

PORTS and **HARBORS** December, 1984 Vol. 29, No. 12

The Publisher: The International Association of Ports and Harbors

Port of Nagoya

Kotohira-Kaikan Bldg., 2-8, Toranomon 1-chome, Minato-ku, Tokyo 105, Japan

THIS REMARKABLE "TOTAL TRANSPORT SYSTEM" ELIMINATES THE NEED FOR PORT AND HARBOR FACILITIES. Shinko Kiko's Universal Tray Lifter System.

The "Total Transport System" is an epochal innovation that moves material directly from the resources mining site to the blast furnace or silo via a single route. What makes it all possible is Shinko Kiko's breakthrough Universal Tray Lifter (UTL) System – a continuous, lateral-vertical-lateral conveyor system.



ENG, **TPG**, crude oil, grain and of foundations for super tall buildings, underground storage for powerstations, dams, etc.

UTL-3 Mobile Descending Type is designed for vertical transport of coal, iron ore, etc. in open pit mining operations.

UTL-4 Ship Unloading Type is highly effective for off-loading ships.

AGION

UTL-3

UTL-SP Resinous Tray Type is excellent for vertical transport at grain storage warehouses, food, fertilizer, and chemical plants, as well as many other general plants.

Patents for these innovative Universal Tray Lifters have been obtained, or are obtaining, in over 76 countries.



UTL-2





Total Transport System

UTL-1 Shiploader &

Unloader

UTL-4 UTL-1 Unloader

What's the bottom line?



If you're buying a high-speed dockside container handling crane, you're probably looking at a stack of proposals, spec sheets, and bids. You want to make the right decision. But, what's the bottom line? Is it the initial purchase price?

No. The key to higher profits is **equipment reliability**. Less downtime means faster turnaround, and more satisfied customers. Your crane has to perform.

That's why ports all over the world depend on the Paceco Portainer® Crane.

Ask Anybody Who Operates a Crane.

Before you make a decision about which crane to buy, talk to the people who actually run cranes. The terminal engineers. The operators. They'll tell you.

Paceco Portainers are reliable. With routine maintenance, total downtime figures of less than one percent are regularly logged for cranes operating five, ten, or even fifteen years.

Like the Portainers at Atlantic Container Lines terminal at Port Elizabeth, New Jersey. They've logged over 62,249 hours of operation, with less than 64 hours of downtime. That's 99.9% reliability.

And Paceco Portainers are a sound investment. Many

cranes have appreciated in value since they were purchased.

Why Gamble?

You can probably buy a cheaper crane. But, in the long run are you really saving money?

Not if you're facing exorbitant maintenance costs and hard-to-get parts. Not if your customers are sitting dockside waiting on your crane to perform. Ships make money at sea, not sitting in port. When you think about it, the Paceco Portainer is probably the least expensive crane you can buy. And the best crane for your money.

There's Only One Portainer® Crane.

Paceco built the first high-speed dockside container crane in 1958. It helped revolutionize the shipping industry. That same crane is still performing admirably just like the 300 Portainers we've built since. So, if it's not designed by Paceco, it's not a Portainer.

For more information on how you can improve your port's productivity call (601) 896-1010, Telex 589-924 or write to PACECO, Inc., P.O. Box 3400, Gulfport, MS 39503-1400 USA.





Do you want to start up business in Germany? Are you looking for someone reliable to import and distribute your goods? And is quick low-cost transport essential? Then contact Mr. Tsuyama, the representative of the Ports of Bremen and Bremerhaven and the Bremer Lagerhaus-



Tokyo (03) 431-8012

Gesellschaft (one of the largest port operating companies in the world). He knows all the right people. In Japan. In Germany. In Bremen. Give him a ring. He'll have time to talk to you. In his office or yours. You can find him in the Sanko-Mori Building 3–1, Atago 1-chome, Minato-ku, Tokyo.



ίX.

Bremen and Bremerhaven are among the most efficient all-round ports. There are 12,000 sailings a year to 1,000 ports all over the world. Ship your cargo via Bremen and Bremerhaven: it takes only one day to reach its destination anywhere in West Germany.

Fast. Safe. Economical. For your benefit.



Bremer Lagerhaus-Gesellschaft **Port Operating Company** Bremen/Bremerhaven



Our services are not just a decade old.

Ancient Muscat for centuries was the prominent market place in the Gulf for merchants all over the world.

At the entrance to the Gulf, today, once again Oman is a major trading centre for the modern world. Port Qaboos is the epi-centre of the trading activities in Oman.

Port Qaboos was the first port in the Gulf to be clear of congestion. Geared with the modern cargo handling facilities and round-the- clock operation, Port Qaboos offers fastest turnaround and excellent transhipment service by land and sea for the entire Gulf region. The container terminal offers big area for storage and handles container vessels with two 35 tons Gantry Cranes and modern supporting quay equipment. Less time spent at a Port means more value for your money and Port Qaboos offers this to you.



A tradition of Modern Port Qaboos service that goes back to centuries.





Port Services Corporation Limited P.O. Box 133, Muscat, Sultanate of Oman Tel : 734001 Telex : 5233 MQABOOS ON



The Port of Hamburg: Speed And Accuracy

International economics fluctuates and changes from day to day. The selection of the right port is no easy task when this change is to be fully grasped so as to be positively reflected in one's business.

The Port of Hamburg has regular direct services to all corners of the world. And that for Japan is established at an average of one service a day. If you are having difficulties with losses incurred in relation to time and expenses, then Hamburg is the port to solve your problems.

Conveniently located and having substantial facilities, the port of Hamburg guarantees speed and accuracy in

Port of Hamburg

The Gateway to Europe's Markets

The Free and Hanseatic City of Hamburg. Representative Office in Japan.

Illies Bldg., 12-18, Kamiosaki 3-chome, Shinagawa-ku, Tokyo 141 Tel. 03-443-4111, 03-443-6321 (dial-in) Telex 242-4115 ILLIES J such functions as storage, control, assorting and container handling. Stable labor power is always available since the labor force at the port is virtually strike free. The Free Zone covering all important port areas allows transit cargo to pass through duty-free making the port all the more attractive.

The Port of Hamburg has overseas offices in New York, Tokyo, and all major cities of the world and is ready to service you most efficiently to the final destination of your cargo. The gate-way to Europe cultivated by history Port of Hamburg. Consider us first when entering Europe.

The Representative: Mattentwiete 2, 2000 Hamburg 11, Tel. 040/36128-0 Local Representatives in Germany: North Germany Tel. 040/234252 Frankfurt Tel. 0611/749007 Munich Tel. 089/186097 Duesseldorf Tel. 0211/482064/65 Stuttgart Tel. 0711/561448/49 Local Representatives outside Germany: Vienna Tel. 0222/725484 New York Tel. (212)-5148220/21 Budapest Tel. 319769 Tokyo Tel. 03-443-4111, 03-443-6321

 Send us the coupon on the right. You will receive current information on "Port of Hamburg" and other pamphlets related to the port. PH-12

PORTS and

HARBORS

Published by

The International Association of Ports and Harbors

N.G.O Consultative Status, United Nations (ECOSOC, UNCTAD, IMO)



Secretary General: Dr. Hajime Sato

Head Office:

Kotohira-Kaikan Bldg. 2-8, Toranomon 1-chome, Minato-ku Tokyo 105, Japan Tel.: TOKYO (591) 4261 Cable: "IAPHCENTRAL TOKYO" Telex: 2222516 IAPH J

Dama

December, 1984 Vol. 29, No. 12

PH announcements and news: 7 ~	· 12
Membership Campaign in Progress - IMO Secretary-General responds	to
IAPH concern on tanker accidents - Membership Directory 1985 comple	eted
 Port of Tacoma Mission to Japan - Port of Baltimore Trade Delegation 	n to
Tokyo – Rotterdam Delegation to Japan – Membership Notes – IMO Rep	ort
by A.J. Smith	
en forum:	
Intermodal Transportation: The Economics of Combined River-Sea	
Navigation By Drs. R. Op de Beeck, Commercial Counsellor,	
	13
A Universal Advance in Bulk Handling Facilities – The SKC System	47
By K. Shibata, Shinko Kiko Co., and S. Kurosawa, Onbayashi Corp	17
Australian Port Economics – A Perspective By John Jenkin.	22
rt Spectrum – Performance Reports:	
Port of Geelong	25
	27
	28
rernational maritime information:	
orld port news:	
Port Management development program – WIC in New York	30
First ro-ro ship successfully loaded: Port of Prince Rupert	31
MARAPAR Discourse and the Community of the Community of the	32
WARAD's second Report to the Congress on the Status of the	22
Modernization of Bulk Material Handling Excilition: Corpus Christi	33 25
Fish was king in Brooklyn today: Port of NY & NI	27
New round-the-world containership docks at Charleston	38
Port radar put into use at Antwerp	39
APEC: Port know-how at the services of developing countries	40
The Call Forecast Processing System: Port of Marseilles	41
Kenya Ports handle more dry general cargo	44
Mexico buys ports planning and operations know-how from	
Gothenburg	45
Cheju Port to be developed to an international level with 49.6	
billion won: KMPA	46
Port comparisons: Port of Auckland	47

The Cover: Port of Nagoya with a view of the newly opened 63 m-high Nagoya Port Building

Price US \$3.50 per copy US \$35.00 per year

PORT OF COPENHAGEN

- Container Terminals
- Roll-on/Roll-off Berths
- Competitive Charges
- Full Free Port Facilities



PORT OF COPENHAGEN AUTHORITY Nordre Toldbod 7 DK 1259 Copenhagen K Telephone: (01) 14 43 40 Telex: 15 439 khv dk

IAPH announcements and news

Membership Campaign in Progress

The Head Office is now preparing to send out this year's membership campaign letter to 200 non-member ports, inviting them to join IAPH and to attend the forthcoming Conference of IAPH in Hamburg in May 1985.

Since the creation of the "temporary member" status in 1980, as of the end of October 1984 altogether 45 ports have applied for such membership of IAPH. Moreover, as a result of this campaign, which has been conducted every year since then, a majority of the members have joined as regular members after their one-year trial period.

As with our past conferences, the host of the 14th Conference is endeavoring to publicize IAPH as well as the biennial conference in Hamburg when they send invitations to various potential participants, while the campaign letter from IAPH is also designed to promote the Hamburg conference. It is anticipated that these joint efforts will elicit a favourable result and will succeed in attracting a significant number of new members to the Association while increasing the number of participants at the May 1985 Conference.

The campaign letter, jointly signed by Mr. A.J. Tozzoli, President, and Mr. P. Bastard, Chairman of the Membership Committee, follows.

Dear Sir:

Following our communication to you last October, we would like to take this opportunity to once again invite you to join our endeavors to develop and foster good relations among the ports and harbors of the world.

With its ever-increasing membership, the influence of IAPH as the only international body of its kind is becoming greater each year, and I do hope that you will feel that the time is now appropriate for your port to consider once again the many advantages of membership of IAPH.

We are particularly pleased to inform you that we are continuing the "temporary membership" status which was introduced by the Association in 1980 at the reduced membership dues of SDR500 for one year. This is to encourage new members to join and become familiar with the Association and also to enable them to participate in our next biennial conference at Hamburg from 4-11 May 1985.

As you will see from the brochure on the Hamburg Conference, one of the four working sessions for this gathering is to focus on the needs of ports in developing countries. Therefore, we hope that as many of our friends from developing ports as possible will be able to participate in our deliberations in Hamburg. At the same time, we are sure that participants from more developed ports will find much of relevance in the activities of the conference.

A brochure which describes in detail the structure and activities of our Association, together with application forms both for regular and temporary membership, are enclosed here. We sincerely hope that you will feel able to join our Association and also to attend the Hamburg Conference.

We look forward to hearing from you favorably in the above matter.

UNCTAD/IAPH Monographs No.3 completed

The IAPH Head Office has recently circulated a copy of the English version of Monograph No. 3 entitled "Steps to Effective Equipment Maintenance" by Earl D. Munday, P.E., Industrial Engineer, Port of Seattle, U.S.A., to all Regular Members. This is the third such monograph in the series prepared by UNCTAD in collaboration with IAPH.

The first two monographs which were distributed to IAPH Regular Members in November 1983 were:

No. 1 Changing from Daywork Plus Overtime to Two-Shift Working

No. 2 Planning Land Use in Port Areas: Getting the Most of Our Port Infrastructure

The production of monographs useful to port managers as well as officers actually engaged in the varied facets of port operation has been one of the major activities jointly carried out by UNCTAD and the IAPH Committee on International Port Development. Mr. J.K. Stuart, Chairman of the Committee, expresses his hope that the series will fill a gap in the information currently available to port management and looks forward to continued co-operation with UNCTAD in the preparation of many papers in the monographs series.

IMO Secretary-General responds to IAPH concern on tanker accidents

In late May of this year, President Tozzoli sent a letter to the Secretary-General of IMO, expressing the Association's members' concern with the potential peril of fire and explosions on board unladen tankers in port waters and adjacent areas.

Furthermore, a letter from the IAPH Secretary General was sent to IMO on September 20, 1984.

In response to these letters, Mr. C. P. Srivastava, IMO Secretary-General, recently wrote to IAPH stating the IMO's position concerning the issue.

The two letters from IMO are reproduced here for the attention of all members and readers.

1. IMO Letter of Sep. 26, 1984

Thank you very much for your letter of 25 May 1984 regarding the concern expressed by the International Association of Ports and Harbors on tanker accidents which have happened in the last decade.

As you may be aware, following the explosions which occurred during ballast voyages on the VLCCs "Mactra," "Hong Haakon VII" and "Marpessa" and also of other tankers, identified as being caused by the presence of static electricity in the tanks, requirements for cargo tank protection (inert gas systems and fixed deck froth systems) were included in the 1974 SOLAS Convention.

As a result of further tanker accidents, some based on collision and stranding and resulting also in marine pollution, the Organization convened the International Conference on Tanker Safety and Pollution Prevention in February 1978. This conference adopted two protocols, one related to the 1974 SOLAS Convention containing improved steering gear requirements, including requirements for operation, testing and drills, as well as strengthening of the application requirements for cargo tank protection and retroactive fitting for certain types of tankers. The fitting of one radar in all ships of 1,600 tons gross tonnage and upwards and of two radars in ships of 10,000 tons gross tonnage and upwards was also made mandatory.

The other protocol relates to the 1973 MARPOL Convention and makes modifications and additions to Annex I of that convention by strengthening the segregated ballast tank requirements and by introduction, inter alia, of regulations on dedicated clean ballast tanks and on crude oil washing.

The survey and certification requirements in both conventions were tightened by requiring annual surveys for safety equipment of tankers of ten years of age and over and one intermediate survey during the period of validity of its cargo ship safety construction certificate. Mandatory annual surveys or unscheduled inspections are required for all cargo ships.

The 1978 SOLAS Protocol came into force on 1 May 1981 and the 73/78 MARPOL Convention on 2 October 1982.

Following the stranding of the "Amoco Cadiz" on 17 March 1978, IMO took immediate action and strengthened further the steering gear requirements and at the same time improved, in the light of experience gained, the detailed technical requirements for inert gas systems. These revised requirements, together with others, were included in the 1981 SOLAS Amendments which entered into force on 1 September this year.

As can be seen, IMO reacted promptly to major accidents in the last decade and has updated the SOLAS and MARPOL Conventions as appropriate. When, for instance, the conclusions of the report on the explosion on the "Betelgeuse" were considered in IMO, it was concluded that nearly all of the recommendations had already been taken care of in the above mentioned revisions of the conventions' requirements.

The Organization therefore decided in 1981 at its twelfth Assembly, with resolution A.500, to concentrate henceforth on implementation of the various IMO conventions and recommendations and to discontinue for some time amendments to conventions and proposals for new conventions unless there was a compelling need to do so.

It is generally agreed that in respect of construction and equipment of ships the IMO conventions are up to date. However, as you know, these requirements do not normally apply to ships built before the requirements come into force. Therefore accidents involving these older ships may unfortunately occur from time to time. Nevertheless the latest report on serious casualties to tankers of 6,000 gross tonnage and above (1968 to 1983) by the IMO Steering Group on Casualty Statistics indicates that the casualty rate for 1983 is the second lowest for the 16-year period over which analyses have been carried out and is similar to the rate for 1982.

I entirely agree with you that the human element frequently plays an important role in accidents. This was highlighted also by the 1978 TSPP Conference which, realizing that the human factor is of critical importance in the safe operation of ships, urged the 1978 STCW Conference to adopt adequate provisions for training and certification of crews in tankers.

The 1978 STCW Convention, which came into force earlier this year, is, therefore, a vital companion document to the technical conventions such as SOLAS and MARPOL.

In order to assist crews to handle sophisticated new equipment, the IMO adopted a number of operational guidelines and codes such as those for inert gas systems, on handling of dangerous goods in ports and for crude oil washing. These are complemented by a number of documents issued by industry (ICS, OCIMF and your organisation, etc.) such as the International Safety Guide for Oil Tanker Terminals.

In this respect safe management of ships is another topic not to be overlooked. This was emphasized by me to representatives of ICS. As a result of that meeting, in conjunction with ISF the ICS elaborated a code of good management practice in safe ship operation. The Maritime Safety Committee at its forty-seventh session acknowledged the code and concurred with the view that the interest of senior management of shipping companies in safety was vital.

The Marine Environment Protection Committee has prepared the Manual on Oil Pollution which in particular deals, inter alia, with safety procedures during bunkering operations and transferring of cargo oil. The revised Section I of this manual incorporates the MARPOL 73/78 requirements and contains practical information useful to persons directly associated with sea/port transportation and the transfer of oil.

I fully agree with you that the best guarantee against serious accidents is strict observance of IMO standards of ship design and equipment, training and watchkeeping of ship and shore personnel and a continuing vigilance.

I have noted in your letter that "to achieve further mitigation IAPH urges IMO to make a firm commitment to:

- (i) the provision of expert technical and legal advice within the IMO Technical Assistance Programme; and
- (ii) undertaking an authoritative study, and report, on the practical availability of insurance for newly considered appropriate higher levels of liability limitation covering the afore-mentioned risks."

Concerning point (i) I am sure you are aware of the tremendous efforts undertaken by the Organization in the area of technical co-operation. These embrace expert missions by inter-regional advisers to particular countries on specific subjects, and requests for the organization or support of regional or global seminars on topics within IMO's fields of activity. Here also the work of the World Maritime University in Malmö which commenced a year ago should be mentioned. The University is making substantial contributions in technical assistance by educating students from developing countries in the various disciplines of maritime safety and pollution prevention.

However, this unique institution established to achieve global co-operation between the developed and the developing countries requires financial support for its sustenance. The annual recurring expenditure at present is estimated at about US\$4 million with the maximum planned population of about 150 students. As against this, generous contributions have been made by the Government of Sweden, the United Nations Development Programme, the Government of Norway, other donor countries and the Commonwealth Secretariat, totalling approximately US\$2.25 million. Therefore, in order to meet the shortfall, the Organization looks forward to financial assistance from Organizations who have interest in maritime affairs. Such financial contributions could be made in the form of fellowships at US\$12,000 per student per year and such a fellowship could be given the name of the sponsor, for example IAPH fellowship, Shell fellowship, etc. Alternatively the financial assistance could take the form of a lump sum donation to the Capital Fund. The Board of Governors of the World Maritime University which met in June decided that the Capital Fund should be established in the amount of US\$25 million from contributions received from maritime interests all over the world and that the revenues generated through the Capital Fund should be utilized for the long-term financial support of the University.

In respect of point (ii) I should like to point to the recently concluded International Conference on Liability and Compensation for Damage in connection with the Carriage of Certain Substances by Sea. As you know the conference successfully concluded with the adoption of amendments to the 1969 Civil Liability Convention and the 1971 Fund Convention to increase the amount of compensation under those conventions.

Furthermore, the Legal Committee of the Organization has agreed to consider in the near future the question of liability and compensation for damage from fire and explosion in unladen tankers.

From the above you will see that IMO has made considerable efforts to deal with the matters referred to in your letter, and I hope you will acquaint the membership of IAPH with the above information on IMO's activities in this respect over the last ten years. I recognize, of course, that not all possible problems have been solved. I have noted that IAPH consider that there is need for an "authoritative study" on the practical availability of insurance at appropriate levels to cover the risks referred to in your letter. As you no doubt know, the International Maritime Organization is keenly interested in measures for improving maritime safety and the prevention of marine pollution in all areas within its competence; and the relevant organs are always ready and willing to give due consideration to concrete and well-documented proposals on such measures which may be submitted by Member Governments or organisations associated with the work of IMO, in accordance with applicable procedures.

I trust the above remarks will assist you and the IAPH in considering further steps on the subject.

Yours sincerely,

C.P. SRIVASTAVA Secretary-General

2. IMO Letter of Oct. 29, 1984

Matters of Concern to IAPH Members

I write to acknowledge the receipt of your letter of 20 September 1984 which arrived just as I was about to leave IMO Headquarters for an extended mission abroad.

I fully appreciate your disappointment that the recent IMO diplomatic conference was not able to adopt an HNS Convention as had been envisaged.

As I am sure you are already aware, the decision to refer the draft Convention to IMO for further consideration was taken only after the Conference unanimously reached the conclusion that it would not be feasible, in the time available, to resolve the many complex issues which had come to light in the discussions. The Conference, therefore, considered that it would be more advisable to have the matter studied again by IMO in order to see whether a draft convention could be developed which would command wider acceptance.

The recommendations of the Conference will be considered by the Council of IMO at its forthcoming session next month, when the Council will be invited to determine what action may be taken by IMO with regard to the HNS Convention and matters related to it. I shall inform you of the conclusions and decisions of the Council and any measures which may be taken in IMO pursuant to those conclusions and decisions.

