PORTS and HARBORS

JUNE 1964 Vol. 9 No. 2

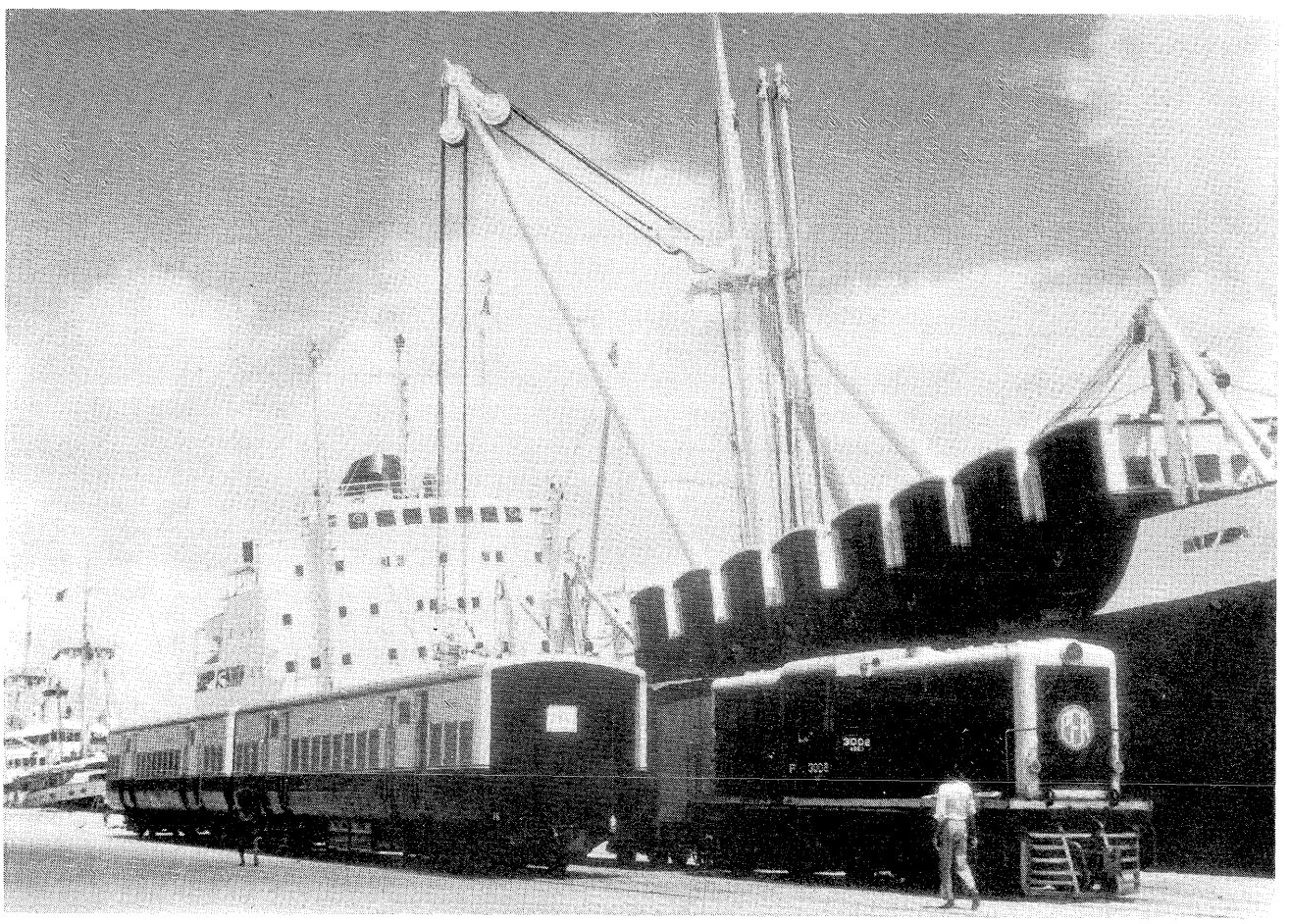
THE PORT OF GENOA

THE INTERNATIONAL ASSOCIATION OF PORTS AND HARBORS

Introducing The Crests of Ports

(Each Issue One Port)

THE PORT OF CHITTAGONG



Passenger Coaches imported by P.E. Rly. are being unloaded at the Main Jetty.

