

Ports & Harbors

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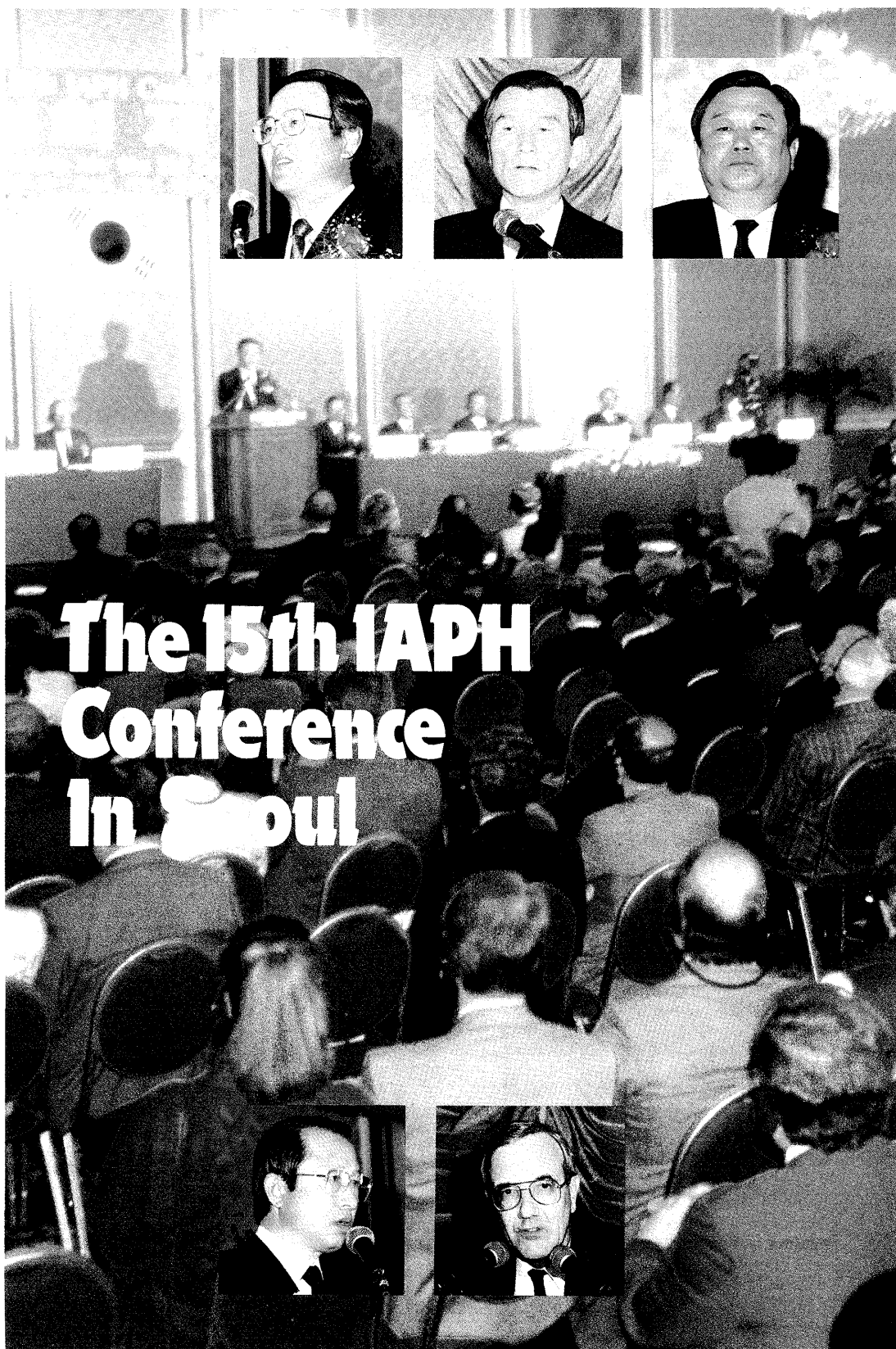


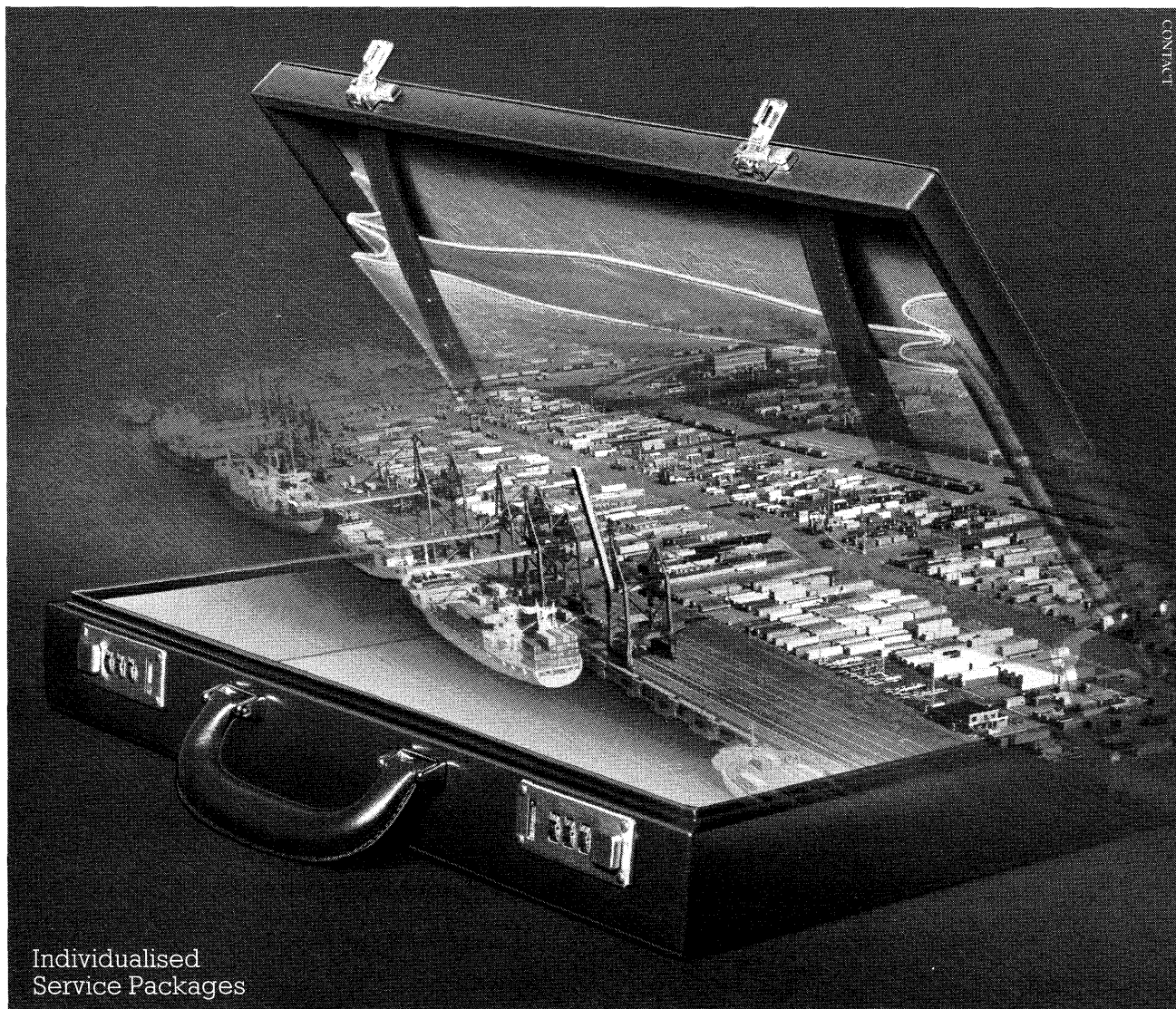
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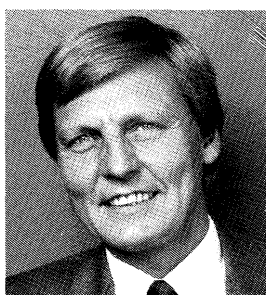
Cover:
Seoul Conference

The official opening ceremony of the 15th Conference of IAPH at Seoul. Inset are, from left: (above) Mr. Kim Mahn-Je, Deputy Prime Minister of Korea; Mr. Cha Kyu-Hun, Minister of Transportation of Korea; Mr. Yum Bo-Hyun, Mayor of Seoul; (below) Mr. Cheung Yeun-Sei, Conference Chairman & Administrator of KMPA; and Ir. J. den Toom, IAPH President & Managing Director, Port of Amsterdam.





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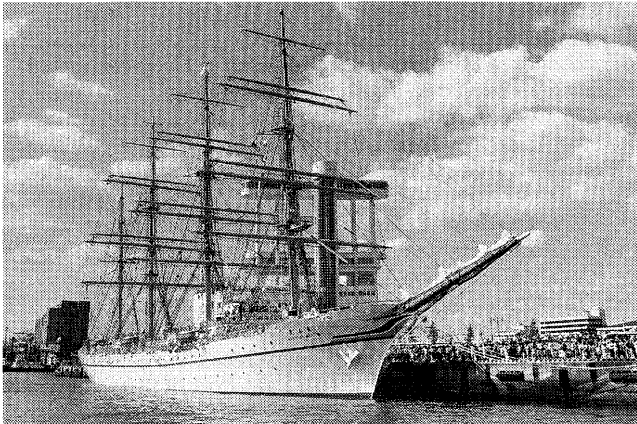
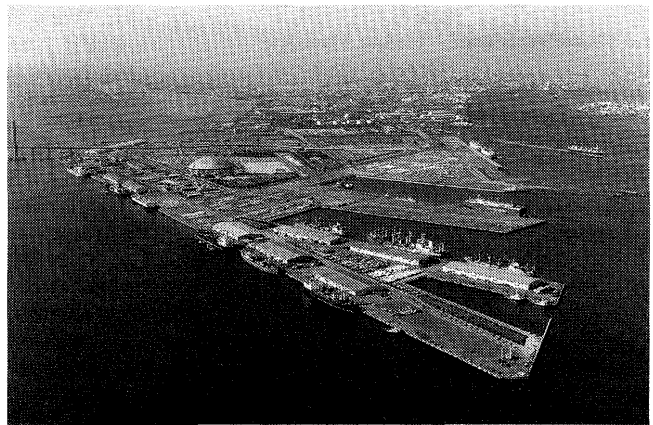
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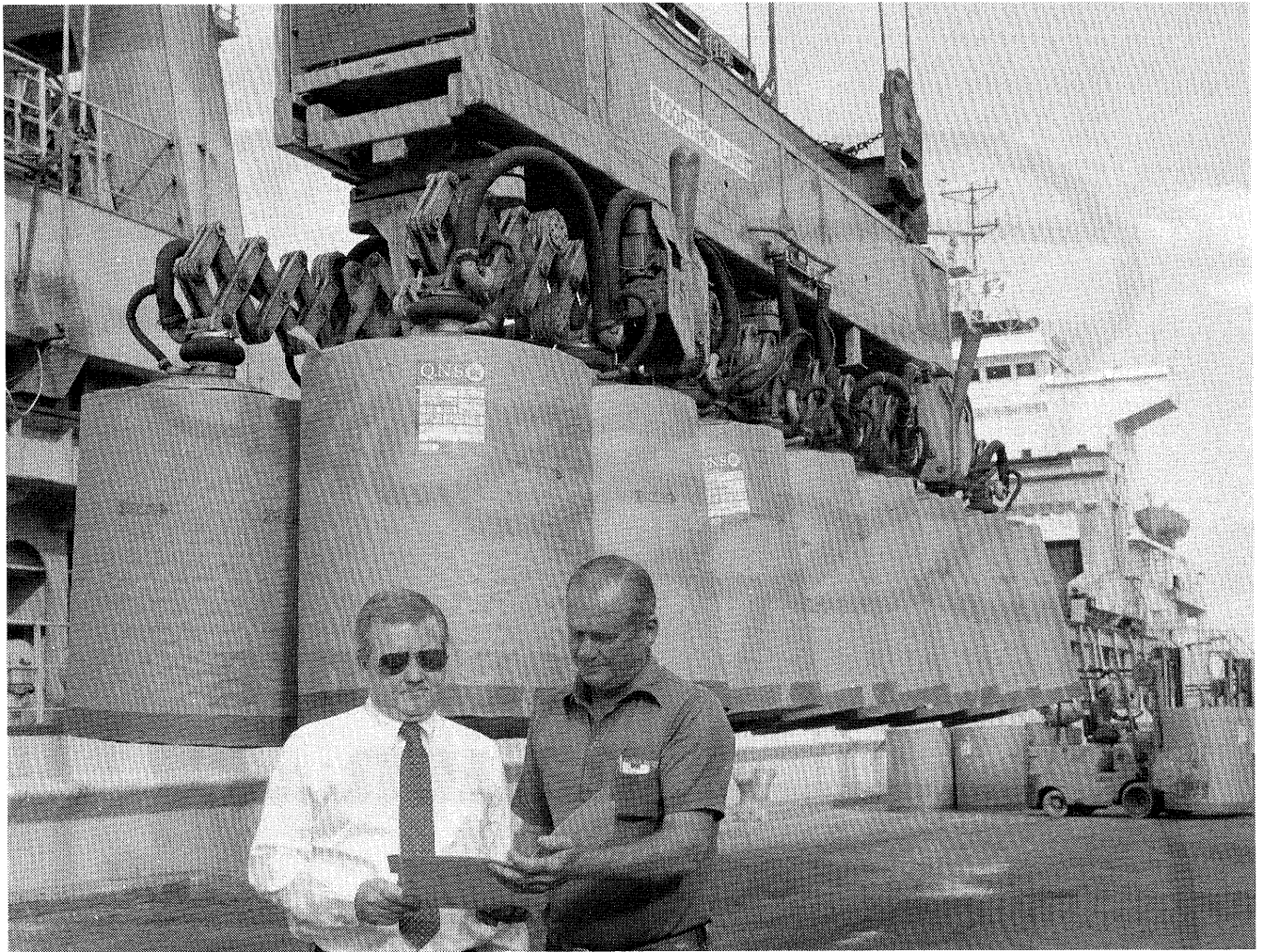
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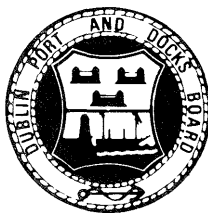
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IAPH ANNOUNCEMENTS AND NEWS

The 15th Conference at Seoul

IAPH global family gathers together for dialogue on ports of tomorrow



*Minister of Marine Lamine Fadika of Ivory Coast
delivers the keynote speech*

The 15th Conference of our Association was held in Seoul, Korea, from April 25 to May 1, 1987. It was attended by 633 delegates and 260 accompanying persons from 52 countries.

For the benefit of all the participants upon their arrival at Seoul's Kimpo International Airport there was a special IAPH counter manned by people with arm bands of the Seoul Conference waiting to help them get through the customs areas smoothly and to get to the downtown hotels by specially-run shuttle buses. However, the extremely impressive service they received at the airport was only the first taste of the VIP treatment they were to receive throughout their stay. The participants were continuously impressed with the warm welcome and hospitality of our Korean hosts, both at the functions which took place throughout the Conference week in Seoul and also during the post-Conference tours. Those who attended the Conference certainly took home with them favorable memories of Korea, the country where the Olympic Games are to be held next year.

We are convinced that all who participated in the Seoul Conference will share our feelings of admiration and appreciation towards Mr. Cheung Yeun-Sei, Conference Chairman, and all our Korean friends who devoted themselves to making our Conference such a stimulating and memorable event.

For the benefit of our members and readers, particularly those who were unable to attend the Seoul Conference, the Tokyo Head Office assigned Mr. Joseph Zangi, a Tokyo-based freelance reporter, to be present at the Conference and to interview several key officials. We are pleased to be able to present these interviews together with his brief report on the Conference in this issue without having to wait for the July-August combined issue, in which full details of the Conference will be featured.



Delegates from 52 countries at the official opening ceremony

Conference Reconfirms IAPH's World Role

By Joseph Zangi

In describing the 15th IAPH Conference in Seoul, the expression most frequently voiced by the participants was "extremely impressive." This praise for this international event echoed from the opening ceremony on April 27 under the theme "Ports Looking into the 21st Century" to the farewell dinner and dance at the end of the eight-day event in Seoul.

The 15th IAPH Conference was meticulously planned in advance and the painstaking fine organization showed through as the Conference was tastefully elaborate, extremely informative, and ultimately successful in opening channels of communication and making people aware of topics of concern facing the world's ports and harbors.

Present at the 15th IAPH Conference were some 900 participants representing some 52 countries from around the world, including dignitaries of the Korean government and leading figures of the world maritime industry.

Highlighted at the Conference were six working sessions forming the technical or informative base in which experts in the field presented papers exploring port and related economic developments that are now affecting or will have future impact on the ports of the world through the end of this century and into the next. In an ever changing world

with rapid economic and technological developments, the theme for the 15th IAPH Conference was most appropriate in order for ports to look ahead to meet these challenges. The conference provided a forum for delegates of the ports of the world to get together to discuss their industry, present their views and listen to others in an effort to bring the community of ports and harbors together for better understanding and to look for solutions for shared problems and concerns.

Proclaiming the opening of the 15th IAPH Conference at the Crystal Ballroom at the elegant Lotte Hotel in downtown Seoul, Kim Mahn-Je, Deputy Prime Minister of the Republic of Korea, stated, "Ports have been increasingly playing an important role as the center of international trade rather than mere links between sea and land transportation."

In his opening speech, Cheung, Yeun-Sei, the Conference Chairman and Administrator of the Korean Maritime and Port Administration said, "I trust this conference will aid us all to meet the demands of the times through the exchange of opinions on matters of common concern and through close cooperation of our member countries."

He continued, "Ports today cannot promote their development and prosperity without improvement of relationships with other ports, because ports are shared by nearly all countries of the world and are interdependent on one another in

(Continued on Page 10, Col. 1)

Mr. Jose Paul, left, the first prize winner in the IAPH essay contest, received the "Akiyama Prize" at the 1st Plenary Session on April 27 from Mr. Toru Akiyama, the donor of the prize; President J. den Toom of IAPH is seen in the right (Photo by ZAP)



Mr. Jose Paul gave his address of thanks after the commendation (Photo by ZAP)

Conference Success Result of Presentations and Discussions



(Above, right)

Visiting Port of Incheon are, from left: Mr. and Mrs. James H. McJunkin, Mrs. J. den Toom, Ir. J. den Toom, Mr. Huh-Taek, Director General, Incheon District Maritime and Port Authority, and Sir Keith Stuart

(Above, left)

Useful information was exchanged at Working Session



(Left)

A ribbon is cut to open the Photo Exhibition related to Ports on April 26

Guidance for World Ports

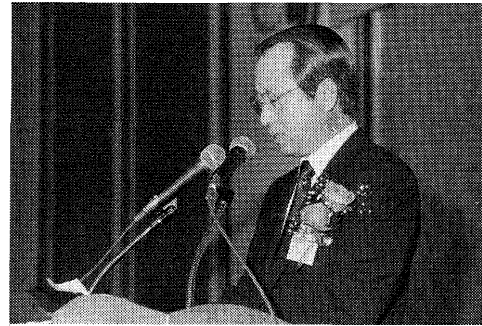
Cheung Yeun-Sei

Conference Chairman, Administrator, KMPA

In an interview with Cheung Yeun-Sei, Conference Chairman, he expressed his views of the overall success of the 15th Conference in Seoul.

He noted that IAPH is a non-profit organization whose aim is to increase the efficiency of the developing ports while at the same time facilitating and promoting the fraternity and development between world ports. In this context he expounded on the success of the Seoul Conference as it had served its purpose in meeting the objectives of IAPH.

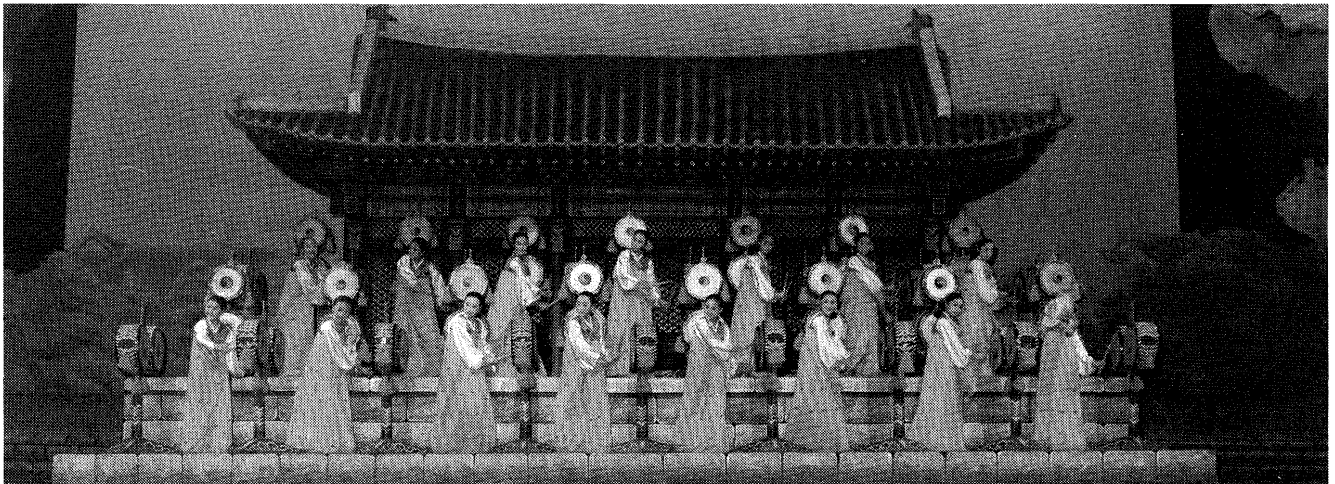
"First the Conference has served as an opportunity for ports to look at the development of ports as we move closer



to the 21st century. Participants at this IAPH Conference are the experts on ports, port management and operations with a wide range of experiences. During the discussions held for the past eight days they were able to discuss and analyze the challenges that ports in the 21st century will be facing. This will aid in planning the directions the ports will set for their future development."

