test some 200 acres of land and to construct five container berths. Over the ten year period more than 1½ million container units have been handled at the Southampton Container Port, which now services over 50 container ships, amongst them many of the largest in the world, on a regular basis, and is recognised as Britain's principal deep-sea container port.

The scale of development at Southampton is shown by the two photographs attached. Photo A shows the Southampton Container Port as it is today, whilst Photo B shows the site before the development began little more than ten years ago.

(Photo B) Taken in 1966 this photograph shows the area now occupied by the container port.

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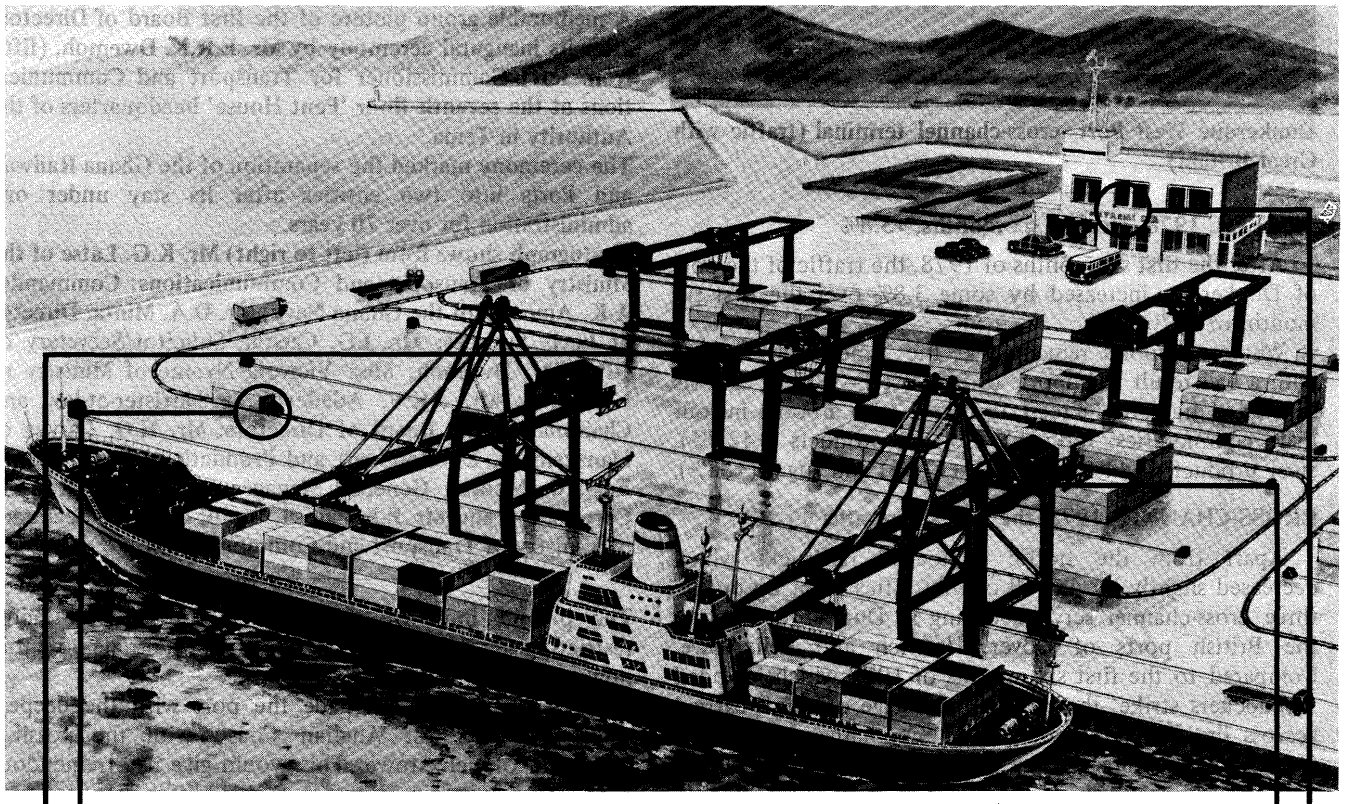

Unmanned marshalling equipment

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60% increase in handling efficiency, container sway reduced to ±5 cm in 5 seconds

Quay cranes are equipped with Hitachi's exclusive Sway Stop System which dampens container sway to ±5 cm in 5 seconds, a Memory System for high-speed cell guide positioning and an Independent Loading/Unloading System for ships and trucks which increases handling efficiency of container buffers by 60%.

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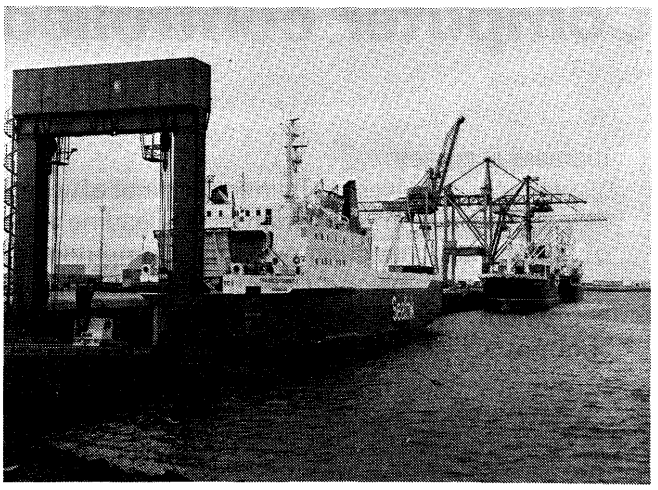
Dunkerque news (See front cover also.)



Dunkerque West Port—cross-channel terminal (traffic with Great Britain)

TRAFFIC 1978, the first six months, +3.8%

After the first six months of 1978, the traffic of the port of Dunkerque increased by some 3.8% over the first six months of 1976.

Whereas imports remained at the same level (−1.4%) with a bad result in imports of iron ore (−18.5%), exports showed a dramatic increase of 30.9% with a boom in four main commodities: refined petroleum products (+42.7%), steel products (+44%), cement (+176%) and sugar (+88%).

CROSS-CHANNEL 1978, the first six months

Apart from the traffic of loaded railtrucks which decreased slightly by 4%, all other traffics crept up on the three cross-channel services calling at Dunkerque-West to the British ports of Dover, Harwich and Felixstowe. Compared to the first six months of 1977 which included the dockers strike, the net total tonnage of goods carried accross the Channel amounted to over half a million tons (+22%), 30% more trade cars were transported (11,606 cars) 12,144 road vehicles crossed (+47.8%), over 203,000 passengers crossed mainly between Dunkerque-West and Dover (+11%). On the sole Felixstowe roro service, almost 10,000 TEU containers were shipped (+36%).

Outlook good for Lowestoft

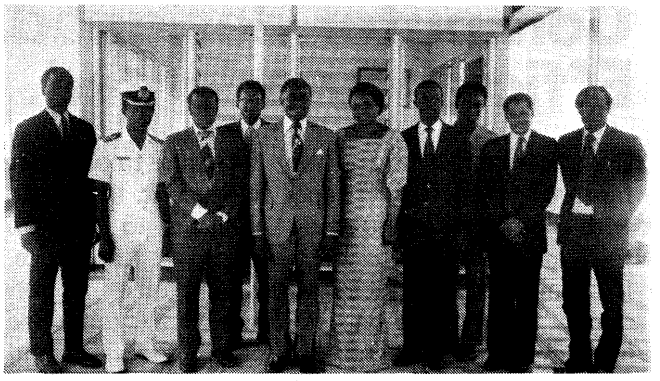
(British Transport Docks Board "Docks"):—**1977 was a good year financially for the British Transport Docks Board's most easterly port, Lowestoft, with a further improvement in its profitability.**

This success has been matched on the trade front during the past year, with the port gaining several new cargo services to various destinations including Nigeria, North Africa and the Middle East.