I have noted with interest and appreciation your support for my endeavours to secure the early entry into force of the 1976 Convention on Limitation of Liability for Maritime Claims. In particular, I am pleased to note your view that the entry into force of this Convention will represent some improvement in the cover available for some of the risks which an HNS Convention was intended to deal with.

In the meantime I have taken due note of the specific problems to which you have referred as deserving action by IMO. In this connexion, I am extremely grateful for your confirmation that IAPH will use its best endeavours to encourage the early acceptance of the 1984 Protocols to the 1969 Civil Liability and the 1971 Fund Conventions. The early entry into force of these Protocols will be of great benefit to the world maritime community and the encouragement and active support of IAPH and its Members will provide a positive and valuable contribution to the attainment of this worthwhile objective.

For my part I wish to assure you that IMO will continue to take all appropriate measures to promote the entry into force and effective global implementation of these Protocols, while seriously examining any other practical possibilities which may be suggested for resolving outstanding problems related to the maritime carriage of hazardous and noxious substances.

Yours sincerely,

C.P. SRIVASTAVA Secretary-General

Membership Directory 1985 completed

The 1985 edition of the Membership Directory was completed in late October and was sent to all members from the Tokyo Head Office in the first week of November. Regular Members and Associate Members of Classes A (Grade One), B and C are entitled to receive 3 copies per unit (one copy out of which has been airmailed, with the remaining copies seamailed), and other members one copy per unit.

The distribution of the Membership Directory is limited to IAPH members only. If IAPH members wish to receive additional copies, they are available on request to the Secretary General.

In the proofreading stage, the Secretariat tried to include as many of the changes received after the closing date as possible, but any further information which reaches this Office will be carried in the "Membership Notes" column of the appropriate issue of "Ports and Harbors."

Port of Tacoma Mission to Japan

On Tuesday, October 23, 1984, the Mission of the Port of Tacoma, U.S.A., gave a reception at the Tokyo Kaikan in Tokyo, inviting some 250 guests from shipping, commerical and transportation circles. The Mission members were Commission Vice President Mr. Joseph E. Faker and his wife, Commission Secretary John A. McCarthy and his wife, Messrs. Patrick O'Malley, Commission Assistant Secretary, Lawrence M. Killeen, Executive Director, and Charles E. Doan, Assistant Executive Director. They were joined by Mr. Yoichi Kanai, Regional Manager-Far East, who is based in Tokyo.

The Mission visited the Port of Kitakyushu, the sisterport in Japan on the morning of October 25th and made presentations on the newest developments on the Port of Tacoma.

Port of Baltimore Trade Delegation to Tokyo

A 9-member delegation of public and private port officials from Baltimore, U.S.A., visited Japan during the last week of October. The delegation, headed by, Mr. W. Gregory Halpin, Port Administrator, Maryland Port Administration, held a host of meetings with Japanese maritime and shipping leaders as well as representatives from the Japanese leading automobile manufacturers. At these meetings, the delegation announced that the completion of dredging at Baltimore's Dundalk Marine Terminal will provide berthside depths greater than any other US Atlantic Coast port, and will enable the largest Japanese vessels and new generation vessels to fully utilize the port and allow for expansion of trade and cargo.

Earlier than this, the Governor of Maryland, Harry R. Hughes, who was also visiting Tokyo with the trade delegation, had approved a two hundred million U.S. dollar Port Expansion Development Program over the next six years that will add three million tons of container capacity to Baltimore terminal facilities.

On the evening of October 30, 1984, the delegation hosted a reception to which they invited their business partners in Japan. From IAPH, Deputy Secretary General Kusaka and Under Secretary Takeda were the guests.

Rotterdam Delegation to Japan

A 45-member delegation headed by Dr. Peper, Mayor of Rotterdam, visited Japan to strengthen ties with Japanese industry for two weeks from October 18, 1984. During their stay in Japan, the delegation participated in the Sister Ports Seminar which took place at the Portopia Hotel in Kobe on October 22nd. The Triport Seminar held in Kobe marked the 10th seminar involving the ports of Kobe, Seattle and Rotterdam, which has been held regularly since 1969, each of the three sponsoring the event in turn. The main theme of the 10th session was "The Ideal Way of Port Management and Operation to Cope with Transport Innovation."

The mission held a symposium in Osaka on October 23 and another in Tokyo on October 25 on the theme of "Storage and Physical Distribution." Furthermore, on October 26 a seminar was held at a hotel in the Yokohama area. The Port of Yokohama collaborated in organizing both the seminar and the reception which followed.

Dr. R. den Dunne, Member of the Executive Committee and Commissioner for Port and Economic Affairs, City of Rotterdam, was one of the speakers at the seminar in Yokohama, and his presentation on "The Port of Rotterdam – The Gateway to Europe" will be featured in the next issue.



At the reception, from left, Dr. H. Bos, Director of Marketing and Economic Affairs, City of Rotterdam Port Industries, Dr. Bram Peper, Mayor of Rotterdam and Kimiko Takeda, IAPH Under Secretary.

Membership Notes

Change of Address Temporary Member

Department of Transport

Room 1/12 Sunley House 90-93 High Holborn London, WC1V 6LP, U.K.

Tel: 405 6911 Ext 558 Telex: 264084

Honorary Member

Vicount and Vicountess Simon 2 Church Cottages Abbotskerswell Newton Abbot

Devon, TQ12 5NY, U.K.

Tel: Newton Abbot (0626) 65573

10 PORTS and HARBORS — DECEMBER 1984

IMO Marine Environment Protection Committee

The twentieth session of the Marine Environment Protection Committee was held at IMO Headquarters from 3 to 7 September 1984 under the Chairmanship of Dr. James Cowley (UK).

The session was attended by fifty-two representatives from Member States and twenty other organisations, including IAPH.

Matters discussed by the Committee are dealt with under sub-headings as follows:

1. Status of International Conventions relating to Marine Pollution

The Committee, in particular, noted that 31 States representing 72% of the world's maritime fleet were now Parties to MARPOL 73/78.

The Committee was interested to note that the optional Annexes of MARPOL 73/78 were in force in the Baltic Sea Area for ships flying the flags of the Contracting Parties to the Helsinki Convention even though some of the Contracting Parties had not yet accepted the optional annexes or had not yet become Parties to MARPOL 73/78.

2. Report of the Sub-Committee on Bulk Chemicals

A great deal of time was spent by the Committee on the report of the thirteenth session of the Sub-Committee on Bulk Chemicals. The Committee generally approved those parts of the report dealing with the prevention and control of marine pollution. The issues in that report which appear to be of particular interest to ports are:

(i) The lists of substances contained in Annex II to MARPOL 73/78.

It was agreed among other things that in order to include mixtures/substances which are carried under trade names at the present time in the Bulk Chemical Codes, trade names would have to be converted to proper chemical names.

(ii) Standards for Control Procedures and Arrangements.

It was agreed that the 14th session of the Sub-Committee on Bulk Chemicals should be in a position to examine and assess the detail of a new proposal put to the Committee by a Working Group which would provide for a decreased need for reception facilities, simplification of assessing reception facility demand, better protection of the marine environment, possible simplification of discharge procedures, and improved possibilities for effective control. Several delegations, whilst appreciating these advantages, expressed concern at the adverse effects the proposal might have on the viability of existing ships.

(iii) Time schedule for the entry into force of amendments to Annex II of MARPOL.

In a paper before the Committee, the Japanese

delegation strongly put forward the view that for practical and technical reasons the earliest date on which amendments to Annex II approved in principle at the twenty-first session of MEPC could come into force would be in spring of 1987. The Committee agreed that the amendment to Annex II in accordance with the provision of Article 16 to the Convention prior to the implementation date of that Annex was legally justified. The Committee also agreed in principle with the Japanese proposal that the implementation date of Annex II should be readjusted to coincide with the date of entry into force of the amendments, which might, of necessity, cause a delay of several months from the original date of October 1986. The Committee concluded that the final decision on the time scale for the implementation date of Annex II would be taken at its twenty-first session when it had a complete set of the proposed amendment developed by the Sub-Committee.

The delegations of the Federal Republic of Germany, Denmark and Sweden reserved their positions on this matter feeling that there should be no delay beyond 2 October 1986.

(iv) Carriage of chemicals in bulk on cargo ships.

The Sub-Committee was instructed to evaluate the requirements in Annex II of MARPOL and determine whether non-safety hazard noxious liquid substances may be carried on cargo ships and, if so, determine whether there is a compelling need to develop requirements in accordance with the recommendation of Resolution 15 of the 1973 MARPOL Conference.

3. Consideration and Adoption of Amendments to Annex I of MARPOL 73/78

The Committee approved a number of amendments (practical solutions in effect) which had the effect of formalising a situation in which they had been treated over many years as equivalent to the original requirements of the MARPOL Convention. They will be deemed to come into force on 7 January 1986.

4. Provision of Reception Facilities

This subject has a particular importance to IAPH.

The Committee noted a number of most important developments since its last meeting. As follows:

(i) Questionnaire on facilities in ports for the reception of oily wastes from ships – MEPC/Circ. 117.

Eight replies had been received from Member States and others were expected soon. The countries were China, Finland, Greece, Malta, Singapore, Trinidad and Tobago and the United Kingdom. Replies from Brazil, Iceland, Federal Republic of Germany, German Democratic Republic, Norway and USSR arrived too late for inclusion in the documentation for the Meeting. It was noted that the deadline for reply to the questionnaire was 2 October 1984 and an information document would be prepared for the twenty-first session when the overall response to the questionnaire would be appraised by the Committee.

(ii) Supplement to 1980 IMO publication on Facilities in Ports for the Reception of Oily Wastes.

The Committee was informed that as discussed at the last session a supplement to this publication was under preparation and was now expected to be available from IMO Publications Section in October 1984.

 (iii) IMO/UNDP International Seminar on Reception Facilities for Wastes, IMO Headquarters, 30-31 August 1984.

> The Seminar was attended by over 200 participants from 38 countries. The Committee noted that the Proceedings of the Seminar would be made available through the IMO Publications Section.

> The observer from Friends of the Earth International said that the main emphasis had been on reception facilities for oily wastes and that a second seminar should be arranged at some future date on reception facilities called for by Annexes II, IV and V of MARPOL 73/78.

(iv) Action by the Regional Organization for the Protection of the Marine Environment on reception facilities in the Kuwait Action Plan (KAP) sea area.

> The Committee noted that a decision had been taken by the Third Ordinary Meeting of the ROPME Council (24-25 April 1984) to convene a meeting on Reception Facilities at which further measures would be decided on ROPME's feasibility study on the allocation and installation of reception facilities in the KAP region.

 (v) Follow-up on technical assistance activities to promote the provision of reception facilities in the Mediterranean Sea area.

The Commission of the European Communities observer confirmed in a statement to the Committee that the EEC would be looking into the possibility of eventual financial support for the development of reception facilities and that information presented at the IMO/UNDP Seminar would be taken into consideration at the next meeting of the Contracting Parties to the Barcelona Convention to be held in Brussels.

(vi) Report to IMO of alleged inadequacy of reception facilities.

The Committee took note of reports submitted by the delegations of Norway, Finland and the United Kingdom on alleged inadequacy of facilities in a number of ports. The committee recognised that there was considerable value in receiving such information and expressed the hope that Members would continue to submit the reports. A second questionnaire on inadequacy of reception facilities is to be circulated shortly by the International Chamber of Shipping, requesting that ships should also submit reports of alleged inadequacies to the flag State.

(vii) Note of proposed rulemaking concerning provision of reception facilities.

Of particular importance to United States ports are the proposed United States regulations for the implementation of reception facility requirements of Annex I to MARPOL 73/78.

The United States delegation advised the Committee that under United States law the Coast Guard was required to issue Certificates of Adequacy to ports and terminals and to deny entry to ships to ports not having such Certificates. Final regulations were expected to be issued in late 1984 and the certification process completed in early 1985. The United States delegation stated that it would not deny entry to ships until this certification process was completed and that it did not expect any major problems for ships.

5. Enforcement of Pollution Conventions

The Committee noted a submission from Friends of the Earth International that the level of fines tends to be very low when compared to the daily operating costs of a vessel and suggested that a study be carried out with respect to a level of fines that could be considered acceptable. Results of such a study could give guidance to Governments establishing their National level of fines.

The delegates of Canada and Japan could not agree with that suggestion.

6. Future Work Programme and Date of Next Session

The Committee will hold its twenty-first and twentysecond sessions from 22-26 April 1985 and from 2-6 December 1985 respectively.



Open forum:

Intermodal Transportation: The Economics of Combined River-Sea Navigation

By Drs. R. Op de Beeck Commercial Counsellor General Management of the Port of Antwerp Lecturer at APEC-RUCA

To the extent their technology is evoluting, the various modes of transport - though still competing one with another - are becoming increasingly mutual complements and closer substitutes than ever before.

Two concepts underlie this fundamental trend. First, the goods no longer are wanted suffering from any break of bulk. Successive translocations, when unavoidable, embody the vehicle and the contents as a whole. This is the concept of "intermodal transportation."

The trend happens to meet with a connected evolution: the dimensions of individual consignments are enlarged to the maximum size or weight each of the intervening lifting (lo/lo) or rolling (ro/ro) devices can cope with.

Both concepts, at last, aim at considering the transportation industry as a continuous process, linking, from "door to door," the initial producer to the ultimate consumer by still using various transport modes but by operating each of them in such a way that the goods actually ignore they undergo independent journeys.

One of the intermodal technologies that make steady progress in Europe is the combined river-sea navigation. Transport arrangements combining river and seaborne carriage afford an interesting case indeed of intermodalism: they use technology used by "dry" modes as well (f.i. transcontainers) but, moreover, allow merely for suppression of intermediate transshipments which are unavoidable whenever a "dry" mode is to mate with a "wet" mode.

Such full through-transportation is performed in Europe by a special type of vessel, the so-called "fluvio-maritime cargo liners." Such vessels combine the shallow draught and limited height of fixed superstructures of pure inland watercrafts with the typical geometry and architecture of ships designed for coastal and short sea operation.

In W. Europe, the existing fleet of up-river going coasters is operated mainly by one concern: the West German "Rhein-Maas und See" (R.M.S.) -a 100% subsidiary of the French "Société Alsacienne de Navigation Rhénane"

(SANARA), which was founded 1920 when France recuperated her Rhine bank. The group is presently running some 200 vessels, 60 of them being reported to be combined "fluvio-maritime" units or "low profile" coasters.

The R.M.S., on her port, controls agency subsidiaries at Emden, Duisburg, Copenhagen, Köge, Delfzijl, London, Bilbao and Barcelona and direct subsidiaries in Sweden, Italy, the Netherlands, Spain, the U.K. and in Belgium (Sanexomar n.v., Satref n.v. and Rijn – Maas en Zeescheepvaartkantoor n.v. at Antwerp).

Nowadays, RMS generates 90% of the up-Rhine going sea traffic. It is reported that the shipping activities of the concern account for 50% of gross sales, 30% of the manpower and of cash flow.

Most of the RMS ships are operated on time charter basis but are owned by individuals or "writing-off" companies.

In the USSR, the State Marine runs two regular fluviomaritime liner services, the one linking the Baltic Sea with the Caspian Sea, using the Volga-Baltic Canal, the second linking the Black Sea with Caspian Sea-using the Volga-Don Canal. The former, the "Caspian Volga-Balt Line" (C.V.B.L.), traverses European Russia and – via the Kama River – is in direct river connection with the Volga-Oural area, an all-important industrial zone of Western Siberia; the latter service, the "Mediterranean-Caspian Line" (MCSL), affords maritime connections to all ports of the landlocked Caspian Sea, so providing Iran a second outlet for its oceanborne trade.

These services are operated by a fleet of about 75 fluviomaritime vessels (flat bottom; low superstructures) whose length o.a. is 96 meters, their beam 13.2 meters and which offer a 2,100 DWT capacity with draughts ranging between 2.26 and 3.5 meters. Some units (the "Ladoga"-type) are ice-strengthened.

Sometimes, up-river going ships combine their mix of river- and sea-characteristics with pure maritime trans-shipment technologies such as:

- the ro/ro system: f.i. the "SOMEF-1" barge belonging to the S.O.M.E.F. (Liège, Belgium);
- the "float-on/float-off"-technique: f.i. the "DOCK EXPRESS-10" pontoon, belonging to the Dock Express BV (Netherlands);
- the "submersible platform"-technique: f.i. the CON-

DOCK I and II of the Condock Reederei Barner K.G. (Hamburg, FRG).

Whether these units are self-propelled barges or pure pontoons to be towed does not really matter: straight intermodalism is achieved not only by using a *single package* throughout the successive transport modes but by transporting the single package by a *single vehicle as well*.

Typical dimensions for "low profile" coasters are stated in the following tables.

Geo-physical constraints of fluvio-maritime through transportation

The economics of combined fluvio-maritime shipping are determined by five main geo-physical constraints:

- 1. the inaccessibility of some coast ports to modern seagoing vessels. This creates the need for setting-up feeder services to larger ports. A typical case are the container feeder lines;
- 2. the closeness, in some regions, of great seaports fit to accommodate all types of vessels but where the distance separating them prevent large vessels to reach the economics of scale they are designed for. Ranges of sea ports are a special issue of this closeness with the typical, nowadays expanding, canal-wise links between Antwerp and Rotterdam;
- 3. the existence of estuaries or great rivers with serviceable hydraulicity, penetrating far into hinterlands with a dense population and industry. This configuration was the pioneering instance of through river-sea transportation between Cologne and London (since the XIth

	TABLE 1				
Recent Upriver Going Coasters and	Sea-Strengthened	General	Cargo	Motor	Barges

(metric	measurements)	
(mouro	measurements	ľ

Name	Flag	Construc- tion Date	Length (0.a.)	Breadth (extreme)	Draught (max.)	G.R.T.	N.R.T.	D.W.T. (at max. draught)	T.E.U. (number)
m/v CASTOR	F.R.G.	1969	73.87	10.90	3.65	484	355	1,408	
m/v CARGO LINER VI	F.R.G.	1975	48.77	9.33	4.01	497	325	777	_
m/v ELISABETH S.	PANAMA	1975	72.98	9.50	2.93	875	652	1,196	_
m/v OSTEMAAT	F. R .G.	1976	92.41	11.31	3.99	999	692	2,554	96
m/v ANJOLA	F.R.G.	1977	74.02	11.99	3.23	483	269	1,625	12
m/v EMS LINER	F. R.G .	1977	85.02	9.47	3.26	498	286	1,450	72
m/v ANGELA JÜRGENS	F.R.G.	1978	73.08	11.41	3.32	498	301	1,601	70
m/v SEA MERLAN	F.R.G.	1978	76.84	11.49	3.40	499	320	1,550	
m/v RHEINTAL	F.R.G.	1978	84.21	10.71	3.30	499	300	1,500	63
m/v HELENA HUSMAN	F.R.G.	1978	90.23	18.01	3.66	990	508	3,000	264
m/v RHONE LINER	F.R.G.	1979	99.70	11.40	4.25	1,402	759	2,500	88
m/v LADOGA - 19	U.S.S.R.	1980	80.96	11.94	4.00	1,578	781	1,855	_
m/v BALTIYSKY - 111	U.S.S.R.	1980	95.00	13.21	4.00	1,990	1,002	2,600	83
m/v SORMOVSKIY - 118	U.S.S.R.	1981	114.03	13.21	3.67	2,484	1,321	3,134	_
m/v SELENA	F.R.G.	1981	80.29	11.35	4.25	995	600	2,310(*)	
m/v SANARA-TRADER	BELG.	1982	68.36	10.32	4.06	499	295	1,243	108
m/v AMISIA	F.R.G.	1983	75.52	10.60	3.39	499	390	1,572	
m/v BANJAARD	NL.	1983	75.01	11.02	4.05	1,402	759	2,500	88
m/v CLAUDIA L.	F. R.G .	1983	75.39	10.60	3.30	499		1,500	-
m/v SEA-WESER	F.R.G.	1983	87.95	11.30	4.68	999	675	2,888	90

(*) single "box shaped" hatch.

 TABLE 2

 Recent RO/RO – LO/LO – Heavy Lift Cargo Barges

(metric measurements)

Name	Flag	Construction Date	с-	Length (0.a.)	Breadth (extreme)	Draught (max.)	G.R.T.	N.R.T.	D.W.T. (at max. draught)	T.E.U. (number)
m/v SOMEF-LIFT 1	BELG.	1977		76.05	11.43	3.60	1,690	1,391	1,270	vehicles
m/v SIGRID WEHR	F.R.G.	1978		90.23	11.43	3.60	999	481	2,640	260
m/v LAILA	F.R.G.	1983		91.01	13.52	4.60	997	545	2,300	158
t/m ro/ro ANGLIA	F.R.G.	1972		105.34	15.22	3.27	772	278	1,176	vehicles
	REC	ENT SUB	MERS	IBLE DO	CK SHIP (=	"FLOAT-C	N/FLOAT	[-OFF") B	ARGE CAR	RIERS
m/v OAK	LIBERIA	1978 b	hip barges	$135.50 \\ 18.75$	34.24 9.50	4.80 2.80	1,857	807	11,550	108
m/v CONDOCK I and II	F. R .G.	1979		92.41	19.61	4.57	999	470	3,400	383
m/v BACO-LINER I and II	F.R.G.	1979 si b	ship barges	205.01 24.00	28.52 9.50	6.65 4.10	23,400	15,300	21,801	501
m/v CONDOCK III	F. R .G.	1983		95.61	19.61	4.82	999	-	2,670	384
s/b CONTILIFT 2				91.84	27.43	4.75	4,984	0	10,180	-

14 PORTS and HARBORS - DECEMBER 1984

Century) and the case of direct relations such as Ruhr-Scandinavia, Brussels-Finland, Colmar-Ireland, Paris-Bilbao;

- 4. the presence, yet in well equipped sea-ports, of still small-sized consignments, that can not justify even the call of a conventional coaster and whose conveyance to some consolidation port by means of overland transportation is physically or economically unfeasible (f.i. some heavy-load or oversized "project cargoes" and their components). For such cases, the alternative of a direct fluvio-maritime through transport is especially valuable during periods of recessions such as the one caused in Europe by the U.S.-fiscal policy.
- 5. the location, sometimes far upstream rivers, of factories with their own port and lifting devices: f.i. the Austrian steel mills of Linz (100 km up-river Vienna) are in direct connection with Trebzon (Turkey) through the Danube and the Black Sea.