THE INTERNATIONAL ASSOCIATION OF PORT AND HARBORS

OBJECTS AND PURPOSES

(Per Article 3 of Constitution)

The objects and purposes of this Association shall be:

(a) To associate its members from all countries together in the common cause of mutual international friendship and understanding;

(b) To exchange information relative to port and harbor organization, administration. management, development, operation and promotion;

(c) To encourage, develop and promote waterborne commerce to and from all world ports and harbors; and

(d) To encourage the standardization and simplification of procedure governing imports and exports and the clearance of vessels in international trade:—
thereby promoting the peace in the world and the welfare of mankind.

UNDERTAKINGS

(Per Article 3 of Constitution)

This Association shall carry out the following undertakings in order to accomplish the objects and purposes specified in the foregoing Article:

(a) The holding of conferences of the International Association of Ports and Harbors as provided in the By-Laws;

(b) The publication of the minutes of Conferences, an official Association journal or other publication and other special publications concerning ports and harbors, as may be authorized by this Association;

(c) The establishment of relations with other international organizations, associations and agencies on matters of mutual international interest concerning ports and harbors;

(d) The establishment of a center or centers for the collection, tabulation and distribution of information concerning ports and harbors from throughout the world for the benefit of members of this Association and other interested persons:

(e) The dissemination to ports and harbors, and governmental agencies and private operators thereof, of the accomplishments of this Association as expressed in resolutions, bills, reports of committees, and the published proceedings thereof;

(f) The establishment of committees from among the membership of this Association for reference purposes of members engaging in the organization, administration, development, operation, utilization, management or promotion of ports, harbors and other waterfront facilities;

(g) The assumption of other undertakings necessary to effectuate and realize the objects and purposes of this Association.

PORTS and HARBORS

PORTS AND HARBORS is quarterly published by the Central Secretariat of the International Association of Ports and Harbors as an official journal of the Association, to provide its members with information concerning port and harbor development in the world.

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Vol. 9 No. 2

THE INTERNATIONAL ASSOCIATION OF PORTS AND HARBORS

Published by

The Central Secretariat of the International Association of Ports and Harbors

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20, Marunouchi 2, Chiyoda-ku, Tokyo, Japan

THE PORT OF YOKOHAMA

IN 1860's

By Hiroshige III

The Treaty of Peace and Amity was signed with the United States of America in 1854, and then the Treaty of Amity and Commerce was signed also with the United States in sequence to Commodore Perry's visit; Japan had thus come into contact with Western nations. Simultaneously, the port of Yokohama was opened to foreign trade.

Yokohama has always functioned as Japan's front door for international relations, as well as the channel through which Western civilization has been absorbed by this nation. The role that Yokohama has played in the building up of modern Japan is therefore of momentous significance.

Quoted from "The Gateway to Japan-KANAGAWA"
Kanagawa Prefectural Government

From The Central Secretariat

By Gaku Matsumoto
Chief of the Central Secretariat
I.A.P.H.

Executive Committee Meeting at San Francisco

As reported in the previous issue of this bulletine, the Executive Committee Meeting was convened at Fairmont Hotel, San Francisco, California, February 26-27, 1964 with the following attendants:—

Mr. Davis,
President, Long Beach
Dr. Haraguchi,
Vice President, Kobe
Mr. Perkins,
Vice President, London
Sir Leslie Ford, London
Mr. King, New York City
Mr. Amoss, New Oleans
Mr. Mann, Ottawa .
Mr. Swanson, Melbourne
Mr. Nutter, Oakland
Mr. Nordstrom,
Attorney, Los Angeles
Mr. Still,
Attorney, Long Beach
Mr. Frost Oakland-observer
Mr. Black, Public Information,
Long Beach
Mr. Yamada, Kobe-Dr. Haraguchi's assistant
Mr. Matsumoto,
Central Secretariat, Tokyo
Mr. Kiyooka,
Central Secretariat, Tokyo
Absent: Lt. General Huang,
Taiwan
Mr. Kalafatovich, Lima

Various items of agenda were enthusiastically discussed by all attendants during the session. The undermentioned are the main issues which were unanimously agreed:—

(a) Conference should be held every two years instead of three. Consequently, the word "triennial" be dropped.

(b) Fiscal period be fixed on an annual basis instead of three years. There be audit every two years to be presented and ready for the outgoing and incoming Presidents.

(c) Registration Fee for next Conference would be U.S.$100 per delegate with or without wife.

Some of the attendants at the Executive Committee Meeting.

(d) Lord Simon becomes "Chairman of the Conference" for London Conference. Mr. Davis, President, conducts all business session while Lord Simon presides over other matters as Chairman of Conference.