On the fishing side also Lowestoft has been doing well, being less affected by the problems which have hit the distant water trawler ports like Hull and Grimsby.

So the outlook for the port appears better than at any time since the war. To add to the general air of optimism around the docks, schemes for improving the accessibility of the port for larger vessels are being actively considered.

Ghana Ports Authority inaugurated



A memorable group picture of the first Board of Directors after its inaugural ceremony by Mr. E.R.K. Dwemoh, (fifth from left) Commissioner for Transport and Communications at the seventh floor 'Pent House' headquarters of the Authority in Tema.
The ceremony marked the separation of the Ghana Railway and Ports into two entities after its stay under one administration for over 70 years.
Photograph shows from (left to right) Mr. K.G. Latse of the Ministry of Transport and Communications; Commander A.K. Amoako of the Ghana Navy; Mr. D.A. Minta, Director of Ports Services; Mr. I.G. Carson, Solicitor/Secretary of GPA; Mr. Dwemoh; Miss Victoria Nyame of Ministry of Education; Mr. J.K.F. Adadevoh, a barrister-at-law and Chairman of the Board of Directors; Mr. H.O. Laryea of Management, Development and Productivity Institute; Mr. Edward Moore, General Manager of Ghana Railway Corporation and Mr. P.E. Painsil, Senior Principal Secretary of Ministry of Transport and Communication.

The present limit of about 2,500 tonnes is a factor restricting the port's capacity to handle the trade potential now so much in evidence.

Lowestoft could be made the port with the deepest water on the East Anglian Coast, with the possible exception of Felixstowe. This would give it a tremendous boost as an expanding cargo port, aided by the reputation it has established for itself of giving customers a fast and reliable service.

The environment: a major concern

(Port of Le Havre Flashes):—Under the auspices of the Port Authority, an investigation into the marine ecology of the port of Le Havre Antifer was begun at the end of June, 1978 mainly in order to find out whether there have been any changes in the composition of local marine life since the port was completed and brought into service. A port authority launch has been placed at the disposal of the Centre Océanographique de Bretagne (Cnexo), which is carrying out the scientific side of the work, with particular emphasis on the degree to which dredged areas are being restocked.

Measures for the protection of the environment

(IAPH 11th Conference at Le Havre, May 12-18, 1979)
Port of Le Havre Series No. 8

For several years, the P.H.A. (Port of Le Havre Authority) has led an active policy in favour of the environment. Actions undertaken for that purpose were proceeded with and strengthened in 1977. The new measures and those which have been the most outstanding are as follows:

– as far as the fight against water pollution by hydrocarbons is concerned, the port of Le Havre, a big oil harbour made a great effort when buying a fighting unit of high performances. The unit is a pontoon, "Le Hoc", of a 1,500 cm capacity fitted with 4 recuperators cyclonet 120 of an output of 300 cm/hour.

This unit designed for the recovery of any possible dumping of hydrocarbons into water is the only one of that kind in France by its performances both as regards quality and quantity. It constitutes therefore a sound security in the field of protection against pollution by hydrocarbons.

– The open areas development programme was proceeded with in 1977. A credit of F 1,300,000 was assigned to it as investments. Developments were mainly concerned with the landscape arrangement of the industrial area and No VII A Bridge roads.

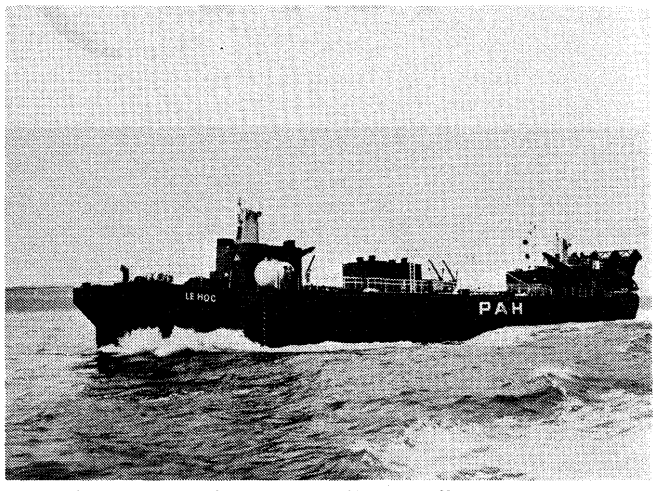
– In the field of fight against sea pollution, several actions have been undertaken. In this connection, it is worthwhile paying attention to the special effort made as regards the cleaning of macro floating waste, of which more than 1,500 cm were collected in 1977 with the help of the P.H.A.'s cleaning pontoon.

– 1977 will have been the lst year of a full-time operating of the big oil port of Antifer. This year will have been characterized by no pollution of the harbour being worthy of note. This was possible thanks to the numerous preventive steps taken (safety of shipping, security in the field of oil transhipment). This safeguard of the site has allowed some activities pertaining to the sea to spread out close to the harbour. It has allowed even a large sea fauna to grow near the breakwater, which is much appreciated by local fishermen.

– In 1977, an industrial waste-disposal unit was put into operation in the industrial area (SEDIBEX). The P.H.A. contributed to this operation.

– As to 1977, the P.H.A. also contributed to the establishment of an experimental storage of green copperas in the industrial area by the Thann & Mulhouse Company. This land-based storage will enable this plant to reduce their waste disposal at sea.

At last, 1977 will have been characterized for the P.H.A. by the setting up of a Committee of the Environment. This big step has been taken with a view to co-ordinating and systematizing the P.H.A.'s measures for the protection of the environment. Up to now, these multi-field actions had been undertaken separately, problems being dealt with one after the other. Thanks to this committee, P.H.A. will be in a position to undertake a more sustained and coordinate action.



Port of Le Havre. The pontoon "Le Hoc".

Rouen Port in figures

(Rouen Port, International Issue):—First half of 1978.