All these five, size-unsuitable relations call for throughtransport initiatives which tend to bypass sea-ports, so to save an expensive transshipment.

Comparative ship running costs and freights

Up-river going vessels, because they have to meet the requirements of a sea-journey and that of inland navigation as well, are subject to constraints which a sea-going vessel can just ignore.

First, their outer dimensions are definitely limited by the gauge of the rivers and canals and their constructive works. In Europe, the *headroom* under the Rhine-bridge is 9 m 10 but the maximum allowed on the European waterways-network is only 6 m 50 and this prevents conventional coasters to reach some inland ports. For the same reason, the container capacity, upstreams the Albert Canal (Belgium) f.i., is still limited to 80 T.E.U.'s. On the other side, length o.a. is limited by the dimensions of the lockchambers.

Second, being qualified as "coasters," up-river going sea ships are subject to crew complement requirements and equipment standards.

River-sea through transportation being performed essentially at non liner terms, freight will be more sensitive to market conditions than freight for oceanwise carriages. Should the latter come to decline, classical shipments including overland transportation plus a transshipment in a seaport plus a maritime journey can suddenly appear to be nevertheless cheaper.

Thus, the transshipment cost and charges differentials will be the main issue for the return to be expected from a combined river-sea journey.

Transshipment cost differentials

In inland river-ports, operating conditions and institutional environment differ considerably from those prevailing in sea-ports. Moreover, management and ownership of equipment may range at river-ports between mere public wharves (in France and Italy) and private terminals (in Belgium, the Netherlands, the F.R.G. and Switzerland).

- Generally, at fluvial ports, the forwarding agent no longer is an all-round shipper but a mere custom-house agent. If the port is runned by a public agency, receivers/ consignees intervene effectively in the handling operations of their goods. Indeed, a river port uses to be not far away of the receiver's plant and it is the latter who effectively masters the terminal operation. Ships bound for such ports are chartered on F.I.O.-basis; shipowners, thus, have nothing to do with (embarking) discharging;
- 2. The manager of the public river port shares in the operations only insofar he has the supervision over the goods passing from the inland watercrafts on the evacuating engine; he also takes care of the breaking of the total load over the latter;
- 3. At public river wharves, port labour is organised by the local port authority and priced at a monthly basis and not on a shift-or piece-work basis alike in seaports. But, on the other hand, the charges levied for the use of public equipment evenly matched are generally identical in river- and in sea-ports;
- 4. True river-ports may suffer from a shortage of storage capacity. This could slow down (un)loading operations and cause handling rates to be an inverse function of the speed at which drayage to and from the river port is performed. When they occur, storage bottle-necks definitely raise total transshipment costs.
- 5. Shippers/receivers, sited alongside rivers or canals on freehold or leasehold estate, can handle of course through-freights with their own lifting devices and personnel. This affords them to suppress at least one component of the total transshipment cost: the porterage from plant to port and vice-versa. While public ports by that very fact can offer only common-users berths (entailing double handling), a location of a processing plant or distribution entreport straight on the river bank avoids all terminal/preliminary porterages. (Un)loading costs then are a part of the processing or distributing costs. Lifting and carrying devices are fixed assets of the very factory.

It must be stressed to this point that in Belgian and French legal systems, the use of own lifting equipment is *not* contradictory with a "common use" management. Such lease-arrangements as the Belgian "concession" or the French "autorisation d'outil lage privé avec obligation de service public" allow for putting privately-owned equipment to the disposal of third parties when ever the facilities are not used for the owner's or the leaseholder's private use.

In France, occupancy of public estate such as river banks can be granted precariously and for a short time (="autorisation d'occupation temporaire du domaine public"). This is a typical tenure for river wharves to be equipped with "light" static facilities, which allows to develop and operate private ports with a minimum of public obligations. It is common that inland port authorities set rentals open up to 75% rebate, depending on traffic performed. Being so the nominal "single user" of the berth, the shipper/receiver does need no longer the service of any intermediating agent or operator.

All these elements result into important differentials as to transshipment charges and pricing policy between sea- and river-ports. Available international comparisons to the point bring out that these differentials are not similar for break-bulk and for bulky cargoes. General cargo and – more generally – packed freights have higher requirements: they allow for the selling of higher priced services. Reverse, unpacked and bulky cargoes, because they offer greater potential economics of scale, entail lower handling rates.

Thus, combined river-sea going vessels which can avoid transshipment charges at a seaport, will be performing better when transporting general cargo rather than bulk cargo.

The new geography of combined river/short-sea trade

Aforesaid economics of intermodal sea-river transportation have brought about significant shifts into the geography of coastal and short-sea shipping.

In Europe, river-sea operated connections have produced at least three types of responses:

- 1. consolidation of the economic impact of valleys. The penetration of "low profile" coasters up-streams the main rivers such as the Rhine, the Rhône, the Danube and the Meuse (via the Albert Canal) has allowed maximisation of the direct-delivery concept and promoted these valleys to catchment delivery/areas of new outbound/inbound trades;
- new ports have been created far inland the continent with all corresponding port functions: transshipment, intermediate storage. Typical examples are Lyon, Reims and Paris in France; Liège and the industrial parks alongside the Albert Canal in Belgium;

3. the use of river-sea technology has, in some instances, prevent some foreign trade going past competing foreign sea-ports. Direct up-Rhône-Méditerranean navigation f.i. diverts Eastern French traffics from N.W. European ports; combined river-sea navigation on the Danube affords Austria a new gateway to the sea to the detriment of the German ports and to Trieste.

In short, combined river-sea operations, as they are staged at present, seem to be based on following factors:

- 1. the relative cheapness of river-sea through rates compared with pure sea-freights. If the latter decline the classic coastal operations between sea-ports better stand the heavier transit costs of sea-ports and the latter will be restored to favour, taking advantage of the economies of scale afforded by their lifting-equipment. In this conjuncture, combined sea-river arrangements will be devoted to the carriage of high value items, f.i. heavy loads or care-sensitive project cargo, for which any break-point is an odd;
- 2. for FOB export cargo, the assumption of a cheaper FOBdelivery in a river-port than in a sea-port, since the expensive transshipment- and inland drayage-costs and risks are then eliminated;
- 3. fluvio-maritime transportation, anyhow offers considerable opportunities for regional development of the region involved.



A Universal Advance in Bulk Handling Facilities — The SKC System —

By: Kohei Shibata, President SHINKO KIKO CO., LTD.

Shigeo Kurosawa, Director, Engineering Headquarters OHBAYASHI CORPORATION

1. Preface

It goes without saying that one has to strive to keep initial investment and operating costs to a minimum while endeavoring to maximize returns on investment in today's climate of cost consciousness and energy efficiency.

The investment in port and harbor facilities, where the efficient handling of bulk cargoes is an all important consideration, is no exception to this basic philosophy. Conveying bulk cargoes is something like conveying petroleum by pipelines — bulk cargoes should be conveyed in the same fluid like manner, continuously fed to the storage area or transfer site.

The existing style of port and harbor facilities is capital intensive, requiring heavy capital investment not only for mechanical and electrical facilities but also in undertaking large scale reclamation and dredging.

With this paper we wish to fire the imagination of the readers and hope to persuade them to consider our alternative when they are next involved in the design of efficient bulk handling port and harbor facilities.

2. Introduction to the SKC System

From an economical view-point, we are confident our "Combination of underwater tunnel and offshore dolphin" offers a very convincing alternative to the existing type of facilities. The system eliminates the need for much of the expensive plant and infrastructure facilities, i.e. reliance on a lot of heavy surface equipment and civil works such as reclamation, dredging and so on.

As for existing facilities, take the case of a 60,000 DWT bulk carrier with a 240 meter overall length, where handling facilities require a wharf of 300 meters in length, water depth in excess of 16 meters and surface facilities such as an unloader with rails, pneumatic unloader, loader with rails and belt conveyors. Such facilities utilising all this equipment together with an extensive undertaking in reclamation and dredging, inevitably add up to an extraordinarily expensive investment.

The SKC system eliminates a good part of the surface investment; it combines an underwater tunnel and offshore dolphin to be built 300 meters from the shore, on which cargo handling equipment is installed. The position of the vessel is shifted longitudinally — as one hatch is unloaded, it is moved forwards so that the next hatch is positioned below the unloading facilities. Figure 1 illustrates the skeleton of the concept.



Mr. K. Shibata



Mr. S. Kurosawa

A cylindrical, hollow dolphin is built 300 meters offshore and is connected to the underwater tunnel running to the shore, in which a belt conveyor system is installed. For unloading, the Universal Tray Lifter Model-2, stepwise descending type, together with lifting frame is used, while for loading, the Universal Tray Lifter Model-1, stationary type, to be installed inside the cylindrical dolphin is used. The structure of the Tray Lifters is shown in Figures 2 and 3. This system is a total continuous conveyance facility which offers high efficiency and cost-savings.

This is an important technological advance in the developing and building of new ports and harbors in this day and age, because, as the need to build new ports and harbors has grown, so has it become extremely difficult to build using the existing type of facilities; in most cases, all the ideal geographical locations for harbors have already been developed, and one has to consider using poorer sites which cannot be considered geographically ideal for the development of new ports and harbors using existing construction methods. Naturally, the construction work now requires more investment than was ever needed in the past.

The SKC System certainly has a great deal to offer to those who subscribe to the philosophy of investing less and producing more. It is a revolutionary development in a continuous conveyance system designed to augment the bulk handling capacity of modern port and harbor terminals.

3. Details of the SKC Continuous Conveyance System

- 1) Unloading
- 1-1) Lower the hydraulic excavator and bulldozer down into the hatch using the 70 metric ton capacity lifting frame (No. (8) in Figure 1).
- 1-2) Lower the Universal Tray Lifter Model-2 (UTL-2) with a handling capacity of 1,200 metric ton/hr. (No. ① in Figure 1), using the lifting frame into hatch. The bottom of the tail frame of the UTL-2 will be approximately 300 mm to 500 mm above the top of the coal layer therein, i.e. there will be 300 mm to 500 mm clearance between the bottom of the tail frame and the surface of the coal layer.
- 1-3) Load coal into the hopper of UTL-2 with the hydraulic excavator.
- 1-4) UTL-2 will continuously convey coal vertically up to the head frame, where the trays travel round the sprocket and move into the girder of the

Fig. 1 The SKC Unloading and Loading System



Fig. 2 The Universal Tray Lifter Model-1 (UTL-1)



18 PORTS and HARBORS — DECEMBER 1984



Picture shows the Universal Tray Lifter Model-1 (UTL-1) at the construction site of new pipe-line installation for the Tokyo Electric Power Co., Inc. at Hodogaya constructed by Kajima Corporation.

- * ---

lifting frame and travel horizontally.

- 1-5) The trays then come to the hopper situated in the middle of the girder of the lifting frame, where the coal is discharged and, through the vertical chute and belt feeder, is charged into the hopper of the Universal Tray Lifter Model-1 (UTL-1) set inside the cylindrical dolphin (No. (5) in Figure 1).
- 1-6) The trays travel down until they come to the tail frame of UTL-1, and then are discharged and conveyed to the shore by the belt conveyor set inside the underwater tunnel (No. (6) and No. (7) in Figure 1).
- 1-7) Universal Tray Lifter Model-1 is used both in conveying coal down and also in conveying iron ore and any other materials up in return. It travels

both up and down. An important feature is its reversible capability.

- 2) Loading
- 2-1) Load iron ore or any other materials into the hopper built on land.
- 2-2) Ore is conveyed through the underwater tunnel by belt conveyor; travels back to the vessel reversibly.
- 2-3) Ore is switched over to inclining conveyor (No. (1) in Figure 1) and conveyed and discharged into the hopper at the tail frame of UTL-1.
- 2-4) Ore is conveyed by the trays vertically up to the discharging hopper (No. 12) in Figure 1).
- 2-5) Through the belt feeder (No. 13 in Figure 1), ore is conveyed to the slewing conveyor (No. 14) in Figure 1) and then to a telescopic chute by which it is loaded into the hatch.
- 3) Shifting Position of Vessel and Hatches
- 3-1) Unload and load hatch by hatch, when finishing one hatch, then shift the position of vessel longitudinally so that the next hatch is stationed to suit the position of UTL-2 for unloading, and telescopic chute for loading.
- 3-2) After unloading one hatch, lift up hydraulic excavator and bulldozer using the lifting frame and put them on the breasting dolphin. Then lift up UTL-2 and put it on the breasting dolphin. Next, shift the vessel longitudinally, and put the hydraulic excavator and bulldozer down into the next hatch. Lower the UTL-2 into the hatch and position it 300 mm to 500 mm above the top of the coal layer.
- 3-3) To compensate for the change in level of the coal layer and also the change in level of the vessel during unloading, the tail frame of UTL-2 can be lifted up by moving the surface carriage horizontally to adjust the vertical lift.
- 3-4) UTL-2 can be located in various parts of the hatch by rotating lifting frame. This will facilitate easier and more effective unloading.



4. Overall Comparison between SKC System and existing system





Picture shows the Universal Tray Lifter Model-2 (UTL-2) at the construction site of the 130,000 kl underground LNG storage tank of Tokyo Gas Co., Ltd. at Sodegaura constructed by Ohbayashi Corporation.

	(contd)	SKC System	Existing system
2)	Civil Work for 300 meters offshore		Possibilities of having to stop operation in stormy weather.
3)	Common and Combined use of facilities	UTL-1, combined use with fully reversible function up and down, shown in Figure 1.	Unloader system line – One (1). Loader system line – One (1).

	(contd)		SKC System	E	Existing system
3)	Common and Combined use of facilities	Belt used rever for 1 load Can load Tota 345	conveyor can be in two ways, rsible operation oading and un- ing. unload coal and ore, or vice versa. al length approx. meters.	Canr Belt (2) li and l Can com Tota than SKC	not be combined. conveyor – Two ines, unloading loading. be only partly bined. 1 length is more double that of System
4)	Equipment and facilities	(1)	Lifting Frame, 70 metric tons × 31.5 meters	(1)	Unloader with Rail 1,200 metric ton/hr capacity, 35 metric tons × 35 meters, with Grab Bucket – One (1)
		(2)	UTL-2, Stepwise Descending Type, 1,200 metric ton/hr., capacity – One (1).	(2)	Loader with Shuttle with Rail, 1,200 metric ton/hr.
		(3)	UTL-1, Stationary Type, 1,200 metric ton/hr., capacity – One (1).	(3)	Tripper with Rail – One (1).
		(4)	Slewing Conveyor with Shuttle, 1,200 metric ton/hr., capacity – One (1). Belt Conveyor, approx. 345 meters	(4)	Belt Conveyor for Unloading and Loading – Total Length more than double that of SKC System
5)	Ratio of Investment		100		350

5. Civil work

1) The SKC System

For breasting and mooring dolphins, a sea berth built from steel pipe piles is most economical (Figure 4).

For the dolphin on which unloading and loading facilities are installed, different types should be adopted depending on the kind of ground. The options available are:

- (1) Open Caisson
- (2) Pneumatic Caisson
- (3) Well Caisson made of steel pipe sheet piles

In the case of bedrock laying just under the surface, Method No. (3) above possesses difficulties in application and is rather expensive. In any case, an artificial island should be built first, and the seabed should be excavated and concrete-lined repeatedly just as in an excavating shaft.

For underwater tunnelling, either of the following methods is applicable, and an appropriate method should be applied having taken into consideration the type of substrata and seabed on the site.

- They are:
- (1) Trench tunnelling method
- (2) Shield tunnelling method
- (3) Traditional tunnelling

Method No. (1) and No. (2) will meet with some difficulties when inclination is increasing.

Fig. 4 Dolphin for the SKC System Section of Cylindrical, Hollow Dolphin



There will be no difficulties in connecting the dolphin, or working platform, with the tunnel inside bedrock, as long as there is an allowance for enough clearance from the seabed. If the underwater tunnel is constructed in underwater soil or clay, build a cut-off wall or grout the surrounding soil or clay to cut off water. The freezing method may also be adopted.

2) Comparison of civil work between SKC System and existing system:

Here are the physical conditions of location, as an example, on which dolphins should be built. Dolphins and sea berths should be built on the ground where supporting layer or dense fine sand (over 50 N Value) exists at 32 meters below sea-level. Dolphins and sea berths are to be made of basically steel pipe sheet piles and steel pipe piles since:

- (1) The depth of water is 17 meters.
- (2) In the SKC System, the bottom of the dolphin on which unloading and loading facilities are mounted is located at 34 meters below sealevel.
- (3) The area where UTL-1 and the underwater tunnel meet requires quite a large space. Based on the above conditions, the SKC System and existing system can be compared as follows:

	SKC System	Existing system
1) Breasting of vessel	A sea berth consisting of four (4) units of breasting dolphin and four (4) units of mooring dolphin.	A square dolphin, 300 meters long by 50 meters wide, encircled with steel pipe sheet piles.

(contd)	SKC System	Existing system
1) Breasting of vessel	They are laid out in compliance with longitudinal shifting of vessel, maximum about 150 meters. They are basically made of steel pipe piles – mainly batter- ing (inclined driving).	It is supported with piles and reinforced concrete girders to match the weight of mounted unloading and loading facilities.
2) Unloading and loading facilities	Cylindrical dolphin made of steel pipe sheet piles with inverted concrete lining. To enhance section rigidity, the inside of steel pipe sheet piles are filled with concrete.	Unloader and loader are supported with steel pipe piles.
3) Belt conveyor	To be set in the underwater tunnel built by shielding method. The inner diameter of tunnel is 3.5 meters.	To be mounted on the pier on which various classes of vehicles can pass.
4) Ratio of investment	100	170 to 200

6. How to deal with environmental problems

	SKC System	Existing system
1) Noise	Located 300 meters offshore.	Located 300 meters offshore.

(contd)	SKC System	Existing system
1) Noise	Noise problem seldom occurs. UTL makes maximum 50 phons or under.	Noise problem seldom occurs. Grab bucket unloader works at high speed and sometimes causes noise problem.
2) Dust	All the equipment and facilities are totally enclosed. Belt conveyors run inside the tunnel and thus cause no dust problem. No water contamina- tion.	Grab bucket unloader causes dust problem. Belt conveyors run outside. In windy weather, they very often create a dust problem.

7. Energy saving

	SKC System	Existing system
	UTL runs at compara- tively low speed and continuously. Requires less Horse Power. Total length of belt conveyor is 345 meters.	Grab bucket unloader is not continuous. Requires a number of motors and greater Horse Power. Total length of belt conveyor is more than double that of SKC System.
Ratio of power comsump- tion	Contract power consumption: 100 Actual power consumption: 100	Contract power consumption: 350 Actual power consumption: 250

(Continued on next page bottom)



Australian Port Economics — A Perspective —

(An address to the Bureau of Transport Economics July seminar on shore-based shipping costs by the Director of Marine & Harbors, SA, John Jenkin.)

Port Charges

Port charges vary widely from State to State and from country to country; not only in their level, but in their structure and application. This makes comparisons horrendously difficult. Like most port authorities, we do try to keep an eye on what everyone else is doing so that we know how our own charges compare. Whilst there are differences in the rates applied against particular commodities, in general the total impact of port charges against a tonne of cargo in Australia is reasonably even.

In South Australia we have, for some years, tried to keep a competitive edge, to the extent consistent with our charter from government to cover our costs on the commercial ports.

As an observation, I would make the point that neither shipowners nor shippers have really attempted to negotiate lower port charges. I use the word "negotiate" advisedly. There are ad hoc attempts to gain concessions for particular ships, usually for some hard luck reason — mechanical troubles, industrial disputation or the like. Also there are general complaints whenever increases are announced. But we rarely have anyone come and say "we are thinking of developing a trade of 'X' tonnes", or "we could bring across to you an ongoing trade of 'X' tonnes, what can you do for us on port charges?"

Lower international transport costs and improved commodity handling methods have brought the cold breath of competition to Australian ports and I would have thought there might have been a greater move by both shipper and shipowner to shop around.

(Continued from page 21)

8. Conclusions

One is likely to stick to existing achievements when one makes an investment – perhaps, the more investment he has to make, the more conservative he is likely to be.

He would prefer to spend his money on a tried and true concept, rather than an adventurous undertaking.

To construct an offshore dolphin and excavate an underwater tunnel – may sound like a money-taking dream. Yet, as we outlined above, the SKC System is far more economical than existing surface structure, and offers a solution to the headache of how to set up an effective and continuous vertical conveyance system by incorporating Universal Tray Lifters.

It also provides a solution to the environmental considerations which one cannot neglect at all when one develops new ports and harbors or improves or expands existing facilities.

One should be wise enough to take the SKC System into consideration when contemplating the construction of a bulk handling system.

That raises the question of the significance of port authority charges. Let me look at some examples of the extent of port charges and how they fit in relation to other charges and the overall freight bill.