(e) Membership Dues be amended:—
Regular Memberships — U.S. $50 per unit for ports which handle up to 1,000,000 tons per annum.
U.S.$250 per unit for ports which handle over 1,000,000 tons per annum.
Supporting Memberships—reduced from U.S.$50 to U.S. $35. No port would be a Supporting Member.

(f) Permanent Council should be abolished and Executive Committee assume its funciton.

(g) Should continue to sponsor Seminars confined to the Asia-

tic sector.

* * *

All amendments of By-Laws will be drafted by the Legal Counsel and submitted by Central Secretariat to Regular Members by mail vote for approval.

Meeting of Board of Directors by correspondence called

In accordance with the provision of Section 39, Article IX of the By-Laws, a meeting by correspondence of the Board of Directors was called on May 10, under authorization of President John P. Davis, with June 10, 1964 as the voting date, to approve the election of all 30 applicants to the membership as follows:—

REGULAR MEMBERS

Port of Copenhagen Authority, Copenhagen.
Mersey Docks & Harbour Board, Liverpool.
Port Alberni Harbour Commissioners, Port Alberni.
Port Autonome du Havre, Le Havre.
Manchester Ship Canal Co., Manchester.
City of Antwerp, Antwerp.
Dienst der Havens en Handelsinrichtingen, Amsterdam.
British Transport Docks Board, London.
Port of Oslo Authority, Oslo.
The Commission of Public Docks, Portland.

CORPORATE SUPPORTING MEMBERS

Marine Terminals Corporation, Long Beach.
Metropolitan Stevedore Co., Wilmington.
Scrap Disposal, Inc., National City.
Crescent Wharf & Warehouse Co., San Diego.
Westland & Co., Inc., of San Diego, San Diego.
Ocean Garden Products, Inc., San Diego.
Antwerp Association of Port Interests ,Antwerp.
Central Valley National Bank of Oakland, Oakland.
Australian Coastal Shipping Commission, Melbourne.
Fremantle Harbour Trust, Fremantle.
Master Stevedires' (Oversea) Committee, Malbourne.
Toa Harbor Works Co., Ltd., Tokyo.
Japan Industrial Land Development Co., Ltd., Tokyo.
Rinkai Civil Engineering Construction Co., Ltd., Tokyo.
Australian Steamship Owners' Federation, Melbourne.
Encinal Terminals, Alameda.
Kaiser Engineers Division of Henry J. Kaiser Co., Oakland.

INDIVIDUAL SUPPORTING MEMBERS

Mr. E. B. Griffith, Toronto.
Mr. Masami Nakamura, Tokyo.
Mr. Stig Axelson, Gothenburg.

The staff changes in the Port of New York Authority

The following appointments were announced by Mr. Austin J. Tobin, Executive Director of the Port of New York Authority:—

Mr. David E. Pardes as Manager of Port Authority Marine Terminals—New York;

Mr. Cornelius P. Fleming as Manager of Port Authority Marine Terminals—New Jersey;

Mr. L. Edward Scriven as General Manager of Development and Rentals of the World Trade Center, Port of New York Authority;

Mr. Bernard J. Sloan as Assistant Manager, Brooklyn—Port Authority Piers;

Mr. Paul Roshkind as Assistant Manager, Erie Basin—Port Authority Piers;

Mr. David E. Pardes

Mr. Cornelius P. Fleming

Mr. L. Edward Scriven

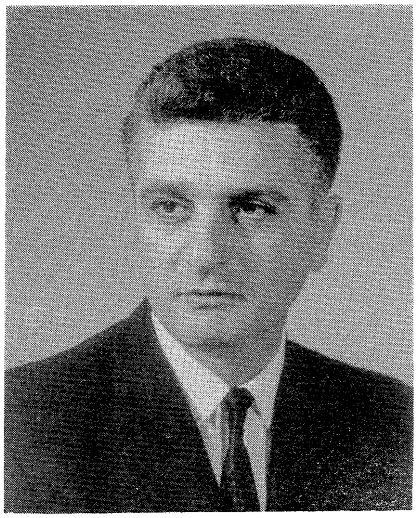
Mr. Derwood Hall as Assistant Manager, Port Newark and Hoboken—Port Authority Piers;

Mr. John J. Freyer as Assistant Manager, Elizabeth — Port Authority Piers;

Mr. William H. Elzinga as Assistant Manager, