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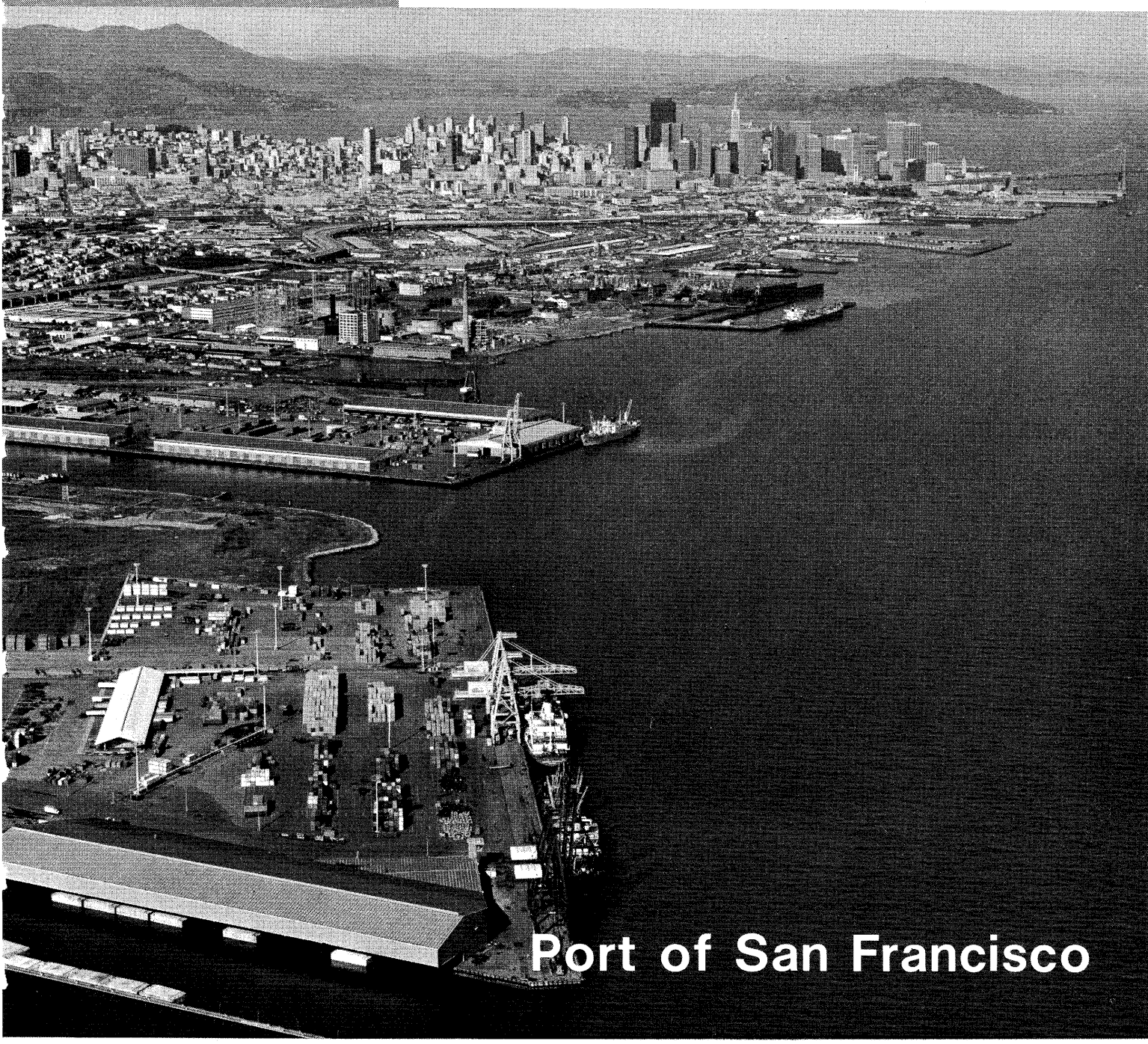
PORTS and HARBORS

March, 1985 Vol. 30, No. 3



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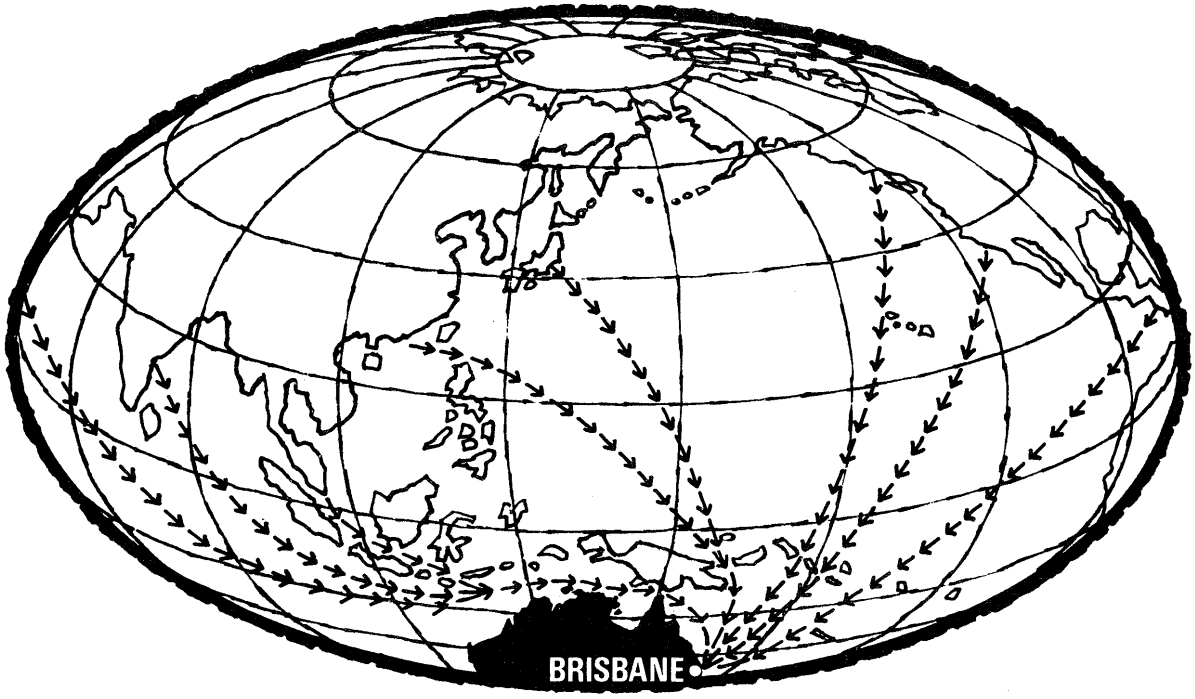

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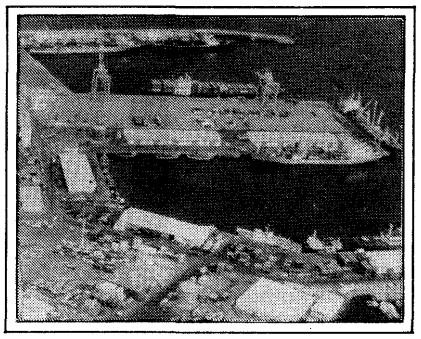

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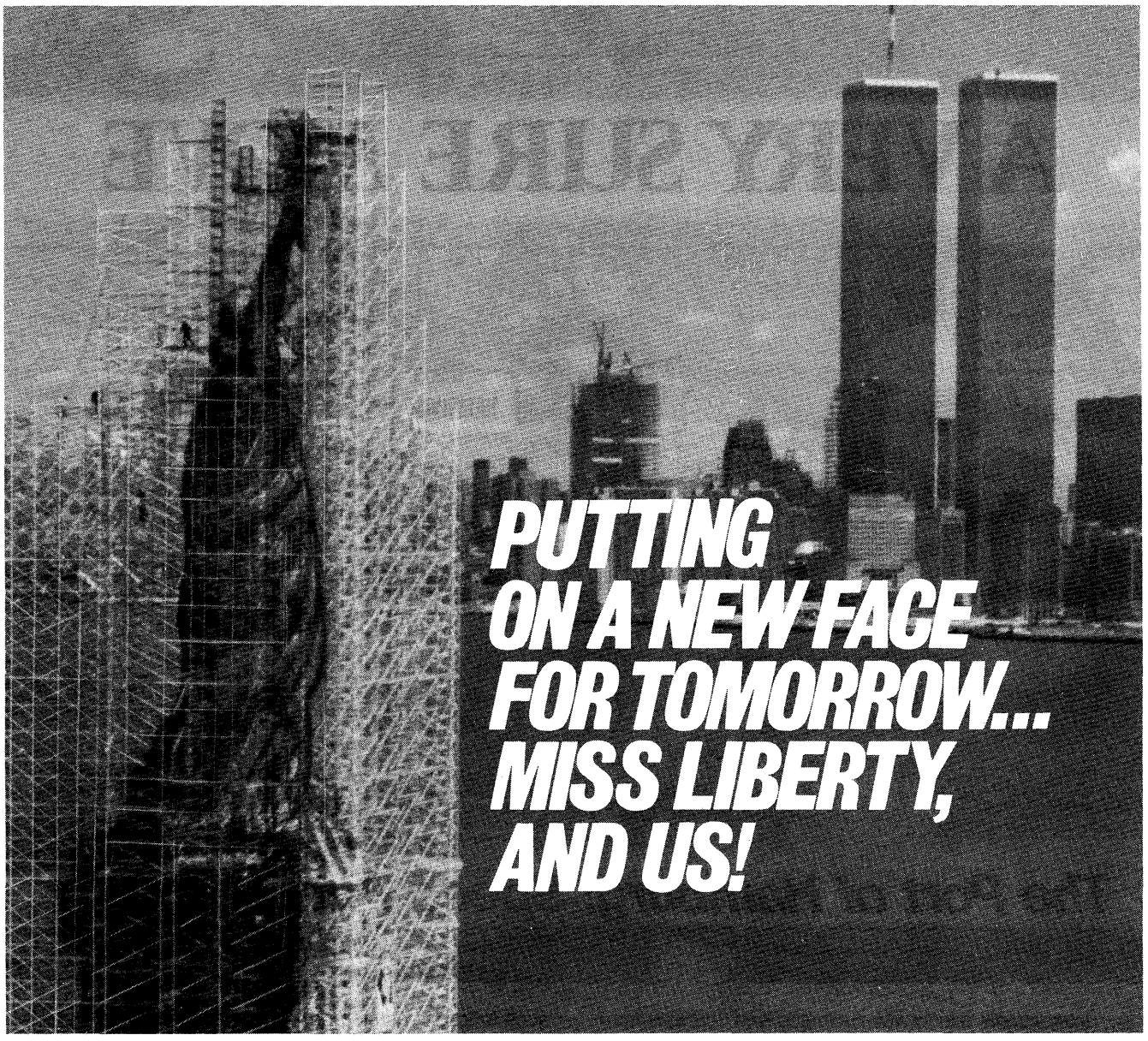

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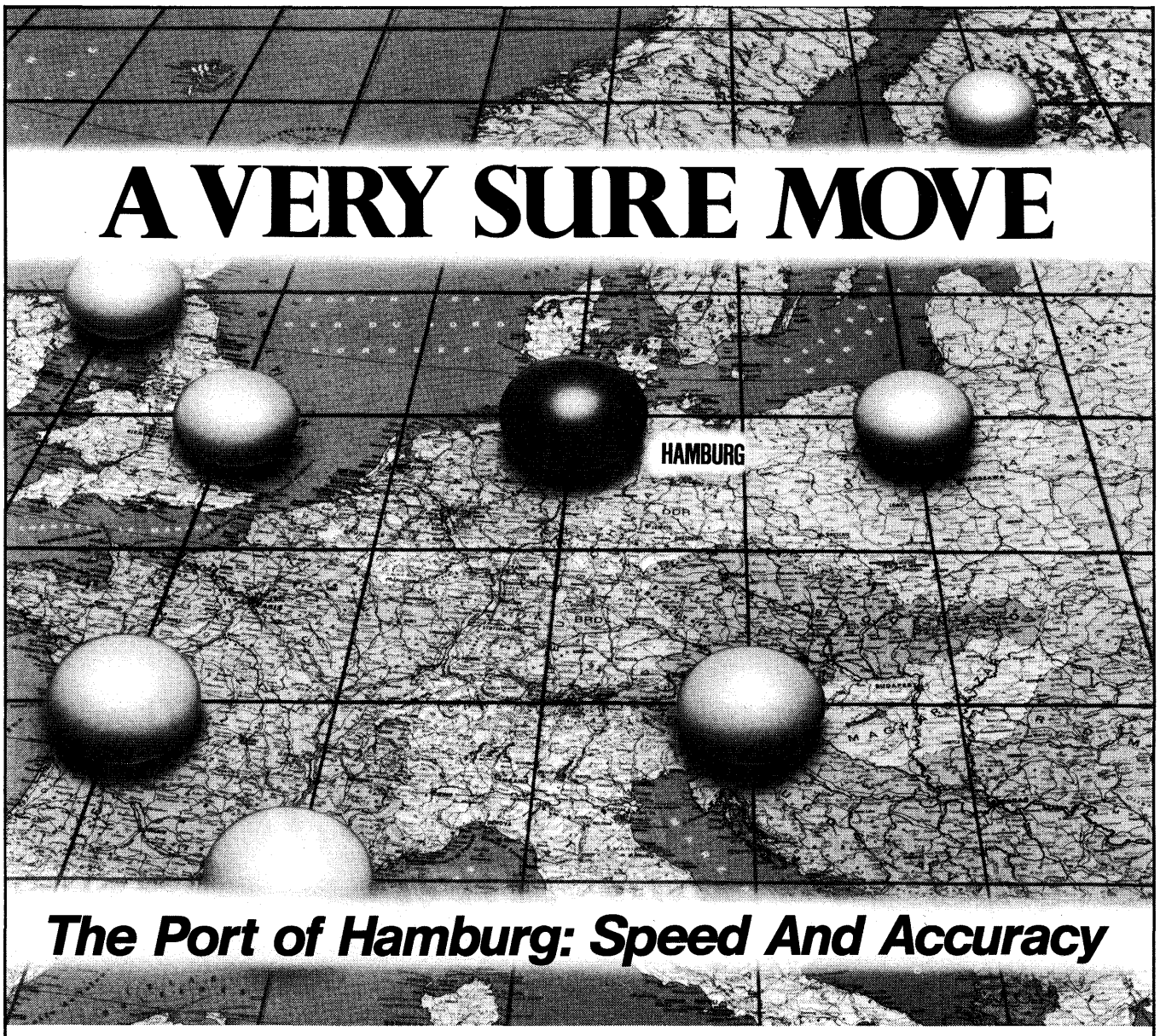

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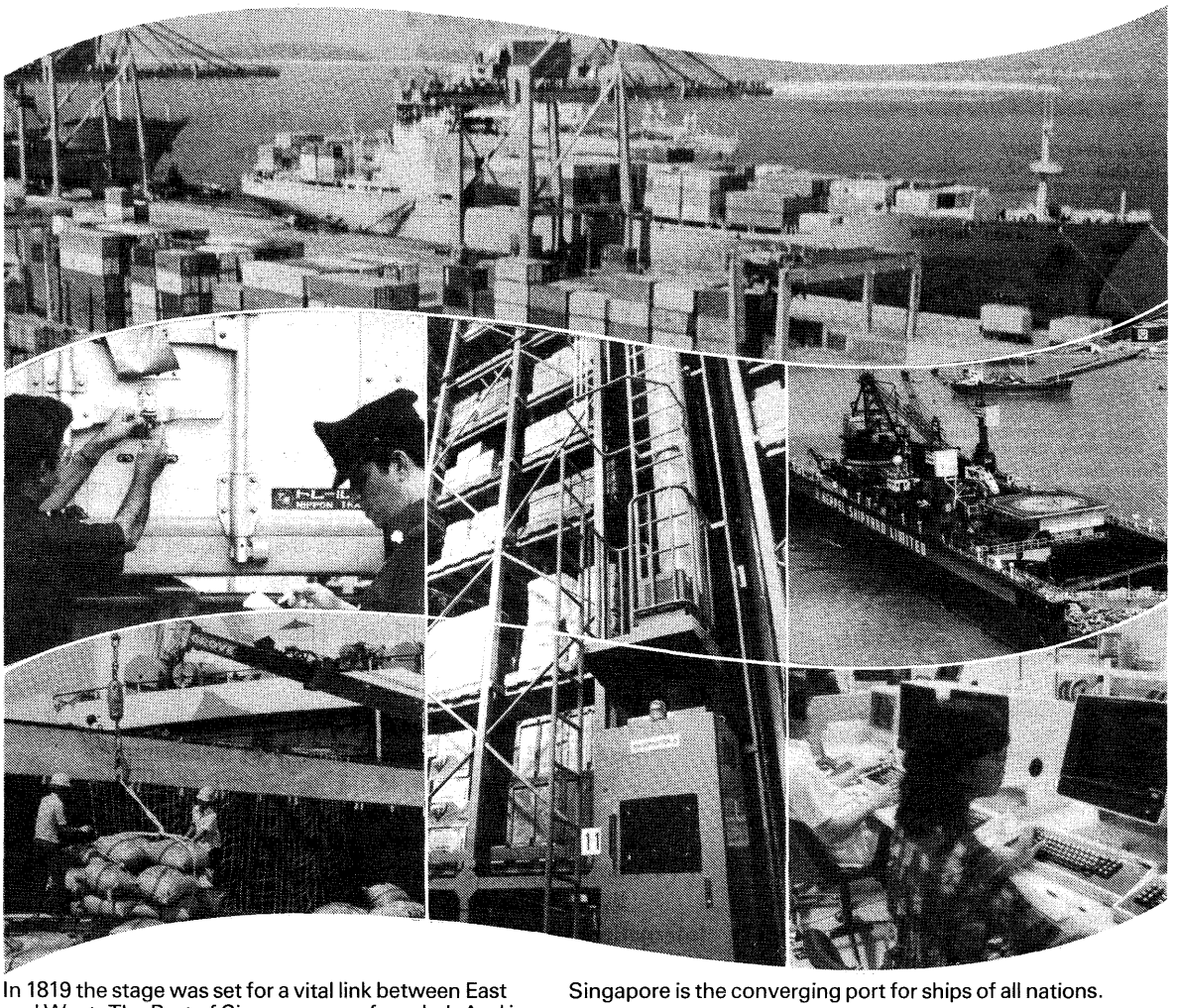
The Port of Singapore takes a bow or two.



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IAPH announcements and news

Mr. J.M. Wallace assumes IAPH 2nd Vice-Presidency until close of the Hamburg Conference

In the November 1984 issue of this journal, the news appeared that Mr. J.M. Wallace had relinquished his position as President and Chief Executive of the Maritime Services Board of New South Wales, Sydney, Australia, effective August 17, 1984, and that consequently there was a vacancy in the office of the 2nd Vice-Presidency of IAPH.

Mr. Wallace, however, at the request of the IAPH Officers, has agreed to serve as 2nd Vice-President of IAPH until his successor is elected at the Hamburg Conference in May this year.

Secretary General Sato, having received the news of this development from President Tozzoli and having had it confirmed by Mr. P.J. Falvey, Chairman of the IAPH Legal Counselors, takes pleasure in announcing that Mr. J.M. Wallace is to assume the office of 2nd Vice-President of IAPH until his successor is elected at the forthcoming Hamburg Conference.

His postal address is as follows:

Mr. J.M. Wallace, IAPH 2nd Vice-President
Consultant
Maritime Services Board of New South Wales
G.P.O. Box 32, Sydney, New South Wales 2001,
Australia
Phone: (02) 240 2111
Telex : MSBSY AA 24944

IMO Secretary General's Letter

In his letter of 29 October 1984 addressed to IAPH Secretary General (which was included in the December 1984 issue of this journal on page 9), Mr. C.P. Srivastava, IMO Secretary General, informed IAPH that the recommendation in connection with the Carriage of Certain Substances by Sea with regard to the draft HNS Convention would be considered by the Council of IMO at its 53rd session to be held from 12 to 16 November 1984.

In this connection, Mr. Srivastava wrote to IAPH on 14 December 1984 concerning the Council's decision as a result of the November session.

His letter indicates that pursuant to the decision of the Council, the Legal Committee will be invited to consider the matter in due course, on the basis of documentation to be prepared by the Secretariat as requested by the Council.

He also says that IAPH will be invited to attend the sessions of the Committee dealing with the matter and to participate as appropriate in the discussions of the Committee.

The letter and the enclosed document recording the Council's decision as received from the IMO Secretary General have been referred by the Head Office to all members of the Board and Executive Committee as well as to the chairmen of internal and technical committees of IAPH. Moreover, for the attention of all members and readers, we reproduce here the same document.

Extract from the "Summary of Decisions" of the Council for its 53rd Session

10 CONSIDERATION OF THE RECOMMENDATIONS OF THE INTERNATIONAL CONFERENCE ON LIABILITY AND COMPENSATION FOR DAMAGE IN CONNEXION WITH THE CARRIAGE OF CERTAIN SUBSTANCES BY SEA ON THE DRAFT HNS CONVENTION **(Agenda item 10)**

10.1 The Council considered the recommendations of the International Conference on Liability and Compensation in connexion with the Carriage of Certain Substances by Sea with regard to the draft HNS Convention.

10.2 The Council noted the conclusions of the Conference and in particular the recommendations that IMO may arrange to prepare a new and revised draft for submission to a diplomatic conference which might be convened in the future.

10.3 The Council noted that the discussions of the Conference revealed a number of fundamental issues on which wide differences of opinion remained.

10.4 The Council therefore requested the Secretary-General to arrange for these fundamental issues to be identified and analysed and to submit the results to the Legal Committee for consideration.

10.5 The Legal Committee was invited and requested to consider the report which would be submitted by the Secretary-General, and to present appropriate recommendations and proposals to the Council on the subject, having regard to the priority already assigned to the work on salvage and maritime liens and mortgages.

Entry papers by the twin recipients of the Akiyama Prize

As announced in the previous issue of this journal, for the first time in the history of the IAPH Award Scheme, an essay contest, twin recipients of the first prize, known as "the Akiyama Prize", have been decided. They are Mr. Doorehn Nunkoo, Statistical Officer, Mauritius Marine Authority, and Mr. Marios Meletiou, Senior Civil Engineer, Cyprus Ports Authority.

The respective winners have confirmed their participation in the forthcoming conference in Hamburg, where they will receive the "Akiyama Prize" at the first plenary session on May 6, 1985.

One of the conditions for the winning entry was to publish it in this journal, so in this issue we carry Mr. Nunkoo's paper on page 13 and Mr. Meletiou's on page 25 for the benefit of all members and readers.

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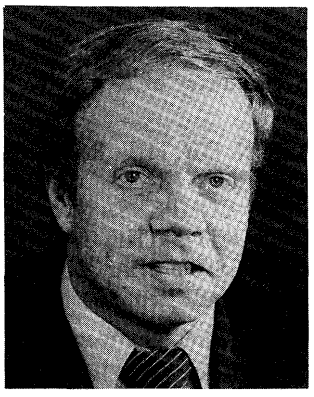

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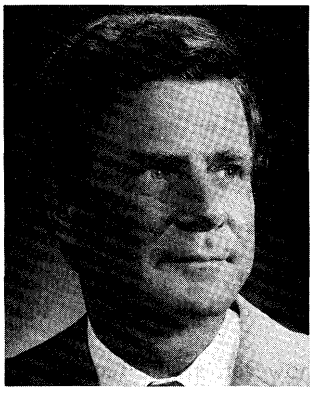

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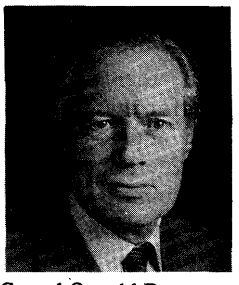

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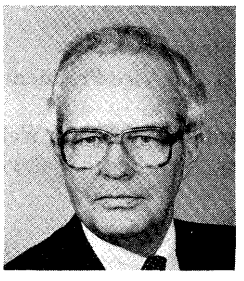

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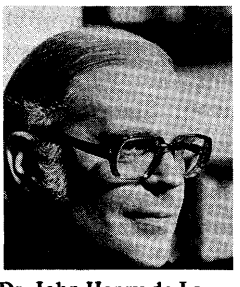

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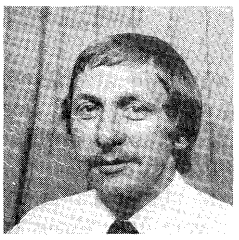

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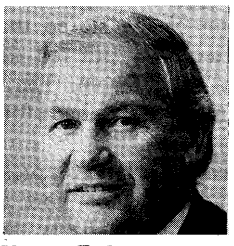

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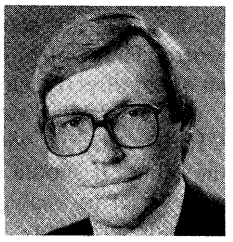

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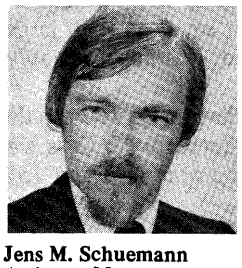

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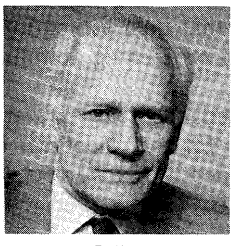

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IAPH observes the VIIth International Maritime Pilots Association Congress in Hong Kong

Report by
Mr. Chan Yue-yan,
Director,
Marine Department
Hong Kong

The VIIth IMPA Congress was held at the Sheraton Hotel, Hong Kong over a period of five days, 3 December 1984 to 7 December 1984, under the chairmanship of the President of IMPA, Captain M. Guicharrousse.

A total of approximately 500 people came to Hong Kong for the Congress and there were delegations from 18 separate countries. Mr. D.A. Hall, Deputy Director, Hong Kong Government Maritime Department, represented the International Association of Ports and Harbors as an observer.

The Congress was opened by Mr. Chan Yue-yan, J.P., Director of Marine, who gave an address, followed by Captain Cheung Tun-yin, Chairman of the Hong Kong Pilots Association Ltd., who welcomed fellow pilots to Hong Kong.

The Congress considered many important issues affecting pilotage and the debates were lively and well argued. Some of the principal issues are considered below. *(extracts)*

Vessel Traffic Services (VTS)

There were various views put forward for discussion by member countries: –

The Canadian view of VTS as stated by Captain Pouliot was unfavourable, and he stressed that shipmasters and pilots would not accept orders or instructions from a VTS centre. The control of the vessel should remain with those on board directly, engaged in the movement of the vessel.

The Australian viewpoint was that pilots should support VTS in principle and that a VTS centre should be run by the pilots. It should be regarded as an aid to the navigation of a vessel to enable the ship operations to be made safer and more efficient.

The IALA representative, Mr. N. Matthews, stated that he was attending a meeting on the 10th December with the ICS to discuss Cost 301 matters and the qualifications of VTS personnel. He also stated that IALA's position was not necessarily to promote VTS, but where it was decided by the Authority that there was a definite need for VTS, then a code of practice should be introduced to harmonise procedures. Guidelines and procedures should be laid down, and everyone using a VTS system anywhere in the world should communicate in the same language to meet the needs of the user.

The Vice President of the IMPA Executive Committee and delegate for New Zealand, Captain Varney, stated that Authorities should first positively establish the need for VTS in their particular area, and he further stated that IMO should formulate guidelines outlining the criteria of need for VTS.

The German delegate, Captain Asnuss, remarked that the German pilots had been associated with VTS for the past twenty-three years and were presently heavily involved. VTS should be implemented by competent authorities to improve the safety and efficiency of traffic and the protection of the environment, and it should be properly defined and be capable of giving information, advice and instructions to the users.

Another Vice President of the IMPA Executive Committee from the Netherlands, Captain de Vries, opined that VTS was widely used in the Netherlands with the pilots taking an active role in the VTS centre to supervise situations such as the regulation of movements to facilitate an efficient and safer traffic flow.