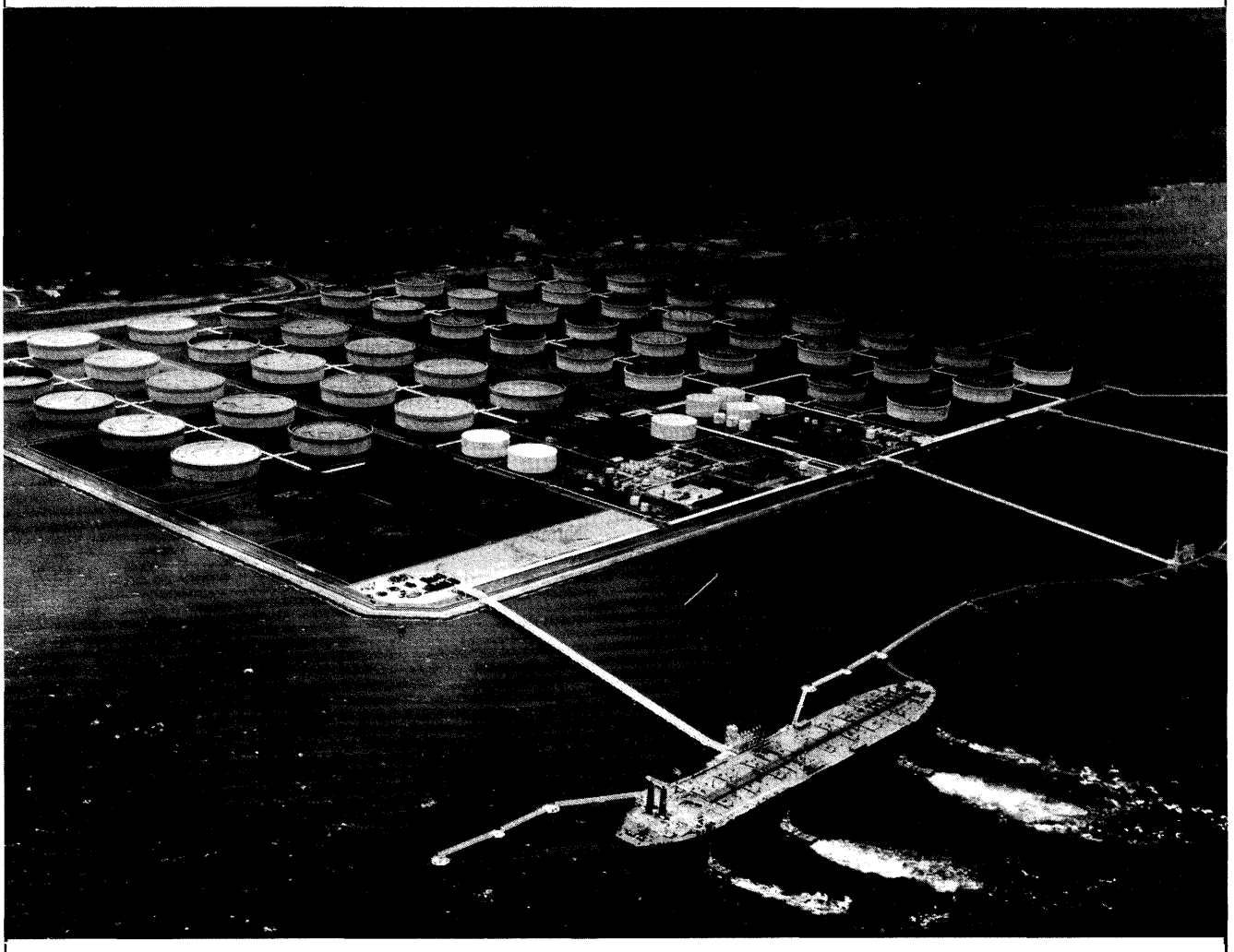
	1977	1978	Variation in %
Number of ships received	2 278	2 275	– 0.1
Net registered tonnage	5 598 702	6 309 392	+ 12.7
IMPORTS	4 867 000	4 958 000	+ 1.9
– Bulk Liquid	1 217 000	1 345 000	+ 10.5
– Bulk Solid	3 168 000	3 103 000	– 2.1
– General cargo	482 000	510 000	+ 5.8
EXPORTS	3 307 000	4 562 000	+ 38.0
– Bulk Liquid	1 311 000	1 684 000	+ 28.5
– Bulk Solid	1 022 000	1 603 000	+ 57.0
– General cargo	974 000	1 275 000	+ 30.9
TOTAL	8 174 000	9 520 000	+ 16.5

Bremen International

- **40% German general cargo handled through Bremen Ports**

The Bremen ports of Bremen and Bremerhaven, with 14.5 million tons, handled, by themselves, 40% of all general-cargo passing, in 1977, through the ten largest West-German ports: said Bremen's Ports Senator, Oswald Brinkmann, to handling-experts. The increase rate was 7.5% more than the previous year and the 1st six months of 1978 was even better than those of 1977- and the 2nd 1978 half is running well, too. The Bremen ports are again heading towards the 1974 boom-year record results. The mainspring of this development continues to be the container traffic. Bremerhaven/Bremen, with 508,000 containers lifting 4.3 million tons of goods, was able to esconce its position still more firmly as Germany's largest container port.

Port of Kiire

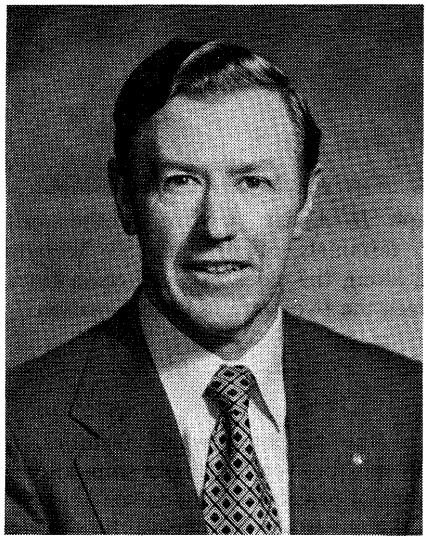


The world's largest tanker "NISSEI MARU" (484,337 DWT) assisted by a fleet of 4,000 B.H.P. tugs sides up to discharge a full cargo of valuable Arabian Light at the world's largest (6.6 million tons) storage farm. All are owned and operated by our group of companies. The investment is indicative of the Group's positive outlook and, confidence in the future of the petroleum, tanker and related industries and, as the trained eye will evaluate, we are well prepared to meet the demand for oil in the coming upsurge in the world economy.

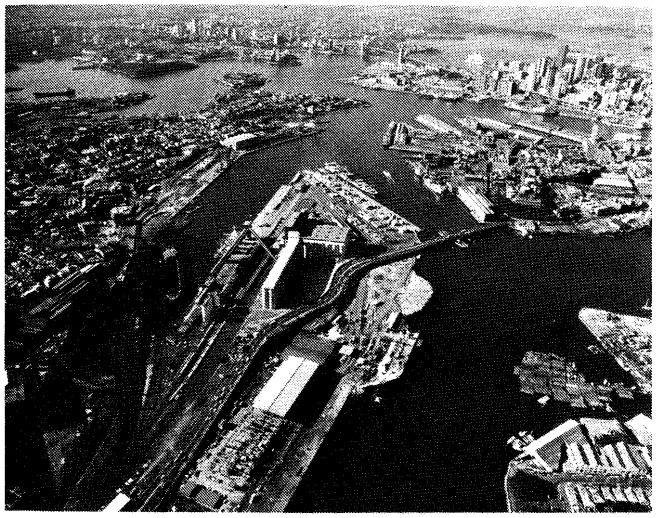
TOKYO TANKER CO., LTD.

Sydney—The Twin Port City

by Mr. J. M. Wallace, President The Maritime Services Board of N.S.W., Australia



Mr. J.M. Wallace



(Photograph A—Sydney Harbour) Port Jackson-Deep waterways carved haphazardly into a hilly terrain.

Almost 200 years after Australia's Botany Bay was judged unsuited for large-scale shipping activity, the Maritime Services Board of New South Wales embarked on an ambitious multi-million dollar construction programme aimed at the very heart of Nature herself.

Prior to May, 1961, when the State Government of the day legislated to place Botany Bay under the ownership and control of the Board, the State's sole port authority, it had always been regarded as a completely separate entity, not really related to the Port of Sydney a few miles to the north.