- 1. Grain. Typically, port authorities charge about \$1 per tonne against cargo (i.e. wharfage) and maybe \$0.60 or \$0.70 per tonne against the ship (i.e. the total of conservancy, tonnage, pilotage, mooring and other miscellaneous charges). This total port authority charge of, say, \$1.70 per tonne can be compared with a sea freight charge of around \$20 to \$30 per tonne and port handling costs at bulk installations (receival, storage and delivery) of around \$6 to \$7 per tonne. In addition, there is, of course, the freight and intermediate storage to get the grain from the farm gate to the port a very variable amount. Ignoring this latter factor, port authority charges are probably around 20 pc of total port-related costs, and between 5 and 10 pc of total export shipping costs.
- 2. Containerised Trade. Wharfage in Australia averages around \$60 per TEU, ship charges probably about \$20 per TEU and crane hire, if the port authority owns the crane, at another \$20 or so per TEU. This gives an all up charge of around \$100 per TEU. By contrast, listed terminal charges range from \$230 or so per TEU in main capital city ports to \$350 in more distant ports such as Darwin or Wyndham. Commercial negotiation can affect the amount actually paid, to some extent. Towage costs may impose a further \$10-\$20 per TEU and land delivery charges, i.e. empty box from depot to suburban premises plus loaded box from suburban premises to Terminal, another \$80-\$180 per TEU. Sea freight charges are in the order of \$1,000-\$2,500 or more per TEU depending on rates negotiated and the origin or destination. Thus, Australian port authority charges are again in the vicinity of 20 pc of land-based costs and probably no more than 5 pc of the total shipping cost.
- 3. Low Cost Volume Item. One of the difficulties of making comparisons of port charges for general items is that their complexity really makes the assessment possible only for a particular commodity, tonnage and ship. As an example, we have a detailed costing of a shipment to South Africa of a low cost high volume commodity which showed port authority charges of around \$2.30 per tonne (in the particular example, port side storage was significant), other land-based charges including insurance and freight from metropolitan factory to wharf of \$12.50 per tonne, and ocean freight of \$45 per tonne. Therefore port authority charges represent perhaps 15 pc of land-based costs and less than 5 pc of the total shipping cost.

A reasonable picture emerges from this and the other examples, that port authority charges are not a very high proportion of total shipping costs. A general figure might be 20 pc of all land-based costs (including delivery from metropolitan location) and roughly 5 pc of the total transport costs. It follows from this that even quite significant decreases in port authority charges would not make much more than a percentile difference to the total transport bill.

This is not to suggest that port authority charges are unimportant, on the contrary, they should be included in any effort to increase efficiency in the land-based sector and to trim the total cost burden. But the contribution which ports can make will be limited by this perspective.

I do not propose to look at each type of port charge. They vary so much from port to port. Eventually it is the total revenue yield which matters, and bear in mind that, in Australia, all governments instruct their port authorities to at least cover their costs. Some are also expected to pay a dividend and some not, but the port system in general is not subsidised.

This brings me to three issues which I believe are relevant to the scale of port charges.

Debt Servicing

The first of these is debt servicing. Debt servicing has become a major component of port costs. In our own case, it is approaching one-half of total revenue collections. There is some artificiality in this because we are not able to amortise capital investments in anything like a commercial way, which means that debt accumulates to an uncommercial extent. Historically, the interest rates we have been charged have been extremely low. In the last few years, interest rates applied by our Treasury Department, and I believe those of other States as well, have been brought up much closer to full commercial rates. As an order of magnitude, we expect to be paying about 12.5 pc this financial year.

We are trying to do what we can about this, but if anyone is looking for reasons why Australian port costs might be higher than elsewhere, this could be a major reason. Port investment is treated much differently almost everywhere else. For example, the port of New York has received multibillion dollar loans at an interest rate of around 4 pc over a 30 year period. The central government of France provides grants to port authorities to cover 80 pc of new dredging and 60 pc of the cost of most other capital expenditure. Most other European ports receive capital support of this order in various ways. I am not suggesting Australia should do the same — that is a political matter — I am just pointing out the difference in capital servicing responsibility is a major factor in any comparison of Australian port charges with those overseas. Here, they are not subsidised.

Interstate (or Interport) Competition

Secondly, I would like to talk about interstate, or interport, competition. As we all know, the late 60's and 70's saw the start of a fundamental revolution in shipping, which covered basic changes in ship technology and materials handling, involving much greater specialisation and a capital intensification of the industry generally. The changes which occurred made it feasible to transport significant quantities of cargo quite long distances by land between coastal cities. In short, the major capital cities came into competition with each other for the first time, a state of being well known to ports in other parts of the world for hundreds and even thousands of years.

The unitisation of cargo, in the main through containerisation, is the most obvious area of this competition. However, the advantages of competition have tended to be lost by artificial rigidities. Containerisation was not introduced through commercial evolution. It was introduced centrally

with a major involvement by the Federal Government. I am not critical of that. Central involvement was probably necessary to bring forward and achieve such a fundamental change. However, the way containerisation was introduced should be kept in mind in considering its current application and, indeed, to ensure that the system is not so inflexible it is incapable of change. It should have been expected that anomalies would develop and that decisions made at the time would have unforeseen implications. Instead, there has been the tendency over the years since to invest "ten commandment" qualities to the arrangements which were made. One of these tenets was that "cargo should be centralised wherever possible", rather than "cargo should be centralised where this presents a significant economic advantage". Indeed, many saw then, and see now, no difference between these two propositions.

We have undertaken a number of very detailed studies into South Australia's overseas trade which show convincingly that, for the major trades, direct ship calls are more economic. Our figures have proved conservative for the European trade and there is no reason to suppose lesser accuracy in other studies. These studies rely on actual charges made, when really the present centralisation arrangements are supported by railways losing hundreds of millions of dollars each year. As a demonstration of the lack of reality of the charge, the AN yield to take a box from a metropolitan Adelaide location to the Victorian border, including the lift-on, train consolidation and around a 300 km haul is just over \$80. This cannot be anywhere near the real cost.

We have received some criticism (not by the shipping lines) for investing \$5M. in a second container crane. At the same time the railways are proposing to spend \$200M. on a standard gauge track between Melbourne and Adelaide. This investment can only be based upon the carriage of overseas containers, a trade which, even with the present long standing and presumably amortised investment, can be as economically, or more economically, handled by direct shipping. Just looking at the interest burden on \$200M, it is clear that the project will significantly lift the real cost of the relatively modest volumes carried between the two cities. In talking real transport costs, it does not make sense.

It does not make sense, either, to say that, since the railways - or any other organization - has enjoyed a particular volume of business, then it is not fair to take that away from them. Agreed, changes should not be made lightly. But most businesses make investments with the hope, but not the guarantee, of ongoing business. Any other way is the thick edge of inflexibility.

Ships are in the transport business — one would think that, if it were less costly, then market forces and the strings of their own purse would quickly usher the most economic solution. In some cases this has occurred, against the inherent inertia of the system. In others, inertia, the way freight rates are established and negotiated, threats, and conflicting interests between lines are some of the factors which resist change.

Changes in the shipping industry during this period have meant that capital city ports and some larger outports have been obliged to compete to try to regain or retain a share of the business. They have had to equip themselves for this competition, leading to complaints of duplicated investment. But bear in mind that, in the case of Adelaide, the container terminal – complete with two gantries – will carry an investment cost of less than \$20 M. a far cry from the \$120 M mentioned for a terminal yesterday. As is the case with shipping companies, and indeed all commercial organizations, ports are not prepared to wither away in the face of new competition without a fight. On the other hand, this competition should be beneficial to the owners of cargo, especially with the development of incentive packages which go wider than port authority charges. Indeed, competitive investment has not increased prices in industry generally; competition brings prices down.

I was interested to hear yesterday of the operational nightmare suffered in principal ports. Truck queues do not exist in the smaller ports. In Adelaide, the average time taken from the arrival of a truck to it leaving with its container is 20 minutes. We have set aside large areas of industrial land right in the port area for port industries. Perhaps where exporters can source away from major ports, they could significantly reduce their land side costs. I admit to being more than happy to talk to anyone on this aspect.

The deletion of a number of ports from direct ship services and the introduction of centralisation arrangements have had a quite unrecognised effect on regional economies. It is a fact that the economies of the States with direct services have benefitted and those without have been disadvantaged. A recent advertisement from Columbus Line puts one aspect of this in perspective when it points out that the Line injects \$500,000 into the onshore economy with every voyage.

We have had a close look at shifts in warehousing since containerisation and we find a substantial migration of warehousing from South Australia to Victoria. Not only does this affect the level of economic activity in each place, but it removes the advantage of pan-Australian freight rates from items warehoused elsewhere, increasing the costs and creating an additional gap in competitiveness for industries or activities sourcing from those supplies. Mr. Laanekorb mentioned yesterday the high inventory cost of delays. These are but two examples of the disadvantages of being at the end of an unnecessarily extended transport pipeline. It is the disadvantage of land-locked communities everywhere.

I would suggest that competition between ports is important in any ongoing control of port costs. But, further than that, the arrangements that have been imposed upon States like South Australia have caused structural disadvantage to their economics and have reduced their share of the national economic cake. The corresponding advantage to States better served is also well recognised by them, as was demonstrated by the role given to ports in recently published Victorian State development plans and advertisements.

This is a federal system and the sovereign States have a right to pursue their own economic aspirations, as far as possible, with support from the rest of the Commonwealth.

Yesterday, speakers called for a central government plan for port investment. An interesting idea, but it is interesting that few industries represented here would be prepared to consider federal control of their investment, where the fundamental interests of individuals within the industry were likely to be affected.

Perhaps we are talking about words. A level of cooperation should be possible, but, whichever venue is chosen for this co-operation, it would be a waste of time if it were unable to recognise and accommodate the basic needs of all parties.

Industrial Relations and Manning

Finally, mention must be made of manning levels and conditions of service. Generally, key waterfront unions have achieved wage levels and conditions of service above those which apply in many other industries. Those levels and conditions do eventually flow on to the rest of the waterfront workforce, including those employed by port authorities.

Perhaps some of the port authority unions, at least in my experience, have been less far-sighted on the question of numbers than some other unions on the waterfront, for example, the Waterside Workers Federation.

One aspect of this is the level of wages and general working conditions. One cannot criticise any group for trying to improve its income or its working comfort or safety, although consideration must be given to the ability of the industry to pay. However, I believe that far more important are the questions of numbers employed, the introduction of new technology, and the cost structure imposed by penalty payments and minimum call-out periods for night and weekend work. I am not raising this as a question of wages philosophy, simply as an observation of what it means in terms of costs. Australian ports see an exodus of so-called conventional shipping on Friday nights and a queuing of shipping off the ports during the weekends. This must have a cost to the user and is a demonstration of the cost burden of penalty payments.

New methodology and technology is resisted also, quite understandably, from the workers point of view. I give as a minor example quick release equipment in the handling of ships. Economies could be attained by introducing such equipment, which is in widespread use elsewhere in the world. But the cost of the industrial reaction would be out of proportion to the gains, so we do not do it.

Manning levels and work practices establish authority for themselves over time and are extremely difficult to change. Individual employers simply cannot be asked to lead the way. If the economy requires that work practices be streamlined, then it is up to the Federal Government, in conjunction with employer organisations and unions, to try to sort out what might be done.

I have covered as much ground as I believe I could in the time allowed. I appreciate the Minister's initiative in seeking to concentrate on the land-based costs of our overseas trade. After all, the trading world in which we live will not allow us the luxury of inefficiencies anywhere in the chain. (SPJ)

CORRECTION

On page 43 of the November 1984 issue of this journal, Port Hedland was erroneously printed as Port "Headland". The Head Office apoligizes for the error. **Port Spectrum–Performance Reports**

Port of Geelong

(Extracts from 1983 Annual Report, Port of Geelong Authority)

Chairman's report (extract)

Two important events which will shape the future of the Port of Geelong stand out in the history of 1983.

In March, the Port of Geelong Development Plan 1983–2010 was released.

On July 1, administrative responsibility for the Port passed from the Ministry of Public Works to the Ministry of Transport.

Port of Geelong Development Plan

More than two years were spent preparing the master plan which will take the Port through to the year 2010. During that time, the Commissioners and officers evaluated existing facilities in the context of what is available to shippers elsewhere, and sought to identify future Victorian port needs and an appropriate role for the Port of Geelong in meeting those needs.

The Plan outlines an exciting path for expansion and growth to cater for increased traffic over the next 27 years. The development progression is timetabled to meet users' anticipated needs and the availability of funding. It is also flexible to allow changes in timing to accommodate new or changing patterns of shipping and trade.

The Plan is important to all port users not only because it points the way to the future, but also because it demonstrates the commitment of the Port to active involvement in development projects geared to suit user requirements.

Change of Ministerial Control

When the Geelong Harbour Trust (forerunner of the Port of Geelong Authority) was created in 1905 it was placed under the administrative responsibility of the Department of Public Works. That situation remained until July 1, 1983, when responsibility was transferred to the Department of Transport.

Subsequently, the Minister announced his intention to centralise the administration of the State's ports and harbours in the Government's foreshadowed Victorian Ports Authority. During the latter part of 1983 and into 1984 there have been extensive discussions on the nature of the proposed new administrative structure and its implications for the Port of Geelong.

The autonomy granted to the Geelong Harbor Trust and transferred to the Port of Geelong Authority has been extensively used during a succession of decades and has been responsible for attracting many industries to Geelong, providing a confidential base for their initial discussions, and then developing the port services required by the industry.

In discussions related to the creation of a Victorian Ports Authority, the Commissioners have stressed to the Government and its advisors the advantages of retaining the Port's operational, financial and developmental autonomy.

When the Government has fully reviewed the operations of the Port of Geelong, and examined its developmental and financial success, it can justifiably and confidently legislate for the continuing autonomy which has been used so responsibly and constructively in the past.

Port Trade

Two unusual factors caused the major difference between the port trade figures of 1982 and those of 1983.

Crude oil imports by the Shell Co. of Australia in 1982 were nearly double those of earlier years and double those of 1983 when the volume returned to previous levels. The decrease from the 1982 figure was 513,000 tonnes. The drought of 1983 reduced grain exports by 1.4 million tonnes. The two figures account for 1.9 of the 2.1 million tonnes decrease in cargo. Trade in fertilizer raw materials and containers increased while the volume of bulk liquid, imports and alumina remained constant.

Gordon D. Murray Chairman

Revenue statement

For the year ended 31st December 1983

	1983	1982
	\$000	\$000
Revenue from		
- Cargoes	5,151	5,611
– Ships	1,729	1,543
- Stevedoring and Other Port Services	3,243	2,251
Rippleside Ship Repairs	1,000	804
Rents	305	306
Miscellaneous	24	17
. m	11,455	10,535
Expenses for		
- All Port Operations	3,878	2,707
- Rippleside Ship Repairs	830	541
 Administration 	3,129	2,594
– Maintenance	376	417
 Depreciation and Amortization 	1,806	1,389
– Interest	52	61
	10,074	7,712
Net Profit from Operations	1,380	2,822
Investment Income	1,183	1,515
Net Profit before Extraordinary Items	2,564	4,338
Extraordinary Items	431	(182)
Net Profit for Year	2,995	4,156

Balance sheet

Long Service Leave

Annual Leave

as at 31st December, 1983			Loans	210	308
	1983	1982		1,423	1,346
	\$000	\$000	Working Capital	8,996	8,300
Funds of the Authority Endowments – (Capital) General Reserve Accumulated Net Revenue Port Development Reserve Fund Total Funds	5,831 19,212 20,737 	5,829 11,706 17,880 7,368	Non Current Assets Fixed Assets Investments – Reserve Fund Investments – Other Investments	36,152	32,086 1,597 488
	43,782	42,704	Other Deposits	130	1,081
Represented by –				37,343	35,253
Current Assets Bank and Imprest Accounts Investments	5	5	Less	46,340	43,553
 Reserve Fund Investments Other Investments Accounts Receivable 	8,103 1,352	5,605 2,546 1,003	Non Current Liabilities Loans Long Service Leave	450 108	670 99
Prepayments and Accruals	819	372		558	769
Stores – at Cost Other Deposits	140	86 27	Net Assets	45,782	42,784
Less	10,420	9,040			
Current Liabilities Bank Overdraft Accounts Payable and Accruals	5 679	7 552			

299

179

239

288

<section-header>

THE NIPPON CORROSION ENGINEERING CO., LTD. (NIHON BOSHOKU KOGYO K.K.)

Head Office : J.T.B. Bldg., 1-6-4 Marunouchi, Chiyoda-ku, Tokyo, Japan Phone : Tokyo 211-5641 Telex : Tokyo 222-3085

Phone: Tokyo 211-5641 Telex: Tokyo 222-308 Sole Agent: MITSUBISHI CORPORATION



"ALANODE"

Steel Sheet Pilings

(Extracts from 'Annual Report 1983, Port of Seattle')

1983: The upturn

Upturn. That best describes events at the Port of Seattle in 1983.

Cargo tonnage in the harbor and passenger traffic at Sea-Tac International Airport surpassed all existing records.

During the worldwide economic slowdown of the three preceding years, the Port of Seattle's business had remained level, while many other United States ports experienced declines.

When the upturn came in 1983, the Port of Seattle's activity soared. And even more significant for the Port, the widely predicted birth of a new century of the Pacific became a reality. For the first time in history more cargo crossed the Pacific Ocean than the Atlantic.

The Port's imaginative marketing program paid off with new and added steamship service. New import customers in the Midwest and East. New prospects for export shipments. And the doubling of nonstop air service between Seattle and the Far East.

The goal of the Port today is to build on this dramatic upturn in 1983 and capitalize on Seattle's unique opportunity for continued growth in Pacific trade.

Increases, improvements, innovations

The 1983 record increases did not come from changes in the economic climate alone.

They resulted from the Port of Seattle's sizeable investments and improvements in facilities, innovations in marketing and strong representation in the Far East and throughout the United States.

Nissan Motor Corporation signed a new 10-year agreement with the Port of Seattle. The giant auto manufacturer unloaded 95,000 automobiles at Terminal 91 in 1983. That number is expected to grow to as many as 165,000 cars by 1986.

In May, 3.5 million pounds of aluminum manufacturing equipment was offloaded at Terminal 18. In November, more than one million cartons of apples were shipped to world markets.

More than 200,000 metric tons of air cargo moved through Sea-Tac International Airport in 1983, placing Sea-Tac ninth in cargo volume among U.S. airports.

The gains in cargo were across-the-board and reflect the total health and vitality of the Port of Seattle.

Steamship service up

The Port's aggressive salesmanship also brought more steamship service to Seattle in 1983.

Three new non-conference containership lines serving the transpacific trade added Seattle to their ports of call.

Four other lines increased the frequency of vessel calls.

By December, 34 separate container lines were offering service to and from Seattle across the Pacific.

Increased steamship service provides shippers with more flexibility and a greater opportunity to save time and money.

The combination of Seattle's geographical advantage and competitive service has made Seattle the third largest container port in the United States.

Today the Port of Seattle ranks first in total waterborne imports from Hong Kong and second in trade with the Philippines, Japan, Korea, Taiwan and Singapore.

Facilities upgraded

In 1983 the Port of Seattle continued to take large strides in enlarging marine terminals and improving Sea-Tac International Airport.

On the waterfront, Terminal 18_{a} gained 10 acres of additional container yard space, with a new truck entry gate and four new 40-ton cranes at a total cost of \$30 million.

A \$20-million modernization began at Terminal 5. And, at Terminal 91, the Port authorized a \$23-million expansion and rehabilitation of the two existing piers.

Other improvements: A \$6-million remodeling of Terminal 30 to accommodate container cargo as well as breakbulk commodities; and, the renovating of Terminal 37 and adding of three acres for a Container Freight Station.

The year also brought the dedication of the new Working Waterfront Viewpoint at Pier 48, where the public can enjoy closeup views through giant periscopes of a working container terminal.

At Sea-Tac Airport, a private developer completed the first phase of an \$18-million air-cargo complex, doubling the Airport's cargo-handling capacity. And the U.S. Customs and arrival area underwent a \$7-million expansion.

Community impact up

The Port's economic impact on the public it serves ripples far beyond the waterfront and the Airport.

Farmers, bankers, brokers, importers, railroaders and truckers, insurance firms, travel agents, hotels, restaurants and dozens of other occupations profit from Port activities.

The Port generates more than 83,000 direct and indirect jobs throughout King County. And studies reveal that another 35,500 workers throughout the state owe part of their income to the business of the Port.

So the upturn in 1983 was welcome news to most citizens.

The upturn brought a rejuvenation of spirit that Seattle was once again on its way to becoming a major world port in the new age of the Pacific.

And the upturn also proved that, with dock workers and public employees and private business people and civic leaders all working together, this ocean-port community can grow and prosper, and - at the same time - retain its liveability.

That's what 1983 was all about.