The President of IMPA, Captain Maurice Guicharrousse, stressed that appropriate legislation should exist or be enacted before ships are required to participate in a VTS, due to the legal consequences which could arise. He also stressed that the need for pilots to participate in VTS and for pilots to play a positive role in the operation of a VTS.

The USA representative and Senior Vice President of IMPA, Captain Neely, stated that the San Francisco Bay pilots supported VTS, but felt this was not the case in the United States as a whole. The original impact that VTS had in the United States had, for a variety of reasons, now slowed down.

In conclusion, the IALA representative raised the subject of recommendations for port traffic signals to control traffic movements in ports and port approaches. He described the different types of signals to be used and stated that it would be preferable for Authorities to follow a common style of port signal. He also stated that the signals had been adopted in two or three ports in the United Kingdom and were being carefully monitored and assessed. This was also corroborated by Captain Edmonson's statement that the Dover Harbour Authority was pleased with the effect these signals had had on the control of traffic at Dover.

Ship Squat Statistics

The Vice President of IMPA, Captain Coates declared that tests had been carried out in Liverpool to measure the amount of sinkage and squat, by attempting to measure the change in draught as a vessel was passing through a lock with both ends of the lock open. However, he stated that no conclusive results had been achieved.

Discussions also took place regarding the findings by Maersk Line that their estimations for squat on their larger vessels, when proceeding at full speed, was approximately 3 meters.

The Netherlands delegate stated that in Rotterdam the requirements for the underkeel clearance for VLCC's was 20% of the depth of water outside the port area and 15% inside the port.

Robot Ships

Captain Coates addressed the Congress on the question of 'robot' ships and how and when these ships would affect pilots and pilotage. He stated that several nations were

carrying out research on these ships and it was known that Sir Y.K. Pao was supporting Japanese experts on these developments. It was considered possible that by 1990 these ships may be sailing across oceans from berth to berth with little or no manpower on board. Other points raised were with respect to the effect the movement of these vessels would have on the Collision Regulations and how they would navigate in poor visibility in close proximity to manned ships.

It was believed that plans were in the design stage for 60,000 ton bulk carriers and 80,000 ton oil tankers with computer-controlled sails. The Japanese delegate expressed the opinion that there would be no problem in handling these ships from a pilotage point of view and that questions such as arc of visibility and other aspects affecting manoeuvring would not be critical.

The President summed up the Congress and stated that the next meeting would be held in Paris, France, in September or October of 1986. The event concluded with a Farewell Gala Dinner and Closing Ceremony in the Grand Ballroom on the evening of 7 December 1984.

ISO/TC 8/SC 19 Roll-on/Roll-off ship to shore connections disbanded

A circular letter dated January 7, 1985 from ISO (International Organization for Standardization) has been received at the IAPH Head Office. According to the information from its Secretariat, ISO/TC 8 has decided on the dissolution of ISO/TC 8/SC 19 Roll-on/Roll-off ship to shore connections, as the task has been completed. (Ref. Doc. ISO/TC 8 N 676 dated 1984-10-02).

Mr. A.J. Smith visits IAPH Head Office

From 21 to 28 January, Mr. A.J. Smith, Secretary of the British Ports Association and IAPH Liaison Officer with IMO, visited Japan for the purpose of having preliminary meetings with the Secretary General and his staff concerning the various Association matters to be decided prior to the Hamburg Conference.

Mr. Smith's involvement in IAPH work ranges so wide that he came to Tokyo with a long list of issues which he wished to discuss with the Head Office staff to ensure that he would be properly prepared to discharge his various IAPH functions at the forthcoming conference in Hamburg.

Besides his post as IAPH Liaison Officer with IMO, Mr. Smith serves as Vice-Chairman of the Committee on Legal Protection of Port Interests (CLPPI), and as a member of the Committee on Port Safety, Environment and Construction (COPSEC), and represents IAPH at the various meetings held in Europe under the auspices of the IAPH-BPA agreement.

On the occasion of Mr. Smith's visit to Tokyo, the Head Office organized a session to enable the IAPH members in Japan including Tokyo representatives of member ports other than Japan to listen to a speech by Mr. Smith on the afternoon of January 24 at the Kazan Kaikan Bldg. Some 50 members attended the session and appreciated the presentation by Mr. Smith on "a perspective of the developing situation of the world maritime industry from a port operation viewpoint in which the British ports industry provides the frame of reference". The subjects Mr. Smith covered in his speech included the privatization that has occurred in the UK, pilotage, dock work, health and safety in ports, and the issues related to the protection of the North Sea. Following the session, a reception was held so that the participants could continue the discussion with Mr. Smith.

Mr. Smith (using the microphone) lectures, with Mr. Kondoh (next to him) serving as interpreter.

Mr. Smith was also active in the intervals between his business meetings with the Head Office secretariat. On January 23, accompanied by Mr. R. Kondoh, Under Secretary, he visited the Ministry of Transport, where he was received by Mr. Shingo Fujino, the newly appointed Director General, Bureau of Ports and Harbours. He also visited the Japanese Shipowners' Association and met Mr. Hideo Usami, Director the previous day.

On January 24, Mr. Smith visited the Tokyo Metropolitan Government, where he was met by Mr. Koretoshi Takeshita, Director General, Bureau of Ports and Harbors, and was given a chance to make a port inspection tour by boat.

The following day, he visited the Port of Yokohama where he was received by Mr. Hirochika Kobayashi, Director General, and was shown that port by boat, too.

On January 26, Mr. Smith proceeded to the Port of Kobe, where he was met by Mr. Seiichi Matsuura, Director General, and was given a port inspection tour.

Mr. Smith left Osaka International Airport for Seoul on January 28 to meet the IAPH members in Korea. He was reportedly met by Mr. Cheung, Yeun Sei, Administrator, Korea Maritime and Port Administration, the host of the 15th Conference of IAPH in 1987, as well as other key members of Korean port circles, including Mr. Kwang-Soo Lim, President of the Korea Port and Harbour Association.

Mr. Smith's paper, presented on January 24, will be published in the next issue of this journal.

CORRECTION – On page 9 of the previous issue of this journal in the list of the Award Prize Winners, the name of the organization to which "Consolation Prize" winners Mr. J. Martin and Mr. J. Piter belong was erroneously reported. They are in fact serving with **Administracion Puertos Rio Uruguay**, Argentina.

Former IAPH President Dr. Jen-Ling Huang passes away in Miami, USA

Sad news arrived at the Tokyo Head Office from Mrs. Deborah Huang Chu, a daughter of Dr. Jen-Ling Huang, the fourth President of IAPH, informing us that Dr. Huang had passed away on May 2, 1983, to be followed by Mrs. Huang one year later.

Dr. Huang, the then-Chairman of the China Merchant Steam Navigation Co., Ltd., Taiwan, was elected as the First Vice-President of IAPH at the 2nd Conference of the Association held in Mexico in June, 1959, under President Lloyd Menveg, President, Board of Harbor Commissioners, City of Los Angeles. Immediately after the Mexico Conference, in accordance with the resignation of Mr. Menveg, the President's position was filled by the First Vice-President, Dr. Jen-Ling Huang. During his tenure of office Dr. Huang devoted himself wholeheartedly to the growth of the Association. Particularly significant for the association's later growth was the initiative he took in urging the ports of New York and London to join the Association. Through the good offices of Dr. Huang, the Port of New York joined the Association in June 1962, and London followed suit in January 1963. With that, the two central ports of the U.S. and Europe were now listed as regular members of the Association, marking a milestone for the expansion of membership on an international basis.

As many of you might remember, Dr. Jen-Ling Huang was invited to the Silver Jubilee Ceremony of the Association held in Nagoya in 1981 as one of the 13 recipients of the silver jubilee commendations for his meritorious services. The picture below shows the scene when he was in Nagoya for this occasion.

Secretary General Sato sent a letter of condolences to the bereaved family through Mrs. Huang Chu, the daughter of the late Dr. Huang, whose letter is reproduced hereunder.

Dear Mr. Sato, December 30, 1984

Although there is no excuse for my delay in writing you, this has been a most difficult letter to write. Please accept my apologies.

My father, Dr. Jen-Ling Huang, passed away on May 2, 1983 in Miami, Florida, after a two-month period of hospitalization, mostly in the Intensive Care Ward. A year and a day afterwards, my mother went to join him. We are comforted by the fact that both of them went peacefully and they are now relieved of any pain or suffering. Each has lived a good, long life and we have the good fortune of many happy memories.

The IAPH has played an important role in my father's career and he has held the organization very close to his heart ever since he joined in 1959. He felt it a privilege to have been able to make some contribution to this vital worldwide maritime organization. His participation in the 12th Conference of the IAPH in Nagoya, Japan in 1981 was one of the highlights of his later life, thanks a great deal to your efforts. The beautiful certificate and medal he received are still prominently displayed in our home.

It is with deep sorrow that I write of my parents' passing. Somehow, even though we are all meant to leave this world some day, it is hardest on the loved ones left behind.

May the year of 1985 bring you and your family, as well as all the members and staff of the IAPH a year of fulfilled hopes and rewarding achievements.

Sincerely,
(Mrs.) Deborah Huang Chu

5516 Lagoon Drive
Ft. Lauderdale, Florida 33312
U.S.A.

Membership Notes

New Members

Regular Members

Ministry of Public Works

Didouche Mourad Street, 135 Algiers, Algeria
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(Mohamed-Abdou Mazighi, Civil Engineer)

Calcutta Port Trust

15, Strand Road, Calcutta-700 001, India
Office Phone: 22-3451
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(Mr. T.C. Dutt, Chairman)

Associate Members

Antwerp Port Engineering & Consulting (APEC) (Class D)

Van Schoonbekeplein, 6, B-2000 Antwerp, Belgium
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(Prof. G. Derkinderen, Chairman)

The Korea Maritime Institute (Class D)

Youngdong P.O. Box 535, Kangnam-gu, Seoul, Korea
Office Phone: (553) 9870/9
Telex: KOMARI K22627
(Mr. Yang, Hae-Kyung, President)

Changes

Port of Halifax (Canada)

Chairman: Mr. R.V. Beck
General Manager: Mr. D.F. Bellefontaine

Open forum:

IAPH Award Scheme 1983/84: Akiyame Prize (First Prize) Winning Paper

How could the Efficiency of Our Port be improved?

—Port Louis Harbour, Mauritius—

By Doorehn Nunkoo
Statistical Officer
Port Louis Harbour
Mauritius Marine Authority

The paper reflects the views of the participant and may not necessarily be shared by the Port Authority, other organizations providing services for the port or the Government of Mauritius.

Contents

0. PRELUDE

0.1 Mode of Presentation of Paper

To understand intimately the planning and functioning aspect of a single port of a small island economy lost in the middle of the Indian Ocean, it is very important to know as background (i) the geographical position of the port on the world map, (ii) the structures of the economy of the island, (iii) cargo traffic passing through the port, (iv) existing port infrastructures to cope with the services required from the port. Then, it would be possible to determine whether the port is equipped to provide an efficient service and also to analyze the possible problem areas and make necessary corrective measures. In this context, this paper is divided in three parts namely:—

(a) The introduction – The introduction will be more literary and descriptive as it will treat the following aspects: –
  (i) The geographical position of the port and Mauritius;
  (ii) The economy of the island;
  (iii) Port characteristics; and
  (iv) Need for planning port development.
(b) Improvement of port efficiency – This part will be highly technical in view to show problem areas and the method of solving them;
(c) Conclusion – A summary of the findings and the future of the port.

1. INTRODUCTION

1.01 Port Louis, the Capital and Single Port of Mauritius – Geography

Mauritius is a small densely populated independent island with an area of 720 square miles. It lies about 550 miles from Madagascar, 1,250 miles from the East African coast, 3,900 miles from Australia, 2,700 miles from India and 7,000 miles from Europe. It commands the sea and air routes between Australia, India and Africa. It has a population of about one million people, an average of 1,390 inhabitants per square mile. With Reunion island, Rodrigues, the Gargados Carajos (which includes Agalega and Diego Garcia) and Tromelin island forms part of the Mascareignes which is to be found in the Austral part of the Indian Ocean in the Tropic of Capricorn. It is situated in latitude 20° South of the equator and in longitude 57° East of Greenwich Mean Time.

1.02 General Characteristics of Port Louis Harbour

Port Louis is the capital city of Mauritius and is situated on the northwest coast of the island. It has an excellent, single natural deep water harbour also known as Port Louis. The harbour is protected from the prevailing South East Trade Winds by a range of mountains and the island as well as the port is also protected from high seas by coral reefs. The harbour comprises a main basin with a water spread area of 320 acres and two adjacent basins, the Trou Fanfaron and the Caudan, with water areas of 22 and 8 acres respectively. The commercial area of the port is the area inside the port bounded by the entrance buoys and the shore line of the inner harbour. Vessels at the outside anchorage lie within the limits of the port defined by an imaginary line joining Pointe aux Sables and Pointe aux Piments. In this area, commercial activities are restricted to bunkering, ship repair and the landing of passengers or personnel. The harbour entrance depths range from 12.8 metres to 36.3 metres. The channel is dredged to 12.1 metres. In the areas of the two above named basins which form part of the original century-old dock area of Port Louis, there are still lighterage quays in poor condition with a water depth of 8 to 12 feet. Port Louis was essentially a lighterage port prior to 1970.

1.03 Port Louis and the National Economy

Port Louis harbour is the nerve-centre of the Mauritian trade and economy. The country with limited resource base has been for the past decade a monoculture economy depending only on sugar production. Owing to the fluctuations and unpredictable price of sugar on the world market, the increase in population in the country, high rate of unemployment, general price increases and inflation, the Government of Mauritius had no alternative other than to set up an ambitious development plan to reorganize the economy and to develop the country on a different pattern. Consequently, a development plan was elaborated to: –

(i) establish export oriented and import substitution industries;
(ii) diversify agriculture; and
(iii) develop the tourist industry.

In order to achieve the objects of the development plan, the necessary infrastructure was of vital importance. As the country has to depend on the import of raw material for building, manufacturing, food, etc. and the export of agricultural and finished industrial products, an urgent need was felt for the development of Port Louis harbour, the single port of Mauritius.

1.04 Need for Port Development

Prior to 1970, Port Louis harbour was essentially a lighterage port. Cargo was unloaded into lighters at buoy berths. Ship's turnround time was very high, pilferage and breakages were causing heavy losses to importers; sheds were congested and there was bunching of vessels. The cost of operation was also very high and the services offered by the port were deficient. Port Detention Surcharges had reached 50% on certain conference line serving Mauritius. Moreover, it was becoming very difficult to cope with changes in mode of transportation, i.e. unitisation, containerization and palletization and modern cargo handling techniques. Cargo traffic was increasing at a rapid pace. Cargo traffic at Port Louis which is closely tied with industrial demand and GDP growth had grown steadily over the past few years increasing to about 5% per annum between 1964 to 1971. Between 1971 and 1972, an unprecedented growth of about 32% was recorded. Port traffic increased from 1.5 million metric tons in 1971 to 1.8 million metric tons in 1973, 2.1 million metric tons in 1980 and fell back to 1.7 million in FY 1983/84. As a result of the increase in traffic and projected increases, a master plan for a first stage of development of the port was carried out by the World Bank in 1973 based on a study made by Sir Alexander Gibb's & Partner's, an International British Consultancy firm.

1.05 Actual and Forecast Cargo Traffic at Port Louis

It was on the basis of the Actual and Forecast Cargo Traffic that port development was based. Cargo traffic at Port Louis can be divided as follows: –

(i) Bagged Cargo;
(ii) Bulk Cargo;
(iii) General Cargo;
(iv) Containerized Cargo; and
(v) Transhipment Cargo

Table I (on page 15) shows the statistics of the cargo traffic for the past five years, while **Table II** (on page 15) shows its forecast for the next five years.

As pointed out above, it was on the basis of cargo traffic that the first phase of development lasting to year 1985 was made. Another master plan up to year 2000 is being prepared by a group of French Consultants.

1.06 Port Infrastructures

To cope with the increase in traffic, and to reduce ship's turnround time at Port Louis, an attempt has been made firstly to build as much as possible facilities to enable the reception and forwarding of cargo in bulk, secondly container and roro facilities and thirdly facilities for the loading and unloading of general cargo. Furthermore, new equipment was purchased to replace old equipment. Moreover, the main objective was to make Port Louis become a harbour with a deep water berth and to eradicate the costly lighterage system. Consequently the port now has been dotted with the following infrastructures–

I. Alongside Deep Water Facilities

Quay	Length	Draft	Cargo Handled
Quay No. 1	123 mts	11.0 mts	Bulk Cargo
Quay No. 2	183 mts	10.7 mts	General Cargo
Quay No. 3	183 mts	10.7 mts	General Cargo
Quay No. 4	183 mts	10.7 mts	Containers
Quay No. 5	198 mts	11.0 mts	Bulk Sugar
Quay D	150 mts	9.45 mts	Bulk Cargo
Quay C	119 mts	5.50 mts	Inter-Island Trade
Cement Berth	100 mts	10.7 mts	Bulk Cement

II. Lighterage Facilities in Existence but not in Use

Quay	Length	Draft	Cargo Handled
Quay A	190 mts	3.66 mts	–
Quay B	133 mts	3.04 mts	–
Quay E	134 mts	3.04 mts	–
Buoy Berths			
1 West	180 mts	10.7 mts	Bagged Cargo
2 West	180 mts	10.7 mts	Bagged Cargo
3 West	180 mts	10.7 mts	Bagged Cargo
4 West	180 mts	10.7 mts	Bagged Cargo

TABLE I

ITEMS	FY1979/80	FY1980/81	FY1981/82	FY1982/83	FY1983/84
I. Bagged Cargo					
(A) Imports					
Rice	83,438	80,920	69,181	70,723	90,203
Flour	50,882	39,497	23,198	23,777	3,676
Grains & Pulses	9,104	5,330	4,408	1,981	3,440
Animal Feed	11,471	2,343	3,327	9,473	19,410
Fertilizer	1,310	1,500	3,246	3,865	3,094
Sub-total	156,205	129,590	103,360	109,819	121,823
(B) Exports					
Sugar	613,825	17,583	NIL	NIL	NIL
Fertilizer	NIL	1,000	NIL	500	NIL
Sub-total	613,825	18,583	NIL	500	NIL
Total (A) + (B)	770,030	148,173	103,360	110,319	121,823
II. Bulk Cargo					
(C) Imports					
Fertilizers	56,850	54,900	52,615	45,022	54,886
Cement	288,197	278,679	241,249	226,272	200,217
Petroleum Products	304,465	251,221	269,592	278,532	268,379
Edible Oil	12,986	17,983	16,174	18,227	17,373
Sub-total	662,498	602,783	579,630	568,053	540,855
(D) Exports					
Sugar	NIL	429,940	546,705	534,643	554,981
Petroleum (Bunkers)	64,134	37,185	30,552	46,490	36,533
Molasses	193,477	112,887	136,901	168,181	137,084
Sub-total	257,611	580,012	714,158	749,314	728,598
Total (C) + (D)	920,109	1,182,795	1,293,788	1,317,367	1,269,453
III. General Cargo					
(E) Imports	156,075	101,837	72,723	82,519	81,805
(F) Exports	2,538	1,798	2,360	2,878	3,430
Total (E) + (F)	158,613	103,635	75,083	85,397	85,235
IV. Containerized Cargo					
(G) Imports	122,627	151,929	139,256	141,749	156,833
(H) Exports	45,325	42,162	52,892	57,943	62,407
Total (G) + (H)	167,952	194,091	192,148	199,692	219,240
V. Miscellaneous					
(I) Imports	30,063	26,455	35,050	32,297	29,942
(J) Exports	34,503	27,272	33,171	29,058	26,710
Total (I) + (J)	64,566	53,727	68,221	61,755	56,652
Grand Total I – V	2,081,270	1,682,421	1,732,600	1,774,530	1,752,403
Containerized Cargo TEUs					
Imports Full	8,551	11,501	10,730	10,716	11,882
Imports Empty	18	NIL	997	845	1,331
Exports Full	3,010	3,511	4,595	4,869	5,384
Exports Empty	4,929	7,905	6,936	6,774	7,378
Total Imp. + Exp.	16,508	22,917	23,258	23,204	25,975

TABLE II

Cargo Traffic Forecast (FY1983/84 – FY1987/88)
Metric (Weight) Tons

ITEMS	FORECAST				
	FY1983/84	FY1984/85	FY1985/86	FY1986/87	FY1987/88
I. Bagged Cargo					
(A) Imports					
Rice	73,500	72,030	70,589	69,177	67,793
Flour	26,250	27,562	28,940	–*	–*
Pulses	5,000	5,000	5,000	5,000	5,000
Animal Feed	5,000	5,000	5,000	5,000	5,000
Fertilizer	3,000	3,000	3,000	3,000	3,000
Sub-total	112,750	112,592	112,529	82,177	80,793
(B) Exports					
Fertilizer	NIL	NIL	NIL	NIL	NIL
Sub-total	NIL	NIL	NIL	NIL	NIL
Total (A) + (B)	112,750	112,592	112,529	82,177	80,793
II. Bulk Cargo					
(C) Imports					
Wheat	–	–	–	97,238	*102,100
Fertilizers	56,650	58,349	60,099	61,901	62,758
Cement	255,000	260,100	265,302	270,608	276,020
Petroleum Products	260,000	260,000	260,000	260,000	260,000
Edible Oil	18,360	18,727	19,101	19,483	19,872
Sub-total	590,010	597,176	604,502	709,230	721,750
(D) Exports					
Sugar	575,000	625,000	650,000	650,000	650,000
Molasses	175,000	175,000	200,000	200,000	200,000
Petroleum (Bunkers)	35,000	35,000	35,000	35,000	35,000
Sub-total	785,000	835,000	885,000	885,000	885,000
Total (C) + (D)	1,375,010	1,432,176	1,489,502	1,594,230	1,606,750
III. General Cargo					
(E) Imports	73,500	72,030	70,590	69,179	67,796
(F) Exports	2,500	2,500	3,000	3,000	3,000
Total (E) + (F)	76,000	74,530	73,590	72,179	70,796
IV. Containerized Cargo					
(G) Imports	147,000	144,060	141,179	*95,814	*90,920
(H) Exports	50,000	50,000	55,000	55,000	55,000
Total (G) + (H)	197,000	194,060	196,179	150,814	145,920
V. Miscellaneous					
(I) Imports	27,000	27,000	27,000	27,000	27,000
(J) Exports	28,000	28,000	28,000	28,000	28,000
Total (I) + (J)	55,000	55,000	55,000	55,000	55,000
Grand Total (I – V)	1,815,760	1,868,358	1,926,800	1,954,400	1,959,259
Containerized Cargo TEUs			TEU UNITS		
Imports Full	11,760	11,524	11,294	*8,410	*8,056
Imports Empty	NIL	NIL	NIL	NIL	NIL
Exports Full	4,000	4,000	4,400	4,400	4,400
Exports Empty	7,784	7,548	6,917	4,298	3,692
Total Imp. + Exp.	23,544	23,072	22,611	17,108	16,148

NOTES: *From 1986/87 onwards, it is expected that flour would be imported in bulk with the coming into operation of the Grain Complex.

Quay No. 1 is mainly used for dry bulk chemicals (fertilizers), liquid bulk like white oil, bulk tallow, liquid Ammonia and edible oil. Tank farms privately owned for the storage of the above-named commodities have been constructed adjacent to the berth. Pipeline systems are provided for the bulk loading/discharging of the various commodities. Quay Nos. 2 & 3 are designed and used for general cargo operations. These two berths are provided with two transit sheds and an open storage area of 30,000 sq. metres.

Quay No. 4 forms part of the Container Terminal. A Container Park of 3.2 hectares is available for storage of containers. This quay has been designed to operate container vessel with provision for quay cranes.

Quay No. 5 forms part of the Bulk Sugar Terminal. The Sugar Terminal is the third biggest in the world after Australia and South Africa. Sugar is loaded in bulk through the Terminal at a maximum rate of 1,400 tons per hour. Two sheds capable of storing 175,000 tons of sugar each are also available.

Quay D is used mainly for the handling of liquid bulk cargo such as petroleum products, molasses and edible oil. Tank farms for these products are also available nearby.

Quay C is essentially used for Inter-Island Trade. As pointed out in the first paragraph, Mauritius has a major dependency known as Rodrigues and the Gargados Carajos Group of islands. Loading/discharging operations between these islands take place at Quay C.

The Cement Berth lies in between Quays 1 & 2 for the bulk discharge of cement. Cement silos of about 50,000 tons capacity for direct delivery are also available.

Quays A, B, E – These quays for lighterage operations are used only for unloading of rice and flour, from vessels berthed on the buoy berth.

It is also worth mentioning that there is a fertilizer plant for the processing of crude fertilizer, same facilities for edible oil.

Ongoing Development Projects.

(i) A Fishing Port
(ii) A Grain Complex

A Fishing Port is actually nearing completion to cope with the development of the fishing industry in the country. As territorial waters of the island are vast because of her dependencies, fishing activities are bound to increase. The only missing bulk handling system of cargo from/to the island is for rice and flour. A complex consisting of a deep water quay, a flour mill, storage facilities for bulk wheat and a conveyor belt system to reach the ship's hold for the unloading of rice is actually on the way. The initial stage of the project is bound to start by the end of this year.

Storage Capacity

Actually there is an excess of storage capacity at Port Louis. The following table illustrates the storage capacity at Port Louis.

TABLE III
Storage Capacity at Port Louis

Name of Sheds	Weight Tons	Revenue Tons
Transit Shed No. 1	2,508	5,016
Transit Shed No. 2	5,016	10,032
Transit Shed No. 3	5,016	10,032
Transit Shed A	6,268	12,536
Transit Shed E	4,012	8,025
Flour Shed	8,229	16,458
Granary	27,795	55,591
Total	58,844	117,690
Not in use		
Queen Warehouse	2,820	5,641
Customs Shed	2,083	4,167
Cerné Shed	1,045	2,090
Coaster's Shed	1,126	2,252
Total	7,074	14,150

It has to be noted that over and above these sheds there is storage capacity belonging to the private sector on the Port Land capable of stacking up to 200,000 tons of bagged cargo. This was used formerly for the stacking of sugar.

Method of Calculating Shed's Capacity

$$\text{Formula used: } \frac{A \times H \times U.F.}{S.F.} = \text{Capacity at any time}$$

Where
A = Area
H = Stacking Height
U.F. = Utility Factor
S.F. = Storage Factor

NOTE: (i) (a) U.F. for sheds containing general cargo in Transit Shed = .6
(b) U.F. for sheds containing bagged cargo = .75
(ii) One Metric Ton (volume) = 35.786 cu. ft.
For conversion purposes 2 Metric Tons Volume of Mauritian imports are taken to be equal to 1 Weight Ton
12 inches = 1 foot = 0.30480 metre

As far as equipment is concerned, a whole fleet of new equipment has recently been purchased. The following shows the equipment available at Port Louis.