"I am convinced that the analyses presented at this Conference will serve as a guidance for many of the world ports. Through these discussions on the future directions of

(Continued on Page 31, Col. 2)



Little Angeles are performing a Korean folk dance at Welcoming Dinner hosted by the Conference Chairman

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the age of 'the global village.'"

The keynote speech by Lamine Fadika, Minister of Marine, Ivory Coast, stressed the changing marine and port environment and the necessity for ports to be prepared for the future, especially for ports in developing countries where the need is even more conspicuous and urgent.

Opening addresses by Cha Kyu-Hun, Minister of Transportation, Republic of Korea, Yum Bo-Hyun, Mayor of the Seoul Metropolitan Government, and Ir. den Toom, President of IAPH, also highlighted the first day opening ceremony. In his speech den Toom expressed his "deepest gratitude and appreciation to our hosts in Korea." In his address he reflected that "our look into the future will give us fresh insight into the many issues to which we must currently have regard. There are many of these, as our work programme continues."

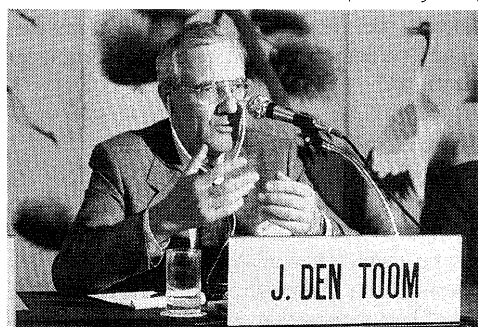
The Association of Ports and Harbors has evolved from its

establishment in 1955 whose purpose was to create an international organization for ports of the world to exchange views and information in such a manner as to bring the community of ports and harbors closer together. The organization now comprises 231 regular members from 79 countries plus another 123 associate members.

Near the close of the Conference, at the Synthesis Session on Friday, May 1 which was chaired by Sir Keith Stuart, 3rd Vice-President of IAPH and Chairman of Associated British Ports, he recognized the need for both competitive forces as well as cooperation among world ports as the means for survival and growth. He especially stressed the necessity for regional coordination and cooperation among ports.

In interviews with five prominent IAPH delegates, they individually expressed their views on the success of the 15th IAPH Conference in Seoul, the useful dialogue and information exchange generated at the conference, and the future endeavors of this very important international organization, the International Association of Ports and Harbors.

(Photo by ZAP)



A Reinforced IAPH

J. den Toom

**President, IAPH 1985-1987
Managing Director, Port Management of
Amsterdam**

"I am very much impressed by the way the Koreans have organized the Conference, from the airport, to the quick registration into the hotel, to the accommodations and the many spacious meeting rooms. This has all impressed me very much in regarding our hosts as a people who know how to organize," said J. den Toom, whose presidency of IAPH ended at the closing ceremony of the Seoul Conference.

He added, "To be honest there was really no reason for surprise because we already knew how the Korean economy was developing and their growing industrial potential. There are really making enormous progress in the direction of a real fully developed nation."

Concerning the 15th IAPH Conference itself he also praised the organization and noted that in total numbers, "this is the biggest conference we have ever had."

Den Toom has had extensive involvement in IAPH, attending all the biennial IAPH Conferences starting with the London Conference in 1965, the Seoul Conference being his twelfth. He also attended all the midterm Executive Committee meetings from that 4th to the 15th IAPH Conference as well.

It is common practice that the term of President of IAPH is for two years. "I think it is a very good idea because when you are a world organization, world representation is necessary and now the next president will be from Asia/Australia, Mr. Wong. I am very confident in Mr. Wong, who is a very able port manager of the Port of Singapore. He has a lot of knowledge about ports, port development and economics and I am sure the period of the coming two years will be very fruitful under his leadership."

As for the two-year period leading up to the 15th Conference in Seoul, den Toom cited the "excellent work carried out by the technical committees." He continued, "A conference of about five days is always too short to show all the richness of what was done in the last two years. It is very important that there is the PORTS AND HARBORS monthly magazine providing us with information and reports, but

(Continued on Page 12, Col. 1)

(Photo by ZAP)



To Meet Challenges Ahead

Wong Hung Khim

**1st Vice-President, IAPH 1985-1987
President, IAPH 1987-1989
Executive Director, Port of Singapore**

"I am naturally delighted and very honored to be chosen as the next President of this truly international organization," said Wong Hung Khim, 1st Vice-President of IAPH and Executive Director, Port of Singapore.

Wong's involvement with ports and harbors began in 1979 when he took over as the Chief Executive of the Port of Singapore. It was shortly after that that he attended his first IAPH Conference in Le Havre that same year. "I was impressed by the number of delegates that attended the conference and by the variety of topics discussed and papers presented. That conference also gave me the opportunity to meet experts in the field."

Since the Le Havre Conference, Wong has been actively involved in IAPH, calling it "a tremendous and truly international organization." He added, "Of course, like all things there is room for improvement."

"Our Association is acutely aware of the fact that we need more members from the Spanish speaking groups of ports, primarily those from Latin America. We would also like to have more members from French speaking countries in Africa. It will be one of our focuses in the next two years to try to increase membership from these two regions."

Coinciding with this aim, the next year's Executive Committee meeting will be held in Abidjan in the Ivory Coast, a French-speaking African nation. "We were fortunate and honored to have the Minister of Marine, H.E. Lamine Fadika, as our guest of honor and keynote speaker at this Seoul Conference." With regard to the Spanish speaking groups of ports, the next 1989 IAPH Conference will be held in Miami and the following conference in 1991 is planned to be held in Spain.

Speaking about the 15th Conference in Seoul, Wong stated how impressed he was with the way the Koreans went out of their way to make this year's conference such a success. "The Koreans are hardworking and left nothing to chance. One year ago they presented the draft program complete with a video show of what to expect. With this kind of prepa-

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A Reinforced IAPH

(Continued from Page 11, Col. 1)

when you put together and review the work that has been done in the period of two years you really see the amount of valuable work that has been done. The very good preparations of the technical committees, the preparations made by the chairmen of the working sessions and all the papers presented have made for a most successful conference."

Den Toom commented on the next IAPH Conference, to be held in Miami, and stated his confidence in the future of IAPH. "We will start the period of the next two years with a reinforced IAPH." A new development that will further fortify IAPH was an agreement reached providing for a London office, placing Mr. Alex Smith at the full disposal of IAPH.

"I'm sure that in the coming two-year period leading up to the Conference in Miami, we will be coming out from this Conference as a stronger organization than we already are now."

Den Toom expressed his gratitude for being allowed to remain a member of the Executive Committee as the ex-president and for being elected or nominated to the Executive Committee for a period of twenty years; he became a member of the Executive Committee in 1967.

He expressed his intention of stepping down as port manager of the Port of Amsterdam as of July 1, 1987. "For

me it is very satisfactory that at the end of my career as port manager, I've been president of this important international organization."

To Meet Challenges Ahead

(Continued from Page 11, Col. 2)

ration I had no doubt that they would host a most excellent conference—which has all come true."

Concerning the technical contents of the 15th IAPH Conference, "The papers that were chosen for discussion were all very appropriate and the presentations by the speakers were all excellent. The presentations generated a lot of interest and discussion and I'm quite sure that the information will be quite beneficial to all ports," said Wong. "Issues and topics presented are those facing the port industry looking into the 21st Century and it is always good to look ahead, giving us plenty of time to map out the various measures to meet the challenges ahead."

"Lastly I would like to pay my compliments to all those who have worked so hard behind the scenes in making sure this 15th IAPH conference in Seoul was such a success: the people from the IAPH head office, the Secretariat people, the organizing committee and all the other people that made sure all our logistic needs were met. Because of their contribution and hard work, we were able to have such a superb conference."

Standardization—Major Step

James H. McJunkin

**Chairman, Constitution & By-Laws Committee
1985-1987**

1st Vice-President, IAPH 1987-1989

Executive Director, the Port of Long Beach

James H. McJunkin, Executive Director, the Port of Long Beach and the in-coming 1st Vice-President until the 1989 Miami Conference, commented in an interview on the Seoul Conference and some important functions of the IAPH. For the two-year period 1985-1987, McJunkin served as Chairman for the Constitution & By-Laws Committee of IAPH.

McJunkin's involvement in IAPH goes back more than a decade. He traced the organization's history back some 30 years when the Association was primarily established to create a truly international forum of ports from around the world for the exchange of experience and expertise and to aid the developing nations with expertise in building, constructing new facilities and operating their ports. He noted that today's IAPH has become a more general international organization providing a forum for information exchange concerning issues that affect all ports and promoting development of the industry as a whole.

McJunkin stated that the 15th IAPH Conference in Seoul was "excellent both in terms of content, organization and hospitality."

The format of the Conference, the general sessions and then breaking into individual work sessions made for a great

deal of dialog and discussion of the many problems in shipping and ports. McJunkin's session specifically dealt with the underdeveloped countries whose government fail to recognize the true importance of ports.

McJunkin noted a new development in the IAPH organization, having a representative in Europe, Mr. Alex Smith. The organization is growing and it is important that IAPH have the manpower to lobby other world organizations such as various U.N. groups to represent the issues favorable to ports because these rules often result in international treaties.

He especially noted that the session with Elisabeth E.A. Muller on the issue of international standardization of documentation. "This would be a major step for our industry and is another project for IAPH that could be realized before the 21st century," said McJunkin.

McJunkin took the opportunity to praise the Conference as a time for all members to get together in one place and be given time to express themselves and their concerns. "If we are to tackle some of these issues that affect our industry then we must get together at gatherings such as these."

(Photo by ZAP)



Mr. Lunetta, right



To Host Next Conference

C.J. Lunetta

**Chairman, Cargo Handling
Operations Committee (1985-1989)
Conference Vice-President, IAPH
Director, Port of Miami**

"I was very impressed by the way the conference was put together. The Koreans and all the people who were involved in the preparation and organization of the 15th IAPH Conference did just an outstanding job," said Carmen J. Lunetta, Director, Port of Miami, and Conference Vice-President of IAPH. For the 1985-1987 period, Lunetta served as Chairman for one of IAPH's Technical Committees, Cargo Handling and Operations. In addition it will be Lunetta's and the city of Miami's job to host IAPH's next conference, the 16th IAPH Conference in Miami in 1989.

Lunetta commented on the "fantastic hospitality and service" and cited that "the facilities are much like those of Miami—Miami is a conference city."

He added, "The Seoul Conference is going to be a hard

act to follow, but those are the kind of challenges we like in Miami."

Miami put in its bid to host the 1989 IAPH Conference and was chosen primarily for the city's ability to handle large groups. Miami, the cruise capital of the world, has some 25,000 to 50,000 people going through its port in a weekend.

The city of Miami is one of the fastest growing cities in the United States and the state of Florida itself will be the third largest state in terms of population by 1990. Miami is a tri-ethnic community with natural ties to the Caribbean and Latin and South American countries. Lunetta described Miami as a "vibrant city that has successfully transformed itself from a tourist type city to a vibrant international city."

With regard to the 15th IAPH Conference in Seoul, Lunetta said, "I think that this was probably the best program I've seen IAPH put on." He continued, "There have been some really outstanding papers that have generated a tremendous amount of dialogue and interfacing between the three IAPH designated regions: Asia/Australia, Europe/Africa and the Americas."

"The dialogue was overwhelming, so much so that the biggest complaint was that there often wasn't enough time to fully discuss some of the meaty subject. That could be because our industry is evolving so rapidly and there is so much new information. We've had some very far-reaching papers presented to us—papers looking into the future of our industry and what is going to be required going into the 21st century."

Changes in the industry and changes in the economies of countries are sure to generate a great deal, if not more, discussion at the 1989 Conference in Miami. The trade reform issues and trade policies that are presently being enacted and how they will or did have an impact on ports will also come to the foreground at the next IAPH Conference. "What we are doing is gearing ourselves for the 21st century and I think that theme can be carried on in even greater detail in 1989," said Lunetta.

Officers and Executive Committee Members for the New Term

At the Seoul Conference, the following individuals were elected to serve as President and Vice-Presidents for the new term leading up to the Miami Conference in 1989:

President: Wong Hung Khim, Executive Director, Port of Singapore Authority, Singapore

1st Vice-President: J.H. McJunkin, Executive Director, Port of Long Beach, U.S.A.

2nd Vice-President: J. Mather, Managing Director, Clyde Port Authority, U.K.

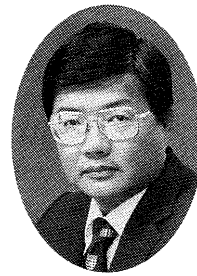
3rd Vice-President: Cheung Yeun-Sei, Administrator, Korea Maritime and Port Administra-

tion, Korea

Conference Vice-President: C. J. Lunetta, Port Director, Port of Miami, U.S.A.

The members of the Executive Committee for the new term are introduced on the next page. The 21-member Exco includes three new faces: John Mather from the U.K. as 2nd Vice-President, Carmen J. Lunetta from the US as Conference Vice-President and Yoshiro Haraguchi from Japan in replacement of Sir Keith Stuart, A.J. Tozzoli and Fumio Komura. The Exco is composed of the President, three Vice-Presidents, one Conference Vice-President, the immediate past President, six members appointed by the President (denoted by (A) in the list) and nine members elected by the Board (marked (E)).

Mr. Wong Hung Khim of Singapore heads IAPH for the next two years



President
Mr. Wong Hung Khim
Executive Director
Port of Singapore Authority
Singapore



1st Vice-President
Mr. James H. McJunkin
Executive Director
Port of Long Beach
U.S.A.



2nd Vice-President
Mr. John Mather
Managing Director
Clyde Port Authority
U.K.



3rd Vice-President
Mr. Cheung Yeun-Sei
Administrator
Korea Maritime and Port
Administration
Korea



Conference Vice-President
Mr. Carmen J. Lunetta
Port Director
Port of Miami
U.S.A.



Immediate Past President
Mr. J. den Toom
Managing Director
Port Management of Amsterdam
The Netherlands



Mr. Aftab Alam (E)
Chairman
Karachi Port Trust
Pakistan



Mr. Robert Cooper (A)
General Manager
Auckland Harbour Board
New Zealand



Mr. Jacques Dubois (E)
Ingénieur Général des Ponts
et Chaussées
France



Mr. Fred Gingell (E)
Chairman
Fraser River Harbour Commission
Canada



Mr. Yoshiro Haraguchi (E)
Executive Vice-President
Nagoya Port Authority
Japan



Mr. C.L. Jordan (E)
General Manager
Port of Melbourne Authority
Australia



Mr. Alexander Krygsman (A)
Port Director
Stockton Port District
U.S.A.



Mr. Richard P. Leach (A)
President
Port of Houston
U.S.A.



Mr. Michio Morihira (A)
Director-General
2nd District Port Construction Bureau
Ministry of Transport
Japan



Mr. Philip O. Okundi (A)
Managing Director
Kenya Ports Authority
Kenya



Mr. Joerg Rommerskirchen (A)
Head, Office for Port,
Shipping and Transport,
City of Hamburg
Fed. Rep. of Germany



Mr. Erik Schäfer (E)
General Manager
Port of Copenhagen
Denmark



Mr. Fernand L.H. Suykens (E)
General Manager of the Port
City of Antwerp
Belgium



Mr. Dominic J. Taddeo (E)
General Manager & Chief
Executive Officer
Port of Montreal
Canada



Mr. W. Don Welch (E)
Executive Director
South Carolina State
Ports Authority
U.S.A.

Note: (A) for Presidential Appointive Members
(E) for Board's Elective Members

The new Secretary

General of IAPH

appointed;

Mr. Hiroshi Kusaka

succeeds

Dr. Hajime Sato



At its pre-conference meeting held jointly with the Executive Committee on April 26, in Seoul, Korea, the Board of Directors appointed Mr. Hiroshi Kusaka as the Secretary General of IAPH to succeed Dr. Hajime Sato, based on the recommendation earlier made by Dr. Sato. Dr. Sato who had been in the position of Secretary General since 1973, had indicated his intention to step down from the post and to have Mr. Kusaka take over the responsibilities of the Secretary General after the Seoul Conference. Dr. Sato's retirement and recommendation of his successor were duly supported by the Board, and as a result Mr. Kusaka's appointment has

become a reality.

Mr. Kusaka joined the IAPH Head Office in 1977 and has since been serving as Deputy Secretary General under Dr. Sato. Mr. Kusaka was born in Hokkaido, Japan, in 1928 and after graduation from the Hokkaido University (Civil Engineering Faculty) in 1951, he entered Japan's Ministry of Transport. It was during the time when he was the Head of the Kobe Port Construction Office that the notable Kobe Port Island Project started. He left government office after serving in his final position of Director-General, the 4th District Port Construction Bureau, Ministry of Transport in 1977, and then joined IAPH.

In his farewell address at the closing session in Seoul, Dr. Sato introduced Mr. Kusaka to the delegates by saying "It is most gratifying that the Association's Head Office is to be headed by this magnificent person, whose dedication to the Association in the past has proven his unquestionable competence for the position. I have every confidence that all of you will continue to help our Secretariat staff headed by Mr. Kusaka and will give them the same support that you afforded me in my term so as to enable them to serve your Association, not only to ensure its survival but to enable it to expand its services to fit the requirements of world ports in the 21st century."

IAPH Submits a Paper to 10th LDC Experts' Meeting

Mr. Herbert R. Haar, Jr., Chairman, IAPH Dredging Task Force of COPSEC (Deputy Executive Port Director, Port of New Orleans, U.S.A.), has recently informed the Secretary General that Dr. Willis Pequegnat, DTF's scientific consultant, attended the Tenth Meeting of the Scientific Group of the London Dumping Convention, which was held in London from 6 to 10 April, 1987.

In his letter of April 8, 1987 addressed to the members of the IAPH Dredging Task Force and others, Chairman Haar noted that Dr. Pequegnat was attending the meeting as the IAPH representative and that upon his return to the United States, he would provide a report. Previously a paper relating to the agenda items of interest to IAPH had been submitted by Mr. Haar to the IMO for distribution to all of the attendees. In this connection, Mr. Haar was told that the chairman of the meeting had personally discussed the paper on the first day of the session and had had a number of favourable comments to make on the ideas contained in it.

For the benefit of our members and readers the paper that was submitted to the IMO is reproduced below.

INTERNATIONAL MARITIME ORGANIZATION

SCIENTIFIC GROUP ON
DUMPING—10th meeting
6 April to 10 April 1987
Agenda items 2, 3, 5, and 6

Matters Relating to the Disposal at Sea of Dredged Material

Submitted by the International Association of Ports and Harbors (IAPH)

1. Introduction

1.1 The International Association of Ports and Harbors

(IAPH) wishes to express its appreciation for the opportunity to participate in this Tenth Meeting of the Scientific Group on Dumping with regard to agenda items relating to the ocean dumping of dredged material. IAPH has submitted a number of technical papers bearing upon these agenda items in the past, and IAPH is pleased to be able to assist the Scientific Group in its discussions of these matters at this Tenth Meeting.

2. Agenda Item 2—Review of the Annexes to the London Dumping Convention

2.1 Paragraph 2.2 of the Provisional Agenda notes the statements made by the Scientific Group at this Ninth Meeting as to the manner in which "bioaccumulation potential" and "bioavailability" should be taken into account in the criteria for the allocation of substances to the annexes. The view was expressed that "bioavailability" is a factor that should more appropriately be considered in assessing the impact of wastes (and the substances they contain) under Annex III, rather than as a criterion for allocation to the annexes.

2.2. IAPH strongly supports the use of "bioavailability" as an essential evaluation factor under Annex III. In past submissions to the Scientific Group, IAPH has described the special properties of marine sediments which bind Annex I substances so that they are essentially unavailable to the marine biota. Under these circumstances, the presence of such substances in dredged material does not produce the kind of adverse effects in the marine environment that were the concern of Contracting Parties in establishing the Annex I prohibitions. This lack of bioavailability should be an essential consideration in evaluating the impact of waste disposal at sea.

3. Agenda Item 3—Field Verification of Laboratory Test Data

3.1 Paragraph 3 of the Provisional Agenda notes that field verification of laboratory test data remains on the agenda of the Scientific Group for continuing review. IAPH supports the need to verify laboratory test results in order to assure

(Continued on Page 16, Col. 1)

(Continued from Page 15, Col. 2)

that such tests will accurately predict the actual effects of dumping in the field. Without such verification, there is a real potential for the application of prohibitions against (or limitations upon) dumping that are unwarranted and unnecessary under the Convention.