Balance sheet

as at 31 December 1983

	\$000	\$000
Assets		
Land Facilities and Equipment at cost	638 839	609 312

1083

1082

Less accumulated depreciation	130,930	116,189	Gene
	507,909	493,123	
Construction work-in-progress	49,881	34,134	Current
Cash, investments and accrued			Warr
interest restricted for debt			Acco
service and acquisition of			Pavro
land, facilities and equipment	49,518	62,281	Bond
	607,308	589,538	Lease
Unamortized Bond Discount and			Curre
Deferred Finance Costs, net of			
accumulated amortization	5,652	5,981	
Long-term Portion of Contracts receivable	245	1,891	
Current Assets:			State
Cash	1,537	2,036	
Investments (including restricted amounts of \$6,141,000 and			for the
\$4,413,000)	74,924	55,512	
Accounts and contracts receivable,	,, =	,	
less allowance of \$230,000 and			Dovonuo
\$175,000 for doubtful accounts	10,878	8,437	Kevenue Servi
Grant funds receivable	571	7,073	Prop
Taxes receivable	874	959	Othe
Maintenance supplies	1,551	1,447	othe
Prepayments and other current assets	204	313	,
	90,539	75,777	Expense
	703,744	673,187	Oper
Liabilities, and Equity			Reve
Equity of the Port of Seattle from:			Main
Operations	72 909	62 029	Adm
Taxation	237 475	220 528	Mark
Grants and donations	59 825	56 071	Engi
Grants and donations	370 209	338 628	Othe
	570,209	550,020	
Long-term Debt, less current maturities:	240 565	221.075	Fycess o
kevenue bonas, net	249,366	231,8/5	LACC33 0

General obligation bonds	21,015	22,820
	270,581	254,695
Current Liabilities:		
Warrants outstanding	2,858	1,010
Accounts payable	7,856	5,985
Payroll and taxes	9,071	8,455
Bond interest payable	4,312	4,318
Lease deposits and customers advances	4,112	611
Current maturities of long-term debt	34,745	59,485
	62,954	79,864
	703,744	673,187

Statements of operations

for the year ended 31 December 1983

	1983 \$000	1982 \$000
Revenue:		
Services	44,305	48,699
Property rentals	40,635	35,080
Other	9,879	10,612
	94,819	94,391
Expense:		
Operations	29,344	30,531
Depreciation	17,596	16,110
Revenue bond interest	14,475	15,766
Maintenance	12,523	12,375
Administration	7,248	7,167
Marketing	1,715	1,802
Engineering	895	1,317
Other	849	733
	84,645	85,801
Excess of Revenue over Expense	10,174	8,590

Port of Singapore

(Extracts from "Port of Singapore Authority Annual Report 1983")

Chairman's review (extract)

Improving Economy

After stagnating in the last two years, the world economy finally turned around in 1983. The recovery was led by the United States of America whose economy grew strongly by 3.5% after a drop of 1.9% in 1982. The total gross national product of countries in the Organisation for Economic Co-operation and Development (OECD) grew by at least 2%.

Developing countries benefited from the economic expansion in the OECD region. The overall demand for the major exports of these countries was strengthened particularly by the United States economic recovery. And, despite the protectionist moves and unemployment problems in many of the industrialized countries, world trade managed to grow by some 1%.

The economic recovery in the United States and other industrialized countries generated sufficient momentum for Singapore's economy to perform better. After a slower growth of 6% in 1982, our economy picked up in the second quarter of 1983 to grow by nearly 8% in that year. Our external trade, which had declined in 1982, picked up in 1983 mainly as a result of United States demand for our products, particularly electrical and electronic goods. The United States emerged as Singapore's largest trading partner, overtaking our main traditional trading partners, Malaysia and Japan.

Cargo Growth

The Port in turn benefited from this economic recovery. A total of 106.3 million freight tonnes of cargo was handled, an increase of 5% over 1982. Shipping traffic, however, slowed down with a 1% drop in the number of vessel arrivals and departures and there was only a 1% increase in the shipping tonnage recorded.

The combined bulk and general cargo throughput handled at PSA's wharves and Jurong Port was 42.8 million tonnes. This was an increase of 8%. The main impetus to the growth came from the Tanjong Pagar Container Terminal which had a 22% improvement in its cargo throughput and a 15% growth in the number of TEUs (Twentyfoot Equivalent Units) handled. In 1982, the growth in TEU's was only 5%.

Towards Higher Productivity

The Port continued to take steps to improve its efficiency and productivity. At the forefront of the productivity

drive were the accelerating pace of computerization and the formation of increasing number of Quality Circles.

Computerization has been extended to new areas of port activity with the conversion of more batch-processing systems to 'on-line' data-base so as to process information needs more quickly. Two large computers have been acquired to cope with the increased workload. New 'on-line' services implemented included the processing of shipping documents at Pasir Panjang Wharves, the allocating of berths at the Container Terminal and the planning of container stowage for all container ships.

The use of word processors and micro-computers has been further extended to replace most of the clerical, routine and tedious functions. The wider use of telex machines for inter-office communication has resulted in more effective dissemination of information and increased the efficiency of port operations.

Quality Circles

The Quality Circle (QC) movement was introduced in PSA in 1981. Since then, considerable progress has been made in encouraging teamwork and instilling positive work attitudes among our employees. Ninety circles have been formed, and they have embarked upon some 50 projects to improve productivity and simplify work in offices, workshops and at the wharves. The result is good participative management at all levels and better management-worker relationships. The Tanjong Pagar Container Terminal's good performance and high productivity increase of 19% was partly the result of such teamwork. Its efficiency in turning ships around, spurred on by an incentive scheme, improved with the formation of 50 seven-man work-teams where the workers were better deployed and utilized because of interchangeability in their job functions.

On the national level, PSA sent six QC teams to the 1983 Quality Control Circle Convention organized by the National Productivity Board. Our teams were awarded three gold, one silver and two bronze medals.

Our commitment to greater productivity will provide the momentum for the Port's growth for the rest of this decade. I know that our employees will meet the challenge, as they have done in previous years. To our port users, the Authority would like to extend its thanks for their cooperation. I am confident that with the loyalty and efforts of our employees and the continued support of our port users, PSA will be able to increase its level of service.

Lim	Kim	San
Chai	rmar	1

Balance sheet

as at 31st December 1983

1983 S\$'000	1982 S\$'000
1,299,301	1,172,828
149,819	140.378
23,742	14,330
12.640	12.425
70,011	55,480
10 009	11 110
1,227,579	1,020,126
	1983 \$\$'000 1,299,301 149,819 23,742 12,640 70,011 19,008 1,227,579

Bank balances and cash	2,224	3,487
	1,331,462	1,102,628
Less Current Liabilities		
Creditors	94,210	85,727
Accrued expenses	12,307	10,032
	106,517	95,759
Net Current Assets	1,224,945	1,006,869
	2,697,807	2,334,405
Less Deferred Liabilities		
Long-term loans (unsecured)	39,024	42,188
Provisions	32,503	32,712
	71,527	74,900
Net Assets	2,626,280	2,259,505
Represented by: -		
Funds Invested in the Authority's		
Undertaking	2,614,978	2,249,033
Special Funds	11,302	10,472
	2.626.280	2.259.505

1083

1082

Revenue account

for the year ended 31st December 1983

	S\$'000	S\$'000
Port Operations		
Revenue		
Tanjong Pagar Container Terminal	237,562	206,466
Cargo handling services	57,535	63,091
Wharf services and storage	140,048	133,672
Pilotage and tugs	64,585	62,123
Port and garbage dues	39,760	38,007
Sundry revenue	75,812	79,190
	615,302	582,549
Expenses		
Operating salaries, wages and		
staff benefits	112,343	107,913
Running expenses and repairs of		
equipment and buildings	51,785	51,373
Depreciation	73,050	62,623
Sundry operating expenses	24,411	25,541
Administration expenses	37,042	30,018
Property tax	61,530	58,255
	360,161	335,723
Net Surplus from Port Operations	255,141	246,826
Income from Investments	80,464	88,438
	335,605	335,264
Interest Expenses	(2,416)	(2,575)
	333,189	332,689
Surplus on disposal of fixed assets and		
investments	14,764	25,805
write-back of provision for diminution	1(0	0.5.4
In value of investments	168	854
Net surplus available for appropriation	348,121	359,348
Appropriated as follows: –		
Transfer to development reserve	340,000	350,000
I ransier to general reserve	142	360
Retained in subsidiary companies	6,517	7,036
Retained in associated companies	1,462	1,952
	348,121	359,348

International maritime information: World port news:

Port management development program—with Workshops in Identification and Solution of Specific Port Problems

March 25 – April 12, 1985 at the World Trade Center in New York

The program begins in the participant's home country where he or she identifies an administrative or operational problem in one of the country's ports. It continues in New York with intensive study, on-site observations and workshops through which the problem is put into focus and possible solutions developed. The solutions are then discussed with experts in the field and prepared for presentation in the participant's home country. The program is structured as follows:

1. Conceptual Lectures

Port Operations

- Pilotage/Tugboat Operation
- Aids to Navigation/Channel Dredging and Maintenance
- Flood Control/Harbor and Waterfront Construction
- Port Security
- Safety Inspection of Vessels in Port
- Vessel Documentation
- Vessel Health Inspection/Quarantine
- Vessel Entry Procedures, Fees and Duties
- Cargo Inspection and Fumigation Requirements
- Pier Security
- Cargo Security
- Ship Repair
- Pier Operations, Including Cargo Handling Methods and Equipment for:
 - Break Bulk General Cargo
 - Containers and Ro/Ro

LASH

- Bulk Cargoes-Petroleum; Dry Bulks; Chemical Bulks; LNG & PNG
- Electronic Data Processing/Communication Systems
- Public Warehousing and Storage/Reprocessing and Transformation
- Interfacing Between Ship and Inland Port of Origin or Destination
- U.S. Customs operations and procedures for vessel entry, testing, and contraband search and control.

Port Administration

- Planning and Organization
 Port Planning
 Organization of the Port Authority
- Port Construction and Maintenance
- Port Finance
- Personnel Management and Practices

Port Authority Waterfront

- Port Promotion and Marketing Services
- Legal Responsibilities of Port Agencies Liability
 - Relationships

2. Experiential Learning

On-Site Observations and Inspections

- Participate in a Port Orientation Program with port industry representatives, including helicopter inspection of facilities.
- At U.S. Coast Guard headquarters on Governor's Island, with Captain of Port and staff, inspect vessel traffic control methods and procedures and examine procedures used for maintenance of buoys, ranges and lighthouses.
- Inspect on-site procedures and all cargo boarding techniques together with equipment used in the Port of New York and New Jersey
- Inspect testing procedures, fireboat and other fire fighting equipment used in fire prevention in transit sheds and pier warehouses.

Simulations

• Participate at United States Merchant Marine Academy at Kings Point, computer-aided operations research facility (CAORF), in electronic simulations of navigation, meteorology and oceanography.

3. Workshops and Consultations

Workshops and consultations are to help participants develop solutions to their specific port problems, based on the information they have accumulated during the first two weeks of the program. Consultations will be held with staff members of the World Trade Institute, executives of the Port Authority of New York and New Jersey, and other shipping industry specialists.

4. Participant Presentations

Oral presentations of their completed problem-solving projects help participants to organize their ideas and to sharpen their presentational skills. These presentations will be instructive, enjoyable and an appropriate culmination of the program.

Cost of Participation

Tuition: U.S. \$3,500. This fee covers registration, classroom sessions, visitations and all meeting materials. It does not include international transportation or living expenses. For further information, please contact

Vincent Seglior, Manager – International Training The World Trade Institute/One World Trade Center, 55W/New York, NY 10048, U.S.A. ITT Telex: 427346 NYANDNJ WUI Telex: 620518 PANYNJ Cable: WORLDTRADE NEWYORK Telephone: 212-466-3175

30 PORTS and HARBORS - DECEMBER 1984

Publications

"A new policy to cut harbour expenses" by Prognos AG

"Under the auspices of the International Union of Suction Hopper Dredger Owners, the internationally wellknown consultants Prognos AG of Basel, Switzerland, have undertaken a comprehensive study of the world's dredging market and in particular of the role private enterprise could and should play in carrying out dredging work in the various parts of the world. The privatisation of tasks hitherto carried out by governmental agencies is a matter which is being studied and extensively discussed in various countries. In the Netherlands and in Belgium for instance-countries with a longstanding history in this particular industry-all dredging equipment is owned and operated by contractors and the costs are relatively low in comparison with other countries.

Recent developments in the USA and in the Federal Republic of Germany have favoured the use of contract dredging to a larger extent than before. The recent experience in both countries has shown that through the principle of competition, some privatisation of dredging has been instrumental in reducing ports' expenses considerably. This can be learned from the results of the relevant survey published by Prognos in the summary "A new policy to cut harbour expenses".

It cannot be denied that dredging is indispensable for the creation of new ports, renovation of existing ports and for maintaining docks and waterways at navigational depth. Since large sums of money are involved it is essential that nations should create circumstances that lead to the optimal use of financial resources. It has been proved that money can be saved without damage to the public interest and from this experience it is advisable, from any political point of view, to reconsider state expenditures or the allocation of funds put up by the national taxpayers or other communities in order to get the best value for money.

It is a well-known fact that in some parts of the world state-owned dredging equipment is lying idle or at least is not being used efficiently. On the other hand, private industry, being well equipped and with broad experience, is available to execute dredging works. Where millions of dollars of scarce foreign currency have to be raised to purchase technically advanced, often sophisticated equipment, the nations concerned should critically examine the way their capital and maintenance dredging is to be carried out.

The Prognos study covers countries with various backgrounds and is based on 150 personal interviews with leading personalities in the port industry. The Prognos publication is available upon request in the English, French, Spanish, Portuguese and German language."

> Prognos AG Steinengraben 42 CH-4011 Basel Switzerland Tel: (061) 22 32 00

Man of the Year: Ports Canada

Mr. Glenn W. McPherson, Chairman, Canada Ports Corporation was named National Transportation Man of the Year for 1984. An independent tribunal, appointed by the directors of National Transportation Week, made the selection. The committee announced this year's award was made in recognition of Mr. McPherson's thirty-two years of dedicated involvement and diverse achievement in three major areas of transportation: air, land and sea.

In 1983, he was awarded National Transportation Week's Award of Merit for his outstanding contribution to the development of the Canadian port system.

(Ports Canada)

P. J. Gilbride elected CPHA president

Patrick J. Gilbride, a member of the Lakehead Harbour Commission, was elected president of the Canadian Port and Harbour Association (CPHA) during the association's recently concluded meeting at Corner Brook, Newfoundland. He succeeds Ray Beck, former manager of the Port of Halifax. Robert Hartlin, Dartmouth, Nova Scotia, is CPHA's first vice president and Yvon Bureau of Quebec City second vice president. (AAPA Advisory)

Nanaimo Harbour's newly completed logoon park given Indian name of Swy-a-lana

Nanaimo Harbour's unique tidal lagoon and waterfront park, just completed at a cost of \$2 million, has officially been named Swy-a-lana, a name from native Indian lore and a culture which flourished for centuries before the appearance of the first white man.

The lagoon which is the only man-made tidal lagoon in Canada and possibly in the world, was named at a special ceremony August 28, in which representatives of the Canadian government, Nanaimo Harbour Commission, Nanaimo City and Nanaimo Indian Band participated.

Justice Minister Donald Johnston, representing the Federal government, said that construction of the lagoon was a tangible expression of the spirit of co-operation existing between the government and Nanaimo Harbour Commission. He commended the Commission for developing the waterfront in an original and imaginative way.

Port Manager Lloyd Bingham, representing Nanaimo Harbour Commission, said he was pleased that the lagoon phase of the Harbour Commission's waterfront development plan had been completed and the Swy-a-lana could now be enjoyed by the people of this community as well as being a major tourist attraction for the area.

Mr. Bingham acknowledged the assistance the Commission had received from the staffs of Nanaimo's Public Works department directed by Bus MacDonald and by Parks and Recreation, directed by Harry Wipper, also technical advice from the Pacific Biological Station.

Nanaimo Mayor Frank Ney expressed enthusiasm for "the tremendous tourism potential" of the lagoon project. (Nanaimo Harbour News)

First ro-ro ship successfully loaded: Port of Prince Rupert

The successful trial loading of a "ro-ro" ship at Fairview Terminal in August topped off an eight month shipping

The Americas

record for the Port.

The 42,424 dwt 'Skaugran' on charter to Seaboard Shipping Company Ltd. loaded lumber using forklifts which entered the ship's holds via a stern-mounted ramp.

Mike Gray, Port operations manager, says the shippers were satisfied that Fairview Terminal is suitable for ro-ro cargo vessels and that they hope to use the terminal for similar ships in the future.

Overall, the Port handled some 4.7 million tonnes in the first eight months of 1984 as compared to 1.8 million tonnes in the same period last year. Coal exports accounted for most of the increase. The Ridley Island coal terminal, which began operations in January, shipped 2.9 million tonnes to August 31. (Currents)

Waterborne debris removed from harbour: Port of Prince Rupert

The Prince Rupert Harbour Debris Society started the second stage of a process to remove waterborne debris from Prince Rupert Harbour.

Several hundred tonnes of forest and logging debris were lifted from the water this summer and piled on the Society's debris disposal site at Osborne Island in Tuck Inlet. A crane worked 12 days to lift the debris onto a half-hectare burn pad. Salvageable timber was retrieved and the remainder will be burned this fall.

Society spokesman Adam McBride says that log salvagers were paid some \$40,000 during the spring and summer to collect debris. Salvage efforts started with the removal of deadheads from the entrance to Metlakatla Pass followed by several sweeps of the harbour. Mr. McBride says that material collected has not only included wood debris but old floats and boat hulls.

Waterborne debris has long been recognized as a hazard to boats and float planes. The removal of debris from the water is the culmination of two years effort by the Society to develop a clean-up program.

Funding for the program is provided primarily by the Port of Prince Rupert, the City of Prince Rupert and the Skeena Queen Charlotte Regional District. Several local companies including Rivtow Straits Ltd. and Westar Timber Ltd. have donated time and materials to the project.

(Currents)

Rendez-vous Quebec largest convention in AAPA history

The 73rd annual convention of the American Association of Port Authorities (A.A.P.A.) hosted by the Port of Quebec from September 23–28, 1984, gathered a record number of delegates from Canada, the United States, Latin America and the West Indies. The five-day program of workshops, conferences and exposition of equipment and services attracted 550 registrants from 125 Western Hemisphere seaports.

The A.A.P.A. is a non-profit organization committed to the development of waterborne transportation, while promoting the exchange of technical information among its members. It formulates policies and plans to establish uniformity in the operation, construction and management of port facilities and recommends their adoption by its



New A.A.P.A. flag is presented to the Port of Quebec by the Association.

riom for to fight.	
W. Gregory Halpin	A.A.P.A. Chairman (1984)
	Port Administrator
	Maryland Port Administration
Henri Allard	General Manager and Chief Executive
	Officer
	Port of Quebec
Lloyd Anderson	A.A.P.A. Chairman (1983)
-	Chief Executive Director
	Port of Portland
J. Ron Brinson	President and Treasurer, A.A.P.A.
*	* * *

members. The A.A.P.A. also promotes regional, national and international publicity of all port affairs.

The annual convention is the highlight of the association's activities and the Port of Quebec offered delegates a forum for the discussion of issues confronting port managers along with a memorable social and entertainment program.

Convention president and General Manager of the Port of Quebec Henri Allard welcomed the delegates at opening ceremonies held Monday, September 24, wishing all present a "productive and enjoyable stay in Quebec City."

Discussions, which focused on evolving trends and values for port authorities, featured a number of presentations by high-level executives from government and private industry.

Paul E. Martin, President and Chief Executive Officer of The CSL Group Inc. addressed critical bilateral issues affecting the United States and Canada in the face of growing protectionism impeding world trade. He stated that "protectionism sounds the death knoll of private enterprise, as domestic industries fail to adjust to changes in the world, and instead become dependent on their protected markets, and on increasing state involvement".

Mr. Martin called attention to several disputes between Canada and the U.S. involving protectionism in the transportation field. He condemned the decision by the U.S. Treasury department to deny approval for Canada Steamship Line's project to "top-off" large coal ships in Delaware Bay. Washington invoked the Jones Act, which applies restrictions against trading in American domestic waters by foreign flag ships and in so doing "helped make U.S. coal less competitive on international markets".

Dennis P. McAuliffe, Administrator of the Panama Canal Commission, spoke of his organization's committment to providing efficient service to the maritime industry at competitive cost. He pointed out that the Commission has no plans to raise tolls during 1985 and 1986, and that recent improvements to one of the world's key waterways include the acquisition of additional tugboats and locks locomotives. A deepening project will virtually assure a 39.5 foot draft level year-round.

Mr. McAuliffe also described a major study now underway to determine the feasibility of widening the narrow Gaillard Cut Stretch of the canal to permit unlimited twoway transit of Panamax-size vessels.

Other special guest speakers at the conference included Dr. Leland R. Kaiser, President of Kaiser and Associates, Brighton, Colorado and motivational speaker Jean-Marc Chaput.

Workshops during the convention included Trends in Trade Development, New Strategies for Ocean Carriers – Expanding the Scope of Carrier – Provided Transportation Services, The Load Centuring Concept – The Proposition for Ports and Developing "People Centers" at the Waterfront – The Appropriate Role of Port Authorities.

The A.A.P.A. named its new officers at the convention:

W. Gregory Halpin, port administrator of the Maryland Port Administration, was elected Chairman of the Association. He succeeds Lloyd Anderson, executive director of the Port of Portland, Oregon.

Alvaro Gallardo, commissioner of the Costa Rican Ports of the Pacific, San Jose, Costa Rica, was named chairmanelect.

Elected first and second vice chairmen respectively were Richard P. Leach, executive director of the Port of Houston Authority, and Carmen J. Lunetta, port director of the Port of Miami.

Seaports Are Special

The unofficial theme of A.A.P.A. RENDEZ-VOUS QUEBEC was a slogan first coined by Mr. Halpin, adopted by the American Association of Port Authorities and repeated throughout convention activities: SEAPORTS ARE SPECIAL.

As was pointed out by several speakers during the convention, the economic and social role played by ports is often not fully understood by the public. "Seaports are Special, and they have to show the public why" was a recurring theme during the five-day program.

The convention business program was complimented by social and entertainment activities which were indeed speical, highlighting the unique character of Quebec City. French Canada's renowned folk group V'la l'Bon Vent, the Quebec Symphony Orchestra and the famed Conseil Souverain de la Nouvelle France banquet, a replica of New France's annual 17th century feast, were all on the program.