TABLE IV

Equipment Class		No. of Units
F/LIFTS	G. Cargo	51
	Heavy (10-ton)	2
	Heavy (18-ton)	1
	Heavy (26-ton)	2
CRANES	G. Cargo	14
	Heavy (30-ton)	2
	Gantry	1
TRACTORS	G. Cargo	8
	Heavy Duty	21
TRAILERS	G. Cargo	–
	Heavy Duty	42
	Cattle	6

Tug Service

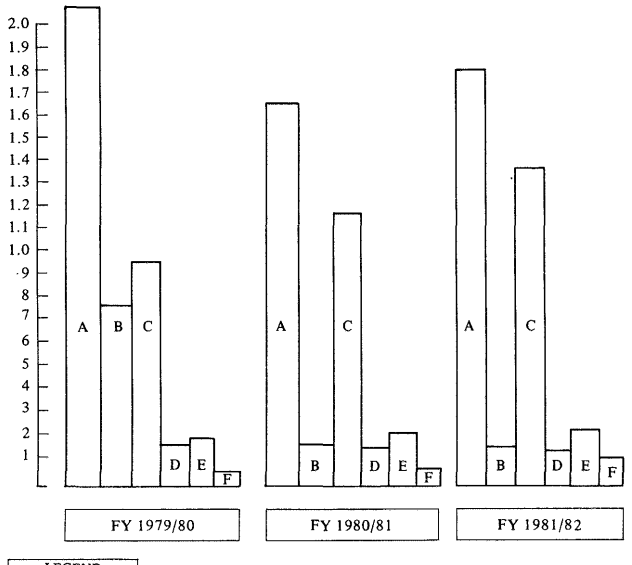
The pilotage section provides a day and night service to any vessel calling at the port. A fleet of tugs and small crafts are available as follows: –

Type	No.	Description	Type	No.	Description
I. Deep sea tug	2	12t bollard pull fitted with fire fighting R/T and VHF equipment for manoeuvring vessels in Port, deep sea towage, salvage and air sea rescue.	VII. Grab dredger	1	2.7 cubic metres (grab capacity).
			VIII. Steel platform	2	With diesel hydraulic winch.
			IX. Priestman Bison Excavator	1	9 cubic metres (grab capacity).
II. Harbour tug	3	320 SHP for manoeuvring vessels inside the Port.	X. Reclamation barge	2	200 tons each
III. Pilot launch	2	For conveyance of harbour Pilots.	XI. Hopper barge	4	100 tons each
IV. Wooden launch with sails	1	For conveyance of labour and stores to Flat Island.	XII. Lighters and tugs owned by private companies	178	Lighters of 12,975 tons total capacity and 10 small tugs for towing of lighters.
V. Motor launch	3	For transport of labour and materials inside the Port.			
VI. Repair boat	1	Fitted with hydraulic winch for laying and picking up of ship anchors and for working on buoys.			

1.07 Summary and Conclusions

With the infrastructures available and the two ongoing projects, the port should be in a position to offer a quick turnround time of vessel at a reasonable cost per ton of cargo. Unloading of bulk cargo vessels usually does not pose any problem. The following chart shows the success attained by Port Louis in (i) building the necessary infrastructures for bulk operations and (ii) in promoting unitisation, containerisation, palletisation and preslung cargo.

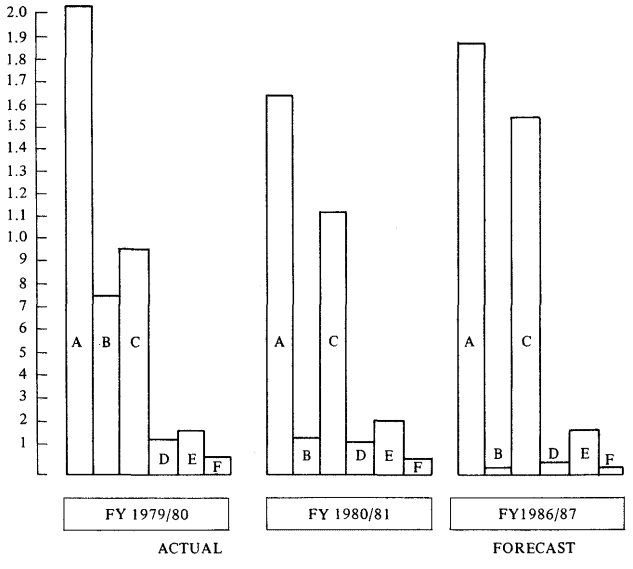
Total Cargo Traffic through Port Louis Harbour
(Type of Cargo)
Million Metric (WT) Tons



LEGEND	
A	TOTAL
B	BAGGED
C	BULK
D	GC
E	CONT
F	MISC

With the completion of the Grain Complex there will be a further improvement because wheat will be unloaded in bulk, flour by conveyor belt. The following chart for projected year 1986/87 as compared to 1979/80/81 shows the striking comparison.

Total Cargo Traffic through Port Louis Harbour
(Type of Cargo)
Million Metric (WT) Tons



LEGEND	
A	TOTAL
B	BAGGED
C	BULK
D	GC
E	CONT
F	MISC

With the coming into operation of the Container Terminal, the Sugar Terminal and two deep water berths for general cargo operations, ship's turnround time has decreased considerably. But as far as general cargo operations and container operations are concerned, productivity has remained more or less stable. The organization of manpower with the change from lighterage operation to alongside has not produced a positive result on productivity, and the major problem at Port Louis now is undoubtedly the low productivity which results in a very high cost per ton of cargo and which leads the port to be uncompetitive. Consequently, a reorganization of the method of handling general cargo and container has to be made.

2. IMPROVEMENT OF PORT EFFICIENCY

2.01 Port Infrastructures, Cargo Traffic, Port Management and Operations

In order to ensure the proper functioning of the port, and to co-ordinate activities, the World Bank insisted on the creation of a Port Authority in 1976. Cargo handling services are now being provided by the Government and the Authority's owned institution, the Cargo Handling Corporation Ltd. With the existing port infrastructures together with the two ongoing development projects, namely the Fishing Port and the Grain Complex, the port will be capable of providing cargo handling facilities up to year 2000 if present cargo trends are maintained (please refer to facilities and cargo traffic forecast). The Port Authority has been set up on a proper footing with the help of Port Management Advisors from the World Bank and is presently performing in an excellent manner.

Ship turnround time in Port

The following table shows the net improvement in turnround time of ship since the creation of the Authority, the commissioning of the Bulk Sugar Terminal and three deepwater alongside quays, and the promotion of containerisation.

Turnround Time Analysis
(Waiting Time & Service Time at Berth)
Cumulative Average
1977/78 – 1981/82 (1982/83 up to April)

TYPE OF VESSEL	1977/78	1978/79	1979/80	1980/81	1981/82	1982/83
General Cargo	(10 dys)	(17 dys)	(25 dys)	(5 dys)	(4 dys)	(4 dys)
Unitised Cargo	N.A.	N.A.	(25 dys)	(7 dys)	(5 dys)	(5 dys)
Containerised	(5 dys)	(4 dys)	(4 dys)	(3 dys)	(3 dys)	(3 dys)
Inter-Island	N.A.	N.A.	(16 dys)	(10 dys)	(8 dys)	(12 dys)*
Rice	(24 dys)	(34 dys)	(34 dys)	(14 dys)	(17 dys)	(18 dys)
Sugar	(20 dys)	(22 dys)	(24 dys)	(4 dys)	(4 dys)	(3 dys)
Cement	(4 dys)	(3 dys)	(3 dys)	(3 dys)	(4 dys)**	(5 dys)**
Fertilizer	(21 dys)	(10 dys)	(10 dys)	(6 dys)	(9 dys)**	(8 dys)**
Petroleum	(2 dys)	(2 dys)	(2 dys)	(2 dys)	(2 dys)	(2 dys)
Molasses	(3 dys)	(4 dys)	(4 dys)	(3 dys)	(4 dys)	(3 dys)
Edible Oil	N.A.	N.A.	(1 dy)	(2 dys)	(2 dys)	(1 dy)

* Local vessels stay in Port waiting for cargo.
** Bigger ship with a higher load calling at the port.

From the above statistics, we can say that there has been a general improvement in ship's turnround time at Port Louis. However, it will also be noted that as far as general cargo ships and container ships are concerned in relation to their cargo loads, i.e. 1,200 metric tons for GC and 100 TEUs full and empty for containerised ships, there is still room for improvement. The reason for this situation is very low port productivity. Port Louis has a major problem concerning port labour. Low productivity tends to increase ship's turnround time, cost per ton of cargo and also acts as a deterrent to the transhipment potential of the port. Therefore, to increase the efficiency of the port, the major delicate problem of Port Labour has to be solved.

2.02 Port Labour

The following problems are actually encountered by the Port in relation to Port labour: –

(i) Redundancy – excess of labour;
(ii) Low Port Productivity;
(iii) Remuneration System; and
(iv) Cargo Handling Techniques.

The port labour problem is closely linked with the development of Port Louis Harbour. With the change in modern technology, i.e. bulk handling of all major commodities, containerisation, and operations at alongside deep water berth, the total amount of cargo to be handled by excessive use of labour decreased from 1.2 million metric tons in FY 1974/75 to 246.6 metric tons in 1981/82, and this is expected to decrease further to 100.0 mt. tons in 1987/88 with the completion of the Grain Complex.

In 1980/81, about 1,500 dock workers were compensated and their services terminated because of redundancy. However, about 500 excess workers stayed in service. The major reason was the unemployment problem in the country (70,000 unemployed out of a population of 1 million, i.e. 7%) and also because the private company employing these workers were reluctant to pay compensation as negotiations had already started for the taking over of cargo handling activities by the Government. This resulted in a tug of war between the private sector and the Government and Port efficiency, cost per ton of cargo suffered because of this excess of labour.

2.03 (i) Manning Level to operate the Port

The average number of vessels and the corresponding tonnage of goods loaded/unloaded requiring labour calling at Port Louis during the course of a month based on vessel statistics for FY 1983/84 are as follows: –

ITEMS	Average No. of Ships	Average Tonnage
General Cargo	8	1,200 tons
Containerised	14	150 TEUs
Rodrigues	2	800 tons
*Rice or Flour	1	12,000 tons
Fish	14	105 tons
Fertilizer	1	400 tons**

NOTE: *To be imported in bulk/conveyor belt system as soon as Grain Complex is operational.

As shown in Part I, these vessels operate at the following berths: –

Quays	Cargo
Quay 2	General Cargo
Quay 3	General Cargo
Quay 4	Containerised Cargo
Quay C	Inter-Island Cargo
Buoy Berth 1 – 4 West	Bagged Rice or Flour
Quays A & E	Rice
No. 1	Fertilizer**

** Although imported in bulk, labour is required to operate grabs and for sweeping of ship's holds.

Consequently, the following statistical table shows gang requirements per day in the port if all berths are occupied working simultaneously.

Berth	Type of Cargo	No. of Gangs required	No. of men per gang Board/Store
No. 2	General Cargo	2 or 3	12 + 8 = 20
No. 3	General Cargo	2 or 3	12 + 8 = 20
No. 4	Container	3 or 4	10 + 4 = 14
Quay C	Inter Island Cargo	3	16 + 12 = 28
Buoy Berth 1 – 4 West (one at any time)	Rice or Flour	3 or 4	12 + 15 = 27
No. 1*	Fertilizer	1 or 2	6 + 2 = 8
KGKK	Fish	2	10 + 12 = 22
TOTAL		16 or 21	78 + 61 = 139

Max. gang required: 21 minimum: 16
Max. Men required. 319 minimum: 408

At this point, it is worth mentioning that the labour force is customarily employed by category at Port Louis and this categorising is rigid and not interchangeable. For example, a shore worker cannot work as a ship stevedore. This is one of the worst principle for employing port labour.

According to the official staff list of the cargo handling company, the following categories and number of men are employed on a permanent basis.

Fish Stevedores = 65
Stevedores = 366
Shore workers = 472
Dock workers = 23
Lighterage hands = 71
997

From the very start, we can say that the maximum number of men required is, say, 410 and the number permanently employed is 997, i.e. an excess of 587 men. Statistics has shown that the average number of absences over a month is roughly about 3%. Consequently, if, say, 2 gangs of about 20 men each are kept as reserve, the net surplus is 547 men.

2.03 (ii) Redundancy at Supervisory and Clerical Level

When the Mauritius Marine Authority was created in 1976, one of its objectives was to take over the cargo handling activities, and consequently the necessary staffing was made. Unfortunately, for political and social reasons, another Corporation was created for cargo handling activities thus creating redundancy at supervisory and clerical levels also. The following table taken from the official staff list of the Mauritius Marine Authority and the Cargo Handling Corporation shows the number of Clerks and Supervisors.

	Cargo Handling Corporation Ltd.	Mauritius Marine Authority
Clerks	119	49
Security Officers	109	20
Supervisors	7	36
TOTAL	235	105

= 340 Men

Actually an even distribution of 20 Clerks per shed per quay, 40 Security Men, i.e. 10 men in each shed (because these are new Sheds with closed doors) and 2 men at the gate of the Container Terminal would be sufficient to do the job. Consequently, all combined together, there would be a need for 127 people including supervisory staff to work the port during the course of a month. Consequently, there is a surplus of 213 men in that category.

2.04 Savings made by the Port in reducing Manpower

(i) Port Labour Force (manual) i.e. stevedoring, etc.

The average pay packet for different type of labour according to statistics available at the Cargo Handling Corporation Ltd. are as follows:

Stevedores : 3,800 Mau Rupees
Shore workers : 2,500 Mau Rupees
Gang Foremen : 5,500 Mau Rupees
Winchmen : 6,000 Mau Rupees

If an average of these pay packets is made, we can say that the average man gets a pay packet of 4,500 Mauritian

Rupees, i.e. about 317 US$ per month, whereas the average Mauritian worker gets about 178 US$. As pointed out above, if there is an excess of 547 men, this amounts to 2,461,500 Mau Rupees per month, i.e. 31,698,000 Mau Rupees per year.

The average pay packet for clerical staff is around 2,500 Mauritian Rupees. With an excess of 213 men, this amounts to 532,500 Mau Rupees per month, i.e. 6,390,000 Mau Rupees per year.

The reduction in manpower can benefit the port roughly Rs40,000,000, i.e. 3 million US$ annually.

NOTE: It has also been found that stevedores work for only 11 days a month.

2.05 Productivity at Port Louis

An excellent method devised by UNCTAD to monitor closely port performances operates at Port Louis. A monthly operations performances indicates the whole chain of operations from a ship's arrival in port up to its departure. From these statistical data, information is available on the productivity of each vessel calling at the port. The following indicators have proved to be very useful: –

(i) Tons per ship hour at berth;
(ii) Tons per gang hour net;
(iii) % idle time (a breakdown also available with reasons);
(iv) Productivity (during normal time and overtime in terms of tonnage per gang hour).

(i) Productivity during normal time and overtime

The official working hours of the port are as follows: –

	Normal Time	Overtime
Weekdays	0700 – 1600	1600 – 1800
Saturdays	0700 – 1300	1300 – 1600
Sundays & Public Holidays	0700 – 1100	

and the port works only during one shift.

The following table shows port productivity during normal time as compared to overtime for four categories of cargo namely Inter Island; Unitised, Bagged Rice and Containerised. It is striking to note that productivity doubles during overtime as compared to normal time. In order to increase productivity, this problem has to be analysed and the appropriate remedial actions taken.

Mauritius Marine Authority
Gross & Net Gang Hours Analysis during Normal & Overtime
January – October 1982

			MONTH	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SPET.	OCT.
TONNAGE	N/T	INTER ISLAND	GROSS	8.2	9.9	6.7	6.5	5.9	5.2	5.0	5.3	5.3	5.9
			NETT	12.7	14.8	9.9	9.7	8.8	7.7	7.8	7.2	7.9	9.0
	O/T		GROSS	12.5	15.7	11.2	10.1	8.8	5.0	8.4	9.9	10.0	5.6
			NETT	17.5	23.5	14.5	14.6	16.5	10.0*	11.8	14.8	14.8	9.2
TONNAGE	N/T	UNITISED	GROSS	8.7	7.3	8.9	8.5	6.0	7.9	8.6	14.3	8.5	6.3
			NETT	13.2	11.2	13.3	13.0	8.3	15.1	13.0	20.5	15.6	8.7
	O/T		GROSS	18.8	14.8	16.8	19.8	10.0	16.8	19.5	35.0	19.5	17.8
			NETT	25.2	20.8	24.9	30.8	16.5	26.7	25.2	63.7	37.3	28.4
TONNAGE	N/T	BAGGED	GROSS	15.4	15.7	20.4	18.9	19.5	15.9	15.7	12.7	18.7	0.0
			NETT	23.2	26.3	34.6	35.8	30.7	25.6	27.2	19.9	34.1	0.0
	O/T		GROSS	24.2	30.4	33.3	39.3	25.1	16.7	27.6	13.7	32.5	0.0
			NETT	42.2	56.8	49.1	71.1	73.6	45.5	45.9	21.0	57.8	0.0
TEUS	N/T	CONTAINERI-SATION	GROSS	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
			NETT	5.0	5.0	5.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
	O/T		GROSS	5.0	5.0	5.0	7.0	5.0	6.0	5.0	6.0	6.0	5.0
			NETT	7.0	9.0	9.0	9.0	7.0	9.0	8.0	9.0	9.0	8.0

As will be explained at a later stage, the reason underlying this difference is the wrong system of remuneration of Port Labour. (To be brief, Port Labour is paid a minimum guaranteed pay per month known as the MGMP. Piece rate during overtime is thrice than that during normal time and consequently there is a lot of idle time during normal hours. Port workers prefer to work overtime to increase their pay packet).

(ii) Idle Time Analysis

The table below gives an indication of idle time at Port Louis.

Idle Time – Cumulative Average %

ITEM	FY1977/78	78/79	79/80	80/81	81/82	82/83	83/84
General Cargo	26.0	33.0	37.1	28.4	31.8	31.1	39.5
Rodrigues Cargo	N.A.	N.A.	36.4	21.0	30.5	31.7	43.9
Containerised Cargo	N.A.	N.A	N.A.	N.A.	N.A.	N.A.	N.A.
Rice	31.6	36.2	36.1	37.4	36.0	39.6	42.8

NOTE % IDLE TIME:
Total gang time during which gangs are not working (due to rain, opening hatches, etc.) expressed as a percentage of total available gang hours.

The average idle time at Port Louis for all Gen. & Cont. vessels on which operations are being performed is very high. A successful attempt has been made by the statistical unit of the port to determine the reasons for idle time and the following clearly indicates the reasons. The table also confirms that during normal time productivity is very low as mentioned above because labour remains idle to work during overtime where their pay packet trebles.

Monthly Gang Idle Time Analysis (expressed in Hours) Calendar Year 1984

CODE	JAN.	FEB.	MAR.	APR.	MAY	JUNE
1	42	68	63	26	76	46
2	46	30	40	14	16	37
3	9	34	17	31	22	25
4	667	1,046	842	452	1,109	889
5	34	41	28	7	88	7
6	–	33	–	–	80	7
7	53	224	12	1	26	21
8	22	46	20	25	10	9

NOTE: CODE 1. Ship Movements
2. Preparation of Ship
3. Goods
4. Labour
5. Ship/Port Equipment Breakdown
6. Shore Transport
7. Meteo
8. Miscellaneous

Code 4 is the highest on account of labour.

The following statistics give an idea of productivity in general at Port Louis.

Port Statistics Operations Indicators Cumulative Averages

Unitized Cargo

Year	GRT/NRT	Tonnage per ship	Waiting for berth (Hrs)	S'vice time at berth (Hrs)	Tons/ ship Hr. at berth	Tons/ gang hour (Nett)	% Gang idle time
1978/79	6,132/3,480	1,487	189.5	212.6	6.9	13.3	33.0
1979/80	7,983/4,485	2,748	286.6	297.6	9.2	17.0	37.1
1980/81	6,710/3,837	1,692	17.7	136.8	12.4	18.3	28.4
1981/82	6,864/3,921	1,197	8.0	90.8	13.2	19.1	31.8

Bagged Cargo

Year	GRT/NRT	Tonnage per ship	Waiting for berth (Hrs)	S'vice time at berth (Hrs)	Tons/ ship Hr. at berth	Tons/ gang hour (Nett)	% Gang idle time
1978/79	8,969/5,342	8,088	198.5	600.4	13.4	32.0	36.2
1979/80	8,634/4,922	8,970	292.3	508.0	17.7	33.9	36.1
1980/81	7,189/4,360	8,157	11.5	324.8	25.1	37.5	37.4
1981/82	10,136/6,025	10,389	6.3	398.5	26.0	37.3	36.0

Rodrigues Cargo

Year	GRT/NRT	Tonnage per ship	Waiting for berth (Hrs)	S'vice time at berth (Hrs)	Tons/ ship Hr. at berth	Tons/ gang hour (Nett)	% Gang idle time
1978/79	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
1979/80	975/ 525	822	66.4	300.1	2.7	10.0	36.4
1980/81	1,099/ 600	594	3.7	236.8	2.5	10.6	29.0
1981/82	1,277/ 914	808	2.7	186.7	4.3	9.8	30.5

Consequently, to further increase productivity idle time has to be reduced, and there are only two ways of eliminating it. Firstly by changing the actual system of remuneration and secondly by educating the Port workers on modern cargo handling techniques and approach to work. The result of eliminating idle time would automatically reflect in an increase in productivity, which ultimately reflects on a low berth occupancy and a faster turnround time of ship. Financial advantages derived from an increase in turnround time, decrease in idle time are as follows:–

(i) Amount actually paid in overtime will decrease substantially; and

(ii) A saving in ship days reflecting ultimately in freight rates.

Let us suppose that idle time on account of labour which represents 50% is suppressed, then the tonnage per gang hour will go up by the same percentage. At present, on a general cargo ship, the tonnage handled per day is about 300 tons, this will eventually rise to 600 tons and consequently there will be a one-day saving whilst at the same time, the overtime reduction will be in the order of 50%.

The following table shows overtime paid to Port workers during the period July to June 1983/84.

Total Basic and Overtime for Period July to June 1983/84

Month	Basic RS	Extra RS	NS/P.H. RS	Ext. NS/P.H. RS	Total RS
July 83	880,480.86	206,009.08	1,544,806.84	672,371.57	3,303,668.45
Aug. 83	809,272.87	205,933.68	1,280,432.11	570,759.58	2,866,398.24
Sep. 83	629,387.52	199,981.39	881,760.48	609,463.51	2,320,592.90
Oct. 83	757,305.90	232,198.03	1,113,328.74	484,892.56	2,587,725.23
Nov. 83	741,008.88	228,663.47	1,308,076.96	651,086.93	2,928,863.24
Dec. 83	656,294.91	286,034.70	976,625.85	604,917.18	2,523,872.64
Jan. 84	677,151.38	283,894.33	861,842.82	639,926.16	2,462,814.69
Feb. 84	783,576.37	237,107.90	1,266,593.11	657,397.94	2,944,675.38
Mar. 84	586,592.88	237,636.08	897,460.30	606,798.51	2,328,487.77
Apr. 84	394,176.20	177,280.16	467,141.38	336,554.62	1,375,152.36
May 84	895,154.11	286,632.15	1,386,746.09	738,164.41	3,306,696.76
June 84	769,052.31	244,601.61	1,075,390.62	587,153.43	2,676,197.97

Saving in ship's days

The following table gives the average saving in ship's days in port which can bring about a reduction in freight rates.

Analysis of Vessel Traffic FY 1978/79 as compared to FY 1982/83

Type of vessel*	Average turnround time in port (Hours)		Increase/ decrease in average T/round time (Hours)	Average savings per visit		Total No. of vessels FY 1982-83	Total savings made by ship owners per annum US Dollars
	FY 1978/79	FY 1982-83		Days	US Dollars*		
General Cargo	402.1	111.5	290.6	13	91,000	105	9,975,000
Containerised Cargo	83.8	56.5	27.3	2	14,000	164	2,296,000
Sugar	515.2	71.9	443.3	19	133,000	38	5,054,000
Rice	798.9	404.4	394.5	17	199,000	7	833,000
Cement**	55.2	93.2	(38.0)	(2)	(14,000)	15	(210,000)
Petroleum Products	44.0	36.1	7.9	1	7,000	23	161,000
Molasses	75.6	72.5	3.1	1	7,000	10	70,000
Fertilizer	238.0	178.9	59.1	3	2,000	7	147,000
							18,320,000 US$

NOTES: * The average minimum operational cost per day of a vessel is about 7,000 US Dollars.
** There has been an increase in turnround time of cement vessels because of a substantial increase in gross registered tonnage and tonnage of cargo carried by each vessel.
*** Excluding Light Petroleum Gas, Crude Edible Oil, and other miscellaneous vessles.

The total savings for one day can be easily calculated in a similar manner.

2.06 Cargo Handling Techniques

With the change from lighterage operations to alongside operations, new methods of handling cargo had to be introduced. Hook control operations has to be introduced against hold control operations. However, the right method of handling cargo has not yet been adopted at Port Louis to ensure higher tonnage per gang hour. If the following were adopted, a quicker tonnage per gang hour would be assured.

(i) Pallets

The design and dimension of the pallet actually in use at Port Louis does not conform to operations on general cargo. The conventional pallets with bolt heads require four men for handling the pallet as they have each to bend over the pallet. Hereunder is a design for such a pallet. Moreover on this type of pallet only 20 bags of 50 kilos each can be stacked. The dimensions are as follows: 5 feet x 4 feet with bolted wings.

If a bar bridle pallet is used, only two men can operate it, and the cargo-load can also be increased to 40 bags of 50 kilos each because of the following dimensions: 6 ft x 4 ft with nail driven wings.

(ii) Bags and bundles are unloaded preslung from ship's hold and literally dumped on quay apron. Consequently, time is lost in restacking on pallets. If pallets were brought on board and then cargo unloaded, this would have saved precious time.

(iii) Unloading of delicate cargo

Instead of using nets for unloading of delicate cargo, it is unloaded preslung, with a consequential loss of time and damage.

(iv) "Can two drivers drive a car?" This is a typical use at Port Louis where two winchmen are placed one near the other to manoeuvre winches on board vessels. This action hampers productivity.

In order to ameliorate efficiency, training courses at supervisory and manual workers levels should be organised. Proper cargo techniques for alongside operations must be taught.

2.07 Recruitment

(i) The method of recruiting port labour at Port Louis results in a considerable delay in the start of operations in the morning. This delay is automatically counted as idle time for which port labour is paid.

Daily recruitment of workers is carried out on an individual basis. The workers are notified on the previous day of their selection for work. They report the next day at their respective recruitment centre. The Recruiting Officer calls the card numbers of workers until there is a sufficient number of workers to constitute a gang. This exercise is repeated relentlessly until the required number of gangs is reached. The workers are ferried by boat to the site of the work allocated to them.

From the moment a worker is called to the time he reaches his site of work, the time taken is in the region of 50 to 60 minutes.

Consequently, a new system of recruitment has to be set up to eliminate the defects inherent in the present system and above all to do away with morning idle time due to recruitment.

The following methods could be adopted:–

(i) postings of labour should be made on the previous day, i.e. instead of constituting the gang by calling their name on the very day they are supposed to work, it would be easier if gangs were already constituted the previous day and were informed that they were to work on the following day;

(ii) in order to palliate for absences, an extra number of men should be called;

(iii) transport facilities should be readily available at least 15 minutes prior to the time work was supposed to start, and late-comers should be counted as absent;

(iv) in order to prevent late start after meal time, canteen services should be provided near the site of work.

2.08 Method of Remuneration

Minimum Guaranteed Monthly Pay (MGMP)

At Port Louis, port workers have a minimum guaranteed pay per month, and this minimum guaranteed pay is equivalent to wages paid for the piece-rate task during normal time, i.e. between 0700-1500. After 1500 hours, the piece rate doubles or trebles according to the hours reached. Hereunder is a table of the minimum guaranteed pay for different categories of port workers.

	Category	M.G.M.P.
A	Specialised Deck Stevedores	Rs 2,487.00
B	Hatch Stevedores, Stevedores – Carpenters	Rs 1,954.00
C	Stevedores – Day Watchmen	Rs 2,311.00
D	Stevedores – Night Watchmen	Rs 2,637.00
E	Stevedores – Patrons	Rs 2,637.00
F	Stevedores – Couseurs	Rs 1,646.00
G	Learners – Winchmen	Rs 2,281.00
H	Fish Winchmen	Rs 1,670.00
I	Fish Watchmen	Rs 1,911.00
J	Fish Stevedores	Rs 1,489.00
K	Shoreworkers	Rs 2,387.00
L	Shoreworkers – Couseurs and Petit Colis – Repairs	Rs 1,646.00

This system of remuneration acts as a built-in disincentive for port workers to work during normal time and results in low productivity and a heavy burden in the payment of overtime.