3.2. Because of the critical reliance of many ports upon the ocean dumping of dredged material, it is necessary that any evaluation of proposed dumping reflect actual field effects. IAPH invites the Scientific Group to continue its study of this issue and its recognition of the need for field verification of laboratory test results in applying the provisions of the LDC to site-specific dumping operations.

4. Agenda Item 5—Process and Procedures for the Management of Wastes Dumped at Sea

4.1 Paragraph 5.1 of the Provisional Agenda notes the request made by the Tenth Consultative Meeting that the Scientific Group study mechanisms to accommodate the principle of "disposal option of least detriment" in the case of dredged material containing Annex I substances in more than trace amounts.

4.2 This is a concept strongly endorsed by IAPH. Where it can be demonstrated that disposal of dredged material at sea would result in the "least detriment" to the environment, IAPH believes that the issuance of a permit for sea disposal would be consistent with the goals and purposes of the LDC. The focus of the LDC is upon the taking of "practical" steps to reduce pollution at sea. This statement of purpose in the Preamble to the Convention is the basis for its subsequent regulatory provisions. It provides an essential context for construction of the LDC.

4.3 In past submissions to the Scientific Group, IAPH has called attention to the sound technical basis that exists for applying the option of least detriment to dredged material. The mitigative properties of marine sediments, and the en-

hancement of these features through such techniques as clean material capping, render Annex I substances essentially unavailable to the marine biota. Where the effects from sea disposal are mitigated below the environmental impacts that would result from other forms of disposal, IAPH submits that the LDC should not prohibit dumping as the least harmful form of disposal. IAPH supports the efforts of the Scientific Group to identify mechanisms for applying the "disposal option of least detriment" under the LDC.

5. Agenda Item 6—Cooperation and Information Exchange

5.1 Paragraph 6.3 of the Provisional Agenda provides for a discussion of comments submitted by Contracting Parties on the PIANC Handbook on Disposal of Dredged Material at Sea (LDC/SG.9/2/1) with a view to considering the preparation of an LDC manual on this issue.

5.2 IAPH supports adoption of the PIANC Handbook or its use in developing an LDC manual regarding dredged material. The PIANC document contains comprehensive review of dredged material disposal under the LDC which will be of significant guidance to port managers and will further the effectiveness of the LDC.

6. Conclusion

6.1 IAPH invites the Scientific Group to consider the views expressed by IAPH in this submission and as will be presented by the IAPH observer during the discussion of these agenda items.

HERBERT R. HAAR, JR.

Deputy Executive Port Director
Port of New Orleans
Head of Observer Delegation,
International Association of
Ports and Harbors (IAPH)

Report on the Business of IMO

— Marine Environmental Protection Committee —

By Mr. A.J. Smith

The twenty-fourth session of Marine Environmental Protection Committee was held from 16–20 February 1987 under the Chairmanship of Dr. J. Cowley (United Kingdom). The session was attended by fifty-three Member States, the associate Member from Hong Kong, four observers from inter-governmental organisations and thirty observers from non-governmental organisations, including IAPH.

Timely Implementation of Annex II

The session was largely devoted to the consideration of the various aspects of the impending implementation of Annex II of Marpol 73/78. These were the intent to which Member States had completed the various steps to enable the Annex to be completely introduced on the 6th April 1987, the hazard categorisation of chemical products recently introduced and the availability of reception facilities. IAPH attached particular importance to the latter subject and

participated in the Working Group examining their provision. The Group formulated a questionnaire on the availability of such facilities, which is to be circulated by the Secretariat for the earliest possible reply. The Group also agreed a form for reporting difficulties encountered in disposing of Annex II wastes.

The same Working Group reviewed a number of chemical substances, the pollution category and carriage requirements of which had been revised as a result of a change in their GESAMP Hazard Profile. They agreed the changes relating to substances which had been downgraded, but those considered controversial or upgraded were referred for review to the Sub-Committee on Bulk Chemicals.

Although the Committee would accept no delay in implementation of the Annex II, they recognised that in some instances chemical tankers might not be fully certified, and agreed a range of actions against non-compliance, with a finishing date of 1st January 1988, the deadline for modification to chemical tankers to comply with the Convention. The resolution seeks also the provision by Member States of the necessary reception facilities before the Annex comes into force.

The IAPH participated also in a Working Group convened to examine the implementation of Annexes V and IV, from which emerged a recommendation that guidelines should be prepared to assist in the implementation of Annex V. This

would take place during the next session of the MEPC, and to assist in this, the United States delegation offered to develop a set of draft guidelines. That delegation seeks information to support this development, and asks that any details available be submitted direct to them, with a copy to the Secretariat, by the 15th June 1987. It is anticipated that the guidelines dealing with reception facilities in ports will be based on those prepared in 1978 by IMCO.

Implementation of Annex III of MARPOL 73/78 and Amendments to the IMDG Code to Cover the Marine Pollution Aspect

The Secretary-General, in his opening remarks, reminded the Committee that very few acceptances were now required to bring Annexes III and V into force. It was therefore a matter of considerable urgency that selection criteria for marine pollutants should be agreed. The Committee continued discussion on this matter, but were unable to make any final decisions because of outstanding work in this area to be completed by the Sub-Committee on the Carriage of Dangerous Goods. One delegation voiced an opinion that progress was being blocked by certain interests within the Sub-Committee who were reluctant to open up the previous safety-orientated IMDG code to environmental initiatives, even though the Code had been agreed as a suitable basis for the implementation of this Annex.

Carriage of Chemical Cargoes in Deep Tanks of Dry Cargo Ships

The Committee noted that at its fifty-third session, the Maritime Safety Committee had prohibited bulk carriage of safety hazard chemicals by dry cargo ships. Based on a report by the Sub-Committee on Bulk Chemicals, the Committee decided to prohibit carriage in cargo tanks of pollution-only noxious liquid substances of categories A, B and C.

Arrangements for Combating Major Incidents or Threats of Marine Pollution

The Committee considered the current status of replies to the questionnaire on international assistance in marine pollution emergencies. As only 17 Member States and an associate member had replied, those outstanding would be asked to reply by the 1st August 1987. The Committee also agreed that in the meantime the Secretariat should prepare a draft version of a "guide to international assistance in marine pollution emergencies" for consideration by the Committee at its next session.

Antipollution Manuals

The Committee agreed that the text of Section II (Contingency Planning) of the Manual of Oil Pollution, completed by a Working Group sitting during the session, should be adopted, subject to editorial review, at its next session. The Manual on Spillages of Hazardous Substances Other than Oil was not progressed due to lack of time. However, it was agreed that no significant progress could be made until a decision had been reached on selection criteria for marine pollutants.

Technical Assistance Programme

The Committee were informed of a number of seminars and workshops which had taken place or were planned, and

cover the implementation and enforcement of Annex II, reception facilities for noxious liquid substances and oil spill contingency planning. Also of the availability* of an English language version of a set of five films/videos on "Response to Marine Oil Spills," with French and Spanish language versions in the course of preparation.

Special Area Status—Gulf of Aden

The Governments of States bordering the Gulf of Aden area had expressed their interest in the designation of the Gulf of Aden as a special area. A drafting group prepared during the session a proposed amendment to Marpol 73/78, and asked that the Secretary-General circulate the draft at least six months prior to the next session of the Committee.

Future Work Programme

The Committee reviewed its work programme for the next biennium, and, in particular, that relating to the implementation of Marpol 73/78 and its various annexes. The Committee agreed a work programme in the field of marine environment protection for the MEPC and BCH and CDG Sub-Committees for 1988-89, a work programme for other activities for which the Secretariat is responsible and a tentative list of substantive items for the agendas of the next three sessions of the Committee.

Next Session

The Marine Environmental Protection Committee's twenty-fifth session will be held 30 November to 4 December 1987, and its twenty-sixth session tentatively scheduled for 5-9 September 1988.

*from Videotel Marine International
Ramillies House
1-2 Ramillies Street
London W1V 1DF
Tel. No.: 01 439 6301/5
Telex No.: 298596 VIDTEL

Mr. Asada Succeeds Mr. Akiyama As IAPH Foundation President

At the Board of the IAPH Foundation meeting held on April 14, 1987, the new President was elected following the resignation of Mr. Toru Akiyama, who had been in this post for the 15 years since its establishment.

This Foundation was established as a Japanese Corporation in 1972 to assist IAPH activities financially when IAPH ran into a difficult situation arising from what became known as the first oil shock. The financial support from the Foundation under the agreement with IAPH continued until IAPH was able to become financially self-sufficient in 1982.

Taking over from Mr. Akiyama is Mr. Shizuo Asada. He is a former Vice Minister of Transport of the Japanese Government and, following 10 years of service as President of Japan Air Lines, is now Counselor of the airline.

In accordance with the provisions of the Agreement with IAPH, it is a practice that the post of the Director-General of the Foundation be held by the Secretary General of IAPH. Thus, at the same meeting of the Board it was decided that Dr. Sato's successor as IAPH Secretary General, who was to be appointed by the Association to take office after the Seoul Conference, should also take over the office of Director-General of the Foundation.

Visitors to the Head Office

Prior to and following the Seoul Conference, the Tokyo Head Office received several groups of visitors from our member ports who were stopping over in Tokyo on their way to or back from Seoul.

On April 8, 1987, **Mr. Lim Kwang-Soo**, President of the Korea Port & Harbor Association, visited the Head Office and was met by Secretary General Sato and his staff. Mr. Lim was the special envoy our Korean hosts had dispatched to Japan to promote the Seoul Conference among the IAPH members and non-members from port- and shipping-related businesses. During his stay in Tokyo, Mr. Lim attended a press interview with a local newspaper to publicize the approaching Seoul Conference.

On April 16, 1987, **Mr. James J. Kirk**, Director, and **Mr. Robert Steiner**, Deputy Director, Port Department, Port Authority of New York and New Jersey, accompanied by **Mr. M. A. Potterf**, the Authority's Far East Director in Tokyo, visited the Head Office and were met by the Head Office Staff. The visitors from New York were on the way to Seoul for the IAPH Conference. In Japan the delegation was kept busy by a number of functions, including a shipboard reception in honor of the sister-port affiliation with the Port of Tokyo.

On April 22, **Mr. Colin L. Jordan**, General Manager, Port of Melbourne Authority, dropped into the Head Office and was met by the secretariat staff. Mr. Jordan, who is actively involved in the committee work of IAPH in his capacity as Exco member as well as Finance and Ad Hoc Committee member, was spending a couple of days in Japan visiting some business associates here prior to the Seoul Conference.

On May 7, the first day back at their office from the

Conference in Seoul, the Head Office staff had the privilege of receiving **Mr. and Mrs. den Toom** and **Mr. and Mrs. Falvey**. It was revealed that the visit was the first time for both Messrs den Toom, the immediate Past President, and Falvey, Chairman of the Legal Counselors, in spite of their long-standing association with IAPH. The guests were welcomed by Secretary General Kusaka and his staff.

On May 9, **Mr. Andy Shaw**, Director, Port Development, Port of Nanaimo, Canada, dropped into the Head Office to say "hello" to the Secretariat staff. Although it was a Saturday, some staff were at the office to take care of the backlog of work from the Seoul Conference. They enjoyed chatting with Mr. Shaw on the previous week's events in Seoul.

On the same afternoon, **Mr. J. Stewart**, an Honorary Member of IAPH from Wellington, New Zealand, dropped into the Head Office just to say "hello" to his friends at the Secretariat. Mr. Stewart was on his way home from Seoul.

On May 11, the Port of New Orleans delegation visited the Head Office and was welcomed by Secretary General Kusaka and his staff. The visitors were **Messrs. J. Ron Brinson**, Executive Director, **Roy S. Kelley**, Vice President, and **Joe Knecht**, President, Board of Commissioners of the Port of New Orleans. They were accompanied by **Mr. Hiroyuki Matsumoto**, the Port's Far East Director in Tokyo. The delegation was reportedly visiting Shanghai after attending the Seoul Conference, and some of the members were also headed for Kobe to attend the opening ceremony of the Kobe Maritime Museum to be held by the Port of Kobe in celebration of the 120th anniversary of the Port on May 12, 1987.

Membership Notes:

New Member

Associate Member

CH2M Hill (A-3-1)

Address: P.O. Box 91500, Bellevue, WA 98009-2050, U.S.A.

Office Phone: 206/453-5000

Telex Number: 320 224

Director, Port Engineering: Mr. Ray S. Hansen

Changes

Cyprus Ports Authority (Cyprus)

Chairman: Mr. Michael Zampelas

Gladstone Port Authority (Australia)

Effective 1st April, 1987, the Gladstone Harbour Board has changed its name to the above.

Inchon District Maritime and Port Authority (Korea)

Address: # 1, 7 Ga, Hang-Dong, Jung-Gu, Inchon

Mailing Addressee: Mr. Huh-Taek, Director General

Office Phone: (032)885-0014

Directors of Division:

General Affairs Div.: Mr. Kim, Yong Sun

Marine Affairs & Vessel Div.: Mr. Choi, Young Hu

Seafarer Div.: Mr. Cho, Kwi Yon

Port Management Div.: Mr. Choi, Sung Chun

Port Operation Div.: Mr. Lee, Sang Dal

Survey & Lab. Div.: Mr. Hyun, Tae Hong

Navigation Aid Div.: Mr. Lee, Kwang Ho

Lock Gate Operation Office: Mr. Han, Yun Kil

Inchon Port Const. Office: Mr. Kang, Myeong Hee

Korea Maritime Institute [Class D] (Korea)

Address: Kwanghwamun P.O. Box 1846, 112-2, Inui-dong
Chongno-gu, Seoul

INTERTANKO [Class B] (Norway)

Tel. Number: (02) 36 30 50 (Domestic)

+47 2 36 30 50 (International)

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Reception Facilities in Ports for Residues and Mixtures Containing Noxious Liquid Substances

Per H. Olson
Chairman, Port Safety Sub-Committee
Port Safety, Environment and Construction Committee
IAPH

GENERAL

In 1973 the International Conference on Marine Pollution gave form to the International Convention for the Prevention of Pollution from Ships, 1973, commonly referred to as MARPOL 73. However, the technology necessary for its implementation was still in the development stage and this delayed its ratification. Due to this, the convention was modified by a Protocol of 1978 relating to the convention. The product is then generally termed as MARPOL 73/78.

Not less than five annexes are attached to the protocol. Annex I deals with oily residues, and came into force on the 2nd October, 1983. The intention was that Annex II, which deals with noxious liquid substances in bulk was to come into force three years after Annex I did, but it has for several reasons, the crucial being the lack of reception facilities, been postponed until 6th April, 1987. Annexes III (packed goods), IV (sewage) and V (garbage) are still to enter into force.

PREAMBLE

MARPOL 73/78 Annex II provides inter alia for the control of operational discharges of noxious liquid substances carried in bulk by ships. Operational discharges are the discharges of noxious liquid substances or water contaminated by these substances emanating from cargo tank and

pipe-line washing, deballasting of cargo tanks or cleaning of cargo pump room bilges. Thus, the Annex prohibits the discharge into the sea of noxious liquid substances except when the discharge is made under specific conditions.

In order to determine to what extent noxious liquid substances are hazardous to the marine environment they are divided into four categories, A, B, C and D. Category A substances being the most harmful ones to man and marine life and Category D the least. Chemicals not considered harmful at all are not categorized. The discharge conditions then vary according to the degree of hazard the substances pose. For certain sensitive sea areas, in the Convention referred to as "Special Areas", more stringent discharge criteria apply.

A list of hazardous chemicals and their categories is published and updated by the International Maritime Organization (IMO). Substances not evaluated are prohibited for transportation at sea. The reason being that a uniform evaluation needs to be done. However, a provisional assessment done by an appropriate governmental body is accepted until the IMO experts have had a chance to make their evaluation.

It is clear from the discharge regulations of Annex II that at times operations involving noxious liquid substances will result in residues which cannot be discharged into the sea. Such residues will have to be transferred to shore reception facilities for treatment. Therefore, IMO has prepared Guidelines on the Provision of Adequate Reception Facilities in Ports for Annex II Noxious Liquid Substances, adopted in December 1985. These guidelines replace the original guidelines published in 1980 and reflect the amendments to Annex II, which were produced as a consequence of a.o. new developments regarding the equipment and operational measures onboard ships. The amended Annex II, through the provisions for vessel construction, equipment and operation, reduces the quantities of residues of noxious liquid substances remaining onboard after unloading, thereby significantly reducing the need for reception facilities in ports. The purpose of this chapter is to serve as a complement to these guidelines and will not replace them, even though some details are reproduced to make it more comprehensible. The IMO Guidelines are thus recommended should the reader like to go into more details. The Guidelines are based on regulation 7 and take into account Regulations 5, 5A and 8 of MARPOL 73/78 Annex II and the Standards which require ships unloading certain chemical cargoes to use equipment and procedures to reduce the quantity of noxious liquid substance residues to amounts not requiring the use of reception facilities.

DEFINITIONS

Adequate Reception Facilities

According to the Convention ports are required to provide adequate reception facilities for residues and mixtures containing noxious liquid substances to such an extent that ships are not caused undue delay when discharging their residue/water mixtures. This does not, however, mean that ships can wash their tanks when, how or where ever they like. Ports should still have the right to order ships to shift to other berths owing to safety or operational necessities.

The term "adequacy" is defined in the IMO Guidelines as follows:

1. that as a minimum, the capacity of reception facilities at cargo unloading, loading, and repair ports and terminals should be capable of receiving those residues and mixtures which are handled within that port and are required by Annex II and the Standards to be discharged to reception facilities;
2. that the receiving capability be at least appropriate in time and availability to respond to the continuing needs of ships using the port; and
3. that arrangements, needed to permit discharge of residues and mixtures without causing undue delay to ships, are made between the ship and the reception facility, such as prior notification of substances and quantities expected for discharge, piping or equipment required for discharge, etc.

Of vital importance is the regulation that requires any residue/water mixture to be discharged in the unloading port.

No port or terminal is required to receive residue/water mixtures containing substances other than those handled by the port or terminal.

Prewash/Mainwash

Two stages of the tankwashing procedure onboard ships can be identified. The first step is a "prewash", where a small quantity of wash-water is used. This water contains a high concentration of chemical residues. The prewash water is what the ports are obliged to take care of.

In the second step - the "mainwash" - larger quantities of water may be used to get the tanks commercially clean. This operation is usually carried out at sea, and the water will consequently be discharged into the sea.

Efficient Stripping

In order to eliminate the need for reception facilities for prewash waters, or to minimize the quantities needing such facilities a method to efficiently strip the cargo tanks of ships has been introduced. To be able to carry out efficient stripping ships should be equipped with smooth tanks - stainless or coated, a pump-well in the bottom of each tank and in this a separate stripping pump connected to a small bore line. The stripping pump will then suck out the remaining cargo residues after the main pump has done its job. What will be left are then the residues clinging to the tank-walls, the piping system and the cargo pumps. Each ship shall have a manual onboard where the quantities remaining after unloading and stripping are noted. The quantities are established for each tank after a practical test using water has been carried out.

Efficient stripping does not only eliminate pre-wash in ports, which often results in a shorter lay time for the ships, but it also permits the consignee to receive more of his valuable cargo. The Convention does not, however, only rely on commercial forces or the voluntariness of the shipowners but has stipulated that ships whose keels are laid on or after 1st July 1986 shall be provided with the equipment, and by the 2nd October 1994 all ships shall be equipped with these means. Today, many modern chemical carriers are already provided with the necessary equipment.

However, due to the physical properties of some substances, e.g. those with a high viscosity and melting point the clingage to the tank walls and bottom can be so high that pumping and stripping alone cannot reduce the residues to acceptable levels. Whenever such cargoes are involved, prewashing of the tanks and subsequent transfer of the resulting residues to shore reception facilities becomes necessary. (See "Discharge restrictions outside Special Areas" and "Discharge restrictions inside Special Areas".)

New Ships

New ships are ships whose keels are laid on or after 1st July 1986.

Special Areas

Special Areas in the context of MARPOL 73/78, Annex II are the Baltic Sea and the Black Sea. The restrictions on discharges are by obvious reasons firmer for special areas than for others.

Dedicated Trades/Dedicated Tanks

Ships sailing in "dedicated trades" and thus utilizing "dedicated tanks" reload the same cargo in the same tanks. They may not use these tanks for other cargoes without washing them and, when the Convention so stipulates, discharge their tank-washings to a reception facility. Neither are they allowed to carry ballast water in the dedicated tanks if they don't discharge this water ashore or into the sea in accordance with the regulations of the Convention.

Volatile Cargoes

Volatile cargoes are chemical cargoes whose vapour pressure is higher than 50 millibars at 20°C.

INTRODUCTION

Exemptions from the Mandatory Prewash

There are a few exemptions from the mandatory prewash. The most important being the one which allow ships complying with the stripping criteria described below, to discharge their residue/water mixture into the sea.

Another exemption applies to ships sailing in dedicated trades not needing to clean their tanks.

A third exemption could apply if the next loading port agrees to receive the residue/water mixtures. According to the Convention an approval is needed by a surveyor authorized by the appropriate governmental body.