The American Association of Port Authorities 73rd annual convention hosted by the Port of Quebec offered a stimulating business program and left many happy memories of "Joie de Vivre". *(Ports Canada)*

MARAD releases second Report to the Congress on the Status of the Public Ports of the U.S.

Mandated by a 1980 Act (Public Law 96–371), the 1984 report covers the years 1982 and 1983. It describes the organization of the U.S. port system and details its significance to the economic and security needs of the United

States. Interwoven with the report's technical discussions are explanations of Reagan Administration policy on various port issue. Among its statistical findings are:

- The U.S. port system consists of 183 commercial deepdraft ports (with 25 feet being the minimum depth criteria for coastal ports and 18 feet for Great Lakes ports.
- More than 95 percent of the nation's international commerce, amounting to some two billion tons, moves by water and therefore depends on ports.
- Port and marine terminal activity generated \$70 billion in direct and indirect benefits to the U.S. economy and contributed \$35 billion to U.S. gross national product in 1982.
- In 1982, the port industry also added approximately \$1.5 billion to the U.S. balance of payments, \$6.4 billion to the U.S. Treasury in the form of customs receipts, provided jobs for more than one million persons, and generated personal income of \$23 billion, federal taxes of \$10 billion, and state and local taxes totaling \$5 billion.
- The cash value of marine terminal facilities at U.S. seaports in 1982 was \$59.6 billion while replacement costs were estimated to be at least \$78.3 billion.
- Public seaports invested more than \$5 billion during the 1946–1980 period and are likely to spend an additional \$5 billion by 1990.

The report deals with technological change and its impact on ports, regulation, funding, port development, environmental matters, and national defense aspects of the port system. It also discusses the inland port system in considerable detail. Supplementing the text is a glossary, bibliography and five appendices. The report is a highly readable and extremely informative document.

(AAPA Advisory)

New university course beneficial to ports: University of Washington's Institute for Marine Studies

By The Journal of Commerce

Seattle -A year-old graduate studies program at the University of Washington's Institute for Marine Studies is charting a new course in how an American institution of higher learning can be of genuine assistance in the real world of ports and marine transportation companies.

A Port/Marine Transportation Management program of 18 months to two years duration, depending on student background, is offered to persons aspiring to undertake management careers in the ports or marine transportation fields. The program is one of four areas of concentration available at the Institute for Marine Studies, partly supported with Sea Grant funding.

"This is the only program of its type in the United States and one of only three in the world," according to Thomas J. Dowd, an affiliate associate professor of marine studies for the institute who coordinates the marine industry course.

A number of institutions, notably the Massachusetts Institute of Technology, have significant transportation studies programs in place, he observed. And the maritime academies have excellent programs as part of their operations oriented training, he added.

But the UW program at Seattle is unusual in that it focuses on meeting the management needs of public ports, and it does so by a practical, hands-on rather than traditional, academics approach to learning, he said.

In this regard, the new UW program is similar, he said, only to ports programs at the University of Wales in the United Kingdom and the University of Delft in the Netherlands.

The primary focus of the innovative UW course is the proper management of port authorities, the relationship of ports to marine carriers and the shipping industry, the financing and planning of ports and port facilities and the national and international policies and regulations affecting ports and the marine transportation industry.

Emphasis is placed on students acquiring familiarity with industry activities, terminology and challenges - in addition to gaining an understanding of the theoretical aspects of the port and marine transportation fields.

Because of the program's emphasis on practical as well as academic learning, there has been a great deal of industry cooperation on the part of all sectors of the community – ports, steamship companies, towboat firms, stevedoring companies and the like.

In fact, it was Eldon Opheim, the late executive director of the Port of Seattle, who helped launch the Institute for Marine Studies. He was an affiliate professor, the type of position now held by Mr. Dowd, who has an investment banking background.

Including Mr. Dowd, there are four university professors associated with the new ports and marine transportation program. In addition., there is considerable instructor and field study input from industry, including management personnel at the ports of Seattle and Tacoma.

A major reason for the program's success, Mr. Dowd said, is the varied backgrounds represented by the professors in the program and the strong participation by various ports and marine transportation companies. In addition, the program has had excellent cooperation from the American Association of Port Authorities, he said.

"We're not the normal university type of program," he noted. "We're not textbook, theory oriented. We're a very hands-on program. This is a university-industry partnership."

Marc J. Hershman, professor of marine studies who heads the Institute for Marine Studies, said Mr. Dowd's involvement also is a key reason for the unusual program's success. He noted that Mr. Dowd has a successful business background and provides the new program with needed credibility within the marine industry community.

New Anchorage Port Director

Tyler Jones has been appointed Port Director for the Port of Anchorage following the retirement of William McKinney who served as Port Director from 1976 until June, 1984.

Mr. Jones, who joined the Port as Assistant Port Director in December 1981, previously served as Alaska Coordinator for U.S. Senator Mike Gravel, Executive Administrative Assistant for former Anchorage Mayor George Sullivan, and has been associated with various publications as a writer and editor.

He is an Executive Committee member of the Pacific Northwest Waterways Association and serves as a member of the Export Council of Alaska and the Resource Development Council.

Port's revenue tonnage up strongly, 45% above 1983: Port of Houston

The volume of general cargo shipped through the Port of Houston increased sharply during the first half of 1984.

The Port of Houston Authority recorded an increase of 45 percent in revenue tonnage, from 6.1 million tons during the first six months of 1983 to 8.8 million tons for the first half of 1984. Overall port tonnage increased 6 percent, from 37.6 million to 40 million tons for the period.

Approximately 85 to 90 percent of the Port of Houston's general cargoes are handled at Port Authority facilities. Private terminals handle primarily bulk cargo, such as crude oil, petroleum products, petrochemicals and grain. The per-ton economic impact of general cargo is much greater than that of bulk cargoes because more handling labor and documentation are required.

Figures showed that shipments of steel into the United States over Port Authority wharves climbed by 131 percent, from 828,000 tons in 1983 to 1.9 million tons this year. Auto imports were up from 110,472 units to 154,399, and container movements increased from 148,405 TEU to 178,822.

Shipments of grain through the Houston Public Elevator climbed by 133 percent, from 98,644 tons to 229,833, though grain shipments port-wide declined for the period.

The Port Authority's Bulk Materials Handling Plant also increased its totals; 617,960 tons of dry bulk were moved during the first half compared to 415,378 in 1983, for an increase of 49 percent.

Vessel arrivals at the port increased from 2,361 in 1983's first half to 2,398 in 1984.

Port officials attributed the upturn in activity to improvements in the general economy. (Port of Houston)

Port of Long Beach posts new cargo records

The Port of Long Beach, long the cargo handling leader among the U.S. West Coast ports, continued to extend its lead during the 1983-84 fiscal year.

According to Harbor Commission President Jim Gray, the Port of Long Beach moved a total of 54,147,669 metric revenue tons of goods over its 66 deep water berths in the 12 months ending June 30, 1984. This was 12.8 percent above the West Coast record set the year previous. The 4,670 ship calls was also an all-time high.

General cargo movements zoomed an impressive 39 percent over the previous fiscal year to 22,455,187 mrt of which 86.7 percent or 19,480,738 mrt was carried in containers, an increase of 46 percent over last year. This is once again the most general cargo and containerized

(Continued on next page bottom)

Modernization of Bulk Material Handling Facilities at the Port of Corpus Christi

By:

Col. Nolan C. Rhodes, (Ret.) P.E. Director of Engineering Services Port of Corpus Christi Authority

R.W. Vander Laan, Vice President SOROS ASSOCIATES

The Port Commission of the Port of Corpus Christi Authority recently approved funds for modernization of their existing bulk materials dock.

The existing facility includes a bucket type unloader that is used for unloading, as well as, loading vessels calling at the Port. The Port Commission recognized that a more efficient loadout system would better serve the present users of the facility and would also more efficiently serve prospective users of the facility as well.

The Port Commission retained Soros Associates, a New York based international consulting engineering firm, specializing in the planning, design and construction management of ports, offshore terminals and bulk material handling systems to provide the engineering and construction supervision for the modernization program.

Soros, working closely with the Port's staff, developed various concepts which considered means to reduce ship turnaround time, increase operating efficiency, and construct a new loadout facility without disrupting the present operations.

(Continued from page 34)

cargo of any U.S. West Coast port.

"Long Beach has long looked at a combination of container facilities second to none and close ties with Far East shippers as being the answer to steady trade growth. This has averaged about 12 percent annually over the last two decades, but last year's performance was by far the best yet", Gray noted.

At the same time, it was reported that capital investment in port projects during the fiscal year totaled \$35,808,000 with expenditures for the current 1984-85 fiscal period projected at \$40,920,000.

Gray concluded the report with the observation that construction of the joint Intermodal Container Transfer Facility will increase the ability of Long Beach to handle cargo carried in boxes faster and with even less cost than at present.

Completion of the Port of Long Beach-sponsored World Trade Center on six square blocks of downtown Long Beach by IDM/Kajima will also enhance Long Beach's plans to become the international commerce gateway to the Pacific Rim during the next decade.



The selected concept provides for a new loadout facility to be located west on the existing unloading dock. A new berth to accommodate vessels ranging from 1,500 ton barges to 100,000 DWT ships will be constructed with three breasting dolphins and two mooring dolphins along the length of the channel. A radial type shiploader, mounted on a curved rail in front and turntable in the rear, will have the capacity to move along the length of a vessel at berth, as well as, raise, lower and shuttle the boom conveyor in and out from the bulkhead line. These shiploader movements will permit loading most vessels without having to move the vessel at the berth.

The new shiploader will be fed by a 48" wide belt conveyor system designed to handle 1,500 tons per hour of material weighing 55 lbs. per cubic foot. The conveyor system will be fed at multiple points along its length; at two points in the existing stockpile area and at a combination truck/railroad car dump pit located adjacent to the existing railroad yard.

The dump pit, enclosed in a building, can accommodate a 100 ton bottom dump railroad hopper car or three 20 ton trucks which rear dump through openings in the side of the building. These openings will be closed with overhead doors when dumping from railroad cars. A over head type trolley mounted railroad car shakeout will be provided to speed-up rail car unloading. Material discharged into the dump hopper is fed onto the belt conveyor system by four variable rate vibrating pan feeders located under the openings in the bottom of the hoppers. The belt conveyor system will be protected from damage by tramp iron by a suspended magnet and a metal detector.

A in-motion belt scale to record tonnage loaded into ships is provided to assist in the shiploading operation.

In order to meet the standards of the Texas Air Control Board, the facility will be constructed with a dual dust control system. The system will consist of dust suppression for bulk materials like coal and petroleum coke which can be sprayed with water and dust collection and containment for bulk materials that cannot be sprayed with water. All conveyor transfers will be fully enclosed and all above ground conveyors will be provided with hood covers. Return belt scrapers and plows will be designed and installed to minimize any carryback of material on the return strand of belt.

The facility will handle many different bulk products. Therefore, it was necessary to design a dust collection system that could be cleaned readily between cargoes to insure there would not be any contamination of cargoes. The 125,000 CFM system utilizes a combination of high-efficiency cyclones with wet scrubbers which permits the collected dust separated by the cyclones to be returned to the material stream on the conveyor system. The finer dust particles which by-pass the cyclones are trapped in the wet scrubber to be pumped to a holding tank for offsite removal by a tank truck between cargoes. A number of the bulk products expected to be handled by the facility have characteristics that precludes the use of cyclones. Therefore, the system is designed with a by-pass to direct the dust laden air directly to the wet scrubbers.

A unique design was utilized for the dual dust collection system mounted on the radial type shiploader. It consists of two 17,500 CFM systems, each with a cyclone and a wet scrubber. All the loading and discharge points on this shiploader are enclosed and provided with duct takeoffs and ductwork to the cyclones and scrubbers. In addition, the boom conveyor on the shiploader is enclosed with a hood cover.

Dust collection during the shiploading operation is in two modes. In the first mode, the loading spout, inside a flexible concentric air duct, is lowered into the ship's hold with the discharge end of the spout and the air duct located in close proximity to the discharged material. The dust laden air generated at the discharge is drawn into the duct at approximately one half of the rated capacity of the dust collection system. (17,500CFM). The spout and duct are raised simultaneously as the material is discharged into the ship's hold.

In the second mode, a trimming spoon located at the discharge end of the spout is used to throw material under the vessel's hatch coamings. This type of operation generates more dust. Therefore, the dust is contained in the hold by strip tarps and is exhausted from the hold through the concentric duct which is raised independently of the spout and spoon and positioned over the opening in the tarps. In this mode the full air volume of the system (35,000CFM) is utilized to capture the airborne dust in the hold.

This type of shiploader dust collection system was also designed by Soros for the new shiploader at the Port of Houston, as well as, Arco Petroleum Products Company's coke loading facility at the Port of Longview in Washington.

The Port of Corpus Christi recognized the need to expand the new facility without having to shut down the operation. Therefore, the design incorporates space for additional conveyor transfers for both inbound cargoes from rail and truck and outbound cargoes from areas on the site designated for future storage.

Contracts for the construction of the new facility were recently awarded to the following contractors:

- Dredging Loyd W. Richardson Construction Corporation, Aransas Pass, Texas
- Shiploader Sumitomo Heavy Industries Ltd., Japan
- Mechanical/Electrical SCE Incorporated, Birmingham, Alabama
- **36** PORTS and HARBORS DECEMBER 1984

• Civil/Marine – Paragon Engineers and Constructors, Inc., Houston, Texas

The facility is scheduled for start-up during the last quarter of 1985.

New Executive Director of the Port of Los Angeles

Ezunial Burts, an executive assistant to Los Angeles Mayor Tom Bradley since 1973, takes over November 1 as executive director of the Port of Los Angeles. He will succeed Dr. Ernest L. "Roy" Perry, whose plans to retire were announced earlier this year. For two years (1971– 1973) he was field deputy to then City Councilman Bradley, and before that, Mr. Burts worked as assistant administrator for Saint Agnes Hospital in Fresno (1969–71); division manager in the Department of Labor Employment Program, Fresno (1967–69) and for the Fresno County Economic Opportunity Commission (1966). Presently, he is chief of departmental operations and personnel director within the office of the mayor. (AAPA Advisory)

Evergreen beefs up round-the-world service: Port of NY & NJ

Evergreen has initiated a new shipping schedule for its vessels operating from the New York-New Jersey Port. Divided into eastbound and westbound round-the-world container services, the Taiwan-based company is utilizing eight of its new G-type ships in each of these services. On the eastbound run, while en route to New York, the ships will call at the following overseas ports: Port Kelang, Singapore, Hong Kong, Kaohsiung, Keelung, Pusan, Osaka, Tokyo and Kingston (Jamaica). After the vessel departs the Port of New York and New Jersey, scheduled overseas calls are made at Hamburg, Felixstowe, Rotterdam, Antwerp, Le Havre and Valencia. The vessel will then transit the Suez Canal to the Far East. The above service will be carried out on a 10-day frequency.

Westbound, Evergreen will also employ eight G-type ships, which while en route to New York, will call at Tokyo, Osaka, Pusan, Keelung, Kaohsiung, Hong Kong, Singapore, Valencia, Hamburg, Felixstowe, Rotterdam, Antwerp and Le Havre. After leaving the Maher facility at the Elizabeth-Port Authority Marine Terminal, the vessels are scheduled to call at Kingston, then proceed through the Panama Canal to the Far East. This run also calls for a ten-day frequency.

At Kingston, the ships will interface with Evergreen's feeder service which connects the Jamaican port with the following Caribbean destinations: Cristobal, Aruba, Curacao and San Juan. Each of the two B-type ships assigned to this feeder service can carry 510 containers (TEUs). Evergreen is also using a feeder to link Valencia with the western Mediterranean ports of Leghorn, Genoa and Fos. The M-type feeder ship (818 TEUs) assigned will discharge and load for the round-the-world route.

At Kaohsiung, two Evergreen H-type feeders with 680 TEU capacity each and two P-type ships with 522 TEU capacity each, will extend Evergreen service to Keelung, Manila, Singapore and Bangkok. (VIA)

Fish was king in Brooklyn today: Port of NY & NJ

Governor Mario M. Cuomo and Mayor Edward I. Koch formally launched the 27 million Port Authority Fishport at colorful ceremonies in Brooklyn recently – signaling the return of the fishing fleet to New York Harbor after more than a quarter of a century.

Unloading of a symbolic first crate of fresh fish from a trawler at an Erie Basin pier marked the start of work on the Fishport.

Port Authority Chairman Alan Sagner spoke, and Port Authority Executive Director Peter C. Goldmark, Jr. presided at the ceremonies at Erie Basin at which Governor Cuomo said:

"For the Borough of Brooklyn, for our fishing industry, for New York's consumers, the launching of the Fishport is a very healthy development. This facility will bring new jobs to Brooklyn and new life to an old and valued industry. Today we carry forward the proud history of Brooklyn's waterfront as we build a better future for our fishing industry."

The Brooklyn facility is a unique fish handling and processing center being developed by the bi-state agency to revitalize the fishing industry in the Port. Construction is scheduled to begin next month. More than 180,000 square feet of the most modern facilities anywhere will be provided for the handling, processing and distribution of fish. The Fishport, in the heart of one of the world's largest markets for fish and seafood, will provide substantial economic benefits to the region.

Mayor Koch said: "I look forward to the Fishport as the expansion of an important waterfront industry in New York City. Together with the Fulton Fish Market, this new facility will serve New York's tremendous consumer market and provide continuing opportunities for waterfront jobs. There's nothing like fresh fish for a good diet, and I'm always on one."

Brooklyn Borough President Howard Golden, and Thomas Cuite, Vice Chairman and Majority Leader of the New York City Council were among the dignitaries who participated in the ceremonies. Anthony J. Tozzoli, Director of the Port Department of the Port Authority, also spoke.

The Fishport project involves the rehabilitation and conversion of the Port Authority's Erie Basin Marine Terminal, an obsolete cargo facility, which has not been in operation for ten years. Existing cargo sheds will be renovated into fish processing facilities and services installed for fishing vessels. Bulkheads, roads, utilities and other infrastructure will be rebuilt. The first phase of the Fishport is expected to be in full operation in nine to twelve months.

Port Authority Chairman Alan Sagner declared:

"By helping to revitalize the fishing industry in New York and New Jersey, this project will make an important contribution to the regional economy. Fishermen in both states will find a greatly expanded domestic and international market for their catch and the fishing industry throughout the region will benefit from the highly modern facilities at the Fishport." "When government and private industry join forces – as we have in planning this project – we can provide for the creative and constructive use of our waterfront. Just as Erie Basin will soon be transformed from an unused terminal to an unmatched resource for the fishing industry, waterfront areas in both states can be transformed into a magnificent regional asset."

The primary objective of Fishport is to expand the supply of fresh fish and seafood in the bi-state region as well as providing new marketing opportunities for fishermen. There is good potential for exports of squid, butterfish and other species abundant in local waters in an international sales market.



Erie Basin – Port Authority Marine Terminal as it appears today. The piers are the site of the \$27 million Fishport to be developed by The Port Authority of New York and New Jersey.



Artist's rendering of the Port Authority Fishport to be built in Erie Basin, Brooklyn.

Record budget approved for North Carolina Ports

A record budget of \$18.5 million was approved by the North Carolina Ports Authority Board of Directors. This represents a projected record profit of \$3.8 million at the SPA's two deepwater facilities at Wilmington and Morehead City.

Board Chairman Thomas F. Taft of Greenville called the new projected budget "an excellent planning document" but noted that all recent market reports indicate The Americas

the \$18.5 million revenue goal will be met.

"North Carolina has shown the maritime industry and the shipping community over the last several years that its ports are ports to be reckoned with. They are recognized world-wide for their service, their efficiency, and their ability to meet day-to-day shipping demands."

"Tonnage and revenue records have been broken year after year since 1977 and all indications are that this trend will continue," Chairman Taft said.

USDA sets up meat inspection station: Port of Oakland

A fully equipped station for United States Department of Agriculture inspection of beef, pork, fish, poultry and other meat imports is now operating in conjunction with refrigerated storage facilities within the marine terminal area of the Port of Oakland.

The station, maintained by United States Cold Storage, Inc., provides quick-thaw tanks, an incubator, electronic scales and other equipment for the use of USDA personnel in examination of frozen and chilled commodities.

Department of Agriculture inspection of meats, fish and other foodstuffs is required before such shipments are cleared for delivery.

More than 350,000 tons of commodities in these classifications were imported aboard liner vessels to the San Francisco–Oakland Customs District in 1983.

The availability of inspection facilities within a threemile radius of all Port of Oakland terminals will help reduce transit times for refrigerated meat, fish and poultry, according to Truman D. Passmore, Vice President, United States Cold Storage, Inc.

"Having this station at the terminals' doorstep means shippers can avoid time-consuming detours to inspection sites outside the harbor area. This is especially true of intermodal shipments, which now can move from the wharf in a direct line to the railroads," Passmore said.

The inspection station is housed in the U.S. Cold Storage plant located at 225 Market Street, in the Inner Harbor terminal area of the Port of Oakland.

A fully bonded warehouse, the Market Street facility contains 1.75 million cubic feet of atmospheric controlled space, with blast freezer capacity of 250,000 pounds per day.

Quarantine cages also are available for export commodities destined for the Far East. An adjacent rail siding provides direct access for transfer of shipments between boxcars and cold storage areas. (Port Pregress)

'84 proving banner marine cargo year: Port of Portland

1984 is far from over, but it's clear from the pace of the marine cargo business the Port of Portland will be experiencing one of the busiest periods in its 93-year history.