On assuming control of Botany Bay and commencing the economic and technical evaluations which ultimately led to the decision to institute a large-scale development programme, the Board determined that the two ports should be integrated.

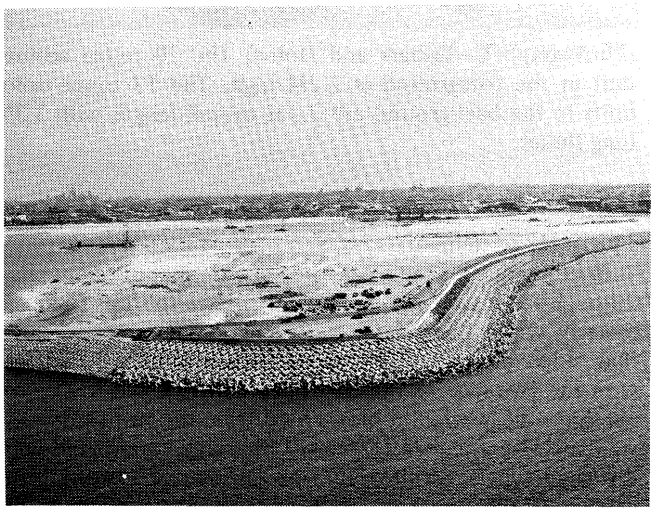
So came into being the Ports of Sydney, making Australia's largest city a twin port metropolis.

The decision to develop Botany Bay as a major port grew naturally out of the increasingly heavy demands being placed on shipping facilities in the heavily developed Port of Sydney.

Despite the high standards reached and maintained in Sydney Harbour by the Board, the port's geography—deep waterways carved haphazardly into a hilly terrain—had made it increasingly difficult to provide the large-scale storage areas needed for the economic handling of bulk cargoes (see photograph A).

Botany Bay, virtually undeveloped until the last two or three decades when oil companies began installing mooring buoys and submarine pipelines to serve nearby refineries and depot facilities, offered the ideal developmental outlet.

It had vast areas available for the reclamation of large expanses of flat land ideally suited for storage space and the development of deep water wharves.



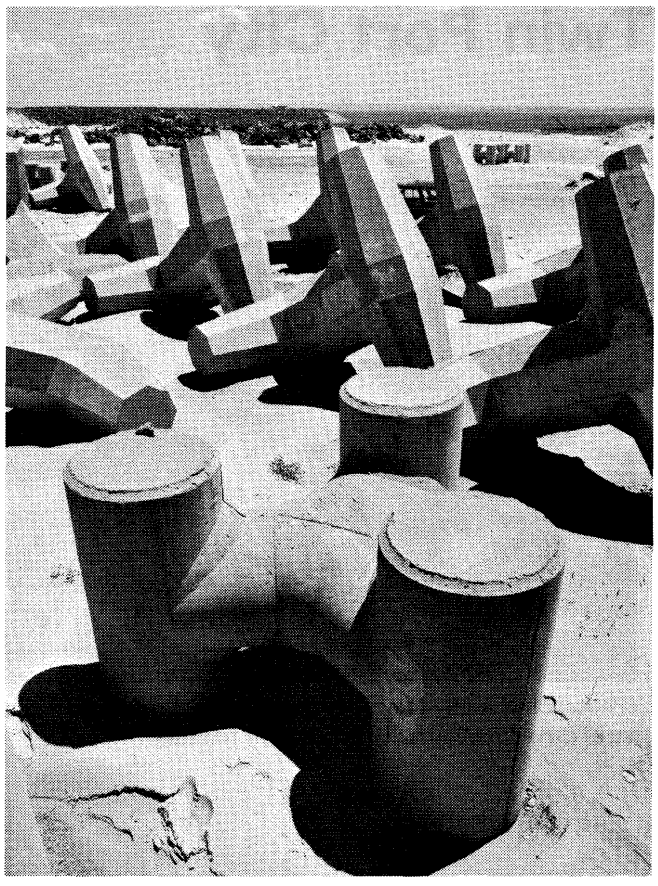
(Photograph B—the Armoured Embankment) The outer end of the armoured embankment.

It is also close to Sydney Harbour and the hub of commercial and industrial activity in New South Wales.

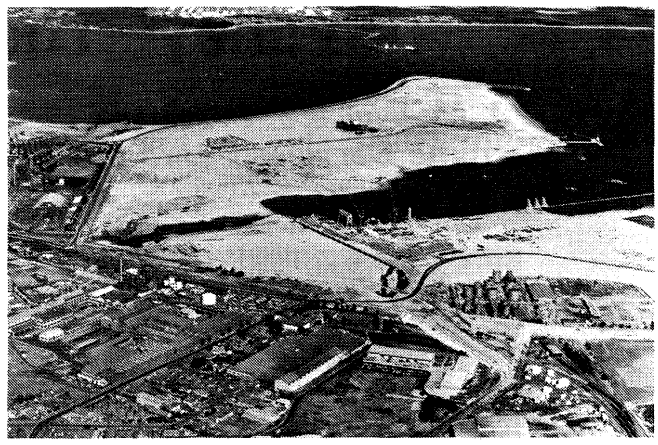
An additional factor influencing the development decision was the world-wide trend towards larger vessels needing manoeuvring areas more generous than anything which could be provided in Sydney Harbour.

But Botany Bay had its problems—and these had been recognised for close on two hundred years.

When Captain Arthur Phillip arrived in the Bay on January 17, 1788, to found there the first British colony in Australia, he judged it unsuitable both as an anchorage and



(Photograph C–Tribars and Dolos) The 20 tonne armour unit in the foreground is 2.2M high. The 13 tonne dolos units in the background are 3.3M overall length with 3.3M long flukes.



(Photograph D–Aerial view of Brotherson Dock) Two container terminals of 42 and 38 hectares are being developed along the sides of Brotherson Dock, the waterway between the two sections of reclamation.

a place for settlement.

Writing in his journal, he noted that Botany Bay "though extensive, did not afford shelter to ships from the easterly wind, the greater part of the Bay being so shoal that ships of even moderate draft are obliged to anchor with the entrance of the Bay open and exposed to a heavy sea that rolls in when it blows hard from the eastward."

Such seas occur infrequently but, when combined with the shallowness of the Bay, are capable of causing great damage to the foreshores and rendering the Bay unsafe for shipping.

A way had to be found to neutralise the shortcomings documented by Captain Phillip in 1788.

In 1962, the Board, in conjunction with the world-renowned Hydraulic Research Station at Wallingford, England, launched a detailed study to find a solution to the problem.

The first stage revolved around investigations into the movement through current and wave action of sand on the bed of the Bay.

After four years of intensive study, it became evident that still-water port facilities of world standard could be economically developed on the northern foreshores of the Bay–provided, of course, that the storm waves could be moderated.

It was found that these waves swept along the entry channels to the proposed wharf facilities, raising grave safety problems for even the largest ships afloat.

A number of possible solutions were closely evaluated–including the erection of massive breakwaters near the entrance to the Bay.

But all such ideas were based on pure theory, and the Board was forced to the conclusion that the complexities of the situation required the collection and study of more concrete data.

Consequently, it was decided to build a large-scale model of the Bay–a model so detailed that it could accurately reproduce in an easily studiable form every possible facet of the Bay's behaviour.