As a fourth exemption one could mention the ships' right to ventilate volatile cargo residues. The port authority should, however, consider safety and environmental aspects prior to giving the permission to vent. Volatile gases are most often inflammable and health authorities may object to venting poisonous gases in ports. Stench causing products may, even though they are not always dangerous, lead authorities to prohibit venting them as well to the atmosphere.

Discharge Criteria

The criteria that ships must comply with to be able to discharge their wash-water at sea and which at the same time are of importance to ports to know of, not taking into consideration how ships should be constructed

or equipped, are apart from the quantity restrictions for the various categories A - D (which will be dealt with later on) the following:

- * the ship shall be en route;
- * the speed shall be at least 7 knots if self-propelled or 4 knots if not self-propelled.
- * the distance to the nearest land shall not be less than 12 nautical miles; and
- * the depth of water shall not be less than 25 meters.

From this it is quite obvious that if a port is receiving ships engaged in coastal traffic or if being a port where back-loading often is taking place, the facilities must be dimensioned for the reception of both prewash and mainwash waters. The capacity demand will then be much higher in such a port than it would be in ports not having this kind of traffic.

Discharge Restrictions outside Special Areas

To be able to discharge residue/water mixtures into the sea outside Special Areas the following requirements must be contained for categories B, C and D and form the quantity restrictions in the discharge criteria:

Category A: no discharge - mandatory prewash

| | |
|--|---------------------------|
| Category B: existing ships until 1/10 1994 | 1.0 m ³ /tank* |
| thereafter | 0.3 m ³ /tank |
| new ships | 0.1 m ³ /tank |

| | |
|--|----------------------------|
| Category C: existing ships until 1/10 1994 | 3.0 m ³ /tank** |
| thereafter | 0.9 m ³ /tank |
| new ships | 0.3 m ³ /tank |

Category D: 10% dilution in ship's wake - no quantity restrictions

* or 1/3000th of the tank capacity, whichever is the highest.

** or 1/1000th of the tank capacity, whichever is the highest.

Thus, the 0.1, 0.3 and 0.9 figures represent the efficient stripping quantities. If these requirements cannot be contained a mandatory prewash must be performed. But they are not the only ones. Prewash is also mandatory after discharges of Categories B and C substances with high viscosities or high melting points (solidifying substances).

To be more exact, prewash water must be discharged to a reception facility if the viscosity of a Category B substance is equal to or greater than 25 mPa/s, and of a Category C substance the viscosity is equal to or greater than 60 mPa/s, at the temperature of the substance when being unloaded.

Discharge Restrictions within Special Areas

| | |
|--|--------------------------|
| Category A: no discharge - mandatory prewash | |
| Category B: no discharge - mandatory prewash | |
| Category C: existing ships | 0.3 m ³ /tank |
| new ships | 0.1 m ³ /tank |
| Category D: 10% dilution in ship's wake - no quantity restrictions | |

The same applies to Category C substances if the unloading temperatures are less than 5°C above the melting points of the substances when these are lower than 15°C or when the melting points are 15°C or higher and the unloading temperatures are less than 10°C above the melting points.

CAPACITY ASSESSMENT FOR RECEPTION FACILITIES

IMO has tried to give some guidance on the volumes residue/water mixtures ports and terminals may expect to be discharged to reception facilities. Their figures are, however, built on a lot of assumptions where the Convention works to a hundred percent. In the real world their figures will probably turn out to be too optimistic and the following estimates should then be taken with a pinch of salt. But first, let's have a look at the two most relevant assumptions IMO has made:

- It should be added that the quantities of water used also will depend to a large extent on the skill of the personnel operating the tankcleaning equipment and their ability to read and follow the instructions in the ship's Procedures and Arrangements Manual (P&A Manual), the latter being a difficult enough task by itself. The estimates given in the table are thus very rough.

A. Outside Special Areas

| | | |
|--|-----------------|---------------------------------------|
| Category A, effluent conc. \leq 0.10%: | non-solidifying | 10 m ³ - 25 m ³ |
| | solidifying | 20 m ³ - 50 m ³ |
| effluent conc. \leq 0.01%: | non-solidifying | 20 m ³ - 50 m ³ |
| | solidifying | 30 m ³ - 75 m ³ |
| Category B: viscosity \geq 25 mPa/s at unloading temp. | | 5 m ³ - 10 m ³ |
| high melting point | | 10 m ³ - 20 m ³ |
| Category C: viscosity \geq 60 mPa/s at unloading temp. | | 5 m ³ - 10 m ³ |
| high melting point | | 10 m ³ - 20 m ³ |

| | | |
|--|-----------------|---------------------------------------|
| Category A, effluent conc. $\leq 0.05\%$: | non-solidifying | 10 m ³ - 25 m ³ |
| | solidifying | 20 m ³ - 50 m ³ |
| effluent conc. $\leq 0.005\%$: | non-solidifying | 20 m ³ - 50 m ³ |
| | solidifying | 30 m ³ - 75 m ³ |
| Category B: | non-solidifying | 5 m ³ - 10 m ³ |
| | solidifying | 10 m ³ - 20 m ³ |

| | |
|---|---------------------------------------|
| Category C: viscosity ≥ 25 mPa/s at unloading temp. | 5 m ³ - 10 m ³ |
| high melting point | 10 m ³ - 20 m ³ |
| existing ships not meeting the 0.3 m ³ requirement | 5 m ³ - 10 m ³ |

Present Adequacy of Ships' Stripping Arrangements

In a major world port comparisons have been made on the estimated volumes according to MARPOL Annex II and those based on practical experience. They show a discrepancy of 2.5 to 10 times for small tanks and 2 to 16 times for big tanks.

This may show a rather pessimistic view of the future, but it should, however, be assumed that the situation will improve when Annex II has come into force. A pressure must then be put on ships to comply with the requirements. The costs of receiving and processing excess quantities of residue/water mixtures may be charged to the ships. Discrepancies should be reported to the national administrations and, if this shows little effect, such reports should also be filed with our main port organization - IAPH. The association will then be able to approach IMO to seek rectification.

Loading Ports and Terminals

There will ordinarily be no demand for reception facilities in loading ports and terminals, because chemical tankers will either conduct a mandatory prewash and discharge the residue/water mixtures to reception facilities in the unloading ports, or, if allowed, discharge residue/water mixtures into the sea. If ships, however, wish to clean their tanks to commercial standards in loading ports or terminals the volumes of residue/water mixtures may be expected to be in excess of the mixtures generated by prewash.

Repair Ports

Ship repair ports undertaking repairs to chemical tankers should have facilities adequate for the reception of residues and mixtures containing noxious liquid substances as would remain for disposal from ships carrying them.

A chemical tanker arriving at a repair port, subsequent to visiting an unloading port and which has not had the opportunity to clean its tanks and dispose of the residue/water mixtures at sea may temporarily store

these mixtures ashore. After effecting the repairs the ship could reload them for disposal under the general provisions at sea.

Special Requirements on Terminals

Regulation 7.3 in the Annex states that hoses and pipelines shall not be drained back to the ship. This is, of course, quite obvious, as ships otherwise would not be able to comply with the efficient stripping and discharge requirements.

Furthermore, regulation 7.3 also requires unloading terminals to provide arrangements to facilitate efficient stripping. Depending on characteristics of the ships' stripping systems, compliance with this requirement may necessitate the capability to reduce the backpressure in the shore-line to 1 bar. This is due to requirements of the Standards for ships to be able to effect efficient stripping, as a minimum, at a pressure of 1 bar. In other words, ships are not presupposed to be able to strip their tanks with a pressure above 1 bar. This is also the pressure used in the test to establish the quantities remaining in tanks and pipeline systems after efficient stripping has been performed. Ships may, however, often be able to overcome a higher back-pressure, 3 to 4 bars being typical.

If the shore tanks are placed at about the same level as the quay, there should normally then be no problem (1 bar approximately being equal to a 10 meter column of water). If, however, tanks are situated on a higher ground, or if ships cannot overcome the actual back-pressure, the simplest way of solving the problem is to use small (mobile) tanks at the quay to receive those last drops. Another method would be to use booster pumps installed in the shore pipe-line system.

Capacity Assessment

When assessing the capacity of reception facilities for a certain port or terminal the following questions could be a help:

- * Is the port situated in a Special Area?
- * What chemicals are unloaded (categories and types of substances)?
- * What are their numbers?
- * What are their physical properties (melting points, viscosities, etc.) at the unloading temperature?
- * What are their unloading temperatures?
- * What are the number of ships' tanks in which these substances are carried?

- * What are the ships' operating routes (coast-line traffic makes discharges at sea impossible)?
- * Is the port a repair port (which may make discharges at sea impossible)?
- * Are ships back-loading in the port (which makes discharges at sea impossible)?
- * What are the quantities of tank washings that must be discharged to a reception facility?
 - a) Are ships sailing in dedicated trades?
 - b) Do ships meet the efficient stripping requirements (most modern ships do)?
 - c) Are category A (and in Special Areas - category B) substances unloaded?
- * Will the consignee be able to use the residue/water mixtures, or can he treat them himself?

Owing to the different parameters involved, it is not possible to give a general guidance on the quantities to be received. Ships tend to run their tank cleaning guns a little longer than is being needed, just to be on the safe side. However, their Procedures and Arrangements Manuals are supposed to exactly state how many turn-arounds they are to perform with their tank cleaning guns and thus, the quantities of water they will use for subsequent discharge to shore facilities.

Should a port or terminal suspect that the quantities of prewash water being left ashore are too high they should be able to check with the ship's Manual. Costs imposed by the excessive use of wash-water should then be born by the ship.

With regard to the fact that existing ships have a respite until the 2nd October 1994 in installing means for efficient stripping one could fear that there would be a larger need for reception facilities before that date than afterwards. There should, however, be no ground for such a fear as these ships are allowed to discharge the larger quantities of residue/water mixtures into the sea up to that date.

PORT LEGISLATION AND SAFETY REGULATIONS

Port Bye-Laws

Port reception facilities should operate within a well balanced port legislation (bye-laws). These bye-laws should lay down the rules for

the reception of harmful substances which have originated from ships for certain berths and repair yards within the port.

The bye-laws should contain a number of conditions and regulations, relating to:

- * the appointment of reception facilities;
- * the period of validity of such an appointment;
- * the degree to which they are available and obliged to receive residues;
- * which residues should be received;
- * the announcement of tariffs to be charged to ships using the facilities;
- * information requested in an "advance notification" from ships calling at the port (details to be found below);
- * reporting of the residues received, including details.

A port authority may extend an appointment or withdraw it for reason of non-compliance.

Discharge to a reception facility, which is not authorized should be prohibited.

Controlling officers should be assigned and designated. They should be authorized to make inspections, inspect documents and take samples so far as this could be considered reasonably necessary for the fulfilment of their task.

Advance Notification

Ships should be obliged to notify the port authority or terminal operator of their intention to discharge residue/water mixtures containing noxious liquid substances at least 24 hours in advance.

The advance notification should at least contain the following information:

- * ship's name and call sign;
- * ship's intention to carry out efficient stripping or mandatory prewash;
- * date and time when tank-cleaning is to be carried out;
- * the number of tanks to be washed;
- * the technical names, UN-numbers, flash-points (if any) and categories of the substances to be washed;
- * the mediums to be used in washing the tanks (solvents, water, etc.);

- * the atmosphere of the tanks to be washed (inerted, too lean or undefined);
- * whether requirements on tank-sizes and nozzle-capacities of tank-cleaning guns are met or not;
- * the quantity residue/water mixtures expected to be discharged; and
- * the minimum and maximum pumping rates.

Tank-cleaning in Ports

It is not within the scope of this chapter to give a complete guidance on safety measures to be taken while carrying out tank-cleaning onboard chemical tankers (some details may be found in the International Safety Guide for Oil Tankers and Terminals (ISGOTT) and the ICS Tanker Safety Guide (Chemicals) - the latter will soon be reprinted and presumably renamed the "International Safety Guide for Chemical Tankers and Terminals"). However, it should be noted that these measures are of a much more complex nature than when cleaning the tanks of ordinary petroleum tankers. Yet, a few hints will follow:

- * The tank-cleaning should be supervised by a knowledgeable and responsible person onboard having appropriate endorsement in accordance with the International Convention on Standards of Training, Certification and Watchkeeping for Seafarers (the STCW Convention).
- * The tank-cleaning shall be performed in accordance with the ship's manual and relevant safety instructions.
- * The tanks should, if having contained inflammable cargoes, be cleaned in a too lean, inerted or - if tank sizes and nozzle capacities of cleaning guns are in accordance with the requirements of the International Code for the Construction and Equipment of Ships Carrying Dangerous Chemicals in Bulk (IBC Code) - undefined atmosphere. These requirements are:
 1. The volumes of the tanks shall not exceed 3,000 m³;
 2. the individual nozzle capacity of each tank-cleaning machine shall not be more than 17.5 m³/hour; and
 3. the total combined throughput of all machines in use shall at no time exceed 110 m³/hour.

(All "new chemical tankers" (keels laid on or after the 1st July, 1986) of 20,000 tons deadweight or more or whose tank sizes and nozzle capacities exceed the figures given above and who are intended for the carriage of inflammable chemicals shall be fitted with inert gas systems.)

When discharging residue/water mixtures the same safety precaution should apply as when unloading chemicals.

PROCESSING AND DISPOSAL OF RESIDUES

Technical Aspects on the Treatment of Residue/Water Mixtures Received

In assessing the adequacy of reception facilities the technological problems associated with the treatment of slops should be taken into account. Depending on the volume of residues discharged etc. treating plants may be needed in some ports. Effluent standards of these plants should be met together with other standards of different means of disposal (air pollution standards etc.).

Residue/water mixtures, which are incompatible with each other or in combination enlarge the difficulties at a treating plant should be considered independantly on their processing possibilities. To ease the burden of ultimate disposal it is advisable, and often cheaper, to discharge different residue/water mixtures separate, rather than discharging them all at once as a mixture.

The physical/chemical properties of residue water mixtures are of vital importance in determining the right treating chain. These are a.o. solubility in water, hydrolysis, gravity and environmental properties as aqueous toxicity, biodegradation, bioaccumulation, carcinogenicity, nitrogen transformation, organic decomposition, sulphate reduction and adsorption to under-water soil.

Quite often adequate data are not available. Should one, for example, need to prevent inhibiting a bio-treating pond test runs on laboratory scale could be done in case of the unavailability of sufficient data.

Three different ways of treating residue/water mixtures may be considered:

1. An oil/water (gravity) purification unit followed by a flocculation flotation unit (FFU) for substances such as crude oil, gasoil, petroleum and some oil like substances.
2. The properties of the majority of chemical wastes to be treated make it necessary that gravity separation and FFU treatment is followed by biological treatment.

Experience is of paramount importance for biological treatment to, for example, prevent inhibiting the biodegradation process. The persistence of a chemical substance in a natural environment is an indication on the feasibility of bio-treating this substance. Biological treatment performance is difficult to evaluate without sufficient information as a characteristic balance of time, oxidation and biosorption is necessary for effective continuous treatment.

Certain compounds are very toxic to the microorganisms used in waste water treatment processes. Data, obtained in tests, may provide preliminary indications on possible effects. The test procedures for biodegradation give an estimate of the importance of biodegradability as a persistence factor.

As long as a biodegradation process is not adopted to a certain noxious substance, specific measures should be taken. If for one reason or another, mainwash needs to be carried out in a port, separation of the higher concentrated prewash from the rest of the washings may be needed. The mainwash water could then be biotreated, while a different treating method must be applied to the prewashings (e.g. incineration).

Should one fear that the biodegradation may suffer from shockloadings, powdered activated carbon treatment could be used. In case of shockloading, particles are adsorbed by carbon and desorbed gradually in the process. This additional adsorption/desorption process also gives better results on the biodegradation process, which means that more noxious substances may be treated and the prewashings can be mixed with the mainwashings without damaging the plant.

3. The third way of treating residue/water mixtures is incineration. Because the burning of water still is a very expensive way of treating these mixtures, it should only be applied if other treating possibilities are not available.

Water reactive substances (e.g. toluenediisocyanate) are washed with other products. If the separation of these products is unfeasible, incineration remains the only solution.

Economical Aspects on the Treatment and Ultimate Disposal of Residues

The MARPOL Convention doesn't stipulate anything on the processing or the final disposal of the residue/water mixtures. This is, however, a matter of the uttermost importance to the ports and their users. It is assumed by the contracting parties to the Convention that this matter will be solved by each state in a manner suitable to the conditions and regulations in that state. But, as usual, the ports have to play an intermediate role, and see that this is worked out in a way that is to be the best to all parties concerned.

The technical solution to the problem of ultimate disposal is, of course, closely linked to the matter of financing the disposal and thus comes down to who is to be responsible for the reception. This may differ a lot from one state to another and is usually governed by the state laws.

Some states make their ports responsible while other have a, let's say, more flexible view. Some states often only allow state owned destruction or processing plants to operate, while others let privately owned plants operate under commercial conditions.

State owned plants have in some cases shown to be very costly to use due to bureaucracy and don't always use the best of technology. Furthermore, they often enough also suffer from a very tangible lack of economic thinking. On the other extreme, one may find cases where private plants have operated too freely, not taking proper account to the environment.

These extremes are, fortunately, rare but one should be aware of these problems when planning processing plants. Usually commercially operated plants, operating under the control of public authorities tend to be the best option. However, as laws and other local conditions must govern, every port is urged to be in close contact with its governmental authorities and make them realize the full extent of the problem and together with them work out a solution that best will suit all parties.

The view of the author to this chapter is that ports certainly not own the chemicals being handled and will not benefit more from them than what the harbour fees will make up. The one who makes a profit is the one who owns the substances, in other words the consignee in an unloading port. The consignee should then pay all the costs embraced by his trade. In an unloading port, the consignee will also be the one who is best suited to deal with the residues. For many substances the residue/water mixtures can readily be blended into the chemicals themselves. In other cases these mixtures can be treated rather simply and used by the consignee. In those cases residues cannot be treated in a simple and cheap way, the consignee will have a good incentive to keep quantities of residues at a minimum if he is made responsible for their reception and disposal.

When it comes to the reception of residues and mixtures from noxious liquid substances in loading ports and terminals the picture will be a bit different. Here the port authority or terminal operator will have to take a more active part not to lose the traffic. But still, neither in these ports should the port authorities or terminal operators be financially responsible for the reception and treatment of the residues. They will indeed have to provide for the reception facilities, but the costs of using them should be borne by the ships or shipowners.

Finally, shipyards do indeed profit from taking ships into repair. They should then be the ones who shall have to provide reception facilities for chemical tankers that cannot discharge their slops in other ways. The shipyards will be able to solve this on a commercial basis. As has

been said before, ships taken into repair will often have the option to back-load the residues after the repairs have been carried out.

However, the world isn't as simple as this. Very often ports are in competition with other ports and will have to act on behalf of their users, otherwise they will soon be out of business. But still, the described responsibility of consignees, shippers and owners of shipyards should, if possible, be maintained.

On the 1st January 1986 Regulation 5 of Annex IV of the Helsinki Convention issued by the Baltic Sea Environment Protection Commission (the Helsinki Commission) came into force. This convention is almost congruous with the MARPOL Convention. One could say that the Baltic Sea area has been a test area for Annex II. Sweden, being a party to the Helsinki Convention, has sanctioned by law the principles described above. These principles have worked very well since the date of implementation.

Typically for a small or average sized port only a few tanks per ship need to be prewashed and the quantities of residue/water mixtures will then be rather small. Often enough tank trucks, barges or other mobile tanks will suffice as reception facilities, thus making fixed installations redundant. The need for storage capacity for the residues collected will depend on the proximity of disposal plants, the number of tankwashings received, costs of storage prior to disposal, etc.

If a plant for the ultimate disposal of residues is situated in the close proximity of a port one may consider direct transport from unloading berths by tank-trucks, barges or by pipe-line systems, depending on the frequency of discharge and other local conditions.

If on the other hand such a processing plant is situated too far away, too expensive to use or the costs of transporting residues there are too high, one may have to consider building another plant. This plant may, however, not be able to dispose of all chemical residues collected in the port, but only the most frequent ones. To get as much economy into the project as possible, one should also consider if this plant could serve neighbouring ports as well, industries in the area and perhaps also process household chemical residues, which may be collected by the public refuse collection department. The plant could also be utilized for the washing of tank-trucks and rail tanks and for the disposal of these washings. In short, the more use one could find for a plant, the less the costs for the actual disposal of ship generated slops would be.

SUMMARY

Annex II of The International Convention for the Prevention of Pollution from Ships (MARPOL 73/78) will come into force on the 6th April, 1987. This annex deals with residues and mixtures containing noxious liquid substances.

The Convention forbids ships to discharge these residues and mixtures into the sea except under conditions specified in the Convention. This also puts a responsibility on the ports to facilitate for the reception of residues and mixtures containing noxious liquid substances. The Convention is, however, constructed in such a way that the quantities of noxious liquid substances and their mixtures that are harmful to man and the environment are to be discharged to reception facilities. The quantities are restricted by directing requirements on the construction, equipment and operation of ships.

Due to the physical properties of certain substances the present residue reduction technique in form of efficient stripping systems does have its limitations and a situation may arise when the quantities stipulated in the discharge requirements is exceeded. In Special Areas quantities permitted to be discharged outside such sensitive become excessive for the marine environment. On such occasions the need for the use of reception facilities arises.