Most notable increases have occurred in the area of transpacific container tonnages-trade between Oregon and the Far East. Tonnages are up 55 percent in the transpacific routes, compared to a year ago. Coupled with that is an approximate 23 percent improvement in productivity

which has occurred during the same period.

There seem to be no losers in this scenario. The longtime steamship customers at the Port, such as the Japanese Six Line Consortium, are carrying more cargo than ever before. In addition, a number of new lines (such as Hong Kong Islands Line and Hyundai Merchant Marine Co., Ltd.) are finding abundant regional export cargo immediately available when their ships call Portland.

When the Port's marketing staff, such as Don Grigg, market development manager, point to growth charts, their pride is real. The sustained growth in transpacific tonnages during the past two years helps to substantiate the marketing message the Port of Portland is trying to bring to potential steamship customers.

Says Grigg, "It's a very simple message: We have more cargo here in the Columbia/Snake region and less steamship competition. What better reason to come to Portland!"

"By attracting more steamship service, we are better able to service our local and regional cargo producing community-one of our top priorities at the Port," says Grigg. (Portside)

New round-the-world containership docks at Port of Charleston



The magnificent new 757-foot, G-type containership, EVER GARDEN, one of 24 such container vessels employed in Evergreen Line's new round-the-world service, docks at the Port of Charleston's North Charleston Terminal on its maiden voyage. The 2,728-TEU (tewnty-footequivalent) capacity ships call only at Charleston in the U.S. South Atlantic portion of the East-bound and Westbound legs of its new worldwide service. The 24 vessels in the new service provide a 10-day frequency of calls at their chosen load-center ports throughout the global trade route.

Ambassador Mizoguchi addresses Pacific trade opportunities and challenges: Port of Tacoma

"The outlook for economic expansion in the Pacific area is better than in any other part of the world. Just as the forecasts for the future of the Pacific Northwest indicate that this region has the brightest prospects in North America." That is how Michio Mizoguchi, Special Adviser to the Japanese Minister for Foreign Affairs, summarized the trade outlook between Asian countries and the Pacific Northwest during his recent address to the World Trade Conference in Tacoma, Washington.

Over 300 conference attendees heard talks by government and business officials from throughout the world, and took part in discussions on expanding trade with various Pacific Rim countries. The Port of Tacoma was a major corporate sponsor of the event.

Mizoguchi's talk, which addressed the industrialization of Asia and the economic future of the Pacific region, dealt with both the challenges and opportunities which countries face in dealing with the changing trade picture. One example which he gave was in the area of textiles.

In 1960, textiles accounted for 30% of Japan's exports. Today, they account for only 4%, which are concentrated in the area of quality fabrics. Japan has become a net importer of apparel, and Japanese imports of textiles from Asia have risen to \$2.4 billion. Today, Korea, China, Hong Kong, and Taiwan alone supply the world with more than \$20 billion in textiles. Despite competition from other countries, Mizoguchi explains, "The Japanese government has so far been able to resist domestic pressure to introduce restrictions, and we remain one of the few free markets for foreign textiles."

As nations such as Korea and Singapore continue to develop, Mizoguchi predicted that there will be a continued trend to shift their industrial structures from light goods to heavy industry. Examples include Korea, which now accounts for 20% of the world's shipbuilding, and 12 millions tons of steel. Of this amount, 1.8 million tons goes to the United States, and 1.5 million tons goes to Japan.

"The speedy expansion of Asian nations has attracted American and Japanese technology investments," stated Mizoguchi. "These transfers of capital and technology are beneficial to all parties concerned."

Along with the phenomenal growth in bilateral trade between Japan and the United States, particularly in the last 30 years, which has brought enormous mutual benefits, there have been some adjustment problems as well. According to Mizoguchi, "Thanks to an open and expanding global economy sustained by American policy and by its dynamic economic power, Japan has been able to become the free world's second largest industrial nation in a short time. As a result, Japan has become the number two market for American exports, number one for its farm products, and an important destination for its investments. At the same time, Japanese goods and Japanese investments have flowed into the United States to bring innumerable benefits to American industry and American consumers."

Two-way trade between the United States and Japan today totals more than \$70 billion annually. Direct investments in each other total \$18 billion, and new bilateral technology exchanges occur almost daily.

"Today, what used to be considered one's own domestic matters are of vital interest to the other nation, because of the economic interdependence that has been forged between nations," Mizoguchi said. An example is the unitary tax system, which is a major factor considered by the Japanese in determining plant locations in the United States. Alaska, California, Montana, Idaho, and other states have the unitary tax, while the state of Washington does not.

Looking to the future, Mizoguchi gave three ways in which Japan can play a major role in assisting the growth



Ambassador Mizoguchi, Special Adviser to the Japanese Minister for Foreign Affairs

and smooth integration of the Asian economies into the world system. "First, the maintenance of a stable and growing economy in Japan is vital to the stability of Asia, by providing growing markets for Asian products and by providing a base for raising funds for loans, investments, and economic assistance...

"Second, Japan can continue its efforts to maintain an open market and to reduce trade barriers even further. Japanese tariffs are today on the average lower than tariffs in other industrialized countries...

"Third, Japan can continue to be an important source of plant equipment, technology and capital needed by Asian countries for their industrialization." The massive outflow of Japanese capital funds amounted to \$20 billion in 1983. A substantial part of this outflow is accounted for by direct investment.

Economic and trade policies adopted by the United States, Canada, and Japan in the coming years will play key roles in the continued success of the industrializing nations of Asia. According to Mizoguchi, "This will include the ability of our nations to maintain mobility and flexibility in our domestic economies... If our three nations can accept this challenge, by agreeing to compete through open markets and through free exchanges in capital and technology, then the challenge will have been grasped and an opportunity gained."

Port radar put into use at Antwerp

In the port of Antwerp the first phase of a port radar system was officially put into use. It includes the first two remote HR 18 Racal Decca harbour radars, mounted on 48 m pylones at the Baudouin/Van Cauwelaert locks and the Zandvliet lock.

The port radar system aims at making shipping traffic in the dock area safer, more flexible and at speeding up the turn-round of the vessels.

The radar system is one of the most sophisticated of its kind, providing the highest resolution yet to be used in a port radar and a digital scan convertor (D.S.C.). Pictures received are trasmitted by coax cable to the radar centre at Zandvliet lock where they are transformed into T.V.signals and presented on television type bright displays, which are clearly readable in strong daylight.

(Continued on next page bottom)

APEC: Port know-how at the service of developing countries

Background

More than any other decade before, the 1970's have demonstrated how the vicissitudes of the world economic situation affect ports all over the five continents. Although this was not a surprising or even unexpected development, it definitely emphasized the imperative obligation for port authorities to boost their management capabilities, expand and diversify their activities, and enhance the skills and competence of their labour and staff.

In the ports of the \ll third world \gg the problems resulting from the world economic situation are further compounded both by the inherent \ll development \gg issues, and by the explosion of technological developments in the ports field.

The latter is particularly evident in such areas as mechanized and automated terminal operations, navigational aids or communication flows. A number of institutions and ports in industrialized countries, have tried to respond to the substantial demand for assistance thus generated.

The Port of Antwerp, through APEC, is, however, one of the few that managed to offer such assistance tailored to the basic aims and essential needs of the counterpart ports through the channelling of existing port knowledge and experience from the public and private port sector. Hence APEC's activities are unique and their originality is further amplified by the organizational structure and applied methodology.

Organizational structure

APEC was established in 1977 as a non-profit making association. APEC effectively acts as a master organization with a strong coordinating and harmonizing function. In this respect it must be kept in mind that APEC was established by the joint initiative of

- the Port of Antwerp Authority
- the Port of Antwerp Promotion Association and the Professional Associations active in the port of Antwerp (including the associations of shipowners, ship agents, stevedores, cargo-handling companies, freight forwarders, ship repairers, shipping agents for industry, etc.)
- Professors and Consultants in transportation economics
- Engineering and Consultants firms in all fields of harbour and port construction and development.
 Hence APEC offers the rare capability of providing the

(Continued from page 39)

Monitoring includes high detail computer mapping, suppression of land echoes and marking points of reference.

The complete radar system, equipped with 8 radars two of which are to be installed on the left bank area, will bring comprehensive surveillance and vessel traffic management capabilities for maritime and inland shipping and will form a complement up to the mark of the Scheldt radar chain which is to be extended in the forthcoming years.

The first phase of the port radar involves an investment of 90 million BF.

know-how required by overseas development projects, even when these become of a highly complex and all-embracing nature.

APEC has the disposal of technically and academically highly qualified experts to carry out feasibility studies, to execute projects, to operate terminals and to follow-up future requirements.

Statistical evidence.

The international impact of APEC's training programmes can be illustrated by the fact that since 1979 a total of 405 participants from the following 67 countries followed one of the regular APEC training seminars or courses:

Algeria	13	Lebanon	2
Antigua	1	Liberia	4
Argentina	1	Madagascar	7
Bahrain	2	Malaysia	13
Bangladesh	13	Mali	2
Benin	5	Malta	1
Brazil	2	Mauritius	1
Cameroon	12	Mexico	10
Cayman Islands	1	Morocco	19
Chile	2	Mozambique	1
China, People's		Nicaragua	1
Republic of	54	Nigeria	9
Colombia	2	Oman	2
Congo	9	Pakistan	1
Costa Rica	3	Panama	1
Cuba	7	Peru	8
Cyprus	2	Philippines	10
Djibouti	1	Saudi Arabia	2
Ecuador	1	Senegal	10
Egypt	6	Sierra Leone	1
Ethiopia	1	Singapore	1
Gabon	4	Sri Lanka	4
Guatemala	1	Sudan	3
Guinea	. 7	Suriname	1
Haïti	2	Tanzania	18
Honduras	4	Thailand	16
India	4	Togo	3
Indonesia	17	Trinidad and Tobago	1
Iran	4	Tunisia	25
Ivory Coast	7	Turkey	3
Jamaica	7	United Arab Emirates	2
Kenya	9	Vietnam	1
Korea	4	Zaire	11
Kuwait	1	Zambia	2

APEC's activities and fields of competence

APEC covers basically three major types of activities, namely:

- The setting-up, design and execution of port development projects, related to general port infrastructure works; bulk facilities, break-bulk, container and ro-ro terminals.
- The fielding of experts for short-term and medium-term missions in order to carry out, for example, feasibility

studies or to advise on management, operational or engineering problems.

- The organization of training courses and seminars in collaboration with the Municipal Port Authority, the Antwerp University, the College of Navigation, the private sector and last but not least the international development organizations.

In addition APEC also pays a lot of attention to the organization of properly designed and tailor-made fellowships carried out within the member firms or the Antwerp Port Authority. This training, financed through funds from the Belgian Government or from international organizations, puts particular emphasis on practical operational aspects and problem-solving techniques.

The know-how of the Port of Antwerp, upon which APEC can call includes such widely different fields of port activity as for example:

- port traffic forecasting
- planning and construction of port infrastructures
- soil mechanics
- planning, construction and transport of off-shore structures
- towage and pilotage in ports
- materials handling
- planning, construction and operation of port storage areas
- cargo-handling techniques
- planning, construction and operation of container, ro/ro and other advanced terminals
- port financing and pricing
- port management organization and promotion
- hinterland connections
- customs procedures and free trade zone developments
- safety and security aspects in ports
- intermodal operations.

Obviously this list is not exhaustive but only mentions major areas of competence.

Methodology

It is important to stress that APEC's services are available to

- Governments and local authorities
- individual port authorities
- international aid agencies
- international development banks
- public and private port enterprises or firms.

As an independent non-profit organization, grouping many agencies and firms with various operational objectives, APEC brings together expertise, methods, techniques and skills that otherwise would remain largely untapped, and that now are made available to meet the needs of the developing countries' ports and shipping. Whenever APEC receives a request from port authorities in the developing countries or from development organizations, it selects those members, which can best provide the required expertise. These members then form an \ll ad hoc \gg joint venture which becomes personally and fully responsible to the contracting country or port authority or development organization.

An example of APEC's activities: the 1984 training programme

The 1984 training programme includes following main

activities:

- two general training programmes in port management and harbour organization techniques. The duration of each programme is 15 weeks; the English version started in January and the French one will start in September.
- an international course in port management and harbour administration.

This course lasts a full academic year and is open for entry by nationals of developing countries, holders of a university degree and officially nominated by their national authorities. The English course started in October 1983 and the French course is planned for October 1984.

- in co-operation with UNCTAD, a container terminal management seminar is organized annually, alternatively in English and French with the participation of lecturers from the port of Antwerp and international lecturers provided by UNCTAD. This year the seminar is scheduled for late September in French.
- in co-opeartion with UNIDO a three-month in-plant training programme in the field of repair and maintenance of small and medium-sized ships.
- two seminars specially designed for container terminal operators from the ports of Tianjin, Shanghai and Whang-pu, dealing with all operational aspects of this type of facility. Each seminar lasts two months and is aimed at the largest possible transfer of technology and operating experience.
- finally, in the Spring of 1984, a 15 weeks' programme has been developed for participants from the People's Republic of China.

G. de Monie

(Hinterland)

The Call Forecast Processing System: Port of Marseilles

Computer systems are an every day occurance and processing port data is a reality. The Port of Marseilles Authority has been using computers for running operations for a while now and has recently extended this service to make it available to all port professionals.

The stakes involve benefitting as much as possible from the computer in order to offer higher standard services in Marseilles and Fos.

- If ports need:
- a quay to berth a vessel

- equipment for handling goods,

- the PMA is proposing a new piece of equipment, that is:
- the PMA terminal network linked up to a host computer that performs processing of port data.

T.P.E. (Call Forecast Processing) -

a simple idea that has gone a long way

The concept of T.P.E. was created in 1981 when people realised how complicated information exchange was between the Port Authority and Users.

Each party depends on and is a complement to the other, which is why people need information quickly and efficiently. As soon as telexes, telephones and other communications equipment became unsuited to our requirements, the idea of pooling port data arose which is why a computer had to be used. Everyone can now have access to the mainframe memory and obtain the data they require in order to make decisions via their own terminal.

The project consisted of recording call forecasts which once they were known enabled people to allocate berths via the terminal. The next step was to switch from forecasting to monitoring calls in real time (on-line), this involved:

- vessel docking
- vessel's call in port
- departure of vessel

As soon as such data was available, formalities were handled by the terminal operators:

- to declare the vessel to the Harbour Master's Office
- to do the Customs declaration
- Maritime Affairs matters

In order to deal more fully with services required by a vessel calling in port, this system has permitted the following:

- to order cargo handling equipment before the ship arrives using the terminal.
- to monitor commercial operations in real time.

The five basic principles of T.P.E.

This port information system is based on five principles that provide the following guarantees:

a) Single information source

Within the system information is only supplied by one source at any given moment thus precluding for instance various dates of arrival for the same vessel.

T.P.E. data is permanently updated and thus highly reliable for all those involved and that work with the same information base.

b) On-line updating procedure

This means that as soon as a new piece of information is available it is keyed into the T.P.E. files or will be as soon as more is known with accuracy (about an expected vessel).

This means that for each operator the information he requires will be handed over to him as soon as possible.

c) Operator-to-Operator communication

This shows that an information system is not just an inert data storage capability. It is also a system in which data are constantly exchanged from one operator to another at their own initiative.

The system is so informative because of the many sources of the data stored in it.

d) Data Restitution

The standard and worth of an information system is not just the outcome of the amount and reliability of data available to it, it also involves:

- a capacity to restitute data in a user-friendly manner, ie adapted to user equipments.
- varied presentation of screen content
- data selection, or filtering capability
- user request terminal based consultation.

The system also provides for an automatic print out of incoming data as soon as the latter has been punched into the system via one of the terminal keypads.

f) Data confidentiality

A confidentiality status is required as soon as the infor-



mation system starts handling commercial type data.

If system data were not treated as confidential, data could only be made available to the public at large.

Confidentiality means that the system can be upgraded by operators simply by consulting each other.

T.P.E. system users are the ones who set the standards for system data confidentiality.

Services offered by T.P.E.

The fact that T.P.E. offers a whole range of processing means that everyone can expect to find a service that is suited to his own professional activity within the framework of his responsibilities:

The agent will obtain the data he needs to manage the ship's call in port.

The broker will handle the Customs formalities.

The forwarder will know immediately what transport services are being offered in Marseilles-Fos.

The stevedoring company will be able to order the appropriate cargo handling equipment and monitor commercial operations as they occur on the docks.

The ship repairer can make ready and monitor how his repair yard operates.

Port service companies will be better informed.

The Port Authorities will be in a better position to manage quay space and facilities more efficiently.

The Customs Department will have an easier time with collecting port dues using a simpler and better information system.

How T.P.E. is run

a) Each user punches in via his terminal keypad the data he receives and the decision he has taken.

b) The screen and printer provide each user with all the information he requires.

The T.P.E. system layout

This system use a mainframe and a back-up computer just in case of lengthy system downtime. The mainframe provides the entire system with memory and processing capability.

There is also a network of terminals, screens and printers (about fifty at the moment) located on user premises in order to decentralise and communicate data when and where it is generated. *(Europort South)*

Bremen ports with good half-term results

In the first half-year of 1984 the Bremen ports were able to improve their handling figure for general-cargo by nearly 1 million tons (12.5%) over that of the same period for 1983 - to nearly 9 million tons. Bulk-commodity traffic also increased, by 4.7%. Borne by a strong exportation development the result was, above all, attained with the modern transportation systems which, in increasing measure, form the heart of the Bremen ports' business. For this reason some 160 liner services - comprising nearly 200 shipping companys - call at Bremen/Bremerhaven. Of these, about 55 are full-container and 85 semi-container services. with 19 Ro/Ro, as well as two Lash and Seabee lines, respectively. The trading is mainly on the North Atlantic with the Far-East then following. From the Bremen ports approximately 20 feeder-lines are serving other ports to which the large containerships do not call. In this manner the Scandinavian area in particular is supplied from the Weser. (Bremen International)

Growth returns to cargo handling in 1984: Port of Hamburg

Hamburg is looking forward to cargo handling figures totalling 53 million tonnes by the end of this year, an increase of 4% over last year.

Of the projected total, general cargo is expected to account for 21 million tonnes, up 6.4% over 1983.

"These will be satisfactory results for 1984, considering the rather slow economic recovery," Mr. Klaus-Dieter Fischer, managing director in the office of the 'Port of Hamburg – The Representative', said.

He added that the strong showing of container handling was regarded with particular satisfaction. Growth is pegged at 15.5% this year, putting Hamburg over the "magic mark" of one million boxes handled. The projected total is 1,075,000 TEU with a total weight of more than ten million tonnes. Mr. Fischer noted that the trend toward point-point rather than port-port container flow was increasing. In Hamburg, boxes have a share of 48% of the total general cargo. These structural changes in favour of the container, will affect conventional cargo, which is expected to drop slightly to about 10.8 million tonnes this year.

"We see this development with somewhat mixed feelings. It is certainly a positive factor for Hamburg to have a strong position in container traffic and the future opportunities are well documented by the fact that Hamburg was chosen as one of the load ports for the round-the-world-services. But for the individual operator or service groups, the development brings problems, too: Mainly the need to further diversify the classic port services in order to make up for structural losses in this field," Mr. Fischer said.

He added that he expects the self-regulating mechanisms of Hamburg's unique port organization, that is the large number of competing private operators, will contribute to and support the process of adaptation and diversification. The success of these efforts, however, would depend on appropriate transport policy decisions, he said. The general structure of cargo flow is not expected to change in Hamburg. Germany's own foreign trade - import and export accounts for 70% of the total handled in Hamburg. Transit cargo-that is cargo for or from neighboring countriesaccounts for 30%. "Final figures will probably show a slight market share improvement for German exports handled via Hamburg. But this improvement must not be allowed to veil the problems for hinterland transports to and from Hamburg, arising from the rigid German transport rates regulations, when compared to the much more liberal rates in effect for EEC border crossing transports," Mr. Fischer said. (Dutch and Belgian ports benefit from these more liberal regulations.)

In the first three quarters of 1984, 15.6 million tonnes of general cargo were handled, an increase of 6.5%. Again for the first nine months, the figures for boxes stand at 784,000 TEU with a total weight of 7.3 million tonnes. This is an increase of 15.5% by TEU and 16.2% by weight.

"The operators will of course continue to invest to assure modern facilities and to offer an attractive costperformance ratio. German seaports continue to adhere to the principle of competition, if this takes place under fair conditions. We do not want subsidies, but we do want a framework of regulations, which already exists for our competitors in the west," Mr. Fischer said.

Mr. Fischer was referring to the more favorable rates structure for EEC-border crossing transports, making hinterland transport in Germany to and from the Dutch and Belgian ports less expensive than via German ports.

Africa-Europe

The West German ports are pressing the government for a relaxation of the regulations, allowing negotiable rates also for domestic transports. *(Hafen Hamburg)*

Kenya Ports handle more dry general cargo

More dry general cargo has been handled through the port over the first half of this year as compared to 1983. During the period of January through June, a throughput of approximately 1,334,044 tonnes of dry general cargo was handled compared against 1,271,902 tonnes handled over similar period last year.

There has been a rise in both exports and imports this year in comparison to last year and a combined improvement of 62,142 tonnes, a rise of 4.9%. The dry general exports alone went up by 14,559 tonnes from 580,755 tonnes handled last year to 595,314 tonnes for this year, an improvement of 2.5%.

Last year the performance of dry general imports was 691,149 tonnes as against 738,730 tonnes handled this year, which is higher by 47,583 tonnes, or 6.9%.

Looking at the major commodities handled during the first quarter of this year there was not a definite trend as some reflected a decline while others showed an improvement in comparison with last year. For instance, there was a decline in coffee tonnages.