Completed in 1971 at an approximate cost of $2 million, the Botany Bay model is a 1:120 scale replica of the waters of the Bay and nearby offshore areas.

The 6,700 square metre model, situated on the shores of the Bay it mimics, holds 900 kilolitres of fresh water, making it one of the largest fixed-bed wave models in the world.

Sophisticated control equipment designed by the Wallingford Research Station has given the model a wide range of capabilities in environment simulation.

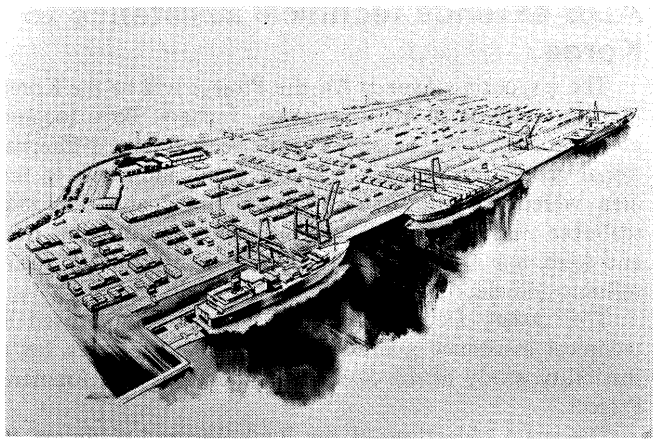
It can, for example, reproduce:

- Offshore waves on a scale-equivalent of 12 metres over a range of directions from east to south–these being the directions from which the mouth of the Bay is exposed.
- Longshore currents in the offshore area.
- Scale-equivalent tides of up to 1.8 metres.
- River flows from the Georges and Cook Rivers.

Only with all this information could the Board fully evaluate the navigational, structural and hydraulic aspects of the development proposals.

Final development proposals–backed up by "hard" evidence gleaned from model studies–included:

- Dredging of the channels and port basins up to 21 metres (69 feet) in depth.
- A first phase reclamation of up to 260 hectares (640 acres) of land for wharfage and associated facilities.



(Photograph E—Artists's impression of Terminal development) The container terminal on the northern side of Brotherson Dock is currently being developed by the Australian National Line which leases a 42.28 hectare area, 425 metres in width. The terminal will have a 1KM total length of wharfage which will incorporate three roll-on/roll-off ramps for the specialised vessels operated by the Line.

- The construction of a large armoured embankment, designed to absorb and dissipate the large storm waves sweeping into the Bay, and to prevent sand from the reclamation being leached out by the suction forces of waves and tides.

At an early stage in the studies it was advised that a special dredging configuration could be developed at the entrance to the Bay which would be suitable for navigational purposes, and would result in a reduction in wave action near the entrance to the proposed port basin and within the inner areas of the Bay.

The final design for the entrance dredging took the form of a V-shaped channel of variable width, with the bottom at 21.3 metres and side slopes at a gradient of 1:50 from the centre of the channel to the natural bed contours.

This channel, 1,700 metres in length, extended seawards from approximately 600 metres inshore to the natural 21.3 metre contour outside the Heads.

Such a dredging configuration would redirect most waves to the northern side of the Bay and onto the proposed embankment—the face of which would require armouring capable of withstanding the force of the redirected waves.

In March, 1971, a contract was awarded by the Board to Atkinson-International (Australia) and Leighton Contractors Pty. Ltd., for the dredging of the port approach channel, initial reclamation work and construction of the armoured embankment.

The dredging work involved the removal of some 13 million cubic metres of sand and was completed in October, 1973.

The armoured embankment (see photograph B) was completed last year.

It is a two kilometre long structure, made up of a massive igneous stone core rising to a height of up to 24 metres above the sandy bed of the Bay.

(Photograph F—construction of counterfort units) Construction of 360 tonne, 18.7M (61.4FT) high concrete counterfort wharf units.

Graded stone filter layers were placed on the sea-bed and behind the core. A two-layer "skin" of selected igneous rocks—each averaging two tonnes in weight—was placed on the seaward side of the core to provide a foundation for the special precast concrete armouring.

The armour units are mainly tribars, ranging from two to 20 tonnes in weight, but 13-tonne dolos were used in particularly exposed sections of the revetment (see photograph C). Concrete cubes were placed at the toe of the slope.

The four-lane scenic roadway along the top of the embankment is up to 14.5 metres above water level, providing expansive views of the Bay. It will shortly be opened to members of the public.

Following the completion of the initial reclamation, a second contract was awarded by the Board for the construction of a six-lane roadway to service the port area, and the building of a large number of concrete ducts to permit the future laying of pipes to the bulk liquids berth.

Work on the contract was completed early in 1976 at a cost of $1 million.

The Bulk Liquids Berth, completed late in 1976, consists of a specialised wharf for handling bulk liquid chemicals and petrochemicals. The wharf, with mooring and berthing dolphins, can accommodate vessels of up to 70,000 D.W.T.

Two container terminals of 42 and 38 hectares are being developed along the sides of Brotherson Dock, the water-

way between the two sections of reclamation (see photograph D).

The Board is constructing two kilometres of wharfage to provide three berths for each terminal (see photograph E). The first wharf is planned to be in operation late next year, and all six by 1981/82.

The design and method of construction of the two kilometres of wharfage for the container berths is particularly unique.

The proposal was submitted by the Joint Venture of Leighton Contractors Pty. Ltd. and Christiani and Neilson (Pacific) Construction Ltd.

In March, 1977, the two companies were awarded a $41.6 million contract by the Board for the wharf construction and associated dredging and reclamation work.

The wharfage consists of a counterfort wall type of construction involving reinforced concrete units each weighing 360 tonnes. These units, each 18.7 metres tall (the height of a six storey building), six metres long and 15 metres at their widest part, are precast in three separate concrete pours in steel formwork positioned in a specially designed casting area straddled by a large gantry crane (see photograph F).

Four separate units can be constructed simultaneously in the casting area.

In all, 370 standard 360-tonne counterfort units, as well as five corner sections, will be used in the construction of the six berths. During some periods, up to four units are placed during a week.

The work of the contract includes the dredging of Brotherson Dock to a depth of 15.25 metres below low water. While this is adequate for the largest container vessels now in service, the Board has specified that the wharves be designed so as to permit possible future deepening to a depth of 16.75 metres.

Throughout the planning and construction stages of the Botany Bay programme, the Board has gone to great lengths to ensure that the environment benefits, rather than suffers, from the creation of a major trading port.

Plans are being finalised for the landscaping of the 5.3 hectare Womeai Reserve located on the port reclamation near Bomborah Point. The plans call for the massed planting of native plants, compatible with the local marine environment.

In addition to this, the Board is landscaping a 20 hectare area of the reclamation between the existing foreshore and the new marine drive.

Lessees of port lands will be required to landscape the frontages to their areas in conformity with the Board's general landscaping plan.

To date, a considerable portion of the port work has been completed, and the Board has undertaken a number of significant works to ensure the maintenance under changed conditions of several beaches around the Bay.

The Port Botany project, when completed, will provide unequalled facilities for vessel accommodation and cargo handling.

It will help meet, in partnership with Port Jackson, the future maritime needs of the State of New South Wales.

And, it will give full meaning to Captain James Cook's 1770 appraisal of a "capacious, safe and convenient" harbour.