(i) Instead of the MGMP, a productivity bonus scheme could be introduced, the earning of which would be paid (outside the MGMP) from the very first packet handled. The productivity bonus would be based on a piece/gang rate. The bonus earned by the gang would be shared equally among the workers within the gang.

(ii) Introduction of a double shift work as follows:–
First shift 0700-1400 hours
Second shift 1400-2100 hours

(iii) Overtime work would be eliminated. The proposed productivity bonus would apply both to the first and the second shift, irrespective of the time at which the shift work is performed.

2.09 Shift System & Overtime

In order to increase productivity at Port Louis, to ensure a higher turnround of ship, to cut down overtime paid to workers (the total overtime paid to workers is more or less equal to the normal monthly pay packet in the port),

and to be able to absorb part of redundant workers, a shift system has to be introduced in the port. The official working hours should be extended as pointed out in paragraph (2.08) concerning the system of remuneration. The advantages derived from a shift system will be shown in the conclusion.

2.10 Effect on Berth Occupancy & Equipment Utilisation

The following table shows berth occupancy at Port Louis.

Berth Occupancy

Quays	FY 1980/81	FY 1981/82	FY 1982/83	FY 1983/84
Quay No. 1	50.8	40.7	50.2	46.7
Quay No. 2	51.9	54.3	53.8	54.0
Quay No. 3	52.2	50.5	64.5	49.8
Quay No. 4	41.6	47.0	53.4	46.1
Quay C	37.9	31.8	37.3	77.8
Quay D	33.8	43.5	52.5	60.8
Cement Berth	18.1	17.9	16.6	10.0
B. Sugar Berth	8.6	27.3	28.3	20.5

However, the following detailed breakdown shows that vessels are also berthed but not working.

Cumulative Average
(Jan. – June 1984)

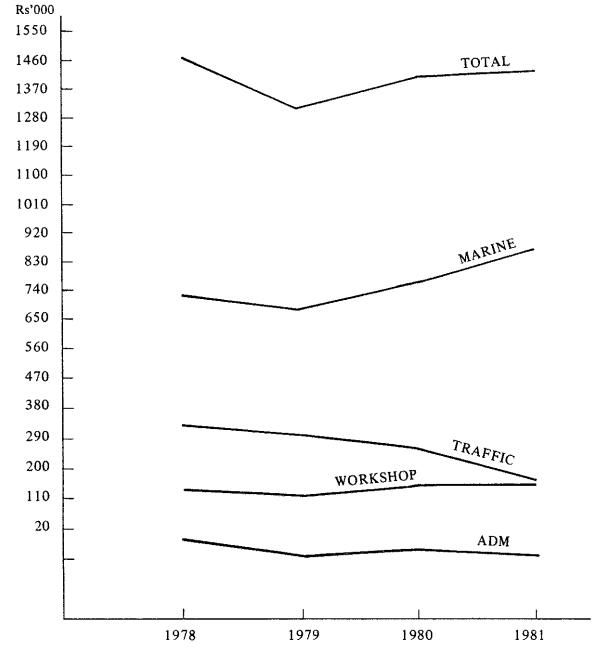
Berth	Vacant %	Total A+B+C %	Occupied (%)		
			A Not working %	B Working %	C Not workable %
No. 1	64	36	14	22	NIL
No. 2	40	60	27	32	1
No. 3	48	52	27	22	3
No. 4	47	53	27	26	NIL
Quay C	NIL	100	80	19	1
Quay D	28	72	47	25	NIL
Quay D/A	100	NIL	NIL	NIL	NIL
B.S.T.	84	16	NIL	16	NIL

Overtime:

As mentioned before, the port is operating on a single shift system, and as already shown, a lot of overtime is being paid to port workers. The Pilot Section of the port does not operate ships during normal working hours on the pretext that it would not be possible to allocate gangs to work the vessel during that period. Consequently, a whole section providing tug service is paid overtime. This overtime paid is, however, recovered by the port from the ship's agent. The ship's agent includes these charges in the freight rates. Consequently, if a shift system is introduced, this might bring about a reduction in freight rate. The following graph shows the payment of overtime at a constant rate in the Port Authority.

(Note: Due to the limited space, the photographs originally attached to this paper, were omitted. – Head Office Secretariat)

Overtime Analysis
(at 1978 constant rate)



Shift System:

To increase the turnround time of ship, a shift system should be introduced at Port Louis, as mentioned earlier. The following calculations show the increase in berth throughput capacity with a double-shift system. The following formula has been used to calculate berth throughput: –

Average tonnage handled per working gang hour
x Average number of gangs
x No. of effective working hours
x No. of working days in a year
x Berth Occupancy

	Actual Berth Throughput Single Shift	Estimated Berth Throughput Double Shift
Berth No. 1	80,000 tons	108,000 tons
Berth No. 2	80,000 tons	108,000 tons
Berth No. 4	20,000 TEUs	36,000 TEUs

Berths which are now underutilised could be used more judiciously and yield higher returns on investment.

Equipment Utilisation:

As an effect of the idle time on board vessels, equipment is underutilised at Port Louis. The following table gives a picture of equipment underutilisation.

Analysis of Usage of Mechanical Equipment
Average % for FY 1982/83

Crane

Capacity	No.	ACT/STD	IDLE/STD	DT/STD
4 Tons	3	0.0	100.0	0.0
5 Tons	6	6.4	90.5	3.1
6 Tons	5	11.4	83.8	4.8
11 Tons	3	3.4	88.5	8.1
20 Tons	1	0.0	97.5	2.8
11 Tons	1	0.0	100.0	0.0
30 Tons	2	2.1	89.9	8.0
Ferranti	1	20.8	67.1	12.1

Analysis of Usage of Mechanical Equipment
Average % for FY 1982/83

Forklift

Capacity	No.	ACT/STD	IDLE/STD	DT/STD
1.5 Tons	6	4.1	93.0	2.9
2 Tons	3	1.7	93.4	4.9
3 Tons	30	19.6	75.6	4.8
3 Tons	12	7.1	89.5	3.4
5 Tons	4	12.3	83.1	4.6
10 Tons	2	32.4	61.7	5.9
18 Tons	1	39.7	54.1	6.2
26 Tons	2	39.7	50.9	9.4

Tractor/Trailers

7 Tons	13	0.0	100.0	0.0
10 Tons	6	0.0	100.0	0.0
60 Tons	5	25.8	68.3	5.9
10 Tons	5	5.5	90.8	3.7
20 Tons	10	3.9	95.4	0.7
20 Tons	2	5.9	92.0	2.1

DT/ACT: Ratio showing portion of downtime per hour of running time indication of maintenance cost for each piece of equipment, i.e. low ratio good, high ratio bad.

Computation of Ratios

NOTES

1. STANDARD AVAILABLE HOURS

This is the total number of hours during which each type of machine is available for work during the month. To obtain the standard available hours for one month, each day's available hours for each type of machine is added up, excluding any downtime and idle time.

2. ACTUAL RUNNING HOURS

This is the number of hours during which machines have actually been working during the standard available hours. This is calculated by totalling the number of actual operating hours each day as estimated by the Plant Supervisor. It includes idle time.

3. IDLE HOURS

This is the period during which machines are not working during the available period. This is calculated by substracting from the standard available hours the following: –

(i) Actual Running Hours;
(ii) Equipment Downtime (see below).

4. DOWNTIME

This is the time during which equipment is not working due to maintenance or repair. This is calculated by adding up the number of hours during which each machine has been either under maintenance or repair during the month. Hours of maintenance and repairs are recorded separately. These data are compiled separately by the Workshop.

5. RATIOS

(a) ACTUAL/STANDARD
Actual running hours of similar machines expressed as a percentage of standard available hours.

(b) IDLE/STANDARD
Idle hours of similar machines expressed as a percentage of standard available hours.

(c) DOWNTIME/STANDARD
Downtime hours of similar machines expressed as a percentage of standard available hours.

2.11 Summary and Conclusions

In this part of the paper, an attempt has been made to analyse the various problems hampering port efficiency at Port Louis Harbour. To summarise, it has been found out that the Port can cope with bulk cargo traffic until at least the year 2000. But as far as general cargo and container traffic are concerned, there exists an acute problem of labour which needs primary attention. As illustrated, firstly manpower has to be reduced to decrease the handling costs and avoid heavy redundancy which will result in a saving to the tune of 40,000,000 Mauritian rupees yearly. Secondly, productivity at the port has to be increased and idle time decreased to favour a faster turnround time of vessels. To meet this end there is the necessity to (i) change the actual system of remuneration, (ii) introduce a multi-shift system, (iii) alter recruitment, (iv) eradicate overtime, and (v) ameliorate cargo handling techniques. As a result of these measures, tonnage per gang hour will increase, a better utilisation of equipment will be achieved and berth occupancy will fall.

3. CONCLUSIONS

3.01 Summary of Important Aspects concerning Port Efficiency

(i) Port Facilities

As pointed out in the introduction, the facilities offered by the port have been tailored according to cargo traffic forecasts. Bulk facilities have been provided for all cargo of that nature. To promote containerisation, the port has been dotted with modern container terminal facilities.

(ii) The major problem at Port Louis for increasing efficiency is port labour. This problem of port labour can be summarised as follows: –

Bad system of remuneration
Wrong system of recruitment
High Redundancy
Unsuitable cargo handling techniques
↓
High idle time
↓
Low tonnage per gang hour
↓
High turnround time of ship
↓
Excessive payment of overtime
↓
An expensive, uncompetitive port
with a high cost per ton of cargo

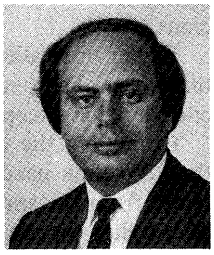
(iii) Solution for Problem

(a) Change in system of remuneration
(b) Amelioration of cargo handling techniques
(c) Introduction of a shift system
(d) Reduction of the labour force to counteract redundancy
↓
Decrease in idle time
↓
Increase in tonnage per gang hour
↓
Reduction in turnround time of ship
↓

(Continued on next page bottom)

IAPH Award Scheme 1983/84: Akiyama Prize (First Prize) Winning Paper

A Simple Method to reduce the Loading and Unloading Time of Containers on to or from Terminal Trailers under Quay Gantry Cranes



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Contents

1. Introduction

Recent times have seen container quay gantry crane specification and construction grow increasingly sophisticated. Fully automatic adjustable spreaders, highly sensitive electronic control systems and other devices and mechanisms involving the latest developments in science and technology have recently become standard items on quay gantry container cranes.

Safety, speed and saving in costs are the three main reasons which led container terminal operators to invest a lot of money to equip their quays with container gantry cranes of such an advanced technology, but usually the first two tasks, safety and speed, are achieved at the expense of the third, i.e. cost.

With this paper, however, it can be shown that there is still room for simple and inexpensive methods to increase the efficiency of a container quay gantry crane and consequently that of the port at which the crane is operating.

2. Background information

The basic operations within a container terminal, apart from the delivery and receiving of containers to or from the customer, can be identified in three distinct "cycles" which are shown on diagram (I).

(Note: All diagrams are at the end of the text).

The interrelation between these three operation "cycles" is very important and is one of the basic factors which affect the throughput of a container terminal.

On the other hand the interrelation of these three operation "cycles" is influenced by the duration of each "cycle" and the operations which take place at the interface of two consecutive "cycles".

(Continued from page 24)

↓

No overtime

↓

Decrease in cost per ton of cargo & freight rates

3.02 General

This paper has in all fairness been prepared with a critical and analytical approach. An attempt has been made to introduce the single port of Mauritius, Port Louis. After the description of the geographical position of the island, the general characteristics of the harbour and the role it plays in the national economy, with all its shortcomings have also been included. An assessment of a rational port development programme with relevant cargo traffic forecasts has also been touched upon, keeping in mind the actual limitations which confront existing port infrastructures.

As far as possible the second part has aimed at the general improvement of port efficiency. No effort has been spared in the deep study of port labour, manning levels, redundancy and hypothetical savings which can be achieved by reducing manpower, ameliorating cargo handling techniques, improving methods of remuneration, whilst keeping in mind the introduction of a multi-shift system and the labour unrest or malaise which might be generated. To reach this goal, a modern approach to port problems, with attention to effective berth occupancy, optimal equipment utilisation, higher productivity, and calculations of storage facilities, have been necessitated.

In conclusion, I have proposed a short-term and medium/long-term programme comprising of a series of solutions which, if applied, will inevitably lead to a decrease in idle time, an increase in productivity, a reduction in total turnround time and ultimately a decrease in the cost per ton of cargo and freight rates, thus improving the competitiveness of Port Louis Harbour in the international perspective.

A successful coordination of the duration of the three "cycles" will result in a situation where the ending of each "cycle" coincides timewise with the commencement of the next consecutive "cycle". This can be achieved by taking into consideration the average distance between the two ends of each "cycle", the average speed of the equipment involved in each "cycle" and the number of pieces of equipment operating within each "cycle".

One would expect that once the ending of one "cycle" coincides timewise with the commencement of the next consecutive "cycle" or rather the "readiness" of the next consecutive "cycle" to commence (i.e. the equipment of the next consecutive "cycle" is on time at the meeting point of the two "cycles"), the optimum results for the container handling operations can be achieved.

However, following a large number of observations that the author of this paper has carried out worldwide during his visits in many container terminals in the last two years it has become increasingly apparent that there is a substantial loss of time at the interface of two consecutive "cycles", i.e. during the transfer of a container from one type to another type of equipment. One way to shorten the duration of an operational "cycle" is to specify equipment with higher speeds (travelling or lifting speeds). However, the approach to save time at the interface of two "cycles" must be, in many cases, a different one, as in this situation the characteristics of two different types of equipment are to be matched.

3. The most critical operation "cycle" in a container terminal

It is now generally accepted that the most vital and critical operation in a container terminal is the loading and unloading of containers at the quay (cycle (1) in diagram I). This is so for two reasons:

(a) The quay loading and unloading operations take place at the interface of the marine and land operations, and hence any delays at this point will have a direct negative effect on both the marine side (vessel) and the land side (land equipment).

(b) The quay loading and unloading operations involve the most expensive means (concerning both investment and running costs) that are used for the transportation of goods through the ports (i.e. vessels and quay gantry cranes), and hence the principle "time is money" is more applicable in this case than in any other port activity.

4. The particular problem

Having in mind the above I have considered that I would offer more to the efficiency of the ports (and in particular to that of Limassol in Cyprus where a new container terminal will soon be operated) if I give priority to solving problems which are present in the quay loading and unloading operations. During my observations in a number of container terminals which are using the same system for cycles (1) and (2) (see diagram I) as at the container terminal at Limassol port in Cyprus, (i.e. gantry cranes and terminal trailers), I have concluded that an appreciable delay occurs in the placing of a container from the spreader of the gantry crane on to the chassis of the trailer or the exact placing of the spreader (its twist locks) on to the lifting points of a container (corner castings) to be lifted from a trailer.

Actual measurements, in a number of ports, of the time elapsed between the arrival and first stopping of the terminal trailer under the quay gantry crane while the spreader was already waiting over the lane of the trailer (or vice versa, i.e. the trailer waiting at the lane under the crane and the spreader just arriving), and the actual placing of the container on to the chassis (or lifting the container from the chassis) showed that this may vary between 15–60 seconds. This time period must be compared with the average duration of a complete "cycle" of loading or unloading of a container with a quay gantry crane (cycle (1) in diagram I), which can be taken from practice to be between 180 seconds (i.e. 20 containers per hour per gantry crane) and 90 seconds (40 containers per hour per gantry crane).

Higher or smaller throughputs than the above mentioned limits can be met in practice, but these cases must be considered as exceptions rather than usual.

Examining the above quoted time periods one can see that the time needed for the exact positioning of a container from the spreader of a gantry crane onto the chassis of a trailer (or the reverse operation) is between 8.3% and 33.3% of the total unloading or loading cycle time when the throughput is 20 containers per hour per gantry, or between 16.6% and 66.6% of the cycle time when the throughput is 40 containers per hour per gantry. I consider, however, the above percentages to be more theoretical rather than actual as one would expect that a high throughput cycle of 90 seconds would imply a fast loading or unloading operation of the container on to or from the trailer, and a low throughput cycle of 180 seconds would imply a slow loading or unloading operation of the container on to or from the trailer.

Therefore it is not unreasonable to say that the time needed for the exact positioning of a container from the spreader of a gantry on to the chassis of a trailer is between 16.6% and 33.3% of the total cycle time of loading or unloading containers with gantry cranes from the vessel to the quay or vise versa.

The method that I am suggesting and which will be described below will assist in the reduction of the above explained loading and unloading time of containers on to or from terminal trailers under quay gantry cranes.

5. What is required to achieve

Before one tries to solve a problem it is essential that he first understands the problem, i.e. why the problem is there and which are the theoretical achievements he must aim at so he can find the practical solutions. The answers which I gave to the above are the following:

(a) The problem is there because two completely different types of equipment (i.e. the gantry crane or its spreader, to be precise, and the terminal trailer) which are operated (or driven) by two different persons who may or may not have visual or any other kind of contact, must be positioned at a certain time during the container terminal operations at a specific point so that the twist locks of the gantry spreader are exactly and directly above those of the trailer chassis (and hence directly above the corner castings of the container to be lifted or loaded). See diagram (II).

(b) The theoretical achievements which must be aimed at is the correct alignment of the terminal trailer with two imaginary axes at right angles to each other, which is

defined as follows: The one axis is between and parallel to the gantry rails and the other one coincides with the centre line of the gantry crane (i.e. the spreader) along the length of the boom. (See diagram III).

6. Data, facts and conclusions related to the problem

The most important fact which is related to this particular problem is that the gantry crane is always changing position along the quay, depending on the berthing place of the vessels or the position of a certain cell of a vessel. Therefore there is no question of having any other reference point for the positioning of the trailer at the desired place apart from the gantry crane itself.

The positioning of the trailer along axis 2 (see diagram III), i.e. the distance of the trailer from the rails or the quay end, can be guided (and this is the usual practice) with road marks (white lines marking travelling lanes). This method may not be a precise one but the positioning of the trailer along this axis or direction is not important or critical as the gantry crane operator who is in a cabin which moves along with the spreader has full control to the last centimeter of the movement (trolley run along the boom) of the spreader in this direction along axis (2). In addition this gantry operation (trolley run) is quite fast and precise and can be combined with the vertical movement of the spreader. Therefore, whether the terminal trailer stops slightly to the left or to the right with respect to the desirable distance from the rails along axis (2) will not cause any delay, or at least any problem as the gantry crane operator can stop the gantry spreader at any required position in this direction.

The most serious problem which in fact is the one to be solved with the suggested method is the positioning of the terminal trailer at the required point along axis (1). If the trailer does not stop at the right point under the gantry crane along axis (1), then there are two ways to get it to the right position. The first one is that the gantry crane must travel along the rails (gantry travel) to match its position with the trailer, something which is out of the question for the following reasons: The gantry crane will lose its initial position over a certain row of containers in a cell or on the deck of the vessel which is serving at that time, and hence a reverse travel must be carried out for the repositioning of the gantry over the row of containers which is being handled. The gantry travel implies a certain procedure for safety reasons (lock of certain mechanisms and movements). The above sequence of events results in such a substantial time loss compared to the total loading or unloading cycle time that rules out this solution as being impractical. The second way, which in fact is the usual practice, is to drive slowly the terminal trailer backwards or forwards until it is at the right position. However, this is not as simple as it may appear to be. First of all, it must be decided whether the chassis is at the right position after the first stop of the trailer (something which may happen only by chance with some luck), or whether it has to move forward or backward and for what distance. This cannot be clearly realised unless the spreader is lowered and stops at a position about one metre over the chassis, which results in the first element of the delay. Moreover, as the trailer driver cannot judge very well the precise relative position of his chassis to the spreader as he views things backwards and at an angle, in most cases, (if not always) and this has been confirmed in my observations in a number of terminals, the practice is that there is a person at the quay especially to guide the trailer drivers and hence the chassis at the right position under the spreader. And even so, as the guidance is either by signalling with hands or by words (e.g. forward about half a meter) or by a combination of the two (e.g. forward "that much", "that much" shown with the hands), it is not uncommon to see in practice that the trailer driver has to move several times backwards and forwards until the chassis is at the right position, or even that after a number of such moves and subsequent trials to lift or place a container from or on to the chassis, either the spreader or the container is guided to the exact position for the last few centimeters (the spreader of the gantry which is supported on cables has some small sideway movement tolerance) with the hands of quay workers who wear special gloves for this purpose.

7. The principle of the method

The suggested method to position a terminal trailer at the exact required point under the quay gantry crane along axis (1) (see diagram III) so that the centre line of the container to be lifted from the chassis coincides with the centre line of the gantry spreader (the same applies for the reverse operation) is based upon the principle that a straight line can be fully and precisely defined with three points.

If the eye of an observer and three points are in such a position that the third point is covered visually by the second and the second by the first, then these three points must be on an imaginary straight line. (See diagram IV(c)).

This is a simple but basic geometry principle which defines a certain state (a straight line formed by three points) which allows no doubt.

8. Application of the principle to the method

The observer is the trailer driver. The 1st and 2nd points which are about 10 cm. apart from each other are fixed on a straight rod (i.e. they are on a straight line) on the driver's cabin of the trailer somewhere between the driver's head and the side window of the cabin facing the seaside rail. Depending however on the distance between the driver's seat and the above mentioned window of the cabin, both points can be inside the cabin (the window) or both outside. The rod on which the two points are fixed is supported by a small frame on to the driver's cabin at right angles to the longitudinal axis of the trailer, and so these two points move and change position precisely as the trailer does.

The 3rd point is at the side which faces the direction of the land, of the seaward horizontal box girder beam (seal beam) of the gantry crane which is just over the boggies and is also at about the same level as that of the head of the driver of the terminal trailer. This 3rd point moves and changes position along the rails with respect to the quay precisely as the container quay gantry crane does.

Each time the driver moves his trailer to such a position that the 1st point is covering the view of the 2nd point and the 2nd that of the 3rd point, then these three points are on a unique straight line (see diagram IV). When this straight line is defined, then the trailer is always at the same position with respect to the gantry crane on which the 3rd point is fixed.

If the 3rd point on the crane seal beam is fixed (painted in fact) so that the horizontal distance between this point and the centreline of the spreader along the axis of the

boom is exactly the same horizontal distance as that between the 1st and 2nd points which are fixed on the trailer's cabin and the centreline of the chassis, then when the three points are aligned visually by the driver (i.e. form a unique straight line), the centreline of the chassis will coincide with that of the spreader of the crane and hence the container can be lifted or placed from or to the chassis by the spreader. Diagram IV shows the possible three steps that the observer (the driver) must follow just one or two meters before he thinks he is at the desired position in order to align the three points mentioned above. Diagram V shows the terminal trailer at stages (b) and (c) as described in diagram IV. The distance A in diagram V (which may also be distance B or C) is defined in diagram VII. Diagram VI shows how it has been decided to construct the 1st and 2nd points which are fixed on the driver's cabin. The 1st point is a thin and long rectangular gab (0.5 cm × 25 cm approx.) defined by a frame (in fact a hole of the above dimensions cut through an aluminium section), so the observer can view the 2nd point through it. A straight thin plastic wire (0.1 cm thick) is fixed, tied at the centreline of this gab parallel to the long dimension (i.e. 25 cm), which is the vertical dimension. The 2nd point is a thin rectangular metal bar (0.3 cm thick and 1 cm wide), fixed upright and vertical on a straight horizontal rod which is also connected to the aluminium section forming the 1st point. The thin dimension (0.3 cm) of the 2nd point is facing the 1st point. Both the 1st and 2nd points are perpendicular to their connecting rod and parallel to each other. When the observer views with one eye through the gab forming the 1st point in such a way that the vertical wire at the centreline of the gab is covering the 2nd point (in fact covering the central part of the 2nd point, as the 2nd point is 0.3 cm and the wire is 0.1 cm) then the eye of the observer and the two points are on a straight line.

The 3rd point, which is a painted vertical straight line on the seal beam of the crane which is at the same level as the eye of the observer and the two other points, is about 10 cm thick so it can just be covered usually by the 0.3 cm thick 2nd point at the maximum distance that the trailer can be away from the seaward rail when under the crane. (This has been confirmed in practice, the maximum distance being about 20 m.) The view through the first point when the three points are aligned is shown in diagram VI.

9. Practical details of the method

There are three possibilities where the chassis should stop depending on its size and the size of the container. These possibilities are shown in diagram VII. Hence there must be three different "3rd points" on the crane seaward seal beam at distances A, B and C from the centreline of the boom of the crane. Each of these points can be painted with a different colour so the driver can select them according to the applicable case, as per diagram VII.

The terminal trailers at Limassol port are such that distance A = 7 m, B = 13 m and C = 10 m.

The elevation of the crane at the level of the seal beam is shown in diagram VIII. The dimensions of the cranes at Limassol port are such that distances B and C from the centreline of the boom of the crane bring the 3rd point in these two cases, though within the extreme ends of the crane structure, beyond the ends of the seal beam. Hence a piece of flat painted plate can be fixed as shown in diagram VIII which does not extend beyond the buffer stops of the crane (thereby not causing any problems), on which the two target points (3rd points) for cases (B) and (C) of diagram VII can be accommodated. There is, however, one drawback. In case the terminal trailers operating within a port are not all of the same model, then distances A, B and C as defined in diagram VII may not be the same for each model. This can be overcome by marking more than one 3rd point on the crane for the cases of distances A, B and C and having these markings numbered (say, 1 for trailer model 1, 2 for trailer model 2, etc.). It is expected, though, that more than three trailer models may cause some confusion, and hence the system may be applied to those two or three models which cover the largest number of trailers in the port.

10. Theory into practice

After all theoretical aspects have been dealt with, and following the solutions given to the expected practical problems it then only remained to apply theory into practice. On August 8th, 1984, the manufactured 1st and 2nd points were fixed on the cabin of a terminal trailer at Limassol port, and the method was tried successfully by three different drivers (including myself). However, as the two quay gantry cranes which have been bought by the Cyprus Ports Authority and have recently been delivered at Limassol Port were not accessible at the time for this purpose, as serious work is being carried out in connection with the testing and commissioning of the cranes (the cranes have not as yet been officially delivered to the Cyprus Ports Authority), the trial of the method was carried out by using a 3rd point which was fixed on a wall of a shed. The terminal trailer drove parallel to the wall of the shed at a distance of 12 m and the driver applied the method described above (i.e. the alignment of the three points), using the device fixed on the cabin of the trailer, and stopped the trailer at the position where he thought the three points were aligned. Then the centreline of the front wheel was marked with a chalk on the pavement (not visible by the driver when sitting on the driver's seat). The driver drove away and repeated the same procedure several times. These trials proved the success of the method, as each time the driver could stop his trailer at the same position, as the centreline of the front wheel of the trailer coincided all times (within 5 cm) with the marking on the pavement. The cost of constructing the 1st and 2nd points which were fixed on the cabin of the trailer for the trials (the prototype) was about 5 U.S. Dollars. However, it is expected that the final version of this device will cost twice as much, as certain improvements can be made with regards to the rigidity and fixing of the system as during the trials it was observed that the device was slightly vibrating during driving. This vibration is attributed to the temporary fixing arrangements of the system (fixed only on the upper side). The system, however, can still be further developed.

It is possible to order such a system from a proper optical instruments manufacturer (in our case it was manufactured in a simple metal workshop) and have a much more scientific and precise instrument for taking aim at a target by the method of defining a straight line with three points. Such an optical system, may cost, say, up to ten times more (e.g. 100 U.S.$). Still, this cost per terminal trailer is not pro-

hibitive compared with the benefits offered by the method, even taking into consideration the costs for the adjustments and marking on the gantry crane (estimated at 150 U.S. Dollars per crane).