The International Maritime Organization (IMO) has compiled guidelines on reception facilities. These guidelines contain, inter alia, estimations on quantities to be received. Experience has shown that these estimates are a bit optimistic. The degree of optimism cannot be assessed until the Annex has come into force, as ships don't have to comply with the requirements until this happens. Ships wanting to discharge larger quantities of residue/water mixtures than the Convention stipulates to reception facilities, should pay for the reception and processing of these excessive volumes.

Matters of most concern to ports are: who is to provide reception facilities, who is responsible for the residues, how shall the residues be disposed of and who is to pay for this? These matters are dealt with differently in various states, some states putting the responsibility on the ports others in the first place on the consignees. The view of the ports should, however, be that as they don't own the chemicals being handled, and as they don't profit from them they should not be made responsible for the residues stemming from the handling of these chemicals.

If building a processing plant within the port premises, this should be operated on a commercial basis, eventually be common to several ports, and be open to other users than just the port costumers in order to obtain economy.

OPEN FORUM

Strategic Plan World Port LA

(Extract from 'Strategic Plan, Port of Los Angeles')

This strategic planning document, which is one element of the Port of Los Angeles strategic planning process, is intended to provide a foundation for ongoing management decision-making and establish uniformity of policy relative to the key issues facing the Department. It is a carefully developed plan that will facilitate a shared understanding of the Department's mission, key issues and strategic goals.

The Strategic Plan is intended to provide the general public and the most important resource of our organization, the employees—management and staff alike—with a department-wide understanding and perspective of the important internal and external challenges and opportunities facing the Department.

Introduction

THE PORT: More than three quarters of a century of planning and construction has developed the man-made Los Angeles Harbor into one of the major port complexes in the world. At present, the Port handles more than 3,400 vessel arrivals and 45 million tons of cargo annually.

The City of Los Angeles operates the Port of Los Angeles through a Tideland Grant from the State of California and under specific provisions set forth in the Los Angeles City Charter. The Port encompasses portions of the Terminal Island, Wilmington and San Pedro districts of the City of Los Angeles, comprising about 7,400 acres of water and land area. Port management is the responsibility of the Los Angeles Harbor Department (LAHD) under the direction of a five-member Board of Harbor Commissioners who are appointed by the Mayor with City Council approval. The Port of Los Angeles is not tax supported and operates on its own revenues.

THE ENVIRONMENT: The development of the Port of Los Angeles Strategic Plan occurred at a time of potentially great change, both externally and internally.

For example, substantial increases in cargo throughput are anticipated at the Port of Los Angeles during the next 20-30 years with the emergence of the Pacific Basin as the major trading area in the world. At the same time, shipping line

over-capacity and considerable competition for this transpacific trade are anticipated to continue for at least the balance of this decade.

In addition, dredging, landfill and energy relocation projects on a scale greater than any developments previously undertaken by the Port of Los Angeles are planned to take place within the next 5-10 years.

Add to this the implications of the many current changes in U.S. shipping and tax laws and the changing business practices of domestic and foreign shipping companies, and you have some idea of the environment the Port must operate in and why strategic planning and strategic management are so important.

THE PROCESS: Strategic planning is the process of periodically reviewing an organization's purpose for being, the goals or results it wants to achieve in order to carry out that purpose, and the policies and strategies that will govern the use of departmental resources to achieve those goals. In essence, strategic planning means using the Department's human resources to design a desired future and identify ways to bring that future about. In another sense, it's a systematic way of making today's decisions for tomorrow's results.

Strategic planning is an important management philosophy because it focuses the attention of an organization on its future rather than day-to-day operations.

This strategic planning document is one element of the Harbor Department's program to include strategic planning and strategic thinking as a major part of the Department's management philosophy.

THE PROGRAM: The program that was used to develop this plan included a review of the lines of business the Port is in, the products or services the Port offers, the markets the Port serves and the environment in which the Port operates. Based on that review, the Port of Los Angeles Mission Statement was prepared. The next step was to identify the key issues in which strategic decisions are required and develop specific goals (i.e. results) the Department should reach in order to fulfill the Port's mission. Once the goals were established by a Strategic Planning Executive Team, with input from the Board of Harbor Commissioners, participation in the strategic planning process was broadened. The goals were assigned to staff based, more or less, on functional responsibilities. Staff was asked to develop the strategies and programs necessary to achieve the goals. Staff was also asked to identify the criteria that would be used to determine whether the goals were achieved (i.e. success criteria). This process utilized the goals top down, plans bottom up, approach. This approach recognizes that once management decides what is most important, the remaining portion of

strategic planning should be accomplished at the staff level. This is because staff will be responsible for implementing the plans that are developed.

The next step was to develop a coordinated action plan to carry out the strategies. Resources, responsibilities, and authorities were assigned to functional areas within the Department in order to link daily Port operations to the Strategic Plan. Finally, procedures were developed to implement the plan by providing for regular review and evaluation of results, as well as a reaffirmation of previous actions.

THE PLAN: The Port of Los Angeles Strategic Plan will provide the reader with a general overview of the Port's mission, key issues, goals, strategies, implementation programs and review procedures that are the results of the Port's initial move to include strategic planning in the Department's management philosophy.

The plan, continually updated and properly used, can be an important tool for Harbor Department staff and the Board of Harbor Commissioners in the execution of their challenging responsibility to manage and supervise one of the world's major ports.

Mission

A shared understanding of an organization's mission, purpose or reason for being is one of the essential elements of strategic planning and strategic management.

The Port of Los Angeles Mission Statement was developed to provide a focus for the Department's strategic planning efforts. It communicates the basic aims of the Department by indicating, in general terms, the business the Department is in, the market it serves, the Department's profitability motive and whom the Department is in business to benefit.

In addition, to promote an understanding of the Department's mission and accurately communicate its intent, some interpretive language has been prepared and is included as an integral part of the Mission Statement.

The Strategic Plan assumes that even though the Port should be viewed as a business undertaking, its primary purpose is not to maximize revenue, but to serve local, regional and national interests.

PORT OF LOS ANGELES MISSION STATEMENT: The mission of the Port of Los Angeles as a service-oriented organization is to develop and manage property and provide the services required to promote and accommodate maritime-related commerce, fisheries, recreation, industrial and commercial activities and to do so on a self-supporting basis by generating sufficient income to maintain the health and growth of the Port for the benefit of the public.

- *The Port is a SERVICE-ORIENTED ORGANIZATION in the business of developing, operating, maintaining and leasing Port property and/or facilities to businesses and institutions engaged in port-dependent or related activities.

- *The Port is and will continue to be a diversified port. (i.e., it will support a number of different uses rather than be restricted in its activities.)

- *The extent of the Port's profit motive is to earn sufficient revenues to be self-supporting and maintain a prudent level of reserves for future development.

- *Once a particular use of Port property has been determined, the Department will attempt to maximize the productivity, efficiency and earnings of that use.

- *The Port's activities shall be conducted with the goal of

benefiting society.

Key Strategic Issues

The key issues identified as a result of the strategic planning process are listed below. They encompass a broad spectrum of Port activities including organization and management, corporate image, public relations, marketing, property management, planning, engineering, finance and social responsibilities.

- *Internal Organization

- *Management Communication/Teamwork

- *Corporate Image

- *Marketing Program/Position/Direction

- *Additional Shipping and Rental Revenue Requirements

- *Additional Land Requirements

- *Deeper Water Requirements

- *Future Planning and Development Requirements

- *Relocation of Hazardous Cargo Facilities

- *Multiple-use Capability

- *Financial Program/Position/Direction

- *Consistent Rate of Return Policy

- *Affirmative Action

- *Minority and Women Business Enterprises

Goals and Strategies

An essential part of the strategic planning process is to establish goals in response to key strategic issues and formulate realistic, viable strategies for achieving the goals. After considering the availability of management and staff resources and ongoing work load pressures, the number of goals to be addressed in the Department's initial Strategic Plan was limited to fifteen. These goals were considered realistic and capable of fulfillment. The following summarizes the Port of Los Angeles strategic planning goals and major strategy elements:

Prepare development plans for each Master Planning Area and a consolidated port plan to serve as a comprehensive guide to future port development.

- *Based on an analysis of existing facilities, planning constraints and marketing demand, prepare a detailed development plan for each Master Planning Area recommending the highest and best uses for the area.

- *Prepare supplemental studies (long-term cargo forecasts, world fleet vessel characteristics, transportation circulation plans) to support consolidated Port Development Plan.

- *Integrate the area development plans and supplemental studies into a single comprehensive Port Development Plan.

Establish well-defined functional relationships and responsibilities throughout the Department.

- *Determine and clarify Division/Section Heads' current views of functional responsibilities and departmental relationships.

- *Identify and resolve role conflicts.

- *Develop a Functional Relationships Manual to communicate established roles and relationships.

Improve the quality and frequency of management communication and develop an awareness of the need for mutual support.

- *Establish an in-depth orientation program for managers to improve their understanding of the tasks, decisions and

issues facing other divisions/sections.

- *Improve communication effectiveness for managers who attend/respond at Board meetings through the use of communications workshops, techniques and training in presentation skills.

Develop a written, well-documented, systematic and focused marketing program for WORLDPORT LA.

- *Determine optimum positions and physical capabilities of the Port with respect to Board policy, customer service, market share and related strategic planning goals.
- *Determine desirable commodities and develop a program to attract such commodities to the Port.
- *Institute a program to identify and attract new steamship lines and retain existing lines at the Port.
- *Implement a marketing program focused on becoming the number one container, automobile and iron and steel handling port on the West Coast.

Increase shipping service revenues to partially fund the Capital Improvement Program and support debt service obligations.

- *Expand tariff revenues through equitable tariff adjustments and projected revenue increases based on market conditions, facilities availability and tenant projections.
- *Develop a Commodity Marketing Program to expand commodity base.
- *Expand steamship line base by expanding services to current steamship lines and securing new steamship lines at the Port.
- *Prepare five-year Shipping Service Revenue Enhancement Plan.

Increase the Department's credibility with employees, tenants, customers, governmental agencies, labor organizations and the general public.

- *Determine present level of Department credibility, identify problem areas and possible techniques to increase credibility in problem areas.
- *Develop specific programs for each of the Department's public services to improve credibility and periodically measure credibility changes on an ongoing basis.
- *Establish speakers bureau and other programs to improve communications both within and outside the Department.

Develop a plan to locate hazardous liquid bulk cargo facilities that are inconsistent with the Port's Master Plan to a new landfill site south of Terminal Island when it is constructed.

- *Identify existing hazardous cargo facilities and determine which facilities are inconsistent with the Port's Risk Management Plan.
- *Determine facility relocation requirements and develop and implement a comprehensive Hazardous Facilities Relocation Plan.

Develop guidelines for designing future waterfront marine facilities that will have a multiple-use capability.

- *Determine the type of cargo facilities that are anticipated to operate at the Port of Los Angeles over the next twenty years.
- *Based on common features and general and specific requirements for each type of cargo facility, develop basic multiple-use design standards for constructing and operat-

ing these facilities.

- *Develop guidelines for pricing terminals when additional features are added to the basic requirements of marine facilities to provide for future multiple-use capability.

Increase annual revenue derived from the rental of Port property to partially fund the Capital Improvement Program and support debt service obligations.

- *Project yearly rental rates over the next five years.
- *Identify new permits and those which may be terminated and project annual revenue increases.
- *Determine anticipated annual increase in rental revenue based on projected rental rates and permit revenues.

Develop and implement a prioritized land acquisition program to purchase privately-owned land within the planned boundaries of the Port by the year 2000.

- *Review the current Wilmington and Knoll Hill land acquisition programs and other port areas to prioritize the property to be acquired.
- *Develop a management and leasing practices program for the acquired property that gives priority to port-related businesses.

Create a remote landfill and deepwater access south of Terminal Island by 1992 or sooner.

- *Develop a detailed project description of the major project elements (channels, basin, berths, landfill).
- *Identify specific land use requirements for the landfill based on commodity type and support requirements.
- *Perform engineering studies to determine optimum design criteria for the channels, landfill and berths.
- *Complete necessary environmental documents, agreements and detailed design.
- *Obtain all necessary permits and construct project.

Develop a comprehensive financial program that will provide sufficient cash flow to fund the five-year Capital Improvement Program, maintain existing facilities, cover all operating expenses, and provide for long-term planned growth.

- *Increase volume and speed of revenue collection by the Port.
- *Implement a computerized financial management information system.
- *Maintain minimum cash on hand equal to six months operating expenses and a debt coverage ratio at a minimum of 1.9:1.
- *Monitor and control capital expenditures.
- *Establish debt, credit, collections, cash management and investment policies to increase and improve cash flow.

Develop a consistent rate of return policy that will be utilized in negotiating all Port agreements.

- *(The strategy to achieve this goal was completed in May 1986. A rate of return policy and procedures for negotiating major Port land use agreements is currently in operation.)

Increase the participation by Minority and Women Business Enterprises (MBE/WBE) in all contracts for services and goods provided to the Harbor Department property.

- *Increase Department presence at minority and women business organization meetings to explain the MBE/WBE

program and the process of awarding contracts.

*Provide information to Department prime contractors and tenant prime contractors to assist them in finding qualified MBE/WBE subcontractors.

*Revise Board policy to include project-specific goals.

Employ a work force whose ethnic and sex composition in each occupational category is proportionate to the population of the City of Los Angeles and which reflects increased employment of the handicapped.

*Determine current ethnic and sex composition of the Department's work force and identify those groups in each occupational category whose representation is below population parity.

*Establish goals and timetables and develop and implement activities designed to improve the overall representation of the handicapped.

*Monitor and evaluate progress of programs in attaining increased representation of ethnic groups, sexes and handicapped.

Implementation

A strategic plan, no matter how well conceived, will not be effective unless properly implemented. Accordingly, the following procedures have been adopted to update and coordinate the Strategic Plan with existing Port programs and operations and continue the strategic planning evolution at the Port:

*The strategic planning process and the contents of the Port of Los Angeles Strategic Plan will be communicated to all Harbor Department employees. Employee briefings on the Port of Los Angeles strategic planning process and the contents of the Strategic Plan will be scheduled and copies of the strategic planning document will be provided to all employees. To be successful, everyone in the organization must understand the Department's mission, key issues, and strategic goals.

*The present Strategic Planning Executive Team, under the direction of the Executive Director, will continue to have the responsibility of overseeing the Department's strategic planning process, developing practical strategies for the resolution of key issues, broadening the process to include more line management participation and training managers to enhance their strategic thinking capabilities.

*Strategy directors will be assigned the authority and the responsibility for implementing each strategy and provided the resources to complete the strategy in a timely manner. This recommendation gives key Department managers and staff the responsibility for implementation and accountability for performance.

*In order to maintain flexibility in the plan, changes to the Strategic Plan should be made as they occur, but a major recycling and rewrite will be made at three- to five-year intervals as circumstances dictate.

*On an annual basis, strategic planning goals and strategies will be reviewed, updated and reaffirmed by the Strategic Planning Executive Team and the Board of Harbor Commissioners at the time each yearly budget is adopted. This review will include any additional goals that have been established in the interim period as well as amendments or deletions to the existing goals stated in the initial strategic planning document.

*A strategic planning newsletter will be published biannu-

ally for distribution to all employees highlighting strategic planning achievements, progress, etc., or a strategic planning column will be added to the existing employee newsletter.

*To continue the generation of tangible results from the strategic planning process, a strategic planning liaison position will be added to the Planning and Research staff. This position will assist the Department in establishing internal systems to identify key issues and trends, determine their strategic importance and transmit the information obtained in a usable format to the Strategic Planning Executive Team for planning and decision-making purposes. This position will also help develop a Port of Los Angeles Planning Manual, assist Divisions and Sections in interpreting and applying the strategic planning process and communicate strategic issues and decisions to Harbor Department employees.

Continuing the strategic planning process and maintaining and updating the Port of Los Angeles Strategic Plan will take a substantial commitment from management and staff. Examples of the process as experienced in other organizations indicate that the end result will be well worth the effort.

Guidance for World Ports

(Continued from Page 10, Col. 2)

port development, port managers can learn from a number of models contributing to their future port construction, port development and more efficient ways of port management."

Cheung said that the Conference has been a forum whereby the people who are directly involved with the management and operations of ports from around the world gathered together to pool their experiences and through the in-depth discussions which took place the information will be utilized as a guidance for ports.

"It is important to obtain new information and digest it in order to make it useful," said Cheung. "It is especially important in the context of port management and operations; the information of various countries was exchanged and conferees were able to discuss several cases and the operational problems that ports face. Therefore, many developing countries will hopefully be able to avoid such kind of mistakes or failures as they further develop their ports."

Cheung commented that the Seoul Conference included not only the delegates but also their spouses and through personal contact, conference activities and tours, this Conference was able to strengthen the personal ties between members.

"From the viewpoint of the host country, the 15th IAPH Conference was the first international conference held in Seoul in relation to ports and the port industry. Therefore it was a fresh opportunity to show the development of the Korean economy to the world port people. We were able to show that our ports are an important center of the Asian-Pacific economic zone," said Cheung.

Finally Cheung took note of the Asian Games which were held last year and the upcoming 1988 Seoul Olympics. "Those who attended the 15th IAPH Conference in Seoul have personally come to this city and they had the opportunity to personally view the facilities and the economic stage of our country. All those concerned view that the 15th Conference in Seoul was an important opportunity and was very beneficial toward the further development of our country."

International Maritime Information

WORLD PORT NEWS

This report presents the results of a fifteen-month study conducted by Applied Systems Institute, Inc. (ASI) for the Maritime Administration (MARAD), U.S. Department of Transportation. The purpose of the study was to develop a computer model for calculating cost compensatory prices for usage of public marine terminal facilities. The work was based on a previous report prepared by ASI for MARAD entitled *Usage Pricing for Public Marine Terminal Facilities*, December 1981. To eliminate the need for cross referencing, the current report abstracts and incorporates relevant segments from the 1981 report. The results of the study are contained in two reports and the computer software (diskettes). The two reports are: Volume I—Executive Summary and Main Report; and Volume II—User's Manual. The Executive Summary contains a synopsis of the study. The Main Report presents background information on the development of the pricing model and its specific components. The User's Manual, which was prepared to accompany the computer software, contains step-by-step instructions for completing the automated version of the pricing model.

EXECUTIVE SUMMARY

Pricing Model Procedures

The computer model was developed for application on a personal computer. In addition, a manual version of the pricing model was prepared for application using a desk-top calculator. The port pricing model is comprised of two stages. Stage 1 is the calculation of gross revenue requirements that reflect the cost of facility usage. Stage 2 is the pricing analysis. The objectives of Stage 2 include specification of prices, estimation of revenues based on forecasted usage, and calculation of revenue surpluses/deficits. The structure of the model can be expressed

Automated Port Pricing Model

Maritime Administration
U.S. Department of Transportation

algebraically as follows:

Stage 1. [historical costs] + [imputed costs] + [pricing factors] = [gross revenue requirements]

Stage 2. a) [usage prices] × [forecasted usage] = [estimated revenues]
b) [estimated revenues] - [gross revenue requirements] = [estimated revenue surplus/deficit]

The basic components of the pricing model are explained below:

Historical Costs—Costs that are incurred by the port as recorded on the books and records in accordance with an established accounting system. These are comprised of the facilities costs (including depreciation, maintenance, taxes, and insurance), terminal operating expense, and administrative expense.

Imputed Costs—Unreimbursed and unrecorded resources or services furnished to a port by an outside entity. These costs are to be quantified and entered into the model in the same manner as recorded costs. Examples of imputed costs are fire protection and computer services.

Pricing Factors—Quasi-cost items that are used to generate a return on investment. The two categories of pricing factors developed in the model are the return on facilities investment and the return on land investment. The pricing factors are calculated by multiplying the current values of facilities investment and land times an appropriate rate of return.

Gross Revenue Requirement—The amount of revenue required by a port to cover the cost of facility usage. The

model provides for the calculation of three levels of gross revenue requirement.

Usage Prices—The rates charged by a port for the use of its facilities. The rates covered in the model include dockage, wharfage, hourly crane rentals, and annual leases.

Forecasted Usage—The expected use of port facilities in the coming year. These include throughput levels for dockage and wharfage, usage hours for cranes, and property rentals for leased facilities.

Estimated Revenues—The amount of usage revenues estimated for the coming year. These are calculated in the model by multiplying specified usage prices times forecasted usage.

Estimated Revenue Surplus/Deficit—The difference between estimated revenues and gross revenue requirements. These differences are used as a means for adjusting prices in the model on an iterative basis.

The major steps for performing Stage 1 are presented in Table 1. The Stage 1 objective of calculating gross revenue requirements is achieved by deriving historical costs, imputed costs, and pricing factors. These costs are determined for each of the following lines of business: dockage and wharfage, crane rental, leased facilities, and "other." For each of the four lines of business, three different levels of gross revenue requirement are calculated. These levels are defined below:

Level 1: Total historical cost

Level 2: Total historical cost +
Return on facilities investment

Level 3: Total historical cost +

Return on facilities investment + Return on land investment

The three levels represent various phases with respect to the goal of achieving economic self-sufficiency. Level 3 represents the ultimate long-term goal in terms of self-sufficiency because it includes the full economic costs of facility usage. Levels 1 and 2 should be considered as logical intermediate goals on the path toward achievement of Level 3.