ADB extends technical assistance to Korea

The Executing Agency for the Project will be the Korea Maritime and Port Administration. Incheon Port, located about 40 km. west of Seoul, is the second largest international general cargo port in Korea. Major industries in the area which are important to international and domestic seaborne trade include plywood, cement, flour milling, iron and steel, machinery, textiles, oil refining, fertilizers, sugar refining and electronic and electrical appliances.

The Asian Development Bank recently approved a technical assistance grant to the Republic of Korea for a feasibility study of the Second Incheon Port Development Project.

The main objectives of the Bank-financed study are to develop a plan for the future expansion of Incheon Port and to determine, within the framework of this plan, the investments necessary to meet the forecast traffic demand on Incheon Port through the year 1990.

The study will be carried out in two stages: the first stage will review the existing facilities and future potential of the Inner, North, Coastal and South Harbors and identify the area of the Port requiring more detailed examination. The second stage will involve actual detailed study of the critical area of the Port and formulation of an investment program with detailed project components supported by technical and economic feasibility of the recommended investments.

A.A.P.M.A. 26th Conference 1978 held

A.A.P.M.A.=The Association of Australian Port and Marine Authorities

Mr. N.K. Wran, Q.C., M.P., Premier of New South Wales, accompanied by Mr. L.J. Ferguson, M.P., Deputy Premier and Minister for Public Works and Ports, officially opened the 26th biennial Conference of the Association of Australian Port and Marine Authorities (A.A.P.M.A.) which was held in Sydney 16–20 October 1978. Chairman of the Conference was Mr. A.S. Mayne, President of the Association and Chairman, Melbourne Harbor Trust; and host Authority, the Maritime Services Board of N.S.W. (President–Mr. J.M. Wallace who is also Vice-President of the A.A.P.M.A.).

One hundred delegates from port and marine authorities of all the Australian States and the Northern Territory attended this Conference; the Commonwealth was represented by its Department of Transport and the Hydrographer RAN. In addition, 25 international visitors came from port authorities in the United States of America, Fiji, New Zealand, Singapore, Papua New Guinea, American-Samoa and the United Kingdom. The International Association of Ports and Harbors was represented by its President, Mr. G.W. Altvater, Executive Director, Port of Houston, U.S.A. Mr. Altvater gave a most informative and thought-provoking address on the subject of Port Pricing–a Philosophy for the Future.

The A.A.P.M.A. has been successful in fostering a greater uniformity in Port and Marine practice in cases where this has been considered desirable. Mr. Mayne said the A.A.P.M.A. is an appropriate forum to assist in this task by

(Continued on page 46 bottom)

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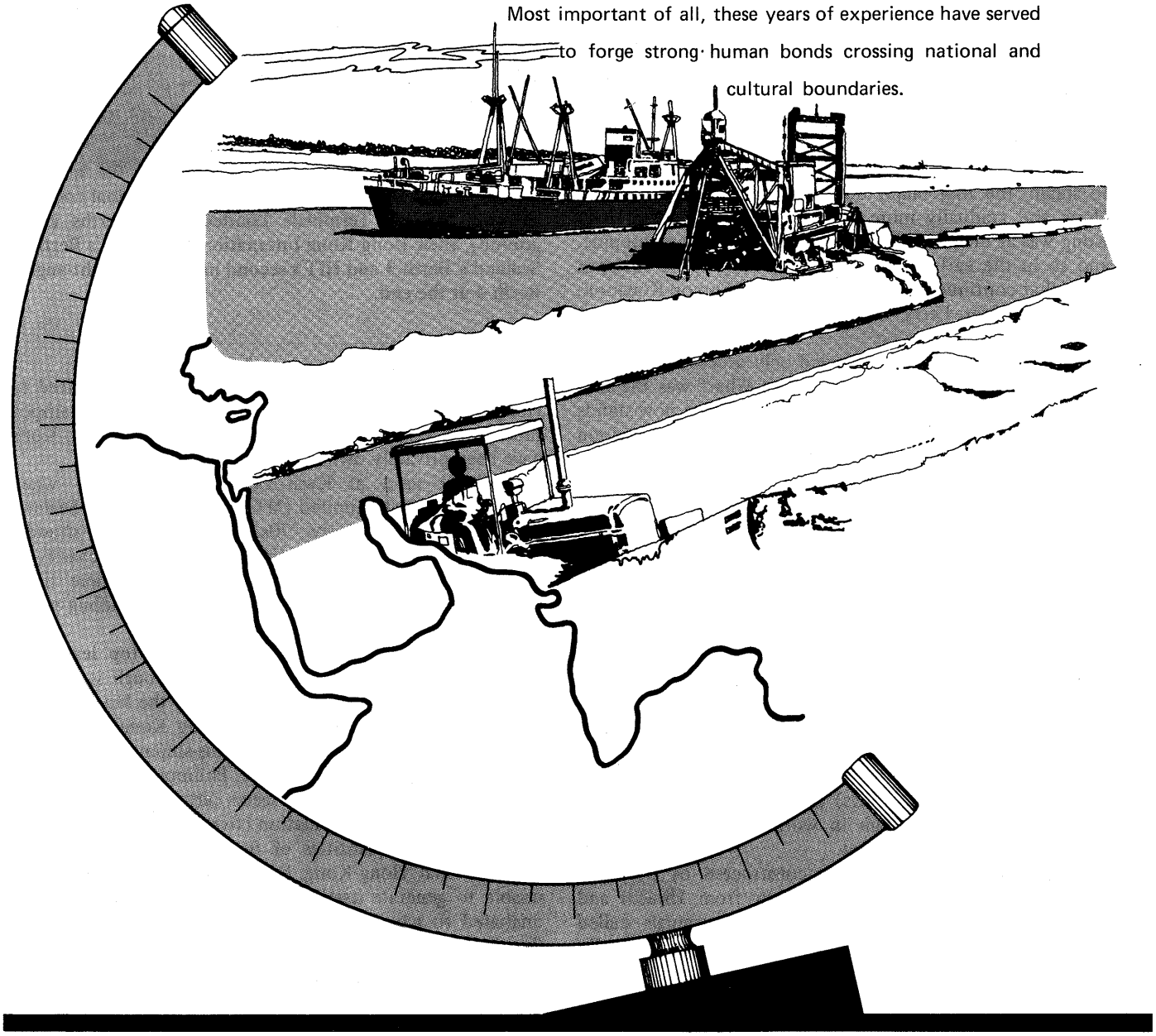

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Port development in Hong Kong

Marine Department, Hong Kong

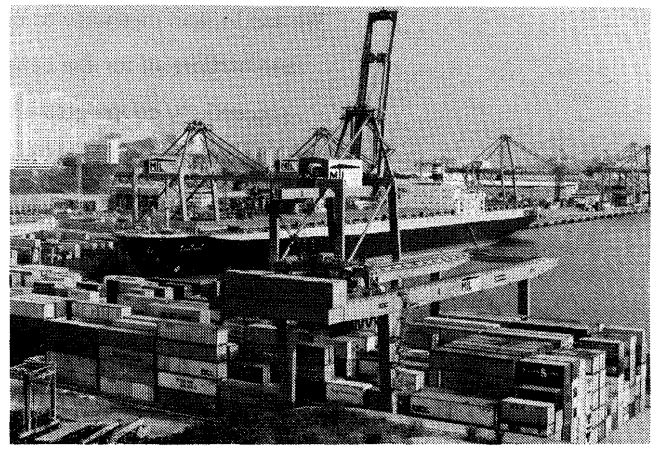
Hong Kong had been a port of call for both Chinese and foreign vessels long before Britain took over its administration in 1841. The reason was simple. Its harbour—a stretch of water between meandering Kowloon peninsula and Hong Kong Island's northern foreshore—offered natural protection from typhoons and other storms that plagued the South China Sea, and it had a supply of fresh water. After the arrival of the British, long distance shipping followed the seasons—during the southwest monsoon, from May to September, vessels would arrive from Europe, leaving once more when the northeast monsoon, from October to April, began blowing, affording the chance of a fast passage home with cargoes from the China coast.