11. Benefits offered by the method

At Limassol Port there will be two container quay gantry cranes operating, which will be served by 8 terminal trailers (four for each crane). Therefore the maximum cost for the application of the method described in this paper (applying the device which has already been tried and proved successful) is about 380 U.S. Dollars (8 terminal trailers X 10 U.S.$ + 2 cranes X 150 U.S.$). Taking into consideration the results of the first trials and the figures given in chapter 4 of this paper, it is expected that the average saving in the loading or unloading time of containers on to or from the terminal trailers under the quay gantry cranes will be at least 15 seconds. (The total time of this operation for the Limassol port conditions compared to conditions seen in other ports is expected to be between 30 – 40 seconds without using the method suggested in this paper but applying the common practice as described in chapter 6.) This means that it is expected that there will be a reduction in the duration of this operation at the interface of cycles (1) and (2) (see Diagram I) by about 50%.

It is assumed that each gantry crane at Limassol Port will operate around 2,000 hours per year, handling an average of 25 containers per hour, i.e. 50,000 containers per year per gantry. (Latest figures show an expected throughput of about 180,000 TEU's for Limassol Port in 1984.) The balance of the number of containers will be unloaded/loaded by self discharging vessels, Ro-Ro or cranes of other types which are available in the port.

Therefore, it is expected that with this suggested method there will be a saving of about 416 hours yearly for both cranes (100,000 containers loaded or unloaded by two gantries X 15 seconds saving for each container, i.e. each time cycle (1) is repeated).

This saving in time, which is about 10% of the initial time needed for the same operation but without the suggested method (about 416 hours saved yearly on 4,000 working hours yearly for both cranes) will definitely have some financial and economic benefits. (The term "financial benefit" is used to describe the cost benefits to the operator of the port (i.e. in this case the Cyprus Ports Authority) and the term "economic benefit" is used to describe the benefits to the overall economy of the country.)

12. Financial benefits

It is anticipated that the following benefits will be offered to the Cyprus Ports Authority (the operator of the port of Limassol) as a consequence of the above mentioned expected reduction in the loading and unloading time of containers on to or from the terminal trailers under the quay gantry cranes:

(a) Reduction in labour costs and saving on overtime
(b) Reduction in running and maintenance costs of quay gantry cranes
(c) Increased efficiency of quay gantry cranes
(d) Improved utilization of the quay
(e) Improved efficiency of terminal trailers

The following attempt to quantify the above mentioned benefits is not a precise one, but only aims to give the order of magnitude of the benefits rather than the exact values.

(a) Reduction in labour costs

From information obtained from the cargo handling officer at Limassol port, there will be 12 persons working in connection with the operation of each gantry crane, but in the case of both gantries working at the same time the total number is reduced to 20 persons for the two cranes. Their average wage is 26 U.S. Dollars and the normal working hours are from 7.30 in the morning until 14.00 hours in the afternoon (i.e. 6.5 hours). Beyond these hours the Cyprus Ports Authority staff works on an overtime basis which is 50% more than the basic wage rate except for the weekends when it is 100% more than the basic wage.

The working hours at the Limassol Port for unloading and loading operations are from 7.30 in the morning until 23.00 hours at night provided there is a need (i.e. there is cargo to be loaded/unloaded). Therefore it is reasonable to assume that any saving in time will be saved from overtime. Hence the expected labour cost to the Authority associated with the operation of the gantry cranes during overtime hours is:

$$20 \text{ persons} \times \frac{26 \text{ U.S.\$}}{6.5 \text{ hours}} \times 1.50 = 120 \text{ U.S.\$}$$

per hour for two gantry cranes.

Therefore for the total of 416 hours which are expected to be saved with the suggested method for both cranes there will be a saving of (120 X 416) 49,920 U.S.$ per year to the Authority. This is a substantial amount compared to the investment needed for the suggested method (380 U.S. Dollars).

Furthermore, the person at the quay whose duty is to guide the terminal trailer driver to stop at the correct position (as described in chapter 6) is not required any more as the driver can deal with the situation on his own, and hence there is a further saving in labour cost estimated to be around 10,000 U.S.$ per year for two persons (one for each crane), assuming a daily wage of 17 U.S.$ per person for this kind of work.

(b) Reduction in running and maintenance costs

The purchase value of the two gantry cranes bought by the Cyprus Ports Authority for the Limassol port is approximately 3,600,000 U.S.$. From information obtained from the Electromechanical Section of the Cyprus Ports Authority, the expected average annual running and maintenance costs for these two gantry cranes are about 11% of their value, covering electricity consumption, fuel, oil, wire ropes, breakdowns, spares, etc. (excluding labour).

In terms of money the expected running and maintenance costs are 396,000 U.S.$ (11% of 3,600,000 U.S.$). The above estimate is based on the average figure of 2,000 working hours per year per gantry. The resulting saving in working hours due to the application of the suggested method is about 208 hours per year per gantry, which is a saving of about 10%.

It is not unreasonable to assume (according to the Electromechanical Section) that the running and maintenance costs are proportional to the working

hours of the crane and therefore to say that there is an expected saving of about 39,000 U.S.$ per year for the two cranes in running and maintenance costs due to the adoption of the suggested method.

(c) Increased efficiency of quay gantry cranes

Assuming no limitation on the number of containers then one can expect that with the application of the suggested method the quay gantry cranes can handle 10% more containers than before for the same number of working hours (i.e. an increase from 50,000 to 55,000 containers per year per crane for Limassol, assuming 2,000 working hours annually and 25 containers per hour).

This implies 10% more earnings for the Authority, which means faster repayment for the cranes and more profits.

If, however, there are limitations on the number of containers passing through the port, then the cranes will have to work 10% fewer hours to handle the same number of containers, and hence by analogy savings in labour, etc. as per paragraphs (a) and (b) of this chapter will accrue.

(d) Improved utilization of the quay

This is self-evident as one can expect that faster loading and unloading operations will result in respective reductions of the time of stay of vessels in the port. As the expected saving in time in the loading/unloading operations is 416 hours per year, and assuming an average stay of vessels in the port of Limassol of 24 hours, then there will be available one extra berth for about 17 days every year (416/24). This will not only increase the Authority's income from berthage and other port charges (estimated to be 340 U.S.$ per day for an average container vessel, i.e. 5,780 U.S.$ in total for the 17 days), but will also improve the congestion situation from which the port of Limassol often suffers.

(e) Improved efficiency of terminal trailers

It has been estimated that there will be a saving of about 15 seconds in the time required for the terminal trailer to stay under the container quay gantry crane as a result of the application of the suggested method. It is also estimated that cycle (2) in diagram I (i.e. the horizontal transportation of containers with terminal trailers) will have at Limassol port an average duration of 5 minutes. This means that the same terminal trailer will be under the crane every 5 minutes (300 seconds). The resulting increase in the efficiency of the terminal trailers is then 5% (15/300 X 100).

13. Economic benefits

As explained above, the term "economic benefits" is used to describe the benefits to the overall economy of the country. The suggested method to save time in loading and unloading operations, limited though it is, offers some indirect economic benefits. The freight charges are a function of time, and if it is known by the shipping lines that the loading and unloading operations in Limassol port are reduced, then it may lead them to offer better charges by proportion. The following theoretical exercise is given as an indication. The average cost per day of a container vessels arriving at Limassol port is of the order of 10,000 U.S.$. Assuming that a container vessel will load and unload a total of 600 containers (a reasonable figure), then there will be a saving in time of about 2.5 hours (600 X 15 seconds saving). This, by analogy to the 24 hours in a whole day, may result in a saving of 10% in the daily cost of the vessel (i.e. 1,000 U.S.$, say, assumig that the vessel stays for one day in the port).

I emphasize, though, that this is a rather theoretical exercise as it is not certain that shipping lines will take into consideration this small saving in time compared to the time of the whole trip.

Something else, however, which may be taken into consideration by some shipping lines that their vessels have to pass through the Suez Canal after calling at Limassol port (in fact there is a lot of such traffic between Limassol port, the Gulf and the Far East) is the following:

> The vessels have to pass through the Suez Canal in a convoy which leaves at a certain time. Sometimes a vessel leaving Limassol port may miss the convoy at Suez by just an hour and has to wait for the convoy of the next day.

Having in mind the above situation, it is possible that the short saving in time of one or two hours for the sailing of the vessel from Limassol port may be more significant that it initially appears.

Therefore I believe that any reduction in the loading/unloading operations which consequently reduces the time of stay of the vessel in the Port will contribute somehow (even to a small extent) to the effort of the country to secure reasonable freight charges for the imports and exports of the country and even to attract the service of a larger number of shipping lines.

On the other hand, if the Ports Authority uses a part of the financial benefits described in chapter 12 to reduce various charges (say loading/unloading charges of exports/imports) then this will definitely result in some economic benefits as, for example, prices for exported goods can be reduced to be more attractive to the international market or exported goods can give the country a better profit.

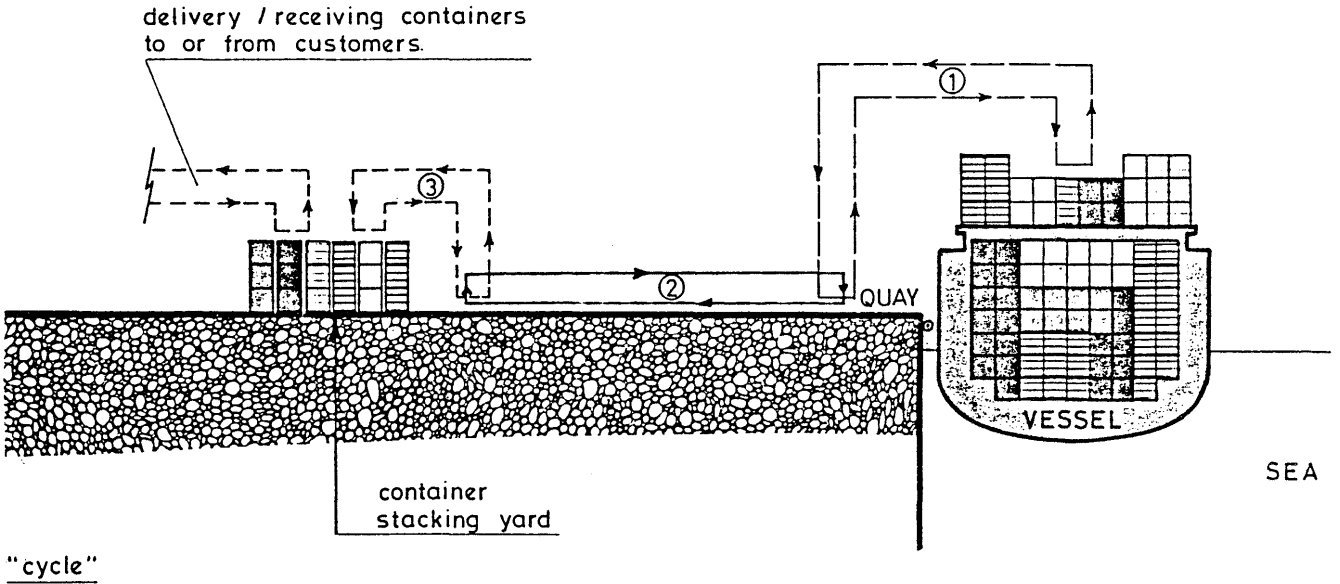
Conclusions

The suggested method to reduce the loading and unloading time of containers on to or from terminal trailers under quay gantry cranes is simple and inexpensive, but by no means "cheap" in the meaning that is usually attached to this word. It is based on the fundamental principle of geometry which allows of no doubt that a straight line can be fully and precisely deifned by three points.

It has been proved to be satisfactorily accurate during the first trials and easily understandable and applicable by simple trailer drivers who do not have any special educational background. The cost for implementing the method is extremely low, but the device which was adopted for the first trials could be further improved and developed without, however, prohibitive additional costs.

The expected saving in the loading and unloading time of containers at the quay, though at first appears to be small (15 seconds), as this saving is repeated in each operational cycle, its cumulative effect at the end of the day is substantial, resulting in considerable financial benefits and, limited though, but still, some economic benefits.

The suggested method if adopted will definitely contribute to an increase in the efficiency of the port.



"cycle"

① Loading and unloading of containers from or to the vessel from the quay.

② Horizontal transportation of containers between quay and container stacking yard.

③ Stacking of containers within the stacking yard.

note:

Sometimes receiving or delivery of containers can take place straight at the quay without any stacking in between.

Diagram I

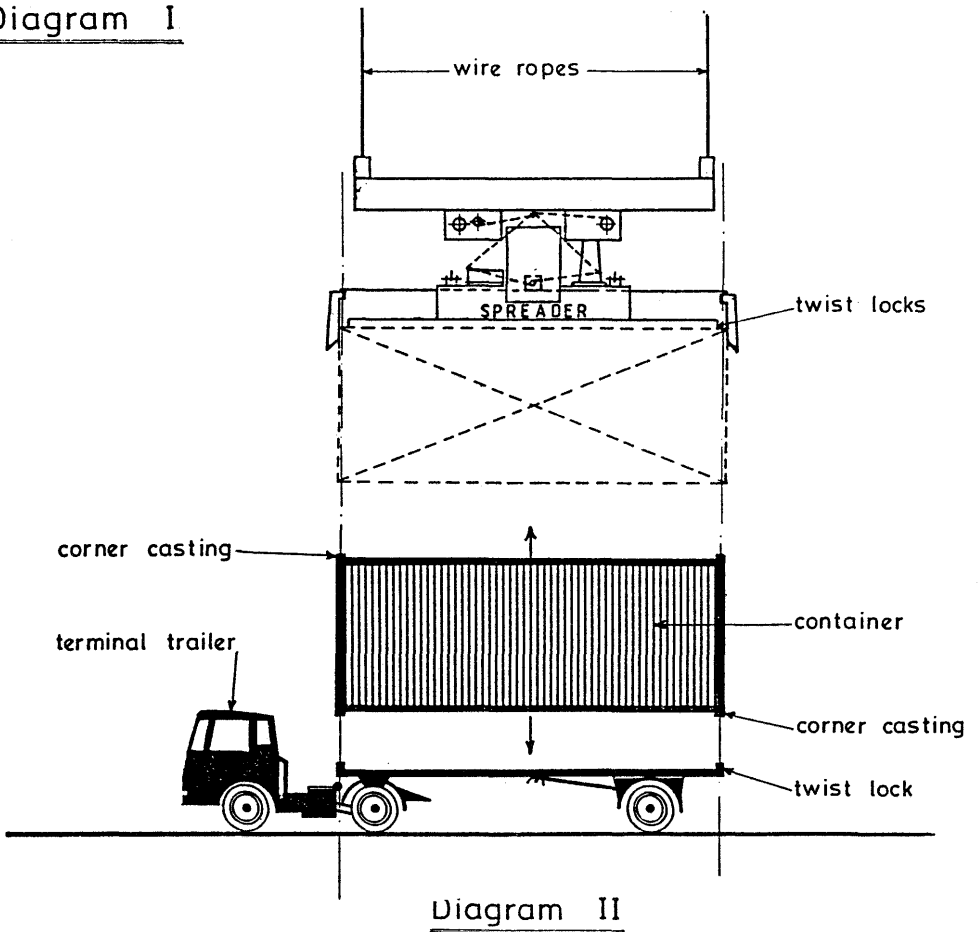


Diagram II

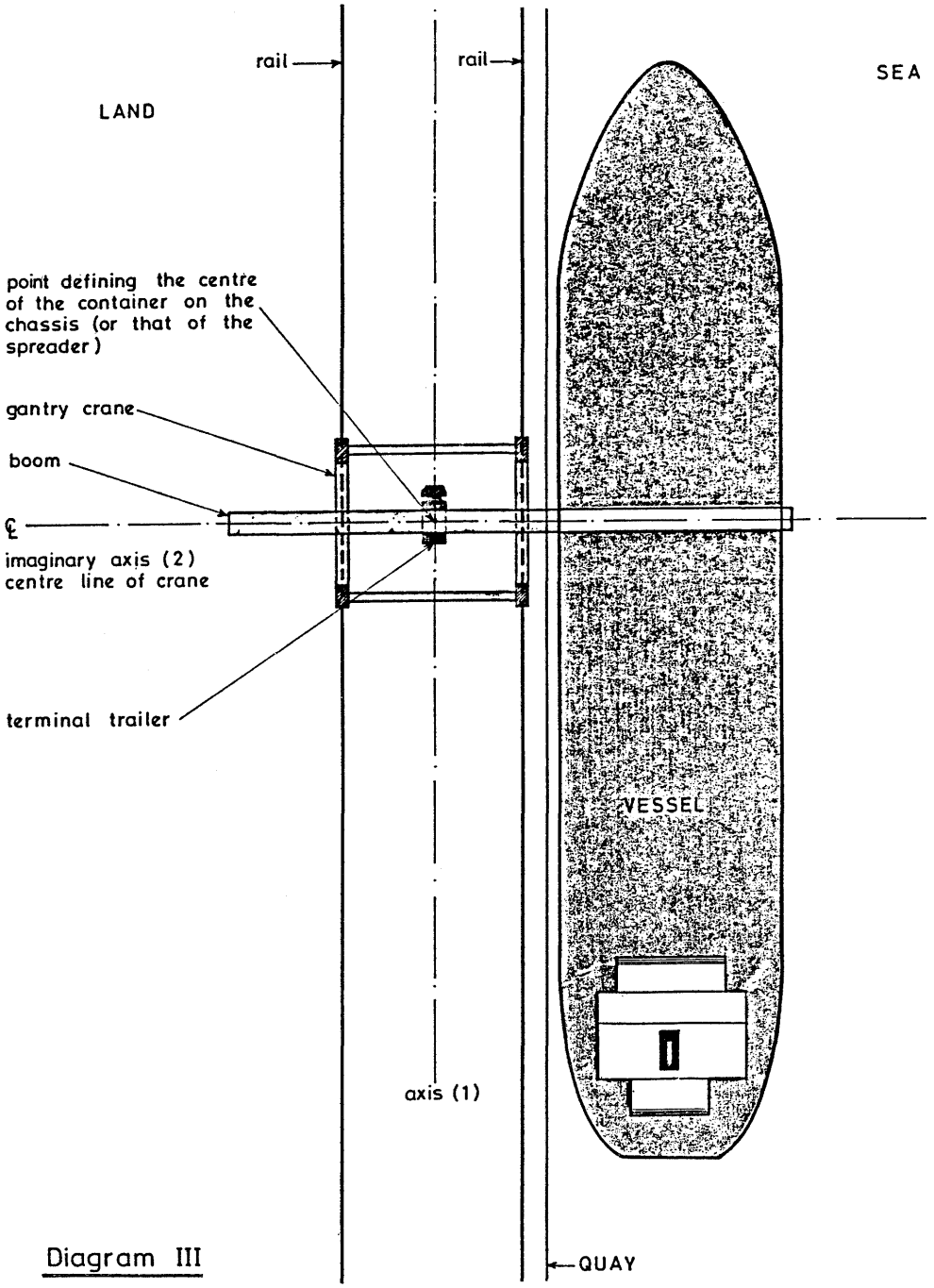


Diagram III

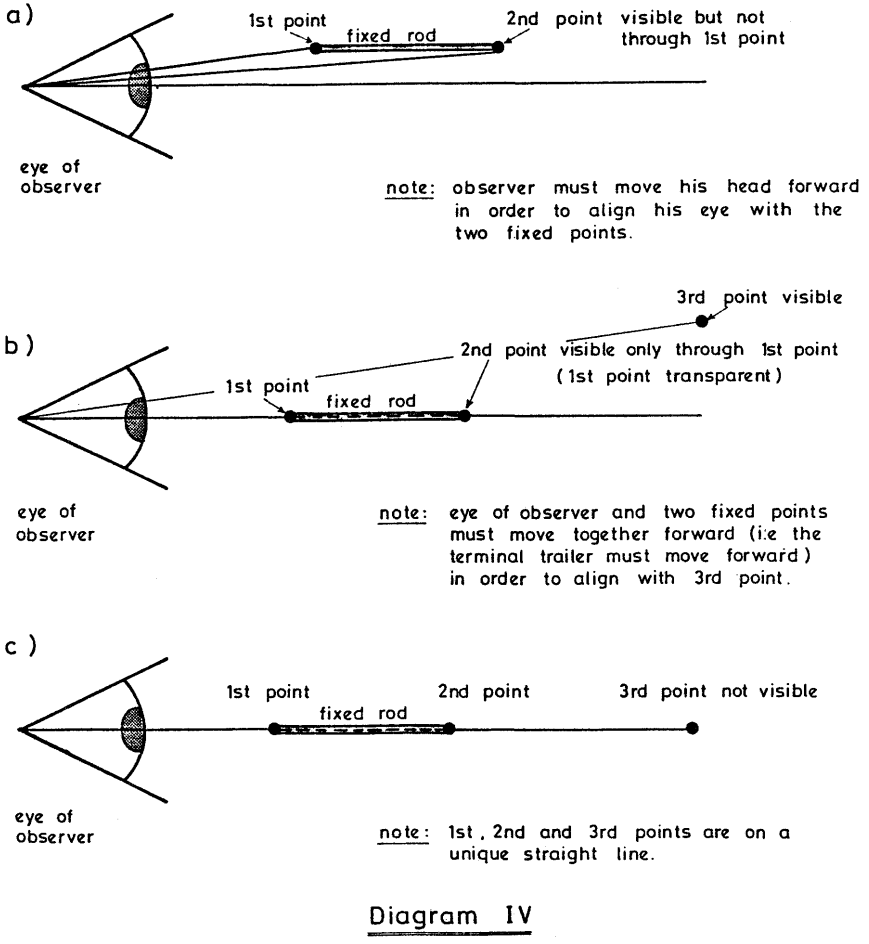
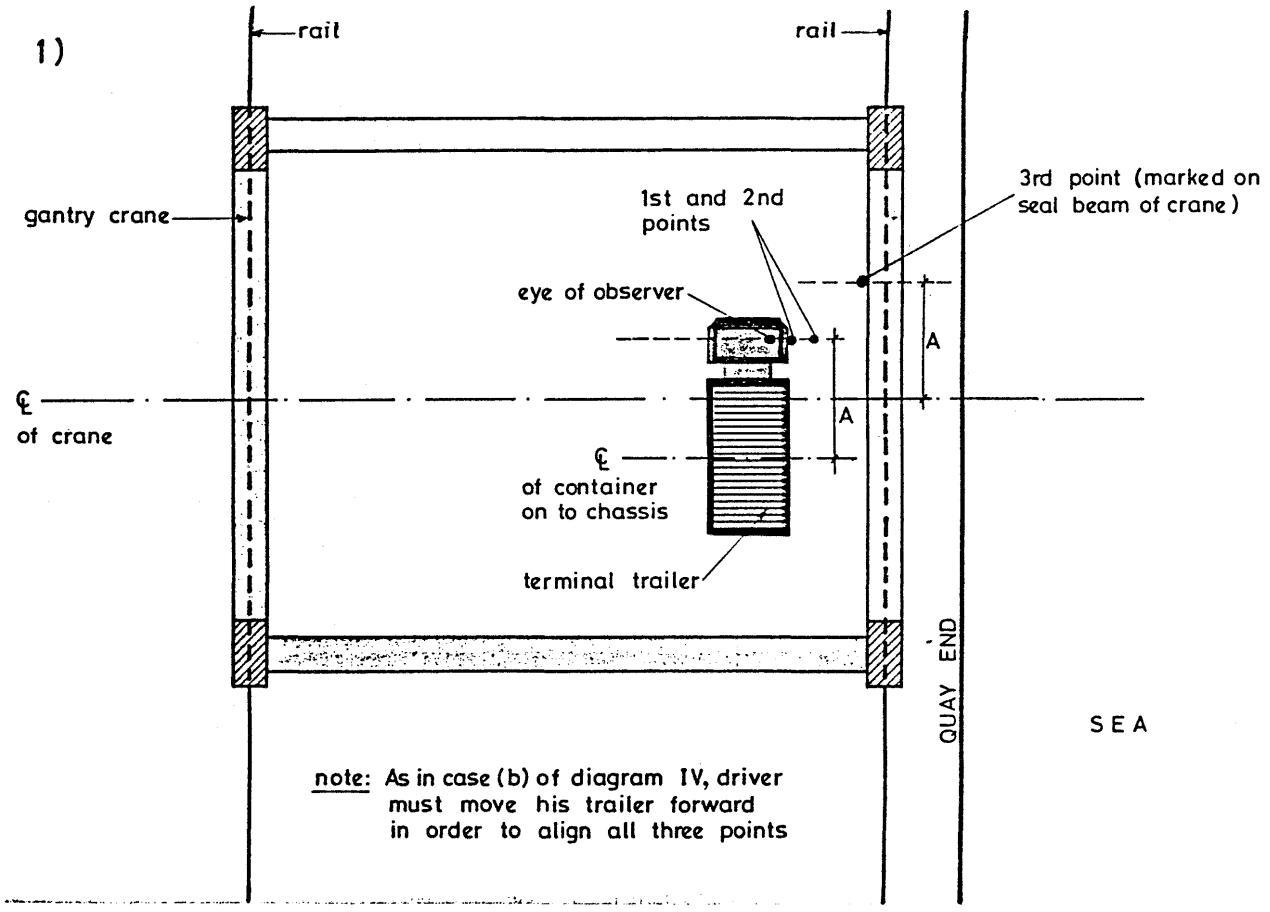


Diagram IV


1)
rail
rail
gantry crane
1st and 2nd points
3rd point (marked on seal beam of crane)
eye of observer
A
A
℄ of crane
℄ of container on to chassis
terminal trailer
QUAY END
SEA
note: As in case (b) of diagram IV, driver must move his trailer forward in order to align all three points