The steps used in Stage 2 to establish benchmark rates for each line of business are shown in Table 2. The benchmark rates are to be set such that if forecasted usage levels hold true, the resulting revenues would recover the costs of facility usage. The process of setting these rates is iterative. Trial rates are initially entered into the model along with forecasted usage. These two factors are multiplied together to determine estimated revenues. The revenue requirements (calculated in Stage 1) are subtracted from the estimated revenues to produce a revenue surplus/deficit for each line of business. The resulting revenue surplus/deficit provides a mechanism for adjusting the rates until a satisfactory solution is obtained.

Application of the Pricing Model

There are several basic uses for the model. These uses include the following:

- *The derivation of full cost revenue requirements and cost compensatory *benchmark* pricing goals. These goals would serve as useful targets in achieving economic self-sufficiency.
- *The development of intermediate levels of revenue requirement which would provide short run pricing goals. These levels would incorporate port specific considerations such as current subsidies, locked-in leases, financial, legal, political or other constraints, etc.
- *The provision of an internal port management tool. As such, the pricing model can be used to compare the financial status of different facilities and lines of business as well as assess the impacts and tradeoffs of various pricing schemes (i.e., answer "what-if" questions).
- *The development of a standard,

common-denominator basis for collaboration within various regional port associations in establishing uniform tariff practices among member ports. This represents an ultimate long term application.

The model is structured to enhance its application in the port community. Specifically, the pricing model is designed to reflect three key features:

modularity, flexibility, and simplicity. Ports have the option to use only those components of the model that fit their particular needs. The model is modular with respect to port configuration. Ports can apply the model at the terminal level or at the multi-terminal level (i.e. port-wide). The model is also modular with respect to line of busi-

(Continued on Page 35, Col. 3)

Table 1

Application of the Port Pricing Model: Stage 1. Calculation of Gross Revenue Requirements

| Step | Activity |
|------|---|
| 1 | Identify Imputed Cost Components |
| 2 | Derive Historical Costs (Including Imputed Costs) <ul style="list-style-type: none"> • Facilities Cost <ul style="list-style-type: none"> —Depreciation/Investment —Maintenance —Taxes & Insurance • Terminal Operating Expense • Administrative Expense |
| 3 | Derive Pricing Factors <ul style="list-style-type: none"> • Return On Facilities Investment • Return On Land Investment |
| 4 | Calculate Three Levels Of Gross Revenue Requirement |
| 5 | Select Desired Level Of Gross Revenue Requirement |

NOTE: Stage 1 is conducted for each line of business.

Table 2

Application of the Port Pricing Model: Stage 2. Pricing Analysis

| Step | Activity |
|------|--|
| 1 | Specify Benchmark Rates |
| 2 | Forecast Annual Usage |
| 3 | Calculate Estimated Revenues By Multiplying Benchmark Rates Times Forecasted Usage |
| 4 | Calculate Revenue Supluses/Deficits By Subtracting Gross Revenue Requirements From Estimated Revenues |
| 5 | Calculate Total Revenue Surplus/Deficit By Summing Supluses/Deficits For Each Line Of Business |
| 6 | Repeat Steps 1 Through 5 Until Total Revenue Surplus/Deficit Is ≥ 0 And A Satisfactory Set Of Benchmark Rates Is Obtained |

NOTES: —Steps 1 through 4 are performed for each line of business.

—The estimation of dockage and wharfage revenues includes the estimation of related revenues (e.g., space rental, wharf demurrage, etc.).

Ports Unprepared for Annex II Requirements, Says INTERTANKO

Apathy among the world's leading shipping nations will ensure that a new regime controlling marine pollution by chemicals is stillborn, states the International Association of Independent Tanker Owners (INTERTANKO).

Annex II, MARPOL 73/78, took effect on April 6, 1987. Owners of chemical tankers have spent up to \$500,000 per ship to meet Annex II requirements, yet will be unable to achieve full compliance due to the failure of governments to provide shore reception for tank washings in their ports.

Feedback from chemical tanker owners reveals that even the most sophisticated ports, with well developed chemical trades, lack shore reception. Major ports like Rotterdam and Hamburg have yet to solve this problem. The Netherlands authorities have yet to issue a single permit for operation of an Annex II reception facility, while the new international rules have yet to be incorporated into Dutch law.

The situation in the Netherlands and many other European countries has alarmed both INTERTANKO and ECCTO (the European Chemical Coastal Tanker Organisation).

The International Maritime Organisation (IMO) recently adopted guidelines for port state control of vessels engaged in carriage of bulk chemicals. However, IMO's Marine Environment Protection Committee refused to adopt complementary guidelines for the ship masters facing problems caused by inadequate or non-existent shore reception.

Jean Pierre Page, Chairman of INTERTANKO's Safety and Technical Committee, comments: "IMO member governments should face up to their obligations and equip all chemical discharge ports for shore reception. Vessels unable to discharge residues may have grave difficulties getting rid of them later. The situation is serious, as a vessel washing tanks used for a Category A cargo could generate up to 1,000 tonnes of contaminated washwater.

"We have already seen worrying signs from ports around the world,

lacking shore reception. Some have already warned that they will require ships to retain all washings onboard. This policy amounts to violation of the requirement in Annex II for ships not to leave port before having discharged the prewash water. Strictly speaking, these ships should be detained in port indefinitely—as monuments to governments which made rules, fail to abide by them and, at the same time, piously expect others to do so."

INTERTANKO has urged all masters meeting difficulties in ports lacking shore reception to protest to the port authorities concerned and file reports to flag states. Cases should also be reported to INTERTANKO. Where disputes cannot be settled by negotiation, the matter should go to arbitration—as provided for under Protocol II of MARPOL.

New Publications

"Maritime Guide": Lloyd's Register
Price £55.0

Lloyd's Register of Shipping
71 Fenchurch Street, London EC3M 4BS
Tel: 01-709 9166 Telex: 888379
Fax: 01-488 4796 (Gp III)

Subjects treated by the Maritime Guide:

- Port facilities—particulars of wet and dry docks worldwide
- Ports gazetteer, listing latitude and longitude for over 13,000 locations of maritime significance, together with 24 pages of coast-oriented colour maps—a more extensive coverage than you'll find in any comparable volume
- International list of telegraphic and telex numbers for companies and organisations in the shipping business
- Call signs of ships, listed in alphabetical order, enabling immediate identification of merchant ships
- Shipbuilders and existing ships built by them (of 100 gross tonnage and above). The shipbuilders are listed both alphabetically and geographically, with postal addresses. Lists of existing ships include yard numbers, dates of build and gross tonnage
- Shipbreakers, by country in alphabetical order. A worldwide and comprehensive list unrivalled by any other directory.

Problems of Deep-draughted Ships Discussed

The IMO Safety of Navigation Sub-Committee discussed problems of deep-draughted vessels in harbour approaches.

Because of their draught, such vessels are unable to manoeuvre easily in channels in the approaches to harbours which are usually narrow and are consequently not easily able to take action to avoid a collision or grounding.

Some countries felt that the problem could be solved by introducing special local rules but the majority of the Sub-Committee felt that the proposed new rule 8(f) would provide the best solution.

This new rule is one of a number of changes to the International Regulations for Preventing Collisions at Sea, 1972, which are due to be considered for adoption by the IMO Assembly in November.

The proposed new rule deals with the conduct of vessels which are required not to impede others.

The subject will be further discussed at the Sub-Committee's next session which is expected to be held in February 1988. (IMO News)

Guidelines Issued to Fight Drug Smuggling

Guidelines on how to prevent drug smuggling on ships have been issued by IMO as an interim measure. They are based on documentation made available by the United Kingdom and the Secretariats of the International Chamber of Shipping and the Customs Co-operation Council.

It is expected that the guidelines will be further developed by IMO. They are designed for use by shipowners, seafarers and others closely involved in shipping.

The guidelines state that the places where drugs are found concealed in ships frequently suggest that security arrangements on board have been lax or non-existent. In such circumstances the drug smuggler's path is made easy by masters and officers who, although they would not give him active assistance, do in fact help by their lack of care, foresight and prudence.

(IMO News)

1987 Outlook Mixed For Asian Developing Countries, Says ADB

The economic outlook for 1987 among the developing member countries (DMCs) of the Asian Development Bank (ADB) is mixed.

The newly industrializing countries (NICs), with the exception of Singapore, are likely to see growth rates fall to between 6–8 per cent. These countries are Hong Kong, the Republic of Korea and Taipei, China.

In contrast, Southeast Asian countries are expected to improve their growth performance. Among these, Malaysia and Thailand are likely to do better than Indonesia and the Philippines.

On middle ground, the People's Republic of China and the South Asian countries of Bangladesh, India, Pakistan and Sri Lanka are expected to maintain growth at existing levels.

These are the main trends forecast in the Bank's just-released 1986 Annual Report.

The reason mixed performances are projected is that recent major developments in the international economy such as exchange rate movements, falling interest rates and declining prices of commodities, including oil, have affected DMCs in different ways.

The ADB Report notes, for example, that the cost advantages reaped by Hong Kong, the Republic of Korea and Taipei, China from these developments are likely to decline in 1987 while the demand for their products in developed countries is likely to slow down. The main reasons for the slower demand are lower GDP growth in the developed countries, protectionist measures and greater competition among the NICs.

In Singapore, the Report notes that, while adjustment problems continue, the growth rate in 1987 is expected to improve to around 5 per cent, though this is still well below the country's average during the past decade.

In Southeast Asia, the structural adjustments initiated during the economic reverses of the last few years are expected to bring positive results this year. In addition, some of the adverse external factors such as low commodity prices, high debt burdens and large trade deficits may begin to ease. The Report states that the adjustment

process is likely to be longer for Indonesia and the Philippines than for Malaysia and Thailand.

The People's Republic of China and the South Asian DMCs are less exposed to external markets and have ridden the difficult years of the 1980s quite well, depending largely on expanding domestic demand for growth, notes the Report.

Recent efforts in these countries to encourage the private sector and to open up their domestic economies to external competition and market forces will stimulate economic growth by improving efficiency and resource allocation, the Report says.

Overall growth in these countries is expected to stay at existing levels but, the Report warns, trade liberalization moves may be frustrated by a sharp growth in current account deficits to unsustainable levels. This can be avoided only by maintaining a similar growth in exports and the availability of external resources at reasonable cost to finance current account deficits.

Rapid Growth in Container Trade Seen

Ocean Shipping Consultant's latest container survey forecasts continuing rapid growth in developing world container traffic volumes in the period to 1990. Citing lower oil-prices and the attendant upturn in economic growth now being experienced within the major OECD economies the report suggests that a number of well-placed developing countries—particularly certain newly-industrialised countries within the South and East Asian region—are poised at the commencement of a period of extremely rapid box trade growth, given favourable resolution of the deficit U.S. budget situation together with some abatement of present protectionist sentiment with the industrialised countries.

Containerised trade flows from the South and East Asian NICs—Hong Kong, Singapore, Taiwan, South Korea, etc.—to major markets in North America and Western Europe are expected to register the most rapid pace of expansion. Transpacific traffic volume growth, overall, is put at a compound 5% per annum in the period to 1990, by which time annual liftings on the trade are anticipated to be running

at a level in excess of 5.3 million TEUs as against the 4.0 million TEUs moving in 1984. Sustained traffic growth on the longer-haul trade with Europe is also posited, the report suggesting that trade will expand from the present level of some 2.5 million TEUs to a 1990 figure of 3.96 million TEUs—equivalent to an annual rate of growth averaging some 8% per annum.

(Ocean Shipping Consultants)

Automated Port

(Continued from Page 33, Col. 3)
ness.

The analysis can be conducted separately for each line of business or simultaneously for all lines of business. (The latter application offers the advantage of analyzing various pricing tradeoffs among lines of business.)

Flexibility is built into the model so that it can address a variety of accounting systems, pricing goals, and pricing strategies. The first stage of the model offers flexibility by providing a choice among different levels of gross revenue requirement. The second stage of the model permits wide flexibility in setting prices so long as the revenue requirements are met. The user is not limited to one unique pricing solution. Prices can be adjusted on an iterative basis to answer "what-if" questions. For example, the model can be used to determine how much crane rental rates would have to be increased to offset a specified decrease in dockage rates (and still meet the gross revenue requirement).

Lastly, the model is designed to be simple from the user's perspective. The data input requirements are streamlined and the analytical steps are automated where practical. The simplicity of the automated model is supported by instructions appearing on the software itself and by thorough documentation in the User's Manual.

In sum, the automated port pricing model is presented as a flexible vehicle for establishing and meeting a port's financial goals. The model should be applied in the short run to accommodate existing institutional constraints and used as a means to move toward the long run goal of economic self-sufficiency. Through its reduction in manual calculations and enhanced capability to assess alternatives, the automated port pricing model can be considered as the ultimate stage in the development of rational usage pricing.

The Americas

Port of Vancouver: 6 Challenges for Continuing Growth

Six key challenges have been identified by the Port of Vancouver as pivotal to its continuing growth, and its prospects as a west coast load centre. These include:

- *The critical economics confronting world shipping.
- *Increasing competition from U.S. west coast ports.
- *Growing international protectionism.
- *The efficiency of intermodal transport.
- *Stable labour relations.
- *Timely, top-grade port services.

Meeting these challenges demands the commitment to a team effort by all impacting sectors. Mindful of its responsibilities to serve Canada's trade objectives, and to meet the economic and social aspirations of its neighbouring communities and regions, the Port is moving rapidly on a number of important priorities to help meet these challenges.

Priorities—The establishment of a Port Promotion Department in 1986 was the Vancouver Port Corporation's first response to its number one priority: the pursuit of world cargo opportunities. The Department will use several avenues to promote the Port of Vancouver as a whole, including advertising, trade contact work, stepped up public affairs involvement and joint venture marketing.

The Port has markedly increased dialogue with the private sector, with rail and shipping lines, and with governments at all levels. Additionally, the Port will lead direct marketing missions abroad; most notably to important trade customers on the Pacific Rim.

Another market-driven priority is port development. The Corporation is determined to contribute in a major way to Vancouver's readiness for increased cargo volumes. During 1986, the Corporation's capital investment program totalled some \$13 million in expanded terminal facilities, and upgraded services and access efficiency.

The Vancouver Port Corporation has projected capital investment of \$75 million over the next five years.

Achievement—Containers and cruise passengers led the mercantile performance of Canada's largest port in 1986.

Total tonnage through the Port of Vancouver was the second highest ever recorded: 57,593,000 tonnes.

And, within the world shipping climate of rapid-fire change, the Vancouver Port Corporation's statistics reaffirmed the importance of the Pacific Rim to Canada's trading destiny.

Bulk commodities again dominated Port throughput. But, significantly, Vancouver's share of higher-value tonnages in general cargo and container categories increased in 1986.

1986 Performance Highlights

- *Container traffic increased by 25.1% to 222,781 TEUs.
- *Long-term terminal service contracts signed.
- *Grain exports up by more than a million tonnes.
- *New terminal handles biggest cruise season ever.
- *Marketing drive set by new Port Promotion Department.
- *Key capital improvements completed at Vanterm and Centerm.

(Port News)

Cruise Industry Group Created in B.C.

The opening of the Vancouver Port Corporation's \$27 million Cruise Ship Terminal in April, 1986, was the forerunner to the Port's best cruise season ever. More than 230 sailings and 313,000 passengers were handled by the landmark facility at Canada Place.

The economic impact of the growing cruise industry on the regional economy has not gone unnoticed by such tourism sectors as hotels, bus lines, airlines, retailers and restaurants in the Greater Vancouver area.

The result has been the formation of the Cruise Industry Association of B.C. to promote the industry on all fronts. Start-up funding has come from all levels of government, from the private sector and from the Port of Vancouver,

which became an early member of CIABC and has a representative on the Board of Directors.

The determination to promote the Alaska cruise trade through the Port of Vancouver is well placed. The industry was worth \$300 million to the B.C. economy in 1986, and the new Association believes the potential is there to at least double that impact within five years.

(Port News)

Port of Halifax Sets New Records

"To say 1986 was a banner year for the Port of Halifax is an understatement," according to Mr. David Bellefontaine, Port General Manager. Figures released show 1986 set records with a total of 270,984 TEUs handled, a 15.9% increase in total container tonnage, which was 2,265,000 tonnes in '86. Totals of all cargo through the Port of Halifax last year reached 14.1 million tonnes.

Executive Director of the Port Development Commission, Mr. Victor Bayne said efforts to increase traffic through the port resulted in the addition of eight new shipping lines making regularly scheduled calls to the port.

Both container terminals in the port had reason to boast last year. Ceres Container Terminal doubled its berth capacity with the official opening of the 1,080 ft. extension in June '86 and are now looking at the possible addition of a third gantry crane. Halterm Container Terminal last year saw a 50% increase in business and are presently in discussions with the Halifax Port Corp. regarding a 300 ft. extension to their existing facility.

CN Rail tested double stack rail cars in the Halifax/Toronto corridor last year, but findings indicated that they are not economically feasible at present. CN did improve transit times on that same route by introducing "Supertrains," separate trains running direct between the port and Toronto/Montreal.

Labour intensive break bulk saw an increase of 15.7%, from 419,000 tonnes in '85 to 484,000 tonnes in '86.

(Port of Halifax)

Congress Urged to Provide \$60 Million For NY/NJ Projects

The Port Authority, the State of New Jersey and the City of New York jointly urged Congress to provide approximately \$60 million for seven important channel or related projects in the New Jersey-New York Harbor in Fiscal Year 1988.

This represents \$2.1 million more than the \$57.5 million already allocated in the Executive Budget for the work, which will be carried out by the United States Army Corps of Engineers.

The additional amount requested for Federal Fiscal Year 1988, which begins this October, would increase the funding of one project and provide funds for two other port projects for which no funding has been provided.

The port spokesmen were Mr. James J. Kirk, Director of the Port Department of The Port Authority of New York and New Jersey; Mr. Borden R. Putnam, Commissioner of Commerce and Economic Development of the State of New Jersey; and Mr. Michael P. Huerta, Commissioner of Ports, International Trade and Commerce of the City of New York.

Their testimony was endorsed by 28 other civic, business, labor, trade and maritime organizations of the bi-state region in a unified effort.

"Adequate funding of the Federal share of construction work for navigation channels must continue for ports to provide national economic benefits," Mr. Kirk told the Congressional committee members. "If our recommendations are adopted this would bring the total expenditure for vital harbor improvements in this Port to just under

\$60 million," he stated.

The four projects for which funds have been proposed in the Budget and in which local port interests concur are:

| | |
|--|--------------|
| Kill Van Kull and Newark Bay Channels..... | \$52,000,000 |
| New York Harbor Collection and Removal of Drift..... | \$4,880,000 |
| Arthur Kill Channel to Howland Hook Marine Terminal..... | \$323,000 |
| Gowanus Creek Channel | \$150,000 |

The study project for which increased funding was requested is:

| | |
|---|-------------|
| Arthur Kill Channel extension to Fresh Kills, Staten Island, an increase of \$800,000 from the \$200,000 recommended in the Federal Budget to | \$1,000,000 |
|---|-------------|

The two unfunded projects for which funds have been requested are:

| | |
|--|-------------|
| New York Harbor and Adjacent Channels (Port Jersey Access Channel) | \$300,000 |
| Emergency Response Services (Fireboats) | \$1,000,000 |

U.S. Federal Harbor Tax Comes into Effect

April 1 marked the effective date of the "Harbor Maintenance Tax" provision of last year's landmark port development legislation—the Water Resources Development Act of 1986. The tax rate is set at 0.04 percent of the value of cargo (or \$4 per \$10,000) loaded or unloaded at U.S. ports—including imports, exports, and domestic shipments.

Proceeds from the tax plus the U.S. portion of St. Lawrence Seaway tolls are to be deposited into a Harbor Maintenance Trust Fund. Money from that fund, subject to congressional appropriation, would be used by the Army

Corps of Engineers to pay up to 40 percent of its operation and maintenance costs at U.S. harbors and 100 percent of O&M costs for the segments of the Seaway operated by the U.S. St. Lawrence Seaway Development Corporation.

The tax, which will be collected from shippers by federal agencies and not by the ports, is expected to generate annual revenues of about \$160 million. The tax on imported cargoes will be assessed and collected by U.S. Customs.

The Internal Revenue Service (IRS) is the designated collector for the tax assessed on export cargoes and domestic shipments. Alternatively, exporters and domestic shippers are required to make quarterly payments directly to IRS.

Exempted from the tax are:

- (1) Cargo loaded on the U.S. mainland for ultimate consumption in Alaska, Hawaii, or any U.S. possession;
- (2) Cargo loaded in Alaska, Hawaii, or any U.S. possession for ultimate consumption on the U.S. mainland;
- (3) Ferries;
- (4) Cargoes affected by the Inland Waterways Tax;
- (5) Ports with channels for which no federal funds have been spent for construction, maintenance, or operation since 1977, or which were deauthorized before 1985; and
- (6) In-bond shipments for direct export.

St. Lawrence Seaway users subject to the harbor tax will receive Seaway toll rebates.