Ships then anchored in the stream. But as sail gave way to steam, the first major dock was built in 1888 at Hung Hom, and gradually more facilities began appearing. Hong Kong was at the geographic crossroads of Far East shipping, and so in the early 1900s it quickly built up an entrepot trade that continues today. Wharves sprang up on Kowloon, beside the Star Ferry quays, and across the harbour at North Point.

Their death knell was sounded only a decade ago, with the advent of containerisation. Holt's Wharf was the first casualty—a commercial and residential complex now stands in its place. The finger piers of Hong Kong and Kowloon Wharf, behind the Ocean Terminal when passenger liners tie up, have also yielded to progress, and the site is now occupied by the Ocean Centre shopping and commercial development. Hung Hom had earlier reverted to a purely shiprepairing role, while in late 1978 it was announced that North Point too would be demolished. So by the 1980s, the last remaining vestiges of a century of waterfront wharf activity will have vanished.

Replacing these facilities is the Kwai Chung containerberth complex, situated a little to the west of the port proper. Built from reclaimed land in what used to be known as Gin Drinker's Bay, it now consists of five terminals, two of which have multiple berths. In simple throughput terms, it shifts well over one million twenty foot equivalent units (TEUs) annually, placing it behind New York and Rotterdam in world rankings, and about equal with Kobe for third slot.

The terminals were largely constructed by Japanese companies and the equipment—much from Hitachi and Mitsubishi—is also Japanese. One of the terminals—called Kowloon Container Warehouse (Berth 2) was actually owned by Oyama Line, but has since been transferred to Hong Kong International Terminals, a Hutchison-Whampoa subsidiary. From the beginning, all berths in Hong Kong have been privately owned.



Aerial view of the Kwai Chung container terminal complex showing Modern Terminals Limited's two berths (foreground), then Hong Kong International Terminal's Berth 2, Sealand's Berth 3 and HIT's second multi-berth right-angled Berth 4 at the end.

Methods used at Kwai Chung varied widely when Modern Terminals Limited (MTL), KCW and then Sealand opened up in the early '70s. MTL opted for straddle carriers, KCW for transtainers and Sealand for chassis—it was perhaps the only place in the world where three completely different methods of container handling could be seen side by side.

Hong Kong's astronomic leap into the top league of containerports, however, now looks as though it will see more modest progress in future. Most of the lines that can containerise have done so. And Hong Kong's container trade depends 40 per cent on trans-shipments—as other Asian ports, particularly in the Philippines, develop facilities too, this feeder traffic seems certain to ebb.

The ever-growing population (five million) will, though, need increasing quantities of foodstuffs and many other materials that Hong Kong, because it has no hinterland, is unable to generate itself. Similarly, exports must continue unabated to pay for the imports. Light industry has been flourishing in the territory for perhaps 20 years, with textiles still uppermost followed closely by electronics. Then follow all manner of other industries—Hong Kong for example is the world's largest exporter of toys.

It also boasts perhaps the world's largest concentration of shipowners—men like Y.K. Pao and C.Y. Tung are substantial indeed. This in turn is reflected in a strong shipping sector on Hong Kong's four stock exchanges, enabling the public to take a more direct interest in the fascinating array of craft, from sailing junks and Chinese lighters to Boeing jetfoils and third generation container-

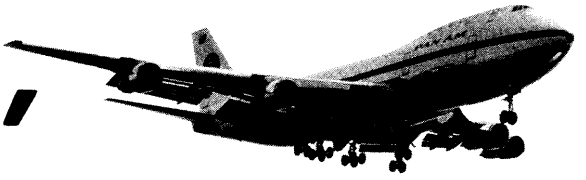
(Continued on page 48 bottom)

(Continued from page 44)

systematic mutual consultation and sharing of experience and ideas.

At the end of the Conference, Mr. Mayne and Mr. Wallace were re-elected President and Vice-President, respectively, until the next biennial Conference (27th) of the Association of Australian Port and Marine Authorities, which is to be held in Brisbane 1980, jointly hosted by the Department of Harbours and Marine, Queensland and the new Port of Brisbane Authority.

SAVE TIME,



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Israel Ports Authority

Background Data 1977/78

General (Extracts)

• There are three ports under the jurisdiction of the Israel Ports Authority: Haifa, Ashdod and Eilat.

The Israel Ports Authority was established on July 1st, 1961 in accordance with the "Ports Authority Act (1961)". By that Law the Authority is defined as a state corporation empowered to acquire any right, to undertake any obligation, to be a party to any lawsuit and to any contract. The functions of the Authority are to plan, build, develop, manage, maintain and operate the ports of Israel. The guiding principle of the Authority's activities is to manage all ports in general and each port individually as a self-supporting unit. The Act, amongst other, also defines the issues requiring governmental authorization (such as tariff changes, development budgets, etc.).

The Authority maintains an ordinary budget and a development budget. The ordinary budget contains the ports' revenues from services and their expenditures for wages, maintenance, handling costs, depreciation, interest, etc. The balance of revenues is transferred from the ports to the central budget. The development budget is destined to finance development works in all the ports. Its sources of funds are loans from governmental or other institutions.

Characteristics of 1977/78

• The main characteristics of the Ports Authority's activities in its seventeenth year are expected to be following:

- a moderate growth of cargo volume and increased shift to containerization;
- continuing slow-down of conventional cargo traffic which accounts for the largest share of manpower requirements;
- extensive development work at Haifa Port, the first stage being the construction of the eastern central container terminal—protected by a new breakwater;
- stepping up operations at the Ashdod container terminal, and enlarging the capacity on the bulk hankdling installations;
- further development of quays and premises at Eilat Port to meet the requirements of the increasing traffic, mainly of containers.

Revenue and Expenditure

Total revenues of the Ports Authority during the fiscal year beginning April 1st 1977 will reach IL 1225.735 millions; total expenditure will amount to 1225.125 million Israel Pounds.

The Authority's budget for 1977/78 exceeds the previous one by 22 percent. Approximately 41 percent of the total expenditure is allocated for salaries and wages (as against 46% in 1976/77), 39 percent to capital costs (37% in 1976/77) and 20% to other disbursements. The shift of input from labour to capital clearly reflects the technological revolution taking place in the ports.

The budget for 1977/78 is based upon a cargo forecast of 9.1 million tons (compared with 8.8 m tons the previous year) and upon the present level of tariffs—allowance being made for the anticipated changes of the local currency rate. Two prominent trends mark the 1977/78 cargo forecast: first, a substantial increase of exports (app. 13%) vis-a-vis a five percent drop of imports; second, the continuing shift towards containerization. Of the total traffic expected, Haifa Port will handle about 4.7 million tons, Ashdod 3.4 m and Eilat 1 million tons.