Among the other main exports that showed a decline were cashewnuts, beans and peas, sisal, soda ash and cement and cement clinker. The commodities that had more tonnages handled during the first quarter this year compared with last year were: maize, wattle extracts, cotton, hides and skins, flourspar and molasses.

The comparative figures of the main imports indicate that more oils, agricultural machinery and petroleum oils were handled in the first three months of this year than in 1983. At the same time salt, sugar, fertilizers, wheat and coal showed poorer performance this year than last year.

Container traffic which has ever been on the rising side reflects an improvement of 7,437 Twenty Foot Equivalent Units (TEU's) during the first half of this year in comparison to last year. In the period January to end of June the port handled 46,925 TEU's of container which is 18.8% higher than last year's 39,488 TEU's handled in similar period.

Over the year 1983 a total of 83,843 TEU's of containers were dealt with. It could be fair forecast that this year the port will handle over 90,000 TEU's of containers. So far this year, April had the highest container traffic of 9,146.5 TEU's. (Bandari)

Increased transhipment in the port of Amsterdam in first half of 1984

Transhipment of goods in the last half year in the Port of Amsterdam showed positive developments. The Amsterdam Port Management has announced that there was a growth of 11.6% in comparison with the same period of the previous year. Nearly all sectors showed improvement, only ore and general cargo booked a decline. In total, 13.5 million metric tons of goods were handled. The number of ocean-going ships also increased by 138 to a total of 2,358; the total gross capacity increased by 493,000 tons to 14.7 million tons.

The decline in general cargo traffic was limited to 2.9%. In the past six months, about 1.3 million tons of general cargo were handled. In this package, conventional general cargo and the handling of automobiles grew respectively by 1.9% to nearly 626,000 tons and by 33.7% to about 131,000 tons. Container traffic declined by 7.8% to about 347,000 tons.

Plan for worldwide communication system is carried another big step forwards: Port of Rotterdam

It has been established beyond doubt that an integrated communication system with a worldwide reach as conceived by Delft Professors G.G.J.M. Poeth and H.J. van Dongen is technically and organizationally feasible. If Rotterdam takes a series of decisions quickly, with central governmental support, its highly industrialized port region on the mouth of the river Rhine will become a hub of a worldspanning communication system, among other things for port and freight flow information, in a few years' time.

A comprehensive study, which the two professors and a number of regional working groups have just completed, shows that the technical problems of setting up an advanced communication system are no longer insuperable and that institutional problems can be solved.

An elegant solution has been found notably for the trickly technical question of how to link the many computers of widely different makes, which are already installed in the Rotterdam port area. None of the firms which desire to be included in the proposed communication network, will need to trade in their electronic data-processing systems. And the confidentiality of company information is guaranteed too.

Another basic question was how to link such a close private infrastructure for electronic information and administration to international communication systems, such as satellite connections, glassfibre networks, telephone and telex lines, which in most countries are governmentoperated. For this problem too, a pragmatic answer was found, which the rapporteurs have worked out in main outline. The Dutch PTT will play a major role in all this.

These are a few salient points from a new report which Professors Poeth and Van Dongen have presented to Rotterdam on behalf of the Delft business school. It is the final version, which they compiled in a strikingly short time after a large number of Rotterdam working groups had reported on the value and feasibility of a long range of proposals and suggestions which the two professors had put forward in a preliminary report last year.

As far as can be gleaned for the 130-page final report, all the working groups, comprising over one hundred experts from all sectors of the regional port industries, are agreed that the greater part of the proposals are both useful and feasible.

The appendices include the report of the Logical Communication Working Group, which is of special interest, because the group has made a serious attempt to measure the size of the information flows passing through the port of Rotterdam. It has also tried to find out the number of times certain documents on incoming and outgoing cargoes are copied and what can go wrong in the process.

"Legislation and regulation have resulted in a multitude of prescriptions and exemptions, which warrants the conclusion that bureaucratisation in transport is assuming alarming proportions," is one of its findings. Small wonder that port enterprises feel a strong need for new infrastructural communication facilities capable of streamlining and speeding up the highly complicated administrative processes.

The working group adds the no less striking observation that it has been unable to spot in daily business practice any real structural bottlenecks which could seriously impede the transport process. Whenever vital information is missing for any incoming or outgoing cargo, the lack is reported and remedied immediately. Logical communications are functioning to a high degree informally so that unforeseen problems are solved quickly whenever they occur. "That is the strength of the highly flexible Rotterdam port industry," says the working group, which is nevertheless convinced that improvements in operational processes are desirable.

As Rotterdam is already a going concern, the final report proposes setting up a formal organization to keep up a full head of steam.

It is desirable to set up an administrative top body to monitor the scenario and make sure that the strategic intentions be kept firmly in view during preparations for the various parts of the programme. This steering group will have to assess the weight and future values of the various projects constantly in the light of current developments and decide on adjustments where needed.

Fortunately, such a top body is already available in a previously established steering group which can carry on in its present composition.

Yet the two professors suggest that the steering groups be equipped with a secretariat and an "intelligence apparatus". By the latter they mean a committee of experts thinking in strategic terms and capable of feeding new insights and ideas into the steering group at a high level. The Municipal Port Administration is to set up a working group whose job it will be to compose this highly expert panel and put it to work.

Another recommendation put forward by Messrs Poeth and Van Dongen concerns the setting up of an organization to build up the integrated information structure. Its executive might include representatives of the Dutch PTT, the Rotterdam Municipal Port Administration, the Municipal Audit Department, and the SVZ Foundation of Cooperating Transport and Seaport Enterprises as representative of the users.

In the concept of the Delft professor, the day-to-day management of the organization should be entrusted to a director, to be assisted by four project groups to work out solutions for the remaining problems of technical and logical communication, data banks, policy underpinning and coding.

Messrs Poeth and Van Dongen envision the Municipal Port Administration as the place for setting up a number of working groups to work out a range of infrastructural projects which do not directly pertain to the concept mentioned above but will be closely connected with it. These projects concern plans of strategic interest, including Rotterdam's connection with the central and east European railway systems, establishment of a couple of inland terminals on the Dutch-German border, solution of the problem of bringing inland shipping, rail freight and road haulage within reach of the Rotterdam information structure, and so on.

All these working groups will have to work out technical and organizational formulas for submission to the steering group, together with time schedules and tentative financing schemes. (Rotterdam Europort Delta)

Mexico buys port planning and operations know-how from the Port of Gothenburg Consultancy AB

The Mexican minister of Transport and Communications, Mr. Felix Valdez, recently signed a contract for port consultancy services with the Port of Gothenburg Consultancy AB, an affiliate company to the Swedish port.

The agreement starts with the Port of Lázaro Cárdenas on the west coast of Mexico and covers consultancy advice in port administration, operations, technical advice, courses for the training of port personnel etc.

The agreement is part of a modernizing program for Mexican ports which will cover four ports to begin with. The co-operation between Gothenburg and Lazaro Cardenas started in July.

Also, the Port of Gothenburg Consultancy AB is presently involved in a rationalizing program at the Port of Dar-es-Salaam in Tanzania as partner within the Swedeport consultancy consortium.

The Port of Gothenburg Consultancy AB, which arranged a 10-week course for Chinese port officials in 1983, has also had preliminary negotiations with the Port of Shanghai regarding parts of the large new harbour project which is under preparation for the Port of Shanghai.

Eight per cent cargo rise at Port of Gothenburg



12,000,000 tons of goods were handled at the Port of Gothenburg during the first half of 1984. This is an increase with eight percent compared with the 11,130,000 tons

Asia-Oceania

which were loaded and unloaded at the port during the first six months of 1983.

The imports of oil rose with nine per cent to 4,603,000 tons and oil exports were ten per cent up to 1,348,000 tons. Imports of dry cargo were 1,677,000 tons or eight per cent up, while exports rose to 2,597,000 tons which was twelve per cent more than a year ago.

A small decrease was noted in domestic cargo trafficwith three per cent to 1,775,000 tons.

Swedish stone export to the Netherlands



One million tons of granite have been forwarded from Gothenburg oil storage cavern construction sites to road and rail construction works on the Osterschelde in the Netherlands. Here, on the loading site at Tor Harbour in Gothenburg, blast rock is trucked aboard, while in Osterschelde grabs will be used to unload it.

ABP half year pre-tax profit £3.8M; Unchanged interim dividend

Associated British Ports Holdings PLC, Britain's largest ports business, announced a pre-tax profit of £3.8 million for the six months to end - June 1984 (1983: £6.8 million). The profit reduction is primarily due to the effects of the coal industry dispute.

Turnover for the half year was $\pounds 76.2 \text{ m}$ against $\pounds 78.5 \text{ m}$.

The directors have declared an unchanged interim dividend of 3p per share, which will be paid on November 7 1984 to shareholders registered on October 5 1984.

The Chairman, Mr. Keith Stuart, says in his interim review: "After a good start to the year, I had to inform the Annual General Meeting in May that, as a result of the dispute in the coal industry, profits for the first half of 1984 would be lower than in 1983. In the event, despite the fact that profits in the first quarter were higher than in 1983, pre-tax profit for the half year was $\pounds 3.8$ m, compared with $\pounds 6.8$ m.

"The financial outturn reflects the continuation of the coal industry dispute and the consequences for coal and steel exports. In all, the cost of that dispute has been a loss of revenue at our ports of at least $\pounds 1$ m a month.

"Competition from ports subsidised by national or local government, in combination with the excessive costs which continue to be associated with the Dock Labour Scheme, has been a further negative factor – affecting, for example, volumes and margins on some trades at Southampton. Hull suffers from similar problems, as well as from the reduced availability of general cargo."

The Chairman reports that, elsewhere, trading was generally satisfactory. "There have also been some encouraging developments. At Barry, it has been a particular pleasure to welcome back the Geest Line. At Immingham, Universal Pipe Coaters Limited began operations. This is an example of a promising joint venture bringing ABP the benefits of diversification. A further development at Immingham was the conclusion of an agreement with Conoco Limited and Calor Gas Limited for the construction of a new terminal to handle LPG and other products.

"Over the business as a whole action is continuing to improve efficiency. This inevitably involves job reductions at a number of locations."

On prospects, Mr. Stuart states: "Since the start of the second half of the year dock strikes, arising from the coal industry dispute and caused by factors totally outside the control of ABP, have brought further setbacks. The outcome for the fully year cannot be assessed. This must obviously depend on how soon the coal industry dispute can be resolved, and on the re-establishment of stability within the port industry itself. The directors are doing everything possible to minimise the effects of the industrial disruption."

In conclusion, the Chairman says: "The balance sheet remains strong. This will enable the business to be developed, for example through partnerships and joint ventures, as opportunities arise."

Mr. F. M. Wilson elected AAPMA president

Mr. F.M. Wilson, General-Manager, Port of Brisbane Authority, and J.M. Jenkin, Director of Marine and Harbours South Australia were elected president and vicepresident respectively, at the conclusion of the Association of Australian Port and Marine Authorities' 29th conference on 20 September 1984. Their term of office extends until the next biennial conference (30th) of the Association, which is expected to be in perch about September 1986.

On taking over as president AAPMA, Mr. Wilson referred to the excellent work done by the Association of Australian Port and Marine Authorities: he was proud that the Association was in such fine shape and he would encourage continuance of policies similar to those adopted under Mr. J.M. Wallace.

Mr. Wallace had held the office of president AAPMA from 10 February 1983 until he relinquished his appointment of president Maritime Services Board of New South Wales on 17 August 1984.

Cheju Port to be developed to an international level with 49.6 billion won.

KMPA (The Korea Maritime and Port Administration) has recently decided to positively develop the Cheju Port upto international scale enabling 10,000 tons level of the

largest vessels to come alongside the pier in the wake of 88's Olympic Games and to develop the port to an international tourist port with the various port facilities including the international passenger line terminal.

Cheung Yeun-Sei, administrator of KMPA has first announced the plan on the occasion of his inspection visit to Cheju District Authority. He said that 49.6 billion won of the construction cost is to be invested during the next year to 1988. 2,120 meters of breakwater, 305 meters of quay, 4,000 square meters scaled international passenger line terminal.

Mr. Cheung, administrator further said that a regular international passenger line between Cheju-Shimonoseki, Japan is to be established, thereby Cheju will be completely changed to better appearance.

Besides the above, Sugipo Port is to be developed into not only a tourist center of southern region but also a marine traffic center in order to smoothly transport the orange and other cargoes. A total of 9.7 billion won will be financed beginning 1987 for the construction of 1,200 meters of breakwater and 240 meters of quay, enabling 1,000 tons level carferry to come alongside the pier and Sungsanpo and Hallim Port to be a satellite or an auxiliary port of Cheju Port. *(Korean Maritime News)*

IHI* belt-type continuous grain unloader consumes less power without pollution

The pneumatic type or grab bucket type unloaders have been mainly employed in unloading bulk materials. In recent years, however, the demand for the new energysaving type unloaders without causing pollution has sharply increased.

To satisfy such demand, IHI has developed the IHI belt-type continuous unloaders, which are the more advanced continuous grain unloaders utilizing belt conveyors in operational power requirement and to lessen noise and dust dispersion.

The first unit of the new type unloader was recently installed at Kushiro Port for the Kushiro municipal government in Hokkaido and it operates without a hitch by displaying its full capacity of 400 t/h for grain unloading.

Significantly, the new unloader consumes only one-fifth of power requirement of the conventional pneumatic unloader with the same unloading capacity.

Main highlights

The IHI belt-type continuous unloader is capable of conveying materials by the box-type belt conveyor system from the ship's cargo hold to the wharf conveyor and has the following features:

1. Energy-saving

The power consumption of the unloaders is 20% of the grab bucket type unloaders and 60% of the chain type unloaders in the case of 400 t/h capacity.

2. Dust suppression

The conveying system is totally enclosed to suppress dust dispersion.

3. Low noise

Because of the belt-type conveying system, the noise level is very low (about 65 dB) under operational condi-

tions.

4. Low damage rate

By virtue of the belt conveyor system, materials such as grains do not suffer from damage caused by friction and velocity changes between materials and the conveying system sometimes experienced with the pneumatic type. The damage rate is 1/2 that of the pneumatic unloaders.

5. Easy maintenance

Since conveyance is achieved by belts without newly developed or special components, maintenance of the unloaders is performed easily and economically.

6. Higher safety

All machinery except a pair of screws for the digging device are enclosed with covers or casings and the rotating part is not exposed. The screws are guarded by fenders for safety.

7. Wide working area

The unloading boom with the digging device on its top is of the articulated type and the articulated parts are connected with pins. Accordingly, the digging device can reach almost all the areas in the cargo hold, thus resulting in highly efficient unloading work.

8. Excellent functions

The head and middle boom angles can be constantly kept as predetermined by the parallel linkage mechanism provided on the main boom when the inclination angles of the main boom vary. Eventually, the head and middle booms can be positioned and inserted easily into the cargo hold. Furthermore, the boom operation is carried out by either way from the operator's cab or by the wireless (radio) control box on board. *(IHI Bulletin)*

* Ishikawajima-Harima Heavy Industries Co., Ltd., Japan (An Associate Member of IAPH)

Port comparisons: Port of Auckland

Increased competition among ports for customers and tighter trading conditions for those in the business of moving cargoes between countries by sea have created among New Zealand's port users a keener interest than ever before in the quality and cost of port services.

The Port of Auckland, with its well-developed facilities, including New Zealand's major container terminal, is on the doorstep of the country's most densely populated and heavily industrialized region. It is the logical gateway for goods flowing to and from that region and in some cases beyond. More than half of all general cargo entering New Zealand does so through Auckland and around 90 per cent of that cargo is for end-users in the Auckland region.

But this does not stop competing ports from claiming that what Auckland can do, they can do better. Comparisons are frequently made between Auckland's operations and those of competing ports, and this is reasonable. Any service industry should welcome cost-efficiency comparisons as an indicator of performance.

What can be unreasonable and potentially harmful to the port industry as a whole is the all too frequent practice of drawing comparisons which eventually prove invalid because of unsound basic information.

As a minor example, the tonnes per hour handling rates of Auckland and a competing port for supposedly identical shipments of steel were recently quoted with the competing port's rate well up on and therefore less costly than Auckland's. The shipments proved to be exports of billet steel at the competing port and an awkward mixture including export billets and import rod and sheet steel, at Auckland. In the light of full information the difference in handling rates was understandable.

To be of use to the industry, such reports should compare like with like, or apples with apples, as the saying goes.

Cost comparisons which are unbalanced because of differing operational and accounting procedures; package deals which have surface attractiveness but do not foresee problems inherent in involving additional sections of the workforce or which reduce costs for one section of the industry only at the expense of another; operational comparisons where throughput and unit cost disparities are ignored — such statements and proposals usually prove to be of little value to anyone.

The best way to deal with competition in a service industry is to forestall it by providing services that attract users on the grounds of cost and efficiency, and then to make sure that users and potential users of such services are fully aware of their availability.

This is the tack being taken by the Management of the Port of Auckland. So far this year the port has received and largely actioned recommendations resulting from a comprehensive study of Fergusson Container Terminal by the Port of Felixstowe Consultancy Service. The port has contracted an experienced Container Terminal Manager from Australia to streamline the Terminal's activities and it has purchased around \$1 million worth of new cargo-handling equipment, including a container mover to facilitate the use of a wider range of wharves for containers.

In the conventional port, a 'quick despatch' berth has been created at Jellicoe Wharf to meet the needs of port users operating self-sustaining ships carrying containers or unitised and pre-slung cargo.

Construction of the port's new heavy duty wharf in the Kings/Bledisloe Stage II redevelopment is on schedule to provide at the end of 1985 greatly increased capacity to handle cargo in heavy units from a variety of ship types.

A further \$2 million worth of cargo handling equipment will be purchased during the current year to further increase the efficiency of the port, in particular the Container Terminal. And as part of its recently adopted corporate plan, the port will later this year establish a marketing section with the role of researching port customers' needs, promoting the port's services, developing new or changed services to meet customer's requirements, selling services in competition with others and ensuring that services of required quality can be provided at acceptable cost. (Port of Auckland)

Board restructures committees: Wellington Harbour

Complementary to the streamlining process being undertaken by the Wellington Harbour Board administration, the Board itself has restructured its own standing committees.

These now are: Finance, Staff and Administration;

Engineering and Works; and Marketing and Operations.

General Manager Mr. Frank Baldwin says the restructuring of these committees matches the new departmental responsibilities and the new positions created by the Board.

"We hope this will improve the management of the Board as each head of department will now report to his own specialized Board committee. This gives the information flow a much easier track and enables a better understanding in developing policy" says Mr. Baldwin.

He pointed out that each particular standing committee now has the function and responsibility to develop policy covering that particular area of the Board's work.

The new standing committees for the Wellington Harbour Board are: -

Marketing and Operations Committee

Mr. I.P. Carr (Chairman), Mr. G.D. Anderson, Mrs. H. Bibby, Mr. S.K. Spry, Mr. A.E. Woolf, Mr. J. King (ex officio).

Terms of reference:

To develop policies and receive reports covering: -

Port operations, trade, marketing and trade promotion, public relations and port promotion, port and harbour development planning, future port user needs, projections of future cargo trades.

Engineering and Works Committee

Mr. B.H. Barraclough (Chairman), Mr. I.G. Renall, Mr. P. Kelliher, Mr. L.C. Little, Mr. J. King (ex officio). Terms of reference:

To develop policies and receive reports covering: -

Alternative port facilities, planning, design and construction of projects, works and services, floating dock and floating crane, maintenance and repair, utilities and fuel services, engineering workshops.

Finance, Staff & Administration Committee

Mr. N.J. Gould (Chairman), Mr. R.D. McLaren, Mr. J.W.S. Mooney, Mr. R.A. Palmer, Mr. J.O. Stewart, Mr. M.J.S. Neal, Mr. J. King (ex officio).

Terms of reference:

To develop policies and receive reports covering: -

Industrial and personnel policy and functions, legal and administration policy and relationships with government and statutory bodies, the Marine Museum, computers, property administration, insurance. (Beacon)

NZPA Ioan approved: Wellington Harbour

The New Zealand Ports Authority has approved Wellington's \$3.2 million redevelopment work of the northern area of Aotea Quay and the relocation of the oil berth.

The approved work was one of the fifteen applications by various boards for harbour works worth more than \$73.4 million.

In its annual report tabled in parliament, the ports authority says that deregulation of the transport industry could lead to a revival of coastal shipping while the improving world economy will also boost trading at major ports.

(Beacon)







Automated ΛΛ TCI r Termind Masses of data! S **ie**

But how to process it for efficient handling of containers?

The Mitsui System can speed up and rationalize container handling to give increased benefits from container transportation. Developed in 1972, this system has proved its efficiency at the busy Ohi Pier, Port of Tokyo, and it could be working for you in solving your container terminal problems, particularly those in the fields of cargo information and operations systems.

MITSUI Automated Container Terminal

- System Consists of 6 sub-systems. 1. Yard Plan Computer System
- 2. Yard Operation Computer System 3. Data Transmission and Oral Com-
- munication System
- 4. Transtainer[®] Automatic Steering System
 5. Transtainer[®] Operation Supervising System
- 6. Portainer® Operation Supervising System

Computer Room Gate Office
 Operation Room Portainer[®]
 Bail-Mounted Transtainer[®] **6** Rubber-Tired Transtainer®

ŝ

÷.



Head Office: 6-4, Tsukiji 5-chome, Chuo-ku, Tokyo, 104 Japan Cable: "MITUIZOSEN TOKYO", Telex: J22924, J22821 Material Handling Machinery Sales Department Tel. (03) 544-3677 Systems Headquarters Marketing Dept. Tel (03) 544-3272 Overseas Office: New York, Los Angeles, Mexico, London, Duesseldorf, Vienna, Singapore, Hong Kong, Rio de Janeiro