(AAPA Advisory)

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PORT OF THUNDER BAY

Thunder Bay Harbour Commission
P.O. Box 2266, Thunder Bay, Ontario, Canada
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CSX Extends Service To US West Coast

Seven-day-a-week transcontinental trains—another link in CSX's chain of intermodal improvements at Charleston.

CSX has joined with Southern Pacific Railroad to offer rapid transcontinental service originating from Charleston and extending to Los Angeles/Long Beach and Oakland.

The new service is a logical extension of CSX's innovative Gulf Wind train which offers dedicated daily intermodal service from its load center port at Charleston to Mobile, New Orleans and Houston. The transcontinental service extends opportunities for cargo into the U.S. West. The CSX joins with the Southern Pacific in the Gulf and continues with additional stops at El Paso, San Antonio, Phoenix, Tucson, Long Beach, and Oakland.

"The train meets customer needs," says Mr. Ted J. Bembenek, Jr., national accounts manager at CSX for Ocean Carriers. "Speed, low prices due to high volumes, and convenient arrival and departure times, keyed to ship schedules."

"Very important to our steamship line customers are the savings in time and operating costs that come to the line with this microbridge into the U.S. Gulf. By eliminating the need for Gulf port calls, the train saves the lines four-to-five days steaming cost, port costs and cuts overall transit time between cargo origin and final destination."

Port of Portland Geared To Needs of Importers

A unique combination of transportation assets at the Port of Portland has prompted development of a new distribution complex specially geared to the needs of importers from the Far East. "The Portland Import Center was born because of its superior location for import distribution connecting the Far East and the United States by the most efficient routes," says Mr. Lloyd Anderson, Port of Portland executive director.

"The Portland Import Center features prime distribution sites located directly across from the John M. Fulton Terminal 6 container/automobile facility. This site has better land, marine and rail assets in one spot than any other

West Coast location," he explains.

Located at the confluence of the Willamette and Columbia rivers, 350 acres of property are available at The Portland Import Center for warehouse facilities to service import accounts.

The area is just two kilometers from Terminal 6 and is ready for immediate occupancy, says Mr. Don Grigg, general manager, project development.

Excellent inland transportation is another key benefit for tenants. Three major transcontinental railroads call on Portland: Burlington Northern, Southern Pacific and Union Pacific.

"Also," explains Mr. Grigg, "more than 100 local trucking lines are available, and a major interstate highway is within 2.5 kilometers of the area."

"The Portland Import Center has some of the most efficient inland transportation connections of any port in America with on-dock intermodal rail facilities and direct vessel-to-rail transfer, saving drayage expense for importers who are moving their containers directly to distribution centers."

(Portside)

New Medical Facility Assists Port Operations

Milby Medical Group, a long-established occupational medicine clinic on the southeast side of downtown Houston, recently opened a satellite office at 8402 Clinton Drive, just inside the Port's Gate 8 entrance.

Dr. William U. Giessel, medical director of the clinic, said that Milby Medical Group saw an opportunity to improve maritime medical services by adding an emergency first aid facility closer to the docks. Port Authority officials agreed to let Milby Medical Group occupy space on Port Authority property.

The new facility, located in the old Port Terminal Building, is staffed between the hours of 8 a.m. and 4:30 p.m., Monday through Friday, by a licensed nurse. Additionally, one of the Milby Medical Group staff physicians sees patients there daily, between 11 a.m. and 1 p.m., for minor emergencies and illnesses. More acute emergencies requiring the use of x-ray and laboratory facilities are treated at the group's main office at 215 Milby Street, a 15-minute drive from the satellite location at the Turning Basin Terminal.

(Port of Houston)

Port of Long Beach to Reclaim 2,600 Acres

The Ports of Long Beach and Los Angeles, in conjunction with the Army Corps of Engineers, have embarked on an ambitious and far-reaching venture—a 36-year project designed to add 2,600 acres of landfill to San Pedro Bay. According to the best estimates of engineers and harbor administrators, that is the amount of new land that will be needed for both ports to handle the projected 223 million tons of cargo that will be moving across their piers by the year 2020.

Right now—working to capacity—150 million tons of cargo represent the maximum tonnage that Long Beach and Los Angeles could jointly handle—some 73 million tons short of the tonnages expected in the next 30 years.

The long-term development of the project will, of course, involve much more than the mere extension of cargo-handling capabilities. Representing a monumental growth program, 2020 would also provide tens of thousands of new jobs for Southern Californians while stimulating substantial economic growth throughout the entire state.

Senator Line of Bremen To Call at Port of Oakland

Senator Line, of Bremen, West Germany, which will deploy up to 24 containerships in simultaneous rotation both eastbound and westbound around the world, will make its regularly scheduled northern California calls at the Port of Oakland, it was announced by G. William Hunter, President of the Oakland Board of Port Commissioners.

Acknowledging the keen competition for the new service among West Coast ports, Mr. Hunter said: "Senator Line's decision is a ringing affirmation of Oakland's advantages for the international shipping community. As it has been repeatedly in recent years, the Port was subjected to exhaustive comparison with other ports and gateways. We prevailed, because we best can meet Senator Line's needs for fast, cost-effective interface with the nation's inland transport system."

Mr. Hunter said that Senator Line has become the fourteenth international liner operator to inaugurate service at the Port of Oakland within the past two and a half years.

Africa/Europe

Data Communication System Makes Hamburg Even More Efficient

DAKOSY, the Data Communication System for the Port of Hamburg, continues to be a success story. More than 50 Hamburg forwarding agents, all the quay operators in the general cargo and container-handling business, most of the tally firms and a large number of Hamburg liner agents exchange their respective port and transport data via the DAKOSY computer network. Details of this success story were presented to media representatives at a recent press conference in Hamburg by DAKOSY managing director, Mr. Volkhard Erdelbrock.

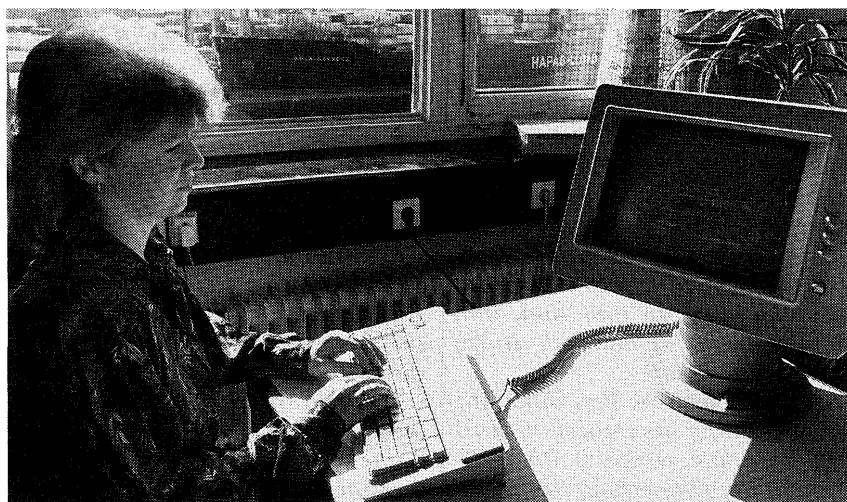
DAKOSY was set up in 1982 as an infrastructural measure to improve the flow of information among the port traffic operators in Hamburg. It was launched by Hamburg Port Operators' Association (HPOA) and then improved year by year as more advanced communication functions were added.

A three-year set-up time (1983-85) was foreseen. But thanks to the early participation of the Hamburg port forwarding agents (1983) DAKOSY grew extremely quickly in this first phase. The number of subscribers increased constantly along with new communication functions.

By 1985 the HPOA was happy to say that its baby had grown up nicely. In this situation it was not hard to persuade the main group of DAKOSY users (forwarding agents, cargo-handling companies, tally firms and liner agents) to assume the shareholder role from the HPOA and take over the DAKOSY shares (share capital of DM2 million).

As a business enterprise, DAKOSY can also point to a healthy development. In the first working year the first (moderate) profit of DM43,000 was achieved on a turnover of DM3 million.

The number of subscribers was just under 100 by the end of 1986 and had risen to 109 by March 31, 1987. Of these, 17 firms communicate with DAKOSY via telex, 29 via directly-linked data stations and 63 via their own EDP systems. Hamburg's port



DAKOSY—a data communication system for the Port of Hamburg. It ensures a speedy and largely automatic flow of data within the port transport sector.

traffic operators make use of some 2,000 data stations (screens and printers) within in-house EDP systems or the DAKOSY System in order to deal with traffic as efficiently as possible.

Telex system for forwarding agents—An important EDP improvement in 1986 was the creation of a telex system for forwarding agents. This enables a port forwarding agent to send quay applications from his telex to DAKOSY where they are automatically fed into the communication computer.

As soon as a quay operator has received this order, DAKOSY automatically sends off a reply telex telling the forwarding agent that his data have reached the receiver in question. A bit like a registered letter with acknowledgment of receipt but a lot quicker than the Post Office!

There has also been a successful start to the transfer of bill-of-lading data from the forwarding agent to the liner agent via DAKOSY. This means that the agent has details of cargo much earlier than used to be the case and is able to copy the bill-of-lading data in his office.

The brokers, for their part, feed details of their sailings into the DAKOSY computer where they can be called up by any interested party. This enables the cargo handlers to be fed with up-to-the-minute fast information from the forwarding agent with no need for time-consuming, expensive inquiries directed at the broker.

On February 1, 1987 a further EDP

communication system was brought into operation. CONTRADIS, the CONTainer TRANsport DISposition System, speeds up the removal of import containers stripped in Hamburg. The German Federal Railways subsidiary, Transfracht—responsible for all West German container traffic—passes on its transport instructions to the quay operators via DAKOSY.

In return, the quay operator reports containers ready for shipping to Transfracht informing them of how many empty flat cars there are at the terminal. With the help of this information, Transfracht allocates the containers ready for shipping to the most suitable cars and ensures that more empty cars are brought to the quay if required. Thus, the import customers obtain their containerized goods earlier.

Staying competitive with customer service—Improved information links and computer-assisted communication systems cut down transport times and thus give port customers a better service. Customer service is what keeps the Port of Hamburg competitive. As Mr. Volkhard Erdelbrock said, "It is all the more regrettable that the Free Port Office, which is responsible for monitoring exports, has not got further than an experimental use of DAKOSY.

"The forwarding agent can use electronic means to transfer all his papers to quay operators and brokers whereas the papers required by the Free Port Office still have to be taken by 'Pony

(Continued on Page 40, Col. 1)

(Continued from Page 39, Col. 3)
Express.'

"The City of Hamburg is urgently required at last to get to grips fast with the improvement of operational sequences in the Free Port Office by making use of the opportunities presented by EDP.

"Hamburg's port traffic operators have the right to expect that public authorities carry out their work with the same degree of efficiency as the private sector does."

Apart from the Free Port Office, the City of Hamburg has certainly realized what favourable prospects DAKOSY offers for improvements in port procedures. Thus, the Port Police were also equipped with DAKOSY terminals in 1986 to help in the documentation of dangerous goods.

ISETEC: innovative seaport technology—In addition to the above, the City of Hamburg will also be participating in the research projects, to be processed by DAKOSY, which are running as part of the ISETEC Programme. ISETEC stands for "innovative seaport technology" and is made up of R & D projects furthered by the Federal German Ministry of Research and designed to improve the competitiveness of West German seaports. One aspect of these projects is concerned with informatics in the transport sector.

Particular mention should be made of the development of an all-purpose "port socket" aimed at improving computer-assisted communication with port customers and other traffic carriers even further; and the development of computer-assisted systems for dealing with dangerous goods. This project in particular serves to improve further safety levels in the conveyance and storage of dangerous cargoes; and as such is of great relevance from an environmental point of view.

In the development of these projects, there is close cooperation between the Bremen Ports' Data Bank and DAKOSY with port firms and authorities involved as well. DAKOSY's managing director concluded his remarks by pointing out that "through this cooperation West German ports which, independent of each other, have gained a leading position in the field of information technology will be able to offer their joint customers further advantages."

Efforts Continued to Modernize Superstructure

— Port of Antwerp in 1986 —

Activities in Antwerp in 1986 were characterized by two tendencies: the growing part of international transit and continued effort in the field of investments.

The port indeed strengthened its position as one of the most important maritime gates to Europe. The amount of transit in the overall maritime goods traffic kept increasing, the average over the last few years already amounting to 43%. As to general cargo the share of transit traffic is presently estimated at 66%.

In spite of the current problems experienced in world trade, the authorities and the port companies continued their efforts to modernize and extend the superstructure. Some industrial firms located in the port follow this example.

Further Investments

An inquiry among Antwerp's 10 most important stevedoring companies reveals that they invested about 25,000 million BF in superstructure and cargo-handling equipment over the past 25 years.

The efforts were continued in 1986.

Investments in new storage space mainly concerned a storage complex for dangerous goods (12,700 m²), a shed for china clay (10,000 m²), a cold storage warehouse (4,200 m³), a modernized silo for the handling and storage of fragile products, a consolidation and storage center and a supplementary 28,200 m² of all-purpose warehouses.

On the left bank of the Scheldt a terminal for ores and coal (500,000 m²) and a terminal for forest products (73,000 m², 32,400 m² of which are covered) have been taken into use.

The total supplementary surface area of covered storage space on the right and left banks of the Scheldt is more than 85,000 m².

As far as handling equipment is concerned, a fruit-handling company invested in an additional cargoveyor. A terminal operator bought two 35-ton

straddle carriers and a mobile crane with a lifting capacity of 52 tons. The Port Authorities brought into operation a new floating crane with a maximum lifting capacity of 40 tons and a second identical crane has been ordered.

In 1986 some port companies merged or rearranged their capital in order to rationalize the handling of certain goods packages.

New Container Terminal

The Antwerp City Council has approved the general principles of an agreement between the City of Antwerp and the Belgian Government to build a container quay alongside the Scheldt.

The container quay, which will be built south of the access channel of the Berendrecht lock still under construction, is of fundamental importance for the port of Antwerp. The useful length of the quay wall is c. 1,180 m, which offers berthing space for 4 container vessels with a standard length of 260 m. Water depth at low tide will be 14 meters so that very large container vessels will be able to moor there.

The site behind the quay for container handling has a surface area of approximately 55.4 hectares where a maximum of 29,000 TEUs can be stacked.

The City of Antwerp will pay 40% of the overall building costs of the quay wall (1,434 million BF, covered by a loan); 60% will be paid by the Belgian Government. The cost of superstructure or equipment (2,400 to 2,600 million BF) will be paid by the private sector.

In April 1987 the construction of the new quay will be started and must be completed by 1989.

Infrastructure

As to infrastructure works, on the Right Bank of the Scheldt the main emphasis was laid on the completion of the biggest sea lock in the world measuring 500 x 68 m.

On the Left Bank, the activities were

concentrated on the completion of a new dock on the one hand and on the starting of the construction works for an extra tunnel under the river Scheldt on the other.

Port Data Processing

In order to facilitate ships' calls in the port of Antwerp and speed up administrative procedures related to a ship's stay, the Port Authorities as well as the private sector have taken important steps in the field of port data processing.

As far as cargo-handling is concerned, the initiative was mainly taken by the private sector. Professional port associations and the Antwerp Chamber of Commerce founded the cooperative company "SEAGHA" (Electronically Adapted Data Exchange System in the Port of Antwerp). The aim of SEAGHA is to set up, manage and operate an EDP system for port companies.

An initial pilot project, limited in scope, aims at making data exchange faster and more accurate by making full use of the potential of the available EDP systems of the companies.

According to plans, SEAGHA will be built up in 1987 and tested in a number of pilot companies during the same year. The horizontal extension will be started in the beginning of 1989.

As for the automation of ships' guidance, the initiative was mainly taken by the Port Authorities. The Antwerp City Council approved the setting up of an EDP system for the planning and following up of vessels traffic within the port.

This system, which is called APICS (Antwerp Port Information and Control System) should be operational by mid 1988. It aims at a considerable simplification and speeding up of traffic in locks and docks.

Cargo Traffic in 1986

The mutual efforts of the authorities and the private sector in the field of investments, the competitive local conditions and the know-how of the port companies lead to positive results. This is confirmed by the 1986 results of ships movement and cargo traffic.

According to data of the Antwerp Harbour Master's Office 16,441 ships called at the port in 1986, which is only a few units more than in 1985 when

16,420 vessels were recorded.

In gross register ton, however, an increase of 6.1% was noted. The growth from 119,631,147 GRT to 126,944,358 GRT is a historical record. A short calculation learns that the average ship's tonnage has increased from 7,286 GRT in 1985 to 7,721 GRT in 1986.

As to goods traffic, estimates based on the available partial data amount to c. 90 million tons. A comparison: in the record year 1984 the corresponding figure was 90.3 million tons, whereas in 1985 86.2 million tons were noted. The total amount of about 90 million tons can be roughly split up in 54 million tons incoming (48.1 million tons in 1985) and 36 million tons outgoing cargo (38.1 million tons in 1985). The splitting up bulk/general cargo results in about 36 million tons general cargo traffic (37.6 million tons in 1985) and 54 million tons of bulk cargo (48.6 million tons in 1985).

The slight decline of general cargo traffic is the result of a downward tendency of the outgoing traffic of iron and steel and non-ferrous metals on the one hand and an increasing supply of fresh fruit and rough wood on the other.

As far as bulk cargo is concerned the increasing trend is mainly due to the growing petroleum traffic (incoming crude oil as well as outgoing petroleum derivatives). Ore traffic revealed a status quo, whereas coal traffic but especially grain traffic clearly declined.

For containers as well as ro/ro traffic a slight increase was noted.

30 Million Tons of Cargo Handled at Amsterdam

The port of Amsterdam handled a total of 29.4 million tonnes of seagoing goods cargo in 1986, according to the Port Management of Amsterdam (Gemeentelijk Havenbedrijf). This is a growth of 6.6% compared with 1985. The increase was due largely to the transshipment of mineral oil products and coal/cokes, while the import and export of animal fodders/oilseeds and above all, grain showed declines. Total liquid bulk transport booked an increase of 21% to reach a level of 14 million tonnes.

Dry bulk cargo shipments fell by 5.5% to 11.6 million tonnes. General cargo movements edged up by 2.4% to

about 2.6 million tonnes. The number of ocean-going vessels entering the port of Amsterdam in 1986 was 4,236, a 6% decline from 1985's 4,502. Total cargo capacity increased by about 2% to about 30 million tonnes. The Port Management said that the increase of scale seen in recent years was expected to continue in the future.

The total general cargo package increased by 2.4% to 2.6 million tonnes. Except for container transport, nearly all general cargo categories improved. There was significant growth in the import and export of wood (+20%) and cars (+30%). Container movements fell back by about 12% to some 700,000 tonnes.

Investment Boost for Immingham Announced

Associated British Ports are to go ahead with a major capital investment scheme to increase capacity at the Port of Immingham, one of the U.K.'s busiest ports.

The scheme was announced by the chairman of Associated British Ports, Sir Keith Stuart, in a speech to the Grimsby & Immingham Chamber of Commerce.

The scheme is a multi-million pound project to extend No. 3 Quay at the eastern end of Immingham Dock, in order to increase the port's general use berthing capacity inside the Dock by some 20%. Work is due to start on the scheme during this year, with completion expected in mid-1988. The new development will provide an open quay with cranes, and there will be covered storage for cargo in the existing transit sheds. An improved road layout is planned to give easy access to the new quay.

In his speech to the Chamber of Commerce, Sir Keith spoke of the important role played by Grimsby & Immingham in the national economy:

Almost 10% of all U.K. seaborne trade passes through Grimsby & Immingham, and the port is part of one of the most dynamic concentrations of industrial activity in the country. The record 30.5 million tonnes of cargo handled last year was made possible by a high level of productivity and our continuing programme of capital investment.

Princess Alexandra Opens Port of London Vessel Traffic Service

HRH Princess Alexandra officially opened the Port of London Authority's new Vessel Traffic Service at the headquarters of the Thames Navigation Service at Gravesend on 22nd April. This marked the completion of a £1.6 million modernisation of the Thames Navigation Service.

The biggest single improvement has been the installation of a new computer-based radar display system. This provides a television-type display covering the area from the North Sea to Erith and replaces the old conventional radar screens. Microwave links which transmit radar information to TNS have also been renewed.

A new radio-telemetry system that relays tidal levels from 11 gauges along the Thames has also been installed. This forms a vital part of London's flood protection as well as having significant navigational importance.

The entire modernisation project was carried out without disruption to TNS's round-the-clock service.

On arrival at the Thames Navigation

PLA Cuts Port Rates Twice in Four Months

The Port of London Authority cut substantially Port Rates, the charge it levies on all goods entering or leaving the port as from 1st April 1987. This is the second major reduction by the Port of London Authority of its scheduled Port Rates this year.

This latest reduction of between 25 and 65 per cent passes onto river users the savings from the recent manpower reductions. In a full year they will save port users some £3m.

Over the past three years the PLA has progressively reduced its Port Rates on cargoes but the PLA does not expect to be able to make any further substantial reductions in the future. The latest reduction will bring the total conservancy revenue down to the level needed purely for maintenance of the port.

Already London's improved competitiveness has led to an increase in the volume of trade in each of the last three years. The 1987 reductions in Port Rates will help to continue that trend.