Development of the Ports

The Authority's development budget for 1977/78, totalling 435.6 million Israel Pounds constitutes a part of a long term IL 2 milliard development plan. This master-scheme is designed to cope with the increase of cargo traffic in the coming years, especially in the field of containers and bulk shipments such as grains, chemicals etc.

Towards the Future

The growth of the population, the rising standard of consumption, and the advancement of trade and economy are reflected in the increase of cargo traffic. A growth of one hundred percent and more is anticipated for the coming decade, not including oil-tanker traffic. According to the Ports Authority's forecasts, traffic in 1986/87 should reach over 20 million tons. A more detailed prognosis for the next five years speaks of a 50 percent traffic increase. The total tonnage expected in 1981/82 is approximately 14 million tons; the main increase is assumedly in exports (mostly bulk shipments) which should amount to about 7.5 million tons, while imports are seen to total 6.5 million tons. Container traffic is anticipated to double within the coming five years; more than 320,000 TEUs in 1981/82, and over 420,000 TEUS in 1985/86—not taking into account shipments of containerized citrus fruit.

Trade declines in difficult year

(Brisbane Portrait):—Total trade passing through the Port of Brisbane in 1977/78 was 8.369 million tonnes, down by 5.6% on the previous year's record total of 8.862 million tonnes.

However, it is expected that the decline will be reversed in the current financial year with a growth of 4% to about 8,700,000 tonnes.

Last year's grain exports were down by 47% due to a below normal crop caused by drought conditions. This year's crop has had favourable growing conditions to date and a substantial improvement is expected in grain exports.

(Continued from page 46)

ships, that they see passing by every day. If nothing else, Hong Kong with its freighters of every nationality on buoys in the stream, its ferries, its wallah wallahs and sampans and myriad other craft constantly bustling back and forth, must be one of the East's most interesting ports for seafarers and casual travellers alike.

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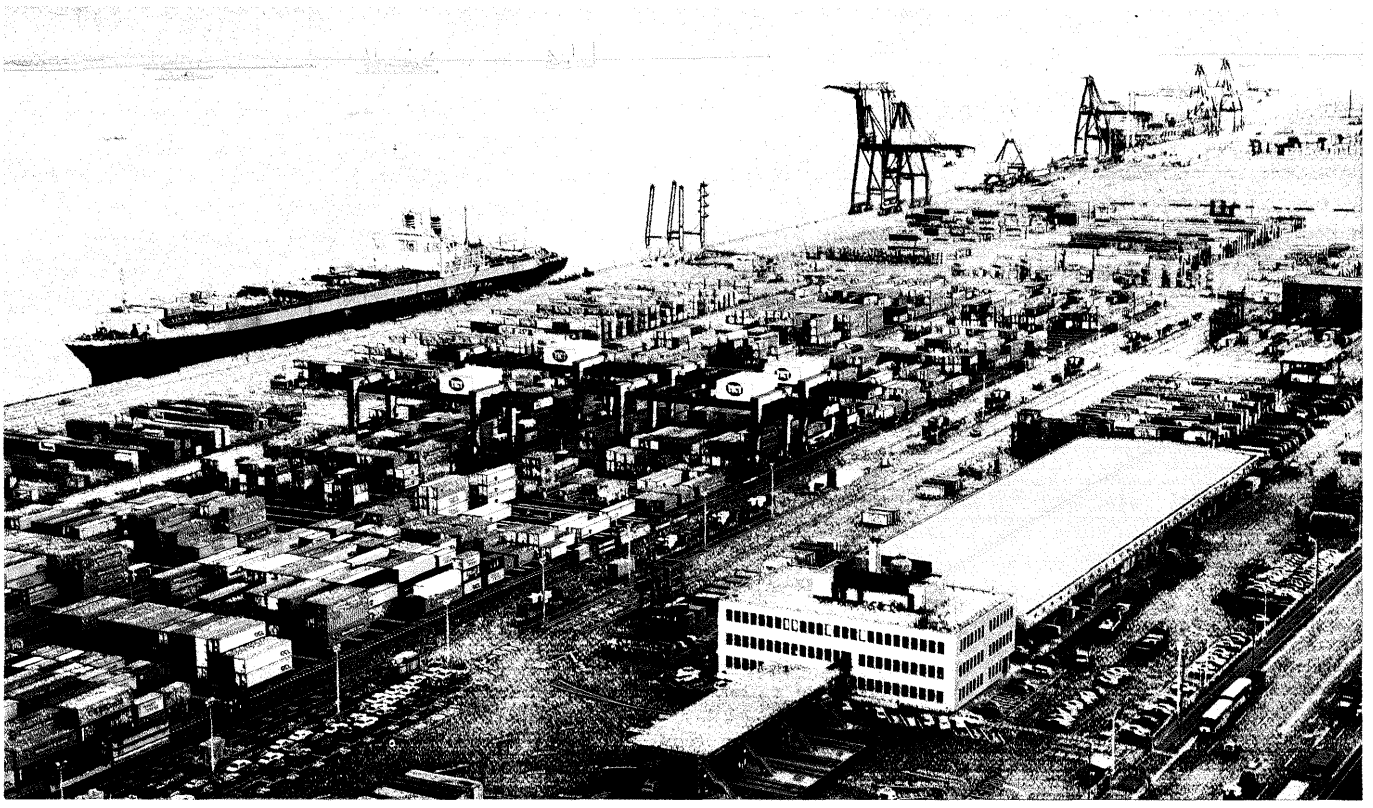

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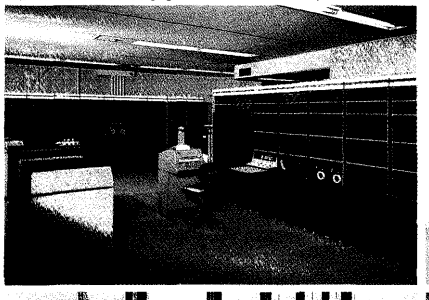
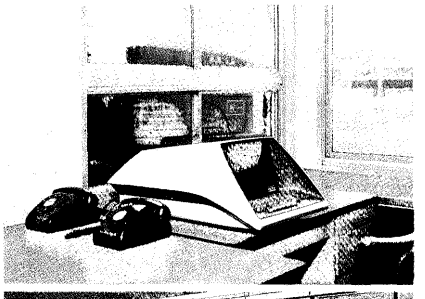
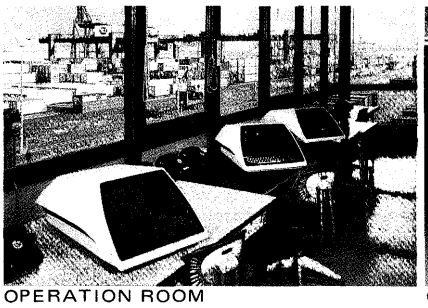
COMPUTER ROOM

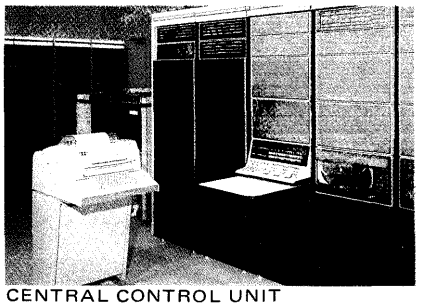


GATE OFFICE





OPERATION ROOM



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