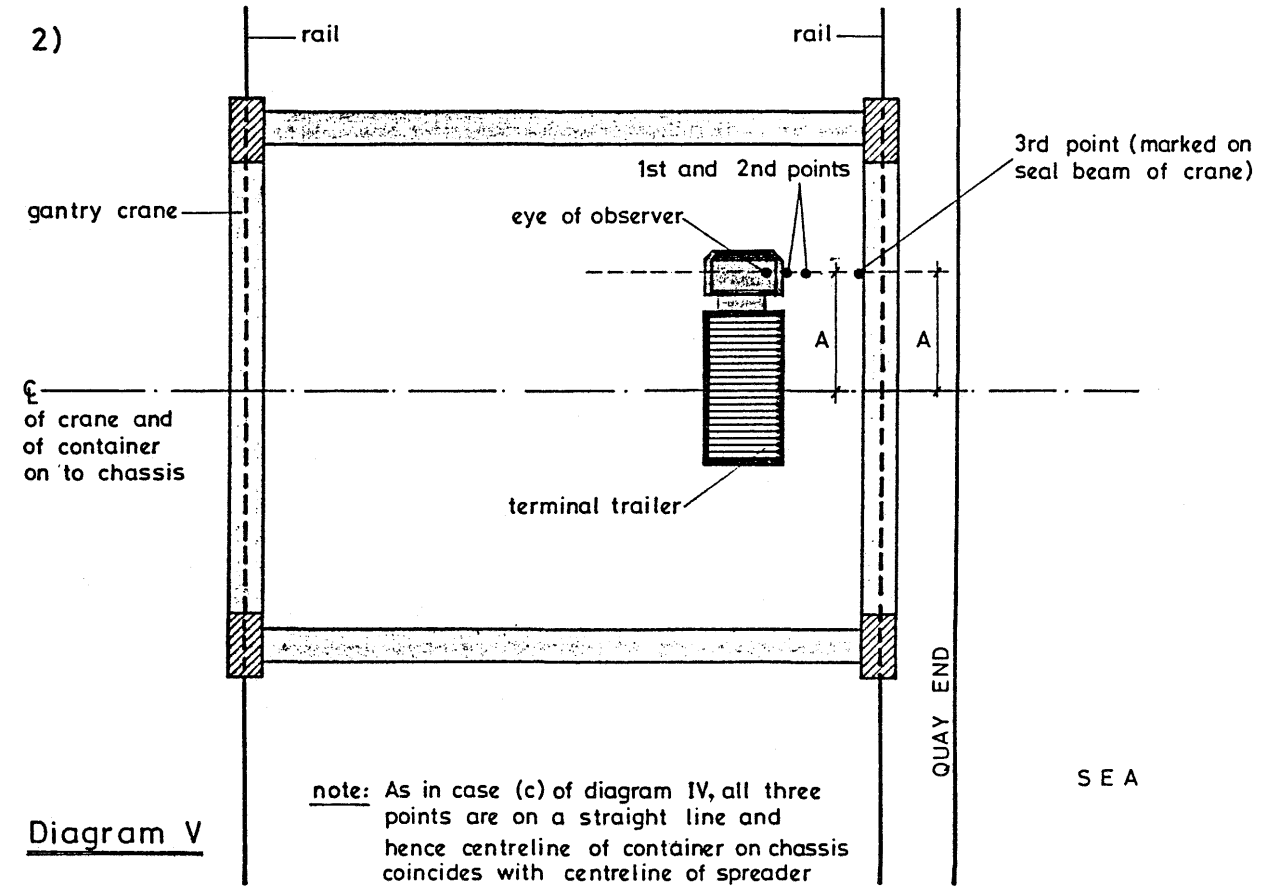
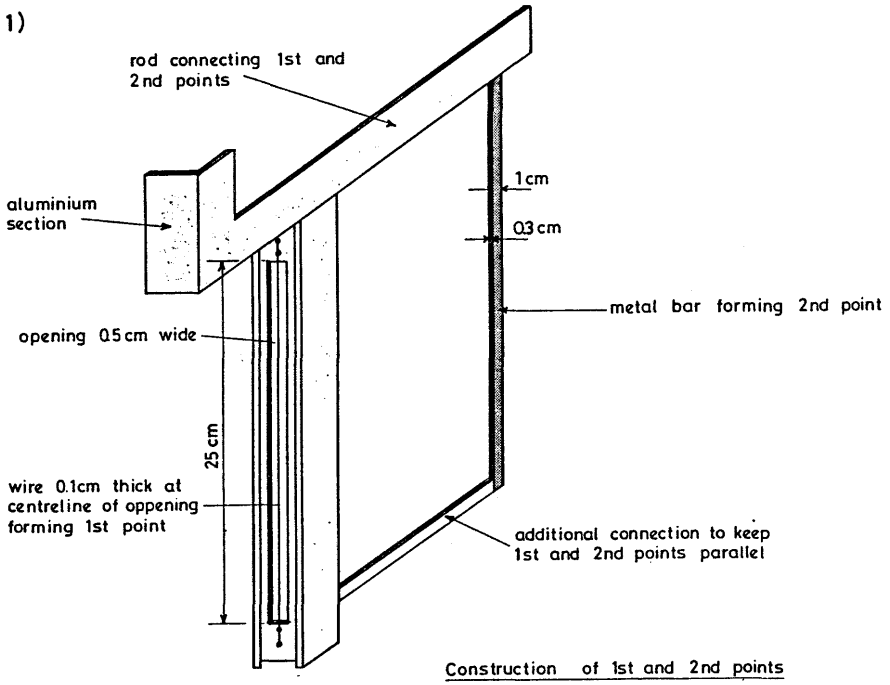

2)
rail
rail
gantry crane
1st and 2nd points
3rd point (marked on seal beam of crane)
eye of observer
A
A
℄ of crane and of container on to chassis
terminal trailer
QUAY END
SEA
note: As in case (c) of diagram IV, all three points are on a straight line and hence centreline of container on chassis coincides with centreline of spreader

Diagram V

1)



Construction of 1st and 2nd points

2)

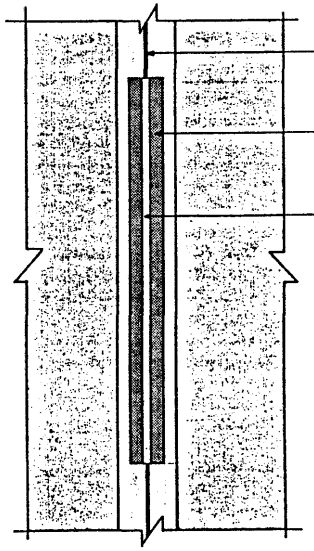


Diagram VI

View through opening of 1st point when all three points are aligned

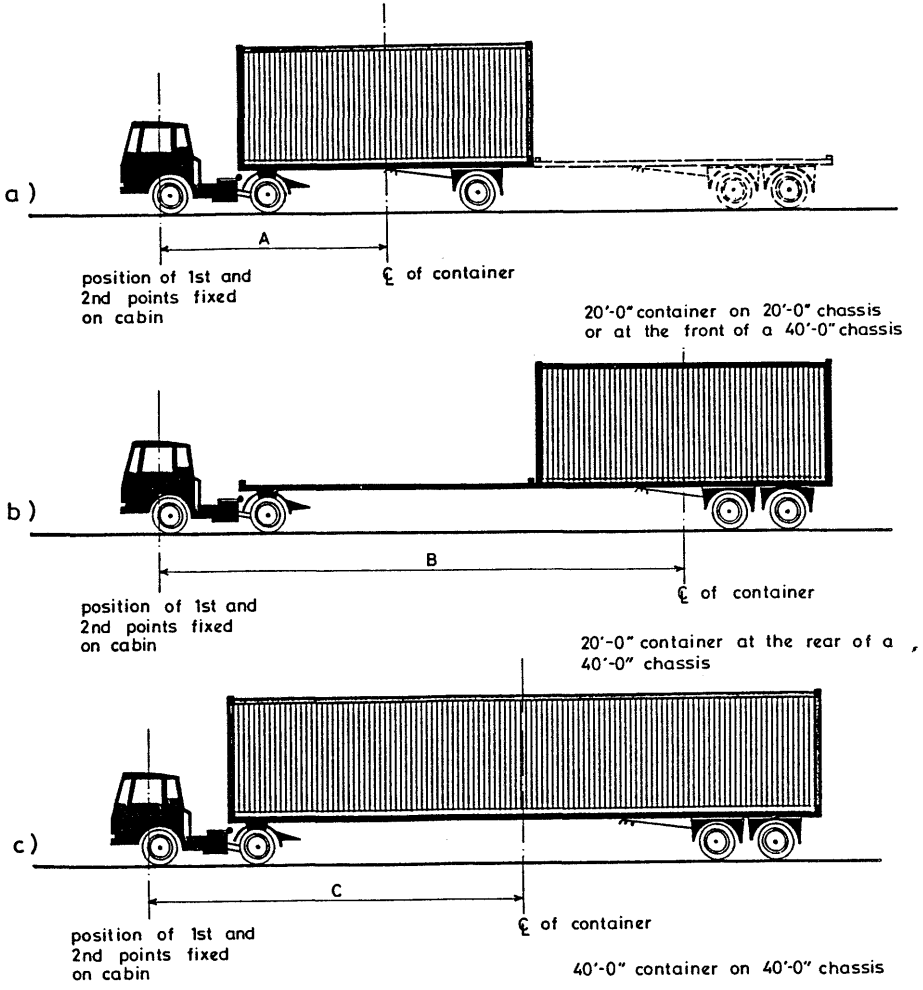


Diagram VII

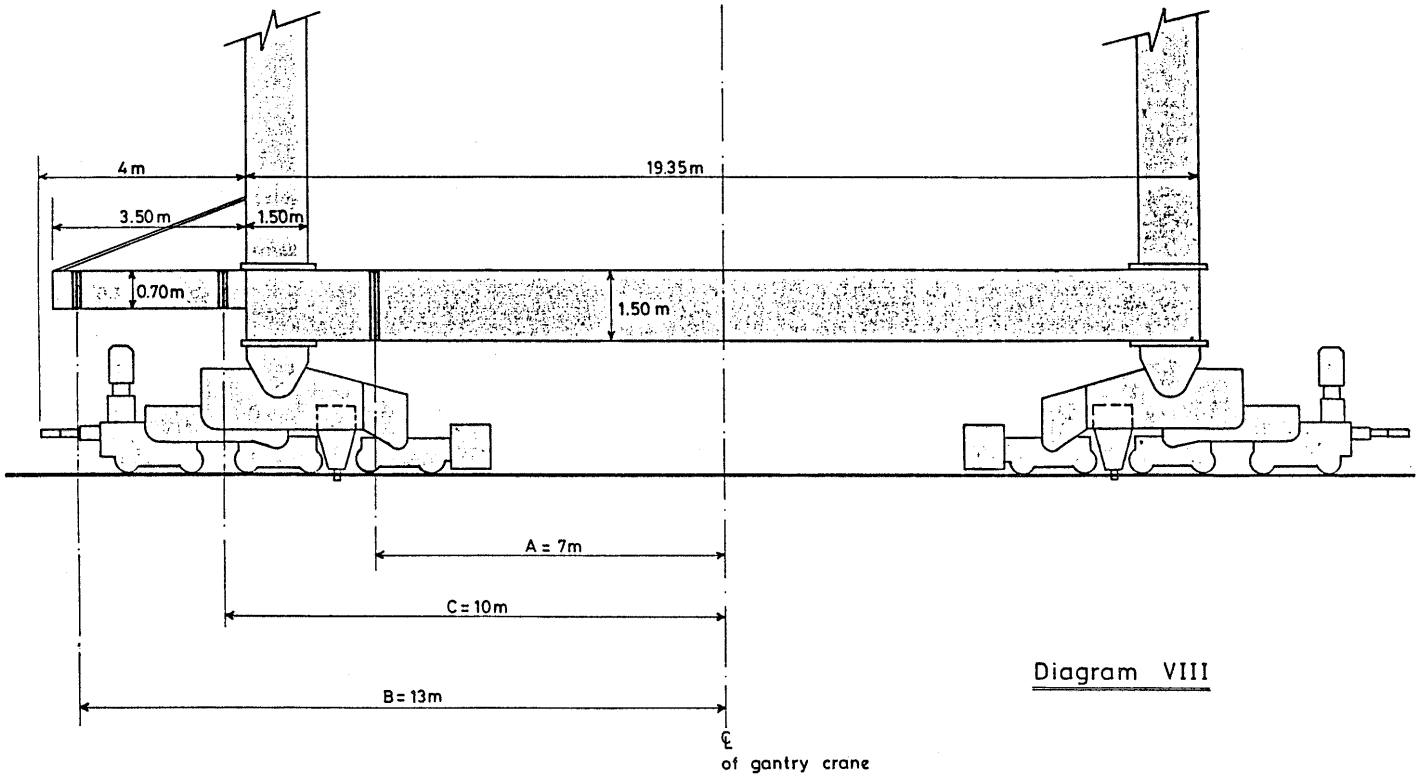
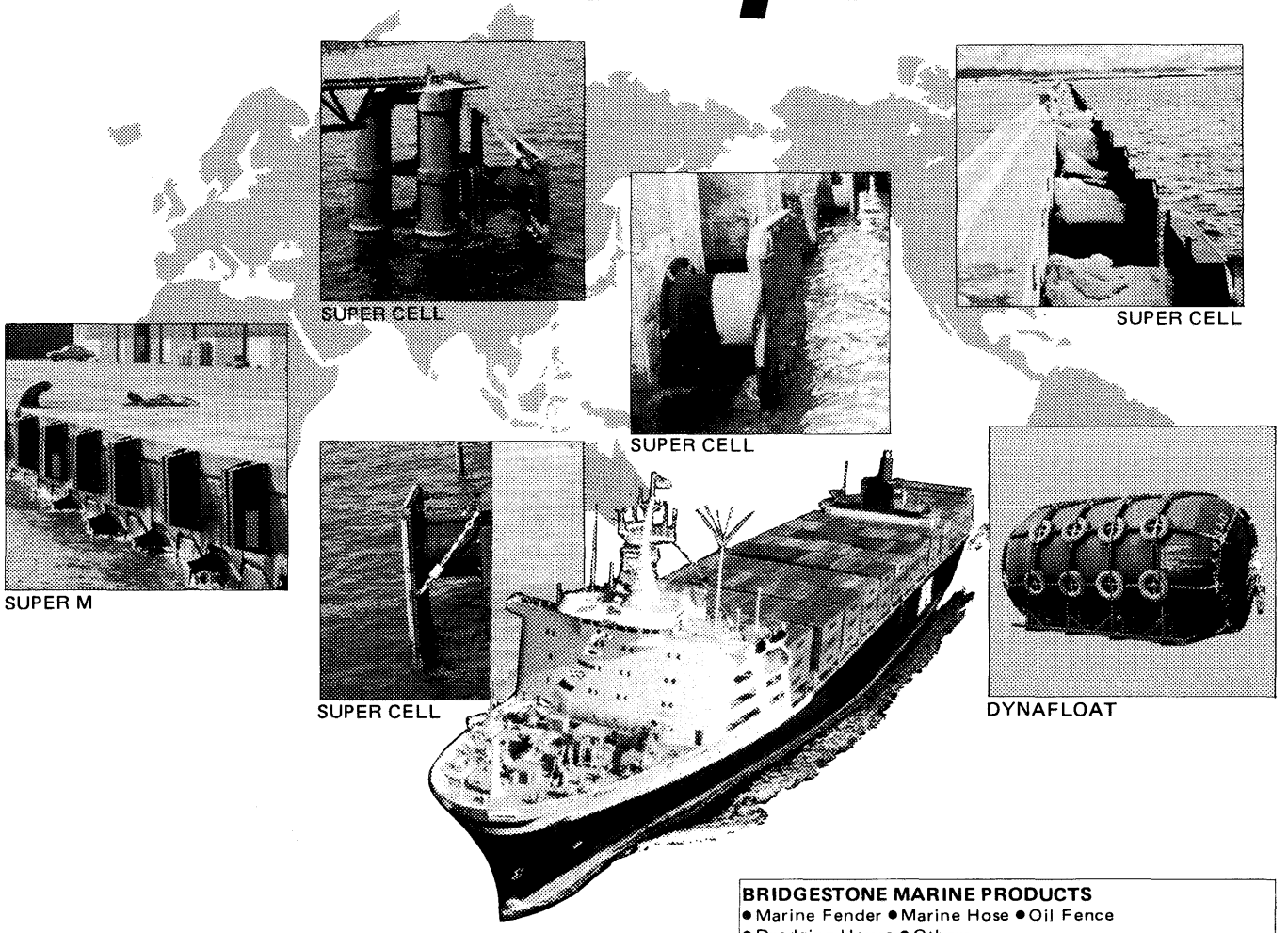


Diagram VIII

(Note: Due to the limited space, the photographs originally attached to this paper, were omitted. – Head Office Secretariat)

BRIDGESTONE

On Every Continent the Best Protection for Ships.



Bridgestone marine fenders are designed using the latest marine technology and engineering. Protection of shipping and marine structures is assured and overall port construction costs are reduced.

A full range of fenders can now be provided which will satisfy many berthing conditions.

Bridgestone, recognized as a world leader, manufactures: Cell fenders (including the world's largest), the exclusive Super-M fenders, the new "Dyna-Float" floating fender, plus all types of conventional fenders.

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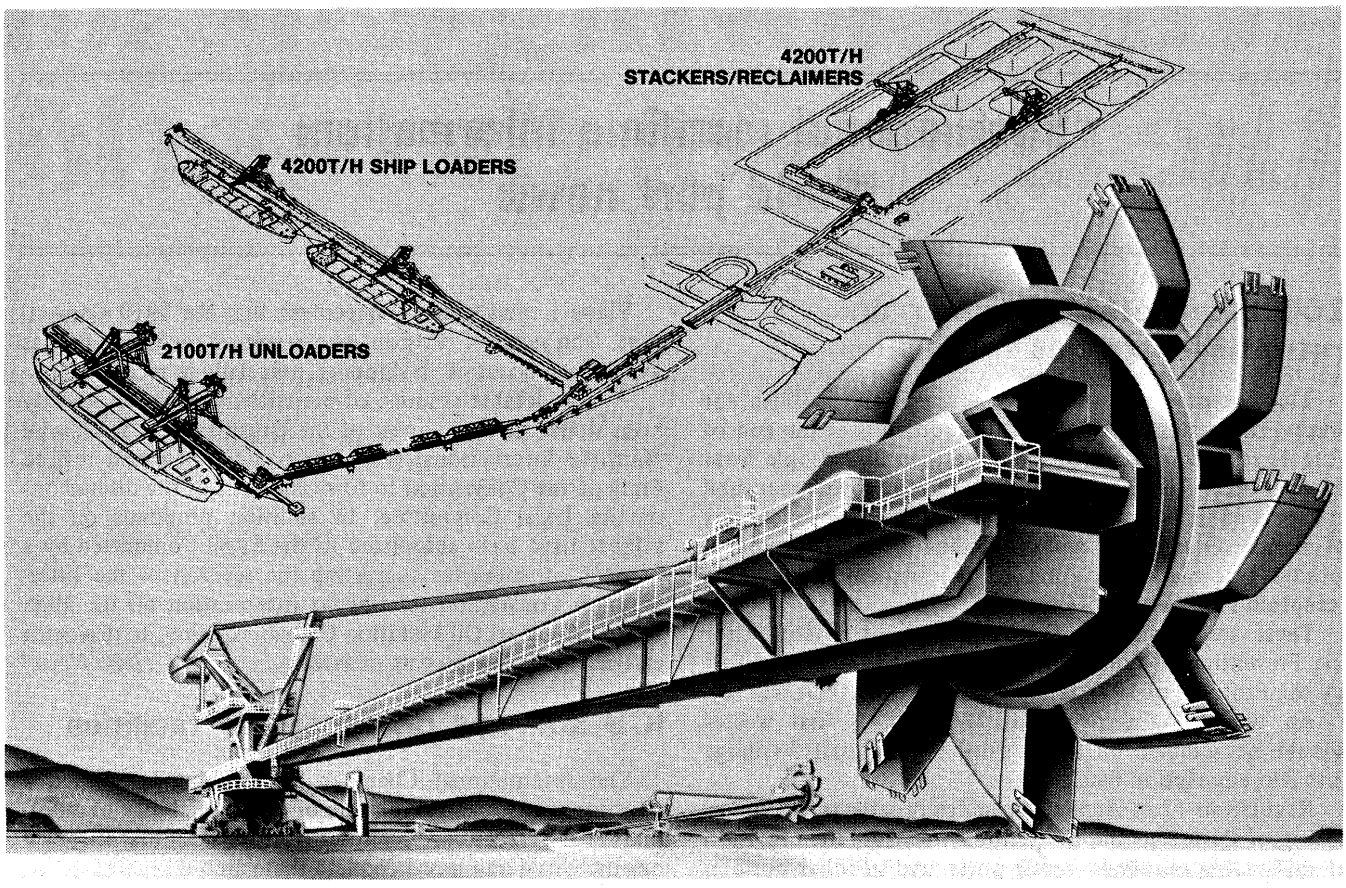

Who would you call for a complete facility capable of transhipping 10 million tons of ore per year?

This steel-maker called on Hitachi. And for reasons that went beyond a competitive bid.

Hitachi is a world leader in "Total Technology" — a concept that benefitted this purchaser in several ways.

As a major manufacturer of bulk materials handling equipment, Hitachi was able to supply all the important hardware: two ship loaders, two unloaders, 3,000 meters of conveyer, and two "Hitaclaimer" combination stackers/reclaimers — a Hitachi innovation.

But Hitachi's involvement didn't stop, or start with the manufacture of this equipment. Their experts supplied needed advice at every stage, from feasibility studies to layout planning to construction and maintenance.

In addition to Hitachi's depth of experience in bulk materials handling, this steel-maker was aided by Hitachi's great width of expertise in many fields, especially that of microelectronics and computers.

For example, by integrating a computer into almost every operation in this facility, Hitachi engineers were able to improve inventory management, maximize operating efficiency, even program maintenance schedules!

The total story.

As impressive as this large-scale working model of mecha-tronics is, it's just one example of how Hitachi is working to advance existing technologies and at the same time pioneer new ones.

Hitachi tries to apply this same "Total Technology" thoroughness to every one of their 20,000-plus projects and products. And it seems to be successful. More and more people are calling on Hitachi.

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International maritime information: World port news:

200 attend IMO seminar on reception facilities

The international seminar on reception facilities for shipborne wastes, held at IMO headquarters at the end of August last, was attended by more than 200 people from 38 countries. The seminar was designed to provide maritime and port administrations and technical/operations managers of marine oil terminals and oil loading facilities with background information relating to requirements concerning reception facilities.

These are required by the International Convention for the Prevention of Pollution from Ships, 1973, as modified by the Protocol of 1978 relating thereto (MARPOL 73/78).

An underlying principal of MARPOL is that wastes should be retained on board ships for eventual discharge into shore reception facilities.

Regulation 12 of Annex 1 specifically reflects the undertaking of Parties to the Convention to ensure the provision at oil loading terminals, repair ports, and in other ports in which ships have oily residues to discharge, of facilities adequate to meet the needs of the ships using them without causing undue delay.

It is further stipulated that such facilities shall be made available not later than one year from the date of entry into force of the Convention, that is by 2 October 1984. Furthermore, Regulation 10 of Annex 1 designates the Mediterranean Sea, the Baltic Sea, the Black Sea, the Red Sea and the Gulf as 'Special Areas' in which discharge of oil from ships is prohibited. The need for reception facilities in ports is therefore even more pressing in these areas.

The seminar was organized by IMO with financial support being provided by the United Nations Development Programme.

The Proceedings of the Seminar are to be issued as an IMO publication which will include the texts of papers presented, together with a summary of discussions.

(IMO News)

Work starts on revision of 1910 Salvage Convention: IMO Legal Committee

The Legal Committee has begun its detailed consideration of the question of salvage. A major objective is the possible adoption of a revised version of the 1910 Brussels Convention for the Unification of Certain Rules of Law Relating to Assistance and Salvage at Sea.

One of the most important provisions of the Convention is Article 2 which embodies the 'no cure, no pay' principle. This states: 'Every act of assistance or salvage which has had a useful result gives a right to equitable remuneration. No remuneration is due if the services rendered have no beneficial result.'

There is now general agreement that the 1910 Convention is in need of revision, as a result of the great changes which have occurred in shipping, especially in recent years.

A considerable amount of preparatory work has already been done. At the request of the Organization the Comité Maritime International (CMI) prepared a new and revised draft of the Convention to form the basis of the discussions of the Legal Committee. In addition proposals on the subject have been submitted to the Legal Committee by a number of countries suggesting the revision of the International Convention relating to Intervention on the High Seas in Cases of Oil Pollution Casualties, 1969, to deal with certain public law aspects of salvage. *(IMO News)*

ICS surveys on reception facilities

The International Chamber of Shipping has issued a questionnaire to ships' masters on the availability of information on reception facilities for oil residues throughout the world and how adequate these are.

The secretary general of ICS, Chris Horrocks explained—

"The MARPOL Convention obliges contracting states to provide reception facilities 'adequate to meet the needs of the ships using them'. Yet we know only too well that many states have not met that obligation. ICS conducted a survey in 1983 which illustrated just how often a ship finds that facilities for oil residues are either inadequate or non-existent."

The results of the 1983 questionnaire were submitted to IMO, which asked ICS to conduct a further survey once MARPOL was in force.

Mr. Horrocks added—

"Now that MARPOL has been operation for 15 months it is time to have another look. We hope the situation has improved but we are far from confident. Pollution prevention is not something the shipping industry can achieve on its own. Governments and port authorities have an essential part to play, and they must not be allowed to duck their responsibilities.

We look to this survey to focus attention where it is most needed. Unless the reception facilities are there, MARPOL is a dead letter, and we are all the losers."

The new survey will take several months to complete and its results will again be submitted to IMO.

International Chamber of Shipping

Questionnaire on Adequacy of Facilities in Ports for the Reception of Oil Residues from Ships

Ship's Name	Company	Ship Type
. . . . .		

Please complete each time ship visits port or terminal with inadequate or no reception facilities.

Country: . . . . . Port or Terminal: . . . . . .

Date: . . . . . Berth: . . . . . .

1. Facilities not available* ☐
   State any known reasons . . . . . .
   . . . . . .
2. Facilities available but inadequate, due to*
   (i) Capacity ☐
   (ii) Operational delays (e.g. need to change berth, or other ships using facilities) ☐
   State nature of delay . . . . . .
   . . . . . .
   (iii) Restriction on types of oily waste accepted, e.g.
   – dirty ballast ☐
   – tank washings ☐
   – machinery space bilges ☐
   – sludge from purification of fuel oil ☐
   – other (state restriction) ☐

. . . . . .

3. Restriction on discharge of clean ballast* ☐
   State nature of restriction . . . . . .
   . . . . . .
4. Other difficulties* ☐
   Additional Remarks . . . . . .
   . . . . . .
   . . . . . .

*Please insert "X" in box as appropriate

PSA Training Courses 1985/86

INTRODUCTION

The Port of Singapore

Strategically located and endowed with a natural, well-sheltered deep-water harbour, the Port of Singapore plays an important role in international trade and the economy of the Republic.

Ships of more than 500 shipping lines converge at Singapore, one of the world's largest oil refining, blending and distribution centres. There are about 600 ships in Port daily, with a ship arriving or leaving, every 10 minutes.

The main cargo-handling gateways of the Port are the Tanjong Pagar Container Terminal, the Keppel Wharves, the Pasir Panjang Wharves, the Sembawang Wharves and the Jurong Port.

The Port handled 106.3 million tonnes of sea-borne cargo in 1983 and 94.9 million tonnes during the initial ten months of 1984.

The Port is administered by the Port of Singapore Authority (PSA), a statutory body responsible for the provision and maintenance of port facilities and services and for the control of navigation in port waters.

The Port of Singapore Authority maintains its own police and fire-fighting force and operates round-the-clock throughout the year, working three daily shifts. Ships calling at Port are assured of 24-hour tug, pilotage, fresh water, bunker, ship-chandling and other related services.

The PSA provides employment for some 8,800 employees comprising stevedores, clerks, technicians, engineers and administrators. Stevedores are grouped into integrated gangs for ship-shore/wharf work and other cargo-handling operations.

With more than 160 years of port and shipping experience, Singapore has made her mark in international shipping and has attained a significant position as one of world's leading ports where ships are turned around expeditiously.

TRAINING IN PSA

The history of systematic training in the PSA dates back to 1959. The emphasis then was on operations training to upgrade the cargo handling skills of stevedores to meet the immediate operational requirements of the port. With increasing sophistication in port administration and operations, the training function in the PSA has over the years, enlarged its scope to include management, supervisory, clerical and technical training.

Today, the PSA's Training Department comprises the Operations, Technical and Management Training Sections. The Department is staffed by competent Training Officers and Instructors. It is also supported by excellent library and audio visual facilities.

The three main Training Sections organise and conduct no less than 600 courses annually to meet the short and long term training needs of PSA's employees.

In 1975, the PSA decided to open some of its courses on port management and operations to participants from the ports of other developing countries in the region.

Organised on a non-profit making basis, these courses have attracted some 250 officers annually from the ports of ASEAN, West Asia, India, Africa and the Pacific Islands.

COURSES FOR OVERSEAS PERSONNEL

The PSA offers to share its experience in port management and operations through the following 13 courses for 1985/1986: –

Management and Administration Courses

- Port Management and Operations
- Port Security

Port Operations Courses

- Management and Operations of Tanjong Pagar Container Terminal
- Cargo Operations at Conventional Wharves
- Practical Pilotage Observation Attachment

Port Engineering Courses

- Management and Maintenance of Port Equipment
- Port Engineering and Project Management

Safety Course

- Ship Inspection

- Shipboard Fire-Fighting and Prevention
- Oil Spill Control
- Oil, Chemical and Liquefied Gas Tanker Safety Familiarisation
- Crude Oil Washing and Inert Gas
- Advanced Petroleum Gas Tanker

These courses have been structured to include lectures, discussions and programmed visits to operational departments. Related courses are scheduled to run consecutively so as to provide participants an opportunity to participate in more than one course while in Singapore. These courses serve as a forum for participants from developing countries to exchange ideas and experiences on port management and operations.