Service building Her Royal Highness was met by the PLA Chairman, Sir Brian Kellett. After a brief speech of welcome Sir Brian Kellett invited Her Royal Highness to unveil a plaque commemorating the opening of the new Vessel Traffic Service. Her Royal Highness then undertook a tour of the building and viewed the new equipment and met the operating personnel.

Her Royal Highness saw the new display system working under normal operating conditions before viewing the room which would serve as the Thames Navigation Service's nerve centre in the event of a London flood alert or a major disaster on the Thames. Her Royal Highness then saw the hydrographic work undertaken by PLA and the visit was completed by a tour to the Thames Navigation Service's workshops.

The new Vessel Traffic Service at Gravesend has again put the PLA's Thames Navigation Service at the forefront of technology and efficiency in harbour navigation services. It also reflects the PLA's aim to continue to increase the level of service and safety it offers to all port users.

Thames Navigation Service

The Thames Navigation Service was inaugurated in late 1959 as the first custom built port navigation and information service in the world.

Initially equipped with VHF radio, one radar and a network of public and private telephone lines, the service expanded with the increasing use of VHF communications at sea.

The Centre increased its radar coverage over the next six years to some 51 nautical miles and concentrated on coordinating the arrival and departure of all vessels using the Port of London.

There was an immediate reduction of accidents on the River Thames due to the operations of the Service.

In 1968 the Authority commissioned a sub-centre of the Thames Navigation Service in a site in the Royal Group of Docks extending the radar coverage yet further up-river. This centre subsequently moved to Woolwich during construction of the Thames Flood Barrier and further extended its radar coverage to control shipping navigating through the Barrier.

Today the TNS controls the move-

ment of shipping throughout the tidal waters of the Thames some 81 nautical miles of which 61 nautical miles are covered by radar.

In 1984 the Authority commenced a modernisation programme of the main centre at Gravesend. Named Polaris (Port of London Authority River Information System), the project was divided into two parts.

Polaris 1, commissioned in 1985, is a computer-based vessel data management system which collates and distributes pre-arrival and pre-departure information on all vessels using the Port. Service organisations are directly linked to the processor, others receive data by telex automatically transmitted by the system.

Polaris 2, commissioned in 1986, is a new-technology radar display system which takes information from five existing radar scanners and converts it to a TV type display. Once in this form, computer generated video maps and tracking facilities create a composite picture of the area from the North Sea to Erith.

Vessels are identified, tracked and monitored throughout the area. Various "alarm" criteria are built into the system enabling the staff to take any necessary action to advise shipping well in advance of impending danger.

Supplied by the Norwegian Company Norcontrol, it is one of the most up-to-date systems in the world.

Also under Polaris 2 modernisation the Ferranti microwave links have been renewed. These transmit the radar information from the remote sites to Gravesend.

The TNS relies heavily on tidal data from gauges throughout the River Thames. This is particularly relevant to the Flood Control Procedures and the navigation of deep drafted vessels which may have as little as one metre of water under them.

A new radio-telemetry tide gauge monitoring system has been installed. Named POLATIDE it provides instant read-outs of tidal information available in the Gravesend operations-room from 11 gauges between Richmond and the Estuary.

This modernisation programme was completed in April this year. It will give London and the River Thames a modern Vessel Traffic Service second to none.

50% Profit Increase: Associated British Ports

Associated British Ports Holdings PLC has announced pre-tax profits of £26.0 million for the year ended 31st December 1986—an increase of over 50% on the 1985 results.

Port services contributed £20.3 million after severance payments of £3.7 million and after charging £700,000 for the Employee Share Ownership Scheme. Property income was £6.4 million, and investment income £1.6 million. Interest payable was £2.3 million. Earnings per share rose from 16.0p to 22.4p—an increase of 40%.

The Directors are proposing a final dividend of 4.0p per share which, together with the interim dividend of 2.0p per share declared on 10th September 1986, makes a total of 6.0p net per share in respect of 1986 (1985: equivalent of 5.0p per share).

Commenting upon the port services results, the Chairman, Sir Keith Stuart, said:

"There were encouraging and significant improvements in performance and profits at most of our ports which in some cases handled record tonnages. The benefits of our recent investment programme are coming through and a number of new port facilities are now fully operational."

Looking to the future, Sir Keith concluded:

"It is now some four years since the Company was privatised. At the time of the original flotation on the Stock

Senator Line Starts Round-the-World Service

The new Bremen-founded Senator Line commenced her "round-the-world" container service. The first of the containerships taking up this new "round-the-world" service have already been chartered. All the vessels of this shipping company will be sailing under the name "SENATOR."

The Senator Line, founded with conjoint participation of the State of Bremen, Bremer Vulkan AG., and Unterweser Reederei, Bremen, as well as a row of other investors, intends to consolidate its sailing program to, as from 1988, a weekly sailing in both directions.

(Bremen International)

Market, our market capitalisation was £45 million. The market capitalisation of the Company at the end of March 1987 was over £400 million. I am confident that the Company's strong financial position, our continuing investments in improved port services and our growing property activities all point to further expansion in the future.

"A good start has been made to 1987, and prospects for the year are excellent."

New Container-Handling Equipment for Goole

As part of its recent £1 million investment in new container-handling equipment, ABP's port of Goole took delivery of a Grove Coles Colossus 4200 Mobile Port Tower Crane.

The crane is located at the port's Boothferry Container Terminal. The terminal, which has been expanding rapidly since the first phase was opened in 1983, has an open storage area of 26,000 sq. m and accepts vessels of up to 5.5 m draft.

Commenting on the port's latest investment Mr. Colin Silvester, ABP's port manager at Goole, said, "The introduction of the mechanical handling equipment is a natural progression from the considerable civil engineering work that has taken place at the Boothferry Terminal over the past few years. The extra space created and the sophisticated container-handling equipment now available at Goole enable us to compete for the increasing number of container services wishing to use the east coast of the United Kingdom."

Asia/Oceania

New Container Crane At Port of Adelaide

A new container crane, recently commissioned at the Port of Adelaide, will strengthen South Australia's competitive position with other Australian ports.

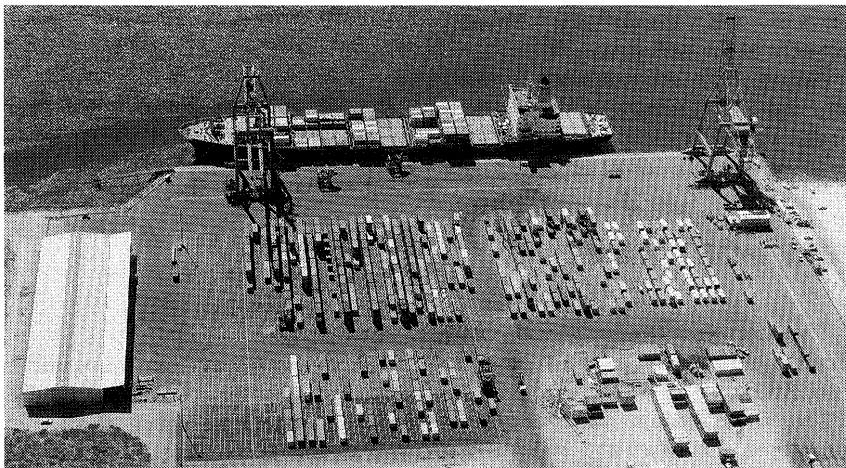
The new crane was commissioned in March before a gathering of 200 local shipping executives who witnessed the Aus\$6 million piece of machinery put through its paces to lift a huge 20-metre banner which told the story with its message: "Giving Business a Lift."

South Australian Premier, Mr. John Bannon, told the gathering that the new crane would provide a significant boost for the Port of Adelaide's export capabilities and import services, further strengthening its competitive position.

The additional crane is part of a planned programme of improving port facilities, which so far includes the construction of Australia's biggest shiplift—capable of raising a vessel clear of the water, parking her ready for maintenance and repair, within 30 minutes—and an Aus\$2 million replacement of No. 1 wharf, currently used for loading sheep ships.

The modern steel pile and concrete deck structure will considerably decrease sheep loading time and improve the turnaround time of vessels.

The new loading facility enhances Adelaide's image as a national transport hub.



The "Sydney Express" at OH6 with the Port of Adelaide's two container cranes.

Port of Townsville Further Contributing To Area Economy

The Port of Townsville continues to expand its vital role in the city and region's economy.

Trade through the port last financial year was valued at more than \$1 billion, new records were set for export tonnages on some cargoes and the development of new world class tourism infrastructure added an important new dimension to port area activities.

More than 1,200 people are employed in port-related industries and services such as stevedoring, railways, fuel depots, transport, engineering, fishing, Customs, marine supplies, the Port Authority and tourism.

Hundreds more are employed throughout the city in other service industries connected with the Port.

In spite of the general downturn in the economy in 1985-86, the Port achieved a total throughput of 2,284,490 tonnes, comprising exports of 1,585,955 tonnes and imports of 698,535 tonnes.

This included the new records in the export of zinc concentrates, lead and copper concentrates, the reintroduction of noncontainerised meat exports, and imports of nickel ore for the first time.

The region serviced by Townsville Port Authority is about six times the size of Tasmania and extends west to the Northern Territory border.

The development of Townsville and the region is constantly being reflected in the expansion of port facilities and services and major new tourism projects in the port precincts.

Planning to accommodate growth into the 21st Century is already well under way.

(Port of Townsville)

NEW PORT NAME

The former Townsville Harbour Board is now known as the Townsville Port Authority.

The name change took effect on January 1 this year and reflects the wider role of a modern port.

The Port of Townsville is much more

than just a harbour for large shipping. It offers a range of services and facilities to ships, fishing boats, charter boats and pleasure craft.

The Townsville Port Authority also made available the sites for the Sheraton Breakwater Casino, the Great Barrier Reef Wonderland and the Breakwater Marina.

The name change brings Townsville into line with other international ports and will assist in marketing the services of the port.

(Port of Townsville)

Training Program Drawn up in Fiji

The Training Department, Port Authority of Fiji, has drawn up a very busy in-house training programme for 1987, directed at all levels of staff and employees.

Particular emphasis is being placed on expediting the programme for Registered Permanent Workers begun two years ago.

Under this training scheme, all RPWs are being trained in areas of operations other than the ones that they specialize in. These include labour, sorters, winchmen, riggers, machine operators and foremen related jobs.

This is in line with the need to develop stevedoring staff towards meeting the work demands of the shopping industry—an industry that has and continues to be subjected to rapid changes.

The intention is that once the programme is completed, workers would be able to carry out any work in the areas mentioned above thus leading to the General Purpose Worker concept.

For this year the objective is to have the following numbers of personnel in the various skills indicated fully proficient by the end of the year:

Sorters 51
Winchmen 60
Riggers 70
Machine Operators 50
Foremen 30

To this end a special in-house unit is being set up to be responsible for this training programme which, if all goes well, should be complete before the end of 1988.

(WAVU)

Chief Executives of Malaysian Ports Asked To Coordinate Efforts

The Kelang Port Authority was host for the latest meeting of the Ports Coordination Committee.

The committee which comprises chief executives of all the ports in Malaysia is shared by the Secretary-General of the Ministry of Transport Dato' Ramon Navaratnam.

Extracts of Dato' Navaratnam's address at the meeting:

On the Role of the Ports Coordination Committee

The Ports Coordination Committee was created to discuss issues and policies affecting ports in the country. I believe that this committee is important because it is here where all ports can get together for discussions in the context of national interests and this committee should be the only one to discuss all port matters. There were other committees formed previously for ports but I believe it is better if only the ports Coordination Committee tackle port-related matters as they will save time and money and benefit all concerned.

On Port Development

Over the past twenty years, there has been substantial investment amounting to \$2,564 million by the federal government in the port and marine sector. Under the Fourth Malaysia Plan, \$1,481 million was spent. However, due to the prevailing economic situation in the country, there has been a significant reduction in allocation under the Fifth Malaysian Plan. Our attention now should therefore be to focus on consolidation and strengthening of existing port facilities.

Development and expansion of ports in the past have been on the basis of each port having their own master plans. Therefore planning was not adequately coordinated. Some ports may even have been in direct competition with each other or covering the same hinterland. This has resulted in under-utilization of some ports. In view of this, the Ministry is now adopting a more integrated and coordinated approach to planning of port expansion and consultants have been appointed to carry out a National Ports Study.

(WARTA LPK)

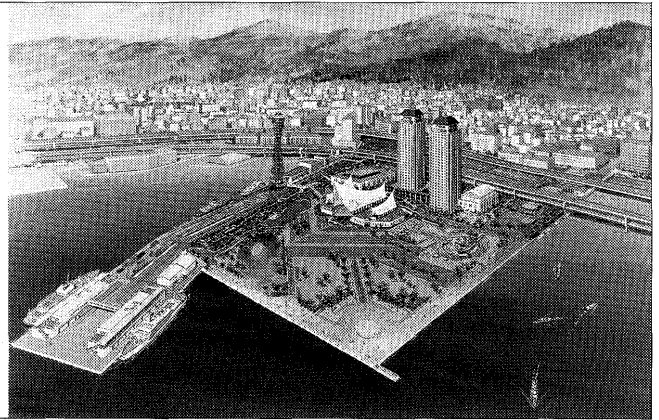
Kobe Maritime Museum to be opened in April

The Kobe Port debuted in 1868 as an international port. Its 120 th anniversary will soon be celebrated. Kobe has grown to be one of the world's major ports through modernization of cargo-handling facilities including containerization and development of pier-facilities for large ships. For further development of the port city of Kobe it is necessary to provide an opportunity for the people to learn more about the port and to understanding the sea and ships.

AN OUTLINE OF MERIKEN PARK PLAN

Naka Pier and Meriken Pier have always been popular among people as the origin of the modern development of Kobe Port and also as a landing spot for inland tours.

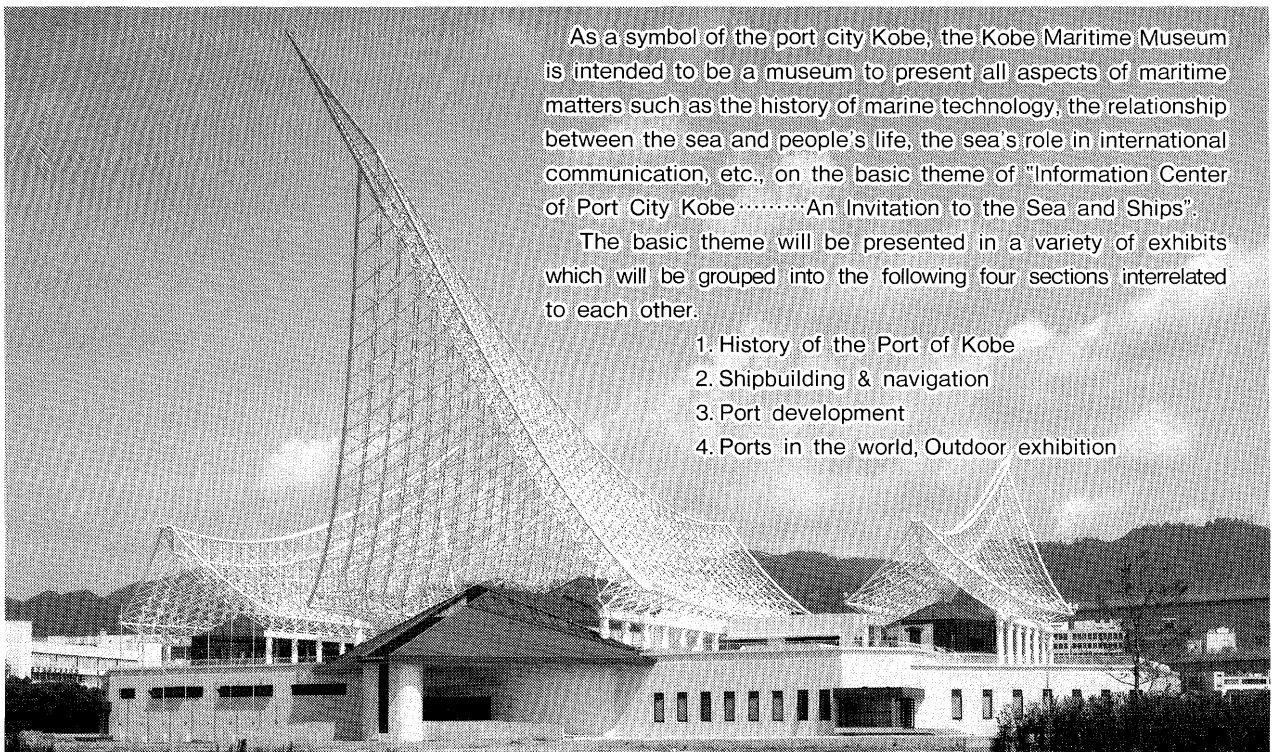
To increase sightseeing opportunities and add resort facilities for the urban people, the "Meriken Park" will be built by reclaiming the surface area between the existing Meriken Pier and the Naka Pier. This "a park on the port" will contain park areas, the Kobe Maritime Museum and other facilities for sightseeing.



As a symbol of the port city Kobe, the Kobe Maritime Museum is intended to be a museum to present all aspects of maritime matters such as the history of marine technology, the relationship between the sea and people's life, the sea's role in international communication, etc., on the basic theme of "Information Center of Port City Kobe.....An Invitation to the Sea and Ships".

The basic theme will be presented in a variety of exhibits which will be grouped into the following four sections interrelated to each other.

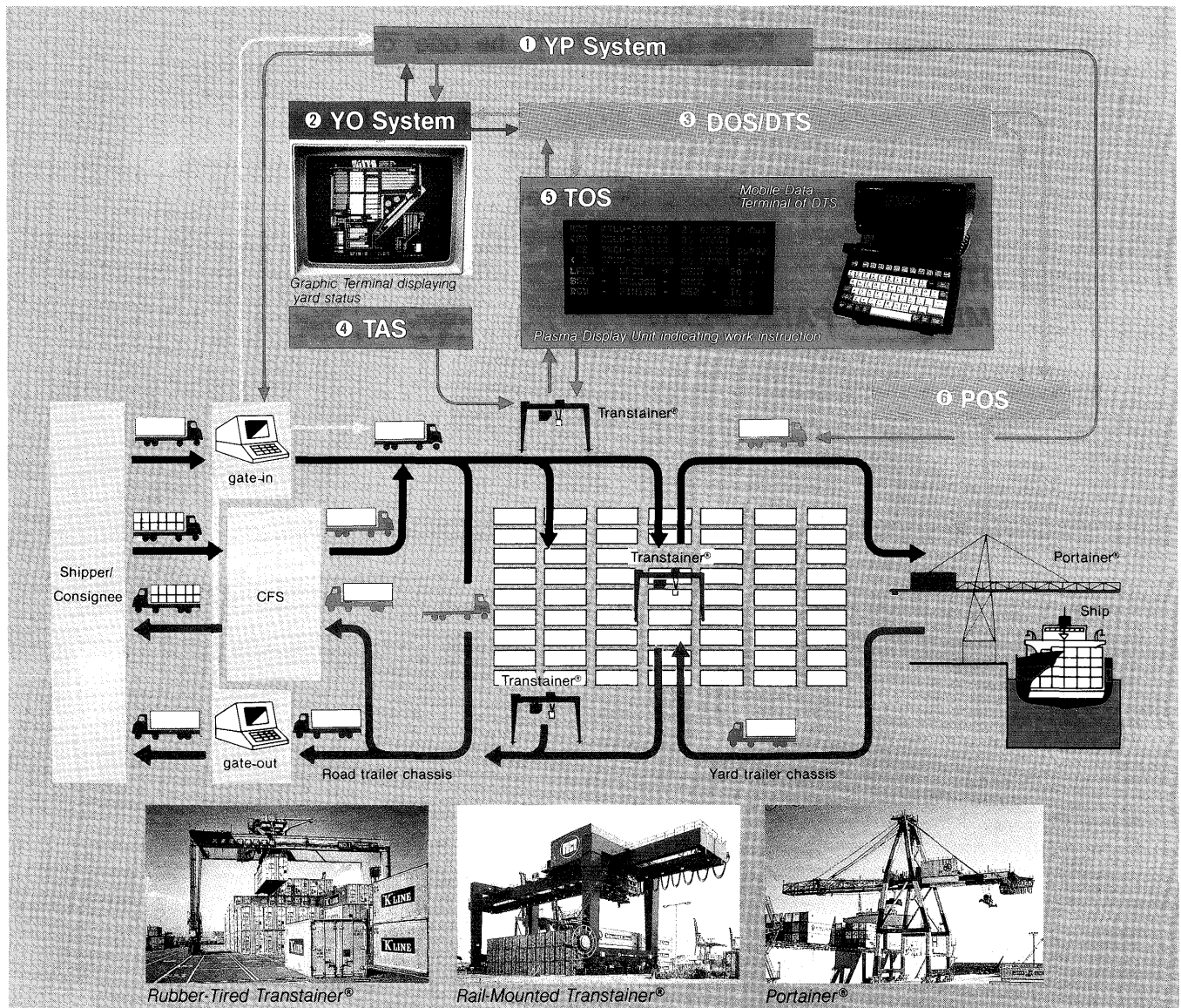
1. History of the Port of Kobe
2. Shipbuilding & navigation
3. Port development
4. Ports in the world, Outdoor exhibition



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