GENERAL INFORMATION

1 Application Procedures

All applications should be:
- made on the application form provided in the brochure. Application for each course should be on a separate form;
- supported and sponsored by the relevant Port, Government or International Agency;
- accompanied by a bank draft or cheque for the total amount of course fees in Singapore Dollars; and
- submitted to reach the PSA not less than TWO MONTHS before the commencement date of each course.

2 Conditions for Acceptance of Applications

Organisations sponsoring their personnel for PSA training courses would be required to sign:
(i) a Letter of Indemnity as the courses include programmed visits and/or practical work; and
(ii) a Letter of Guarantee to reimburse the PSA for all hospitalisation should any of their personnel require hospitalisation while in Singapore.

Participants are advised to take up travel and accident insurance policies to cover them in the event of death, disability, loss of or damage to personal properties for the duration of the training period.

3 Course Fees

Fees quoted are only for 1985 courses. Fees for 1986 courses may be subject to revision.

4. Refund of Fees

If notice of withdrawal is given in writing within two weeks preceding commencement of the course, a 80% refund will be made or an administration charge of 20% of the course fees will be levied. If notice of withdrawal is given in writing after commencement of the course, no refund will be made.

5 Cancellation

The Authority reserves the right to cancel any course if necessary.

6 Scholarships

Participants are normally sponsored by their ports/organisations for PSA courses. However, some participants have been sponsored to attend PSA courses under the ASEAN and Colombo Plan Training Awards, Commonwealth Fund for Technical Co-operation, International Association of Ports and Harbors, International Labour Organisation, United Nations Development Programme and International Maritime Organisation. More information can be obtained from these organisations offering such awards.

7 Medium of Instruction

The medium of instruction is ENGLISH. As such, participants are expected to have a good working knowledge of the language.

8 Certificate of Attendance

Certificate of Attendance will be issued to all participants who maintain full attendance at all lectures/sessions.

9 Meals and Refreshment

All courses include:
(i) welcome and farewell lunches; and
(ii) daily refreshment/snacks during tea/coffee breaks

10 Visa and Travel Arrangement

(a) All participants will be responsible for making their own visas and travel arrangements to and from Singapore. Consult your High Commission, Embassy or Consul for more information.
(b) On arrival at Singapore Changi Airport, participants should: –
(i) present their passports or internationally recognised travel documents to the immigration officials and obtain from them the required approval to stay in Singapore for the duration of the training period; and
(ii) proceed direct to their hotels/hostels which they have booked earlier.
(c) Participants are advised to be in Singapore at least one day before the course begins.
(d) Participants will be transported to PSA Training Department on the first day of the course from designated hotels/hostels.

11 Accommodation

Singapore has numerous hotels to meet the accommodation requirements of participants. Your Embassy, High Commission, Consul or travel agent may be able to assist in making accommodation arrangements. It is suggested that you choose a hotel or hostel near the Port for your convenience. The Authority can assist if required, in booking recommended hotels/hostels at concessionary rates for participants.

12 Living Allowance

Sponsoring organisations should ensure that their personnel have adequate funds before leaving for Singapore to cover all expenses including accommodation, meal, transport, medical fees and other incidentals in Singapore.

PSA TRAINING COURSES 1985/1986

COURSE TITLE	FEES SING $	Duration in weeks	1985									1986								
			MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV
Management and Administration Courses																				
Port Management and Operations	2,000	3					1 19								30 18					
Port Security	1,100	2								14 25									13 24	
Port Operations Courses																				
Management and Operations of Tanjong Pagar Container Terminal	2,000	3					22 8									21 8				
Cargo Operations at Conventional Wharves	1,700	3						12 30									11 29			
Practical Pilotage Observation Attachment	2,800	2			6 17					7 18				5 16					6 17	
Port Engineering Courses																				
Management and Maintenance of Port Equipment	700	1					15 19									14 18				
Port Engineering and Project Management	2,200	3					22 8									21 8				
Safety Courses																				
Ship Inspection	600	1		22 26						7 11			21 25						6 10	
Shipboard Fire-Fighting and Prevention	900	1								14 18									13 17	
Oil Spill Control	900	1								21 25									20 24	
Oil, Chemical and Liquefied Gas Tanker Safety Familiarisation	1,200	2		29 10									28 9							
Crude Oil Washing and Inert Gas	600	1			13 17									12 16						
Advanced Petroleum Gas Tanker	600	1								28 1									27 31	

NOTE: (a) No courses are offered during the months of December to March.
(b) Dates and fees for 1986 training courses may be subject to revision.

13 Climate & Clothing

Singapore is generally sunny with an average temperature of 28°C (82°F) during the day and 25°C (77°F) during the night. Lightweight casual clothing is recommended.

14 Further Enquiries

For further information, please write to: –

Training Manager
Training Department
Port of Singapore Authority
7 Keppel Road
#02-28, Tanjong Pagar Complex
Singapore 0208
Republic of Singapore
Telex: RS 21507
Cable: "TANJONG" Singapore
Telephone: 2217711 Extension 826

Port of Thunder Bay—A near-record year despite Seaway setbacks

The Port of Thunder Bay ended its navigation season with a near-record year despite the worst commercial setbacks in the St. Lawrence Seaway's 25-year history. Thunder Bay is Canada's furthest inland port located at the top of the Great Lakes/St. Lawrence Seaway system over 3,000 km from the Atlantic and Pacific Coasts.

The Lakehead Harbour Commission recently released final figures which show that the Port handled 23,024,684 tonnes of cargo in 1984, just a half-million tonnes less than last year's all-time high. The season got off to a great start when the Soo Locks opened on March 26, a week earlier than usual. Then an early spring ice-jam in the St. Clair River set navigation back two weeks and, at the end of the season, a further 18-day delay was caused by a broken shaft in the lift bridge at Valleyfield on the St. Lawrence River. A decision by the Seaway Authority to extend the system's normal mid-December closing, allowed a surge of shipping out of Thunder Bay in late December. "There's no question," said Port Manager, Jerry Cook, "that the season's extension lessened the impact of the bridge mishap and now that we know it can be done, I hope we can look forward to enjoying a firm season of this length every year."

Thunder Bay's navigation season opened on March 29, 1984, when the M.V. Algoport arrived to take on a load of potash and the season officially closed on December 30 when the M.V. Lake Manitoba left Thunder Bay to make the January 1st closing of the Seaway.

Of the total 23 million tonnes of cargo which moved through the port in 1984, grain accounted for 16.6 million tonnes, down from the 17.7 million tonnes record for grain set in 1983.

Highlighting the year were significant increases in coal and potash moving through the port. Coal reached 2,775,596 tonnes, up 28.5% over last year as a result of an increase in demand for consumption. Recovery in the market place was evidenced by the 1.8 million tonnes of potash shipped out of Thunder Bay. This was up 27% from last year.

Environmental Commission recommends Port of Quebec expansion

The environmental commission created to examine the Port of Quebec's proposed expansion at Beauport has recommended a green light for the 42.5 hectare development. In its report submitted to the Federal Ministers of the Environment and of Transport, the commission noted that the project will have a positive effect on employment and municipal finances "without unduly harming the biophysical environment".

The six-member federally appointed panel held public hearings on port expansion earlier last year. Its recommendation represents an important step for the Port of Quebec in a long quest to obtain approval for new facilities at Beauport, a site that offers excellent conditions for port development.

The project calls for the zoning of 42.5 hectares of the St. Lawrence River bed at Beauport as "designated for port development", with additional sites for new port users to be constructed in three phases according to demand. It consists of an extension of existing installations from pier 54 to the east in the form of a peninsula in deep water beyond the shoreline at low tide.

A final decision on the project, which will be made jointly by the Ministers of the Environment and of Transport of the Government of Canada, is expected soon.

(Ports Canada)

FY 1984 U.S. Customs collections: AAPA

The U.S. Customs Service collected almost $11.8 billion from duties on imported merchandise during fiscal 1984 and $9.1 billion in fiscal 1983. Using available Customs and Bureau of the Census data, AAPA estimates that $8.3 billion of the fiscal 1984 total was collected at U.S. seaports. During fiscal 1983, seaports accounted for an estimated $6.5 billion.

These estimates were arrived at by summing reported Customs collections at U.S. seaport cities. Not counted were border ports such as Brownsville, Detroit or San Diego, where there is considerable cross border rail and truck traffic. Chicago was excluded for the same reason. Major international air cargo centers – JFK in New York and Logan Airport in Boston, for example – are separately designated Customs "ports of collection" and were not therefore counted in the final tally. Customs does not identify its collection source by transportation mode. AAPA believes, however, that these are reasonable estimates of duty revenues attributable to seaport activity in the United States. *(AAPA Advisory)*

Governor J.F. Harris keynotes Georgia Foreign Trade Conference

The first governor ever on the Georgia Foreign Trade Conference Program, Gov. Joe Frank Harris told over 650 luncheon attendees that this was the appropriate year because, "This is the year that, here in Georgia, we're trying to put the word, 'trade', back into our Industry and Trade Agency."

Addressing the theme of this year's eighteenth annual conference, "International Commerce '84: Evolution or Revolution," Gov. Harris said the words have particular meaning to Georgia: "evolution" in terms of the growth based on a diversifying economy and "revolution" in terms of the current revitalizing process, resulting in new jobs and opportunities. Harris' ongoing economic program emphasizes expansion of existing industry as a source of new employment.

Gov. Harris said that trade promotions recently conducted at seven international trade fairs, accompanied by constant efforts of the eight Georgia Ports Authority trade development offices and three State Department of Industry and Trade offices, are "opening up opportunities for Georgians that we've never had before." He cited 89,000 new jobs developed in Georgia last year and $330 million invested in new and expanded foreign facilities during the first six months of 1984 as evidence of the prosperous dynamics now witnessed by Georgia business.

Complementing the efforts of trade offices promoting Georgia around the world, Gov. Harris said the Georgia Trade Lead Program is assisting businesses across the state, particularly small businesses, that are fearful of international commerce.

"I feel that we need to be prepared to take advantage of the improved climate that is going to be there someday if the value of the dollar comes down."

Gov. Harris quoted Thomas Jefferson: "'Peace, commerce, and honest friendship with all nations; entangling alliances with none.' That's the way we feel in Georgia," he said. Recalling his veto action against certain protectionist legislation, he said, "We've been very conscious of not building any walls and fences around Georgia. We like for our trade to be free."

The Governor said Georgia's key objective is a healthy and open system of international trade. "Utilizing the trade development programs in Georgia gives us meaning for our goals: to be able to give Georgia an export program second to none," he said. "We had a vision for Georgia early on. It makes me glad that the vision is happening. I see it every day." *(Georgia AnchorAge)*

Port of Los Angeles closes $140 million financing

Port of Los Angeles Executive Director Ezunial Burts has announced the December 18 closing in New York of $140 million in financing for floating/flat rate certificates of participation to fund various harbor improvement projects.

In describing the financing, Port bond counsel O'Melveny & Myers indicated, "The interest cost to the Port is likely to be one of the best in the marketplace, because of the tremendous flexibility provided by the documents for the transaction... and certainly one of the most flexible financing packages ever structured for a municipal user."

Rami Furman, Chief Financial Officer for the Port of Los Angeles, added, "The variable rate feature may be converted to a fixed rate if that becomes more attractive to the Port."

"This financing is also unique," Furman continued,

"in that two highly rated banks – The Long-Term Credit Bank of Japan, Ltd., and The Fuji Bank, Ltd. – issued a direct pay irrevocable letter of credit on behalf of the Port for both liquidity support and credit enhancement. They did this on both a joint and several basis. This, in effect, insulated the Port from any sudden drop in the rating of one or the other bank and increases the attractiveness of the financing to the investment community."

This is the first time in the 13 years since 1971 that the Port of Los Angeles has issued debt in the financial market, according to Furman.

Sr. Assistant City Attorney Winston Tyler who also assisted in the financing, explained that the funds are earmarked for eight construction projects including the World Cruise Center and new cargo handling facilities, which are part of the Port's $500 million capital development program.

Official groundbreaking ceremonies for the new Intermodal Container Transfer Facility performed: Port of Los Angeles

The first of more than 23,000 railroad ties was laid January 22 in official groundbreaking ceremonies for the new Intermodal Container Transfer Facility (ICTF), a joint project of the Ports of Los Angeles and Long Beach to be operated by Southern Pacific Transportation Company.

Participating in the event were Southern Pacific's Chairman of the Board and Chief Executive Officer Denman McNear; Richard Wilson, chairman of the ICTF Joint Powers Authority and a member of the Long Beach Harbor Commission; Frederic A. Heim, president of the Los Angeles Harbor Commission and James H. Gray, president of the Long Beach Harbor Commission.

The $54 million facility will be the largest international container transfer facility in the United States.

The facility brings rail access some 20 miles closer to the ports. Currently, containers arriving in either Los Angeles or Long Beach must be trucked to downtown railyards for placement on trains to inland destinations.

The ICTF will not only cut trucking time and costs, but is also expected to reduce air pollution and traffic congestion. At the ICTF, containers will be transferred between trucks and trains at an estimated annual rate of 360,000 units.

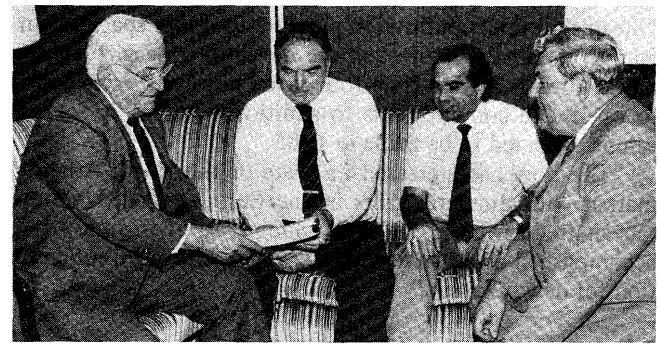
The Southern California load center concept is also supported by the geographic location of the two ports. While they are approximately the same mileage from northeastern markets, they are 20% closer to Memphis and 50% nearer to Dallas/Ft. Worth than are the Pacific Northwest ports.

For shippers whose cargoes are partially destined for West Coast manufacture and distribution, the Los Angeles/Long Beach area includes the largest commercial market in the American West.

Project Description
Intermodal Container Transfer Facility (ICTF)

Groundbreaking:	January 22, 1985
Operational:	Spring of 1986
Joint Project:	Port of Long Beach Port of Los Angeles Southern Pacific Transportation Company
Scope of Project:	Largest international container transfer facility in the United States
Impact:	Decrease the trucking distance for containers from 25 miles to between 3 and 5 miles. Drayage costs reduced. Additional decreases in air pollution and traffic congestion.
Acreage:	150 acres
Site:	Port of Los Angeles property north of Sepulveda Boulevard, south of 223rd Street (San Diego Freeway), east of Santa Fe Avenue, and west of Alameda Street.
Financing:	$54 million construction costs. Bonds issued by the Joint Powers Authority closed on December 20, 1984.
Facilities:	Seven tracks with future expansion to 12. Over eight miles of track. Administration building. Control tower. 16-gate complex, 8 gates reversible. Container repair facility. U.S. Customs inspection dock and office. Tractor chassis maintenance and repair facility. Client office facilities.
Operating entity:	Southern Pacific Transportation Company
Governing Body:	Joint Powers Authority comprised of five members; two from each port and a fifth at-large.

Golden Gate Ports deliver marketing report to MARAD: Marine Exchange of the San Francisco Bay Region



A "How-to" undertake a cooperative regional program of marketing and promotion among competing ports was recently delivered by the president of the Golden Gate Ports Association, Fred DiPietro (left), manager of the Port of Redwood City, to VADM H.E. Shear, USN (Ret.),

United States Maritime Administrator. Also on hand were John M. Pisani (3rd from left), director of MARAD's Office of Port and Intermodal Development, and GGPA consultant Frank C. Boerger. A joint federal-industry undertaking, the year-long study details a series of programs and actions to enable competing ports in the same region to join in common efforts to increase their collective market share of waterborne commerce. Designed for application at other U.S. port regions, the Golden Gate Ports Association plans early implementation in Northern California.

Baltimore Port business up in 1984, container record set at Dundalk Terminal

Foreign waterborne commerce in the port of Baltimore increased 20.5 percent during 1984, according to statistical projections prepared by the Maryland Port Administration. The port handled 26,060,000 tons of foreign trade in 1984 compared to 21,623,756 tons in 1983.

Specifically 1984 was the second consecutive year in which container tonnage at Dundalk Marine Terminal broke all previous records. It also was a record year for total tonnage at the 550-acre, 13-berth marine terminal. These records are even more astonishing than usual especially when considering the depressed level of the global economy during the year.

Container cargo handled at both the port's public and private marine terminals increased during 1984. A total of 4,833,000 tons of cargo was handled by the port's state-owned terminals in 1984 compared to 3,976,000 tons of cargo handled by these same facilities the previous year. A total of 805,000 tons of cargo was handled at Baltimore's privately-owned marine terminals in 1984, an increase of 5.9 percent over the 760,000 tons of cargo handled at these facilities in 1983.

"The clear fact that these figures demonstrate is that the port of Baltimore is healthy and growing," W. Gregory Halpin, Maryland Port Administrator, said. "Every pulse beat we can find that measures port health is ringing a positive message.

"Baltimore continues to maintain its position as the most important container and general cargo port on the East Coast, second only to New York," Halpin said. "Steamship lines continue to pressure for more space at our marine terminals. Interest at the developing Seagirt Terminal is intense at this time four years before it's scheduled to open, and commitments to additional steamship service can be expected to be made in 1985.

"The port has increased its share of the North Atlantic market with dramatic gains in the European and Mediterranean trade routes," he said, adding "all of this has been accomplished in an environment of vigorous port competition for new business."

Massport to construct new cruise terminal

Massport's Board has awarded a $4 million contract to Trust Construction Corporation of Chelmsford, Massachusetts for construction of a new passenger cruise terminal. The new facility, being called Harbor Gateway Terminal, will be housed at the Boston Army Base in South Boston.

Massport Executive Director David W. Davis called the new terminal an important piece in the overall development plan for the Boston waterfront. "Harbor Gateway Terminal will enhance the revitalization of the Port of Boston by bringing new maritime uses to an aging waterfront facility. It will also make a measurable contribution to the tourism industry in Boston and the region," Davis said.

Commonwealth Pier, which in the past has served as Massport's passenger cruise terminal, is under development as Boscom, the computer industry trade center. Excursion vessels will continue to use Commonwealth Pier, but the activities of larger cruise vessels will be relocated to the new facility.

According to Davis, the benefits of the cruise industry to the local economy are substantial. "Nationally, the cruise industry is growing at an annual rate of 15 percent. This new, modern facility places us in a stronger position to capture a share of that market while it is still in its formative stages. The new cruise terminal will also bolster Boston's hotel, restaurant, and tourist industries," Davis added.

Davis pointed out that Massport is making efforts to attract additional cruise lines to Boston, and that negotiations are continuing with special cruise operators who will use the facility. Last year 13 vacation cruises departed from the Port of Boston, compared to ten in 1983. Approximately 20,000 passengers take Boston-based cruises each year.

Col. Herbert R. Haar awarded "The Outstanding Civilian Service Medal": US Army Corps of Engineers

The U.S. Army's Outstanding Civilian Service Medal is presented here to Herbert R. Haar, associate port director of the Port of New Orleans, by Lt. Gen. E.R. Heiberg III, chief of the U.S. Army Corps of Engineers, at the Lower Mississippi Valley Flood Control Association annual convention in New Orleans. Haar was cited for having the U.S. position on ocean disposal of dredged material included in the deliberations held by an international organization of dredging interests. The award is given citizens who make a substantial contribution to the Army while serving it in an advisory capacity.

DEPARTMENT OF THE ARMY

Colonel Herbert R. Haar, USA (Retired)

IS AWARDED

THE OUTSTANDING CIVILIAN SERVICE MEDAL

CITATION: For exceptional competence and noteworthy personal initiative during the period September 1980 to February 1984 as the head of the International Association of Ports and Harbors observer group to the London Dumping Convention on environmental aspects of ocean disposal of dredged material. His efforts were instrumental in the United States and Corps of Engineers' position on dredging being incorporated in the deliberations of the Consultative Body to the London Dumping Convention. His many technical documentations and personal presentations were always outstanding during the Consultative, Scientific and legal meetings of the LDC. Colonel Haar's exceptional efforts reflect great credit upon himself, the U.S. Army Corps of Engineers and the Department of the Army.

December 7, 1984

E.R. HEIBERG III
Lieutenant General, USA
Chief of Engineers

Port of Kushiro becomes New Orleans sister port

Port of New Orleans and Port of Kushiro, Japan, became "sister ports" on October 31, 1984. Mayor Toshiyuki Wanibuchi of Kushiro City, which operates the port, and Henry G. Joffray, acting executive port director of the Port of New Orleans, signed the sister port protocol in ceremonies at the International Trade Mart in New Orleans. Kushiro is located at the northeastern corner of Japan, on the country's northernmost island of Hokkaido.

In his address Mayor Wanibuchi stressed that Kushiro is planning to expand its port facilities to handle expected increased trade with the Port of New Orleans "since New Orleans is one of the leading international ports in the world." Joffray indicated that New Orleans would welcome trade with Kushiro, a trade which is already starting to develop. For several years Japan has been the No. 1 trading partner of the Port of New Orleans.

Dock Board Vice President C. Alvin Bertel, Jr., told the assembled guests that the sister port relationship with Kushiro means that "we can begin to exchange ideas and share knowledge about the daily problems of port administration and the planning of new port facilities. "He noted that Kushiro is a rapidly developing port that is going through what the Port of New Orleans experienced in the 1970s when it launched a major program of construction of new facilities.

"We welcome the opportunity to assist Kushiro in their planning for the future. At the same time," he added, "I am sure that Kushiro has solved problems with innovative techniques that could well benefit our own planning."

Bertel also pointed out that Kushiro is the third Far East port with which New Orleans has established a sister port relationship, "which indicates how much we are aware of the importance of trade with that area." Other sister ports of New Orleans are the Port of Shanghai, People's Republic of China, and the Port of Ulsan, Korea.

Mr. Henry G. Joffray, Assistant Executive Port Director (for the Port of New Orleans) and Mr. Toshiyuki Wanibuchi, Mayor of Kushiro City (for the Port of Kushiro) officiate at the signing ceremony.

Mayor Wanibuchi described Kurhiro City with a population of 220,000 people as having three basic industries, which are fishing, paper, and coal mining, each comprising a 10% share of the national economy. Immediately next to Kushiro, he said, is the largest dairy farming area in Japan, with the feed grain necessary to support it supplied through the Port of Kushiro. He indicated that he expected the handling of feed grain via the port to "make rapid progress as the fourth industry of Kushiro."

He commented that the Port of Kushiro has become an important center of freight movements in Japan, with the port's volume of cargo increasing every year. In 1983, import and export cargo totaled 3.3 million tons or about 20% of the total 16 million tons of the port's total domestic and foreign transactions, the highest in the history of the port. He expressed confidence that the sister port relationship will further increase Kushiro's import and export trade and "develop our stature as an international port."

The protocol signed by the two ports stated in Japanese and English that "a sister port relationship has been established for exporting and importing international cargoes." The agreement further declares that the relationship "is expected to contribute to the mutual understanding and international trading, with further close relations in the field of both culture and economy."

(Port Record)

Port industry plays major role in boosting region's economy: Port of NY & NJ

Port industry has made, and continues to make, a valuable contribution to the New York-New Jersey Metropolitan Region. This fact was underscored by a report just completed by the Planning and Development Department of The Port Authority of New York and New Jersey.

The report shows that the bi-state port's direct, indirect,

and induced impacts total:

- Annual economic activity $14,000,000,000
- Jobs $191,600
- Wages and salaries $4,200,000,000
- Business income $2,300,000,000
- Sales and income taxes for the two states and New York City $400,000,000

These port industry impacts are based on 1982 activity levels and are shown in 1984 dollars. They account for approximately 3 percent of the Gross Regional Product and also generate about 3 percent of regional employment.

Impacts generated by the port industry span many sectors of the region's economy. The actual handling of cargo concentrated at marine terminals and piers is only one part of the overall economic activity linked to the movement of waterborne trade. For example, many jobs in New York City's banking and insurance companies are generated by the trade finance and ocean marine insurance services provided in conjunction with the movement of waterborne cargo. Similarly, parts of the region's trucking and rail industries and wholesale distribution sector are linked to the physical movement of cargo handled at the New York-New Jersey Port.

(VIA)

11% increase in revenues displayed at North Carolina Ports

The North Carolina State Ports Authority displayed an 11 percent increase in revenues five months into the 1984-85 fiscal reporting period, a financial statement released by the SPA.

The period runs from July 1 through November 30 and shows the authority somewhat below its actual budget but well ahead of last year's figures. The fiscal year runs from July 1, 1984 to June 30, 1985.

The month of November was a record month for the Wilmington facility with revenues of $1.35 million and a profit of $364,604. The closest month to this profit was December 1983 when a profit of $305,000 was displayed.

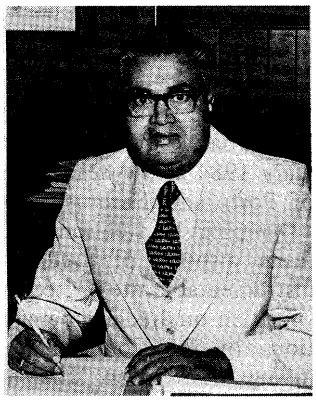
Tonnage for the one-month period was 246,000 tons or about 40,000 tons short of the December 1983 record for a one month period, the facility did handle a record number of containers with 5,033 boxes moving through the port. Last November, Wilmington handled 4,900 containers which was a one-month record.

Adm. William M.A. Greene, NCSPA executive director, attributed the huge successes at Wilmington in November to the movement of chemicals, tobacco, woodpulp, machinery and steel products, as well as containerized cargoes.

"This was an outstanding month for Wilmington," he said, and noted that "efficiency, fast service, and expert cargo handling procedures continue to keep the Port of Wilmington in the forefront of the industry and the competition on its toes."

Adm. Greene also emphasized the importance of the new unit train running direct from the Charlotte Intermodal Terminal and the Wilmington port. "This new concept of direct shipment of containers by rail has been a tremendous success for the State Ports Authority and shippers in general. This cost-efficient and time-saving mode of transportation has also resulted in the increased number of containers arriving in Wilmington every week," Adm. Greene said.

Bose elected President, California Association of Port Authorities



Sal Bose, Port Director of the Port of Richmond, was elected President of the California Association of Port Authorities (CAPA) at the Association's 1984 Annual Meeting. CAPA was organized in 1940 to promote fair and honorable business practices among those engaged in the marine terminal industry. The Association's membership includes Encinal Terminals and the ports of Hueneme, Long Beach, Los Angeles, Oakland, Redwood City, Richmond, Sacramento, San Diego, San Francisco, and Stockton. CAPA maintains executive offices in Sacramento.

Harbor depth a key concern for South Atlantic load center: Port of Charleston

Whether ship lines will cooperate with ports in an attempt to hasten federal deepening of commercial harbors for the larger carriers coming into service may be a moot question. The need for deeper channels is fast becoming a pressing concern for load centers such as the Port of Charleston.

The issue was raised at the Quebec convention of the American Association of Port Authorities (AAPA) when a panel of ship line executives discussed needs for the new generation of ships. To be sure, deeper channels topped the agenda.

Alfred B. Ruhly, president of the Moller Steamship Company's North American group, which includes Maersk Line, said ports and carriers should combine to get the needed channel depth. His own company, he said, which has opened a Washington office, would be willing to join with the ports in presenting the case to the federal government.

Stanford Erickson, vice president for public relations of Sea-Land Service, said, "Ports failing to create adequate channels for the bigger ships will be creating load-center ports elsewhere, whether they want to or not." And this for the simple reason that carriers will not risk sending ships into harbors where they might get stuck, he commented.

Fully aware of the urgency of the issue and unwilling to wait for a harbor dredging bill, now stalled in Congress, to clear legislation, the State Ports Authority financed the

dredging of the shipping channel in the Wando River at a cost of over $300,000.

While the harbor depth is currently maintained by the Army Corps of Engineers at 35 feet, the channel was dredged to 38 feet.

The Wando Terminal, the totally containerized and newest of the Ports Authority's four facilities, supports cargo movements of some of the world's largest containerships – Maersk Line, for example, and OOCL, Dart Containerline and Neptune Orient Line.

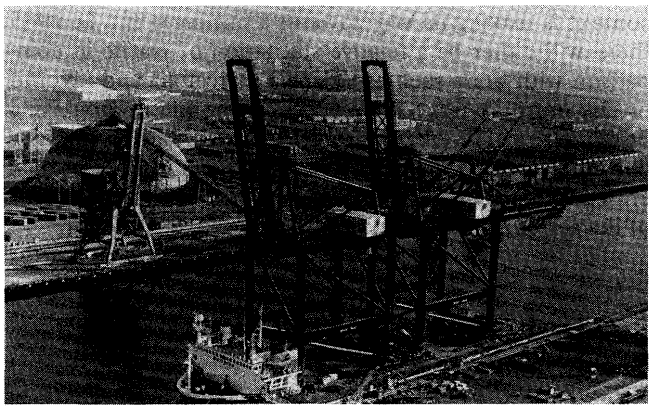
Most ports today are willing to share dredging costs to some extent with the federal government, said J. Ron Brinson, president of the AAPA, at a recent meeting of the South Atlantic and Caribbean Ports Association. But, he continued, ports are generally opposed to any form of user fees to fund channel dredging projects.

The reason harbor dredging legislation still does not exist is, not because the Reagan administration stood in the way, but because Congress ran out of time, he said.

If all goes according to plan for Charleston Harbor, an Army Corps of Engineers rediversion project, due for completion early in 1985, will reduce silting in the harbor's main tributary, the Cooper River, by 70 to 85 percent. Coupled with future dredging projects, this means of returning the muddy flow of water to the Santee River will bring closer to reality a channel depth of 40 feet.

(PORT NEWS)

Sea-Land cranes complete successful journey to Port of Tacoma



The journey which brought two mammoth container cranes to the Port of Tacoma in early December was as noteworthy as the milestone they represent in construction of Sea-Land's new state-of-the-art container facility in Tacoma.

The two cranes, which stood 280 feet above the deck of the M/S SUNRISE and weigh 1,200 tons each, were built by Hitachi, Ltd., of Tokyo, Japan. Their successful voyage marked the first time that fully erected cranes of this size were transported across the Pacific Ocean.

At a wharfside press conference, Jack D. Helton, vice president of Sea-Land's Alaska division, hailed the arrival of the cranes as a significant step forward in Sea-Land's move from Seattle to Tacoma. He cited the new Tacoma terminal facility as a demonstration of Sea-Land's commitment to Puget Sound and was particularly enthusiatic about the expanded intermodal operations. The Port of Tacoma is in the process of building a $6 million intermodal yard, which will match its present yard as having the closest proximity to shipside container unloading operations on the West Coast.

The new intermodal yard, with a 91-car capacity, will be served by both the Burlington Northern and Union Pacific Railroads. Sea-Land expects to handle at least 120,000 (FEU) containers in the yard during the first year of its operation. The intermodal yard will be available for use to other shippers as well.

Scheduled to open in May, 1985, the new facility will be operated by Tacoma Terminals, Inc., an affiliate of Sea-Land Service, Inc., the world's largest containership operator. The two-berth facility will feature 1,600 feet of berthing space and four container cranes. It will also include an 80,700-square-foot Container Freight Station, a warehouse with 82 truck bays.

Throughput rises by 6% for 1984: Port of Bordeaux-Le Verdon

Mr. Robert O'Quin, President of the Port of Bordeaux Authority and Mr. Paul Valls, Director General, announced the results of port activity in 1984 and outlined the principal developments forecast for 1985 and 1986.

From the point of view of throughput, a tendency which began in 1979 with the first fall in traffic has been stopped and with an increase of 6% in throughput, the 10 million ton mark has once again been crossed. It is true that this increase has been caused by an increase in the oil traffic, but traffic other than oil, without reaching the record levels of 1984, remained, in line with previous years, (general cargo showed a gain of 2% overall, thanks to the excellent results in the export field, +14%).

These results are encouraging in the context of the growing climate of competition which exists between the ports which led the port to carry out various development projects. President O'Quin thus announced that major works would be started in 1985 and 1986 involving a global investment of an estimated 100 MF. These projects involve both the continuation of improvements in accesses and the modernization of the Bassens sector.

Improving the Access Channel

Following the evolution of the merchant fleet, the Port of Bordeaux has fixed a target of providing access to vessels of 120,000 dwt for a length of 270 m in the Bassens sector where a minimum admissible depth of 10 meters will be guaranteed throughout the year, (by the end of the IXth Plan).

The programme is being carried out in annual stages which will continue through until 1988. Progress has already been made and by the end of 1985 it will be possible to accommodate craft drawing between 9.5 and 11 m, depending on the coefficient of the tide, at the various specialized berths, brought into service two years ago, (the agro-food terminal, and the industrial multi-bulk terminal, in particular).

Modernizing Bassens

Concurrently to these works, a vast investment pro-

gramme has been engaged in the Bassens-amont district. Mr. Paul Valls, the port's Director General, specified some of the details of this renovation which involves both the construction of new quays and the acquisition of high throughput handling gear, as well as developing the storage areas.

It confirms the intention to devote this sector to handling general cargo. Taking into account the recent introduction of the heavy bulk facilities, Bassens now is ready to assume its role as the complement to the container terminal at the outer port of Le Verdon, also recently expanded and equipped with ultra modern equipment suited to the trade forecasts over the coming years.

"Our role as a national enterprise, a service company catering for the overseas trade of our country, means that at all times we must provide facilities suited to ships, their cargoes and packing modes which are often highly specialized. To do this, we have to invest large sums of money, yet we must not overburden our trade with dissuasive port dues and taxes," declared President O'Quin.

"To achieve all these aims," he concluded, "we are assisted by the local Public Services, (Regional and Local Governments), and we work in close cooperation with the Maritime Federation, which is headed by President DEBOULE. There is a true awareness throughout the whole region which bodes well for the success of the Port of Bordeaux-Le Verdon in the years to come."

Data Bank Development Association set up in Le Havre

An Association for the Development of a Port Data Bank was recently set up in Le Havre, the founder members being the Port of Le Havre Authority, the Le Havre Chamber of Commerce, the Le Havre Port Employers Association (known by its French initials UMEP) and the data terminal management company SOGET (Société de Gestion de Terminaux Informatiques).

The Association was founded primarily to look into and promote the creation in the port of Le Havre of a data processing system available to all interested parties.

Such a system needs to be able to collect and process port information (shipping movements, commodities, equipment, etc.) and make it available via an interprofessional data link to all who work closely with the port.

While respecting commercial secrecy and rights of ownership, the data system will be available on an equal access basis to all full and associate members, i.e. forwarders and agents, stevedores, shed managers, port authorities and so on. Needless to say, the Association is open to any other partner concerned by its aims.

The Association (known by its French initials ADIP) is also responsible for defining the bodies to be entrusted with the implementation of the system and its different stages, and for overseeing its operation.

It will be empowered to represent its members, if required, before any relevant national or international organisation.

Its final task will be to enquire into any possible link up of the Le Havre port data system with other national or international networks.

The Association's registered office is in the Port Authority building.

(FLASHES)

'The turning point': Port of Marseilles/Fos

When the very first and rather modest sized container quay was created in Fos in 1970 with one gantry and one shed, a new era dawned in the lifespan of the Port of Marseilles Authority. By as soon as 1973, container activities had to be moved to dock 2 and the new container terminal nearly one kilometre long was equipped with five gantries; add to that a multipurpose quay on the western front of Graveleau Mole with one gantry. At the same time, the Eastern Harbour area was being adapted to container traffic and a container terminal was designed and built in Mourepiane where many quays were built for reshipment of containers onto ConRo vessels; similar facilities were also erected quite recently in the Pinede dock.

Then, the technological achievements of Marseilles-Fos in the Med were an asset in that the Genoa traffic that used to be far above that of other ports was suddenly equalled and then outstripped. Spain and Italy still use Fos as the hub for their container traffic.

Gradually, however, other Mediterranean ports started getting equipped for this kind of traffic and intercontinental lines began choosing them as ports of call, which is fair competition.

Marseilles-Fos is still way ahead in technology but is no longer or nearly no longer behaving as a monopoly port and at the close of 1984 in an ever increasingly competitive context is making its way towards a turning point. In 1985 there will either be a relative stagnation of traffic in comparison with ports such as Valencia, Barcelona and Livorno or else our port will receive a stimulating and invigourating boost. This could take the form of the arrival of a few new lines that decide to take advantage of the joint promotional efforts being deployed by port professionals and the Port of Marseilles Authority and use remarkable facilities.

(Europort South)

Cargo-handling record attained by Bremen Ports in 1984

With a maritime-cargo handling figure in 1984 of 28.4 million tons, giving a growth-rate of 6.8 percent, the Bremen and Bremerhaven port-installations chalked up a new best-mark. Thereby the (for the Weser) traditionally high general-cargo ratio – in total being 18.4 million tons (16.6 in the previous year) – now reached 65 percent; whilst the bulk-commodity handling remained steady at the past year's level of 10 million tons. On the Weser this result is regarded as being a success for the constant pro-investment ports-policy of Bremen.

Particularly the containerised traffic showed growth, being favoured from the export-suction into the USA resulting from the persistent firmness in the dollar quotation. Over 635,000 of the 'large boxes' came and went across the quays in all, having an overall total weight of 8.6 million tons. This corresponds to some 975,000 20-foot

units (TEU) and a growth-increase of 18.1 percent (in numbers) and 16.2 percent (weight), respectively.

Strong increases were noted also in other Bremen spheres. In car-handling – with 430,000 vehicles – a plus of 14 percent was achieved; in the banana-handling field there was even an increase of 25 percent – to 360,000 tons. Nevertheless a shadow was cast on the overall picture due to the stagnation position in the labour-intensive conventional general-cargo trade.

(Bremen International)

Bremen Ports now in better competitive position

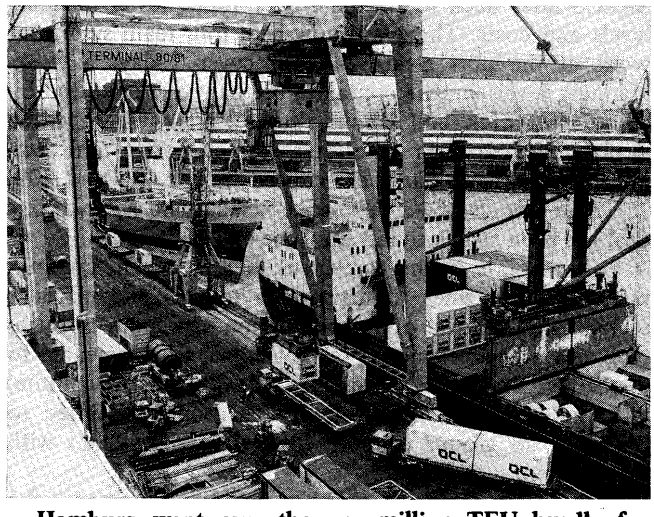
The competitiveness of the Bremen ports has noticeably improved after the obligatory tariff-imposition restrictions have been lifted from the German Federal Railways relative to their seaport traffic – as well as after the introduction of the new InGrid tariff system of their subsidiary company, Transfracht, as regards the container traffic.

This is particularly the case for the 'Rhine-tracks', where in the Karlsruhe area for example, a freight allowance of DM 200,– per box applies on the average in the container trade. Thereby the economic distances between the Upper-Rhine departure points and the universal-ports of Bremen/Bremerhaven have been considerably shorted.

This was stated by the managerial board-member of Messrs. Bremische Hafenvertretung e.V., Helmut H. Detken, when addressing traffic experts in Karlsruhe at the end of November last. In this connection he called for the German Federal Railways to exercise a flexible market policy; as well as for Transfracht-orientated tariff-political activity by the other interior-traffic carriers engaged in the road and waterway trades.

(Bremen International)

Record container results for 1984; Hamburg tops the one million box mark



Hamburg went over the one million TEU hurdle for the first time in 1984. In all 1,073,428 TEU (10 million tonnes) were handled, admitting the port to the small circle of "container millionaires" and strengthening Hamburg's position among the ten most important container ports in the world. East Asia remains the major trade area with a share of 35 per cent, followed by Europe, America, Africa and Australia/New Zealand. The current year is expected to produce further container growth for Hamburg, especially because Hamburg is one of the ports of call in the new "round-the-world-services," which include only a few selected European ports in their routes.

Dredging could put Shannon in Europe's top six: Limerick Harbour

As part of a major international marketing campaign by Limerick Harbour, an important study by an eminent Dutch Port Consultant, has concluded that a £5 million dredging operation at the mouth of the river Shannon would allow access to ships of 400,000 tonnes, making it one of the top six deep water harbours in Europe.

The 1983 report drawn up by Ingenieursbureau, L.W. Lievense B.V., Breda, Netherlands, for Limerick Harbour Commissioners also concludes that the area to be dredged would pose no difficulties as the bottom of the Shannon entrance is stable and it consists of fine to medium sand with traces of gravel.

A vital conclusion of the study was that maintenance dredging might be required once every 5 years and the estimated cost of each operation would be £300,000.

The Commissioners will consider acting on the report in the light of enquiries and commitment from potential industrialists interested in setting up in deep water locations.

The proposed approach course through the Shannon entrance to be dredged would as far as possible follow a straight line reducing the difficulties encountered in navigating large vessels in confined waters.

The purpose of having the study done was to try and attract further major maritime enterprise to the Estuary and today potential investers wanted to know well in advance what type of facilities were or could be made available.

To date the normal policy of the Commissioners had been to invest capital in cases where a forward commitment had been made in respect of a major industrial project, for example such as an oil refinery.

What the Commissioners have done is to collect and process pertinent information for the benefit of potential investors and this scientifically based report has done this and will also make a most important contribution to future planning and promotion.

The Commissioners are confident that if a major project is definitely earmarked for the Estuary, the port authority will get the necessary capital from Government or E.E.C. funds to carry out the project. If a heavy maritime project necessitated the use of vessels of over 200,000 tonnes, dredging of the Estuary for vessels of 400,000 tonnes would take from 9 to 12 months.

(Shannon Shipping News)

News from the Port of Rotterdam

72-footers can call at Rotterdam

As of January 1 1985, ships drawing 72 feet (21.95 metres) can use the approach channel to the port of

Rotterdam. 70-footers have been able to do so for the last 17 months. To deepen the channel by 2 feet, over 3 million m^3 of sand has been removed. Less than originally planned, because research had shown that ships needed less under-keel clearance in the channel than had always been thought. The first 72-footers have booked already.

One-year trial for six-barge pushtows

The Dutch minister of transport and public works wants to permit six-barge pushtow shipping on the Dutch stretch of the river Rhine (between Rotterdam-Europoort and Lobik) for one year by way of trial. Today four barges are the maximum. The minister has based this decision on the outcome of three series of practice tests with six-barge pushtow convoys. The two extra barges will mean appreciable transport cost advantages. The ministerial intention still requires parliamentary approval. It is not yet known when the trial year will start.

(NEWSLETTER)

Opening of the 2nd container terminal in Lisbon

The Port of Lisbon Authority (AGPL – Administração-Geral do Porto de Lisboa) contracted, on the 18th December 1984, with LISCONT – Operadores de Contentores, SARL, the operation of the container terminal, at Alcântara, in the Port of Lisbon.

This is the second container terminal to operate in Lisbon and it is specially aimed to cope with international container transhipment demands.

The new terminal, which counts with a surface of 80,000 sq. metres and is served by a 620 metre long wharf, has a capacity to handle 120,000 containers a year.

This concession, on a public service basis, comes as the natural step of the bids for operation drawn by AGPL at the beginning of 1984.

IDA aids Dar es Salaam Port

The International Development Agency (IDA) will grant Tanzania a credit of 27 million US dollars for the modernization of the Dar es Salaam Port.

The modernization project, which has a price tag of 9 million US dollars (the rest will be borne by Tanzania Harbours and other donors) will enable the port keep up with modern shipping and maintain Dar es Salaam important position as a regional port.

Dar es Salaam Port serves as a gateway port to Zambia, Burundi, Rwanda, East Zaire, Malawi, Uganda and Zimbabwe.

The project, expected to be completed by the end of 1989, is designed to convert three general cargo berths at the port to a purely container handling facility.

Two railway lines which connect the port to the vast hinterland, The Central Line (Tanzania) and The Tanzania Zambia Railway Line will be realigned.

Denmark, Finland, Italy, Netherlands, Norway and Britain are arranging for co-financing the other foreign component of the project.

Unit load terminal grows at Goole

Associated British Ports has recently announced a new scheme to enlarge the successful Boothferry Terminal at the port of Goole on Humberside.

The scheme, costing over £600,000, will provide a new quay designed to take the largest vessels entering the port, allowing for draughts of up to 5.5 m.

The existing Number 3 dry dock is to be filled in to give an additional 11,000 square metres of land for the storage of containers and other cargoes. More floodlighting for the terminal will also be installed.

Since its opening in January 1984, the Boothferry Terminal has handled 175,000 tonnes of unit load and general cargo traffic – more than double the 1983 figure. There are now three liner services using the terminal, and there are already plans to expand this business. ABP expect that the new development will mean at least 50,000 tonnes more cargo every year through the terminal, which is linked directly to the M62 by the Goole bypass.

Commenting on the new scheme, Goole's Port Manager, Mr. Brian Harding said: "The developments at Boothferry Terminal will provide new opportunities for importers and manufacturers throughout the Midlands and North England to enjoy same-day receiving and delivery of their materials and products."

Southampton back in business: ABP

Following today's (24th January) settlement of the dispute at Southampton, Associated British Ports are launching a campaign to attract business back to the port.

"The agreement means that we can now compete effectively with other ports by offering our customers lower, more attractive rates" said the Port Director, Mr. Dennis Noddings. "This is therefore a very good settlement, and enables us to give a reliable and cost-effective service. I am optimistic for the future of the port."

The new agreement is designed to attract the TRIO and SAECS lines back to the port by offering lower manning levels and costs. There will now be a four team system of work at the port giving 24 hour cover 7 days a week. Manning levels on the container berths will be reduced by about a quarter, and labour thus released will be made available for work in other areas of the port. Total manpower at the port has been reduced from 2,400 to 1,500.

There will also be a "no strike" clause and a 2 year pay deal has been struck to last until the end of 1986.

Other points in the agreement include a joint commitment by both sides to maintain a reliable and efficient service; the removal of restrictions on maximum throughput, and a performance – related bonus scheme geared to container handling in excess of 280,000 units per annum; and the establishment of a Port Liaison Committee to represent all groups of port workers in discussions with management.

On the question of the Southampton Freezone, the Unions have agreed to cooperate with the management to ensure the success of the enterprise. Talks are to be arranged with the Freezone Company, and the Unions have undertaken not to disrupt the normal activities of the Freezone.

Commenting on the settlement, ABP's Chairman, Mr. Keith Stuart said: "We are satisfied that ABP's object – to make Southampton competitive – has been achieved. I am confident that Southampton will soon be back in business."

Zeebrugge ro/ro service for Tilbury: PLA

Searoads Ferries Ltd, the newly formed multi-national partnership is to commence a cross channel ro/ro freight service between the Port of London Authority's Tilbury Docks and the port of Zeebrugge on January 2nd 1985. The Company will operate a daily schedule six times a week using the 4380dwt "Reina del Atlantico."

Searoads Ferries Ltd say the decision to set up the service was taken after careful market research. The amount of freight traffic running between the UK and the EEC continues to increase with more and more traffic switching from the north-east ports to the south eastern short sea crossing routes. In this respect, say Searoads, Tilbury with its newly improved motorway links is ideally placed and coupled with the PLA's competitive rates enables them to provide shippers with a quick, cost efficient service between the UK and Zeebrugge, the gateway to Europe.

It is Searoads view that both the sea and land interchanges offer the optimum road connections possible on the UK-Continental ferry link and compared to existing short sea services the geographic advantage will offer considerable savings to the transport industry. It will also provide an uncongested route between the industrial heartlands of the European Economic Community.

Webber Task Force on shore based shipping costs report: Transport Australia

An industry Task Force has found fundamental marketplace weaknesses in Australia's onshore shipping operations.

The Federal Minister for Transport, Peter Morris, has announced that he has received a progress report on the activities of the Task Force on Shore-Based Shipping Costs, which he established last September.

Mr. Morris received the report from Ian Webber, Chairman of the Task Force. Mr. Webber is also Managing Director of Mayne Nickless Ltd.

Commenting on the report, Mr. Morris said the Task Force was to establish working parties early in 1985 to examine more thoroughly these weaknesses in the market place and to develop options for change and improvements.

"Ineffective working of market forces is a major finding by the Task Force and one which will be followed up," he said.

Mr. Morris said the Federal Government was committed to improving the efficiency and the effectiveness of Australia's shore-based shipping operations.

"This involves cutting costs and removing costly bottlenecks in the shore based transport and handling of Australia's overseas trade," he said.

The report has pointed to a lack of effective communication between the terminals and the land transport and cargo handling operators outside the terminal gates.

"The results of the lack of communication are delays, congestion and high costs which are ultimately borne by the shippers and consignees," Mr. Morris said.

The report has also pointed to the common situation in the industry where those who make decisions are not responsible for the costs they impose upon others, and often these costs can be passed on without the discipline of competition.

"Normal market cost and pricing mechanisms do not appear to be working effectively," Mr. Morris said. "These fundamental weaknesses gave rise to most of the problems and issues raised at the Seminar on Shore Based Shipping Costs held by the Federal Bureau of Transport Economics last July."

Attention has also been given in the report to the problems and issues surrounding the movement and handling of bulk commodities. The Task Force will initiate a working party on the issues affecting bulk cargoes in conjunction with industry representatives.

"In establishing working parties, the Task Force will take into consideration the many offers of assistance both I and members of the Task Force have received since the BTE Seminar last July," Mr. Morris said.

The Task Force is to complete its work by December 1985.

"A new era begins": Port of Melbourne

A new chapter in the history of the Port of Melbourne Authority commenced on 1 July 1984, when a reorganisation of management responsibilities under an interim integration operation for all Victorian ports and the Ports and Harbors Division of the Ministry of Transport was implemented.

For many years past (107 in the case of Melbourne) the major Victorian ports (Melbourne, Geelong and Portland) have operated under separate statutory boards appointed by the Governor in Council. This system of separate boards working independently, and in some areas in competition, has led to duplication of some facilities, conflicting forward plans, over-supply of services and inconsistent pricing and investment policies.

The reorganisation will enable many of these anomalies to be avoided by the creation of an administrative and organisational framework to co-ordinate planning and capital investment, and to establish mechanisms for a common pricing policy.

In short, the new structure will coordinate the effective development of Victoria's ports, increasing their efficiency and productivity.

Today the facilities provided by the Port are comparable with major overseas ports and the river channel, 152.4 metres wide, has been dredged to a guaranteed depth of 13.1 metres. Fixed Assets at written down Current Cost are valued at $500,136,000.

In addition to financing the building and the operation of the Port from revenues and loan funds serviced from revenue the Port Authority has paid in excess of $50 million to the State's Consolidated Fund.

Historically, the Port of Melbourne has significantly influenced the economic development of Victoria and areas

of south-eastern Australia which includes parts of South Australia and New South Wales and also Tasmania. Traditionally the Port has been a general cargo port, and until the early 1970's was one of Australia's main entry points for sea-borne passenger trade.

Although the passenger trade, apart from the Bass Strait service, has virtually ceased the Port of Melbourne is today Australia's leading container port with some 70% of all general cargo handled being carried in containers. In addition, more than 40% of all new motor vehicles imported into Australia are landed in the Port while other major incoming cargoes include textiles, iron and steel products and a wide range of machinery. Major exports include wool, petroleum products, fresh and processed vegetables, dairy products, meat, grains, iron and steel and miscellaneous manufactures.

With overall policy becoming the responsibility of the Minister of Transport, Melbourne and its sister ports of Geelong, Portland and Westernport will be able to offer importers and exporters the full advantages of an integrated ports structure.

Victoria's ports have individually serviced the needs of the State efficiently throughout the past 150 years. The community can now look forward to a new era of port operations and development which will maintain Victoria at the forefront of the nation's trade growth.

(PORT PANORAMA)

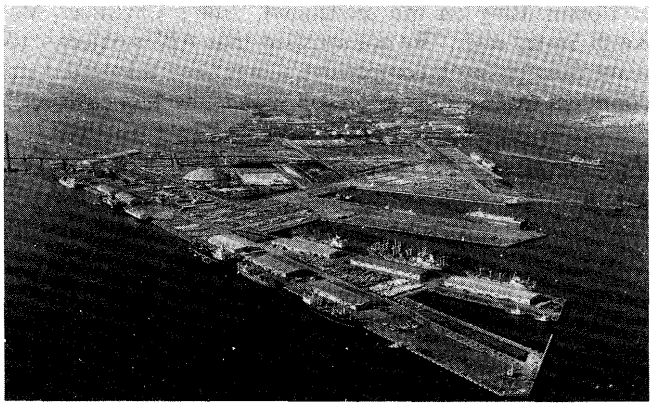
Port of Nagoya stages World Import Fair '85

For 25 days from March 21 to April 14, the "World Import Fair '85", the first Import Exhibition ever to be held for the purpose of import promotion in Japan, will take place at the Kinjo Pier, Port of Nagoya. More than 40 countries from around the world will participate in the event, not only displaying and selling their products on the spot, but also introducing their latest technological developments and current trends in culture and life styles. The Fair will use to the fullest the 160,000 m^2 area of the pier, with the International Exposition Hall serving as the main site, making it the biggest event ever to be held in Nagoya.

The Fair will aim both to increase imports through the Port of Nagoya and, at the same time, to promote international human exchange and mutual understanding. It will also be a golden opportunity for the Nagoya Port Authority, as a co-sponsor of the event, to publicise the Port as a major world trading port as well as to make it more accessible to Nagoyans, thus enhancing their growing interest in its activities.

This event will be held at several pavilions in the site simultaneously. At the Import Pavilion there will be an exhibition and an "on-the-spot" sale of products from the numerous participating nations. Meanwhile, at the International Friendship Pavilion there will be a presentation on the sister-city affiliations of 9 municipalities in the Chubu District, including the City of Nagoya. Furthermore, the Ports of Los Angeles and Fremantle, both of which have a sister-port affiliation with the Port of Nagoya, will have their own exhibition counters.

A highlight of the event will be the April 3 port call by the West German passenger liner "Europa" in the course of a world cruise. More than 1,000,000 people are expected to attend the Fair.



Kinjo Pier, site for the World Import Fair '85

Beside the above two pavilions, there will be the following pavilions.

Theme Pavilion

At the Theme Pavilion, economic and cultural interchanges among nations, the theme for the fair, will be explained in a way easily understandable to the visitor with the use of up-to-date image technology.

Silk Road Pavilion

The visitor can trace the Silk Road linking China with Italy, a principal international trade route of old times, by observing exhibits and video films presented by courtesy of NHK TV.

New Media Pavilion

At this pavilion, visitors will be able to obtain a general understanding of the new media being developed by the Nippon Telegraph & Telephone Public Corporation. Looking towards the 21st century, outstanding features of such as the Information Network System and the CAPTAIN System, will be explained.

World Avenues Pavilion

The visitor will be able to enjoy an exotic atmosphere at this pavilion, which will have a "world restaurant." Rows of houses in the style of medieval Europe, the western U.S., China and Greece will be recreated here. The visitor will be able to savor foreign cuisine and shop at boutiques to make himself feel as though he is traveling overseas.

Entertainment Hall

This is a multipurpose festival hall equipped with 1,500 to 2,000 seats. It will feature traditional music, dances, folk art and national events from all over the world. Japanese festivals will also be staged.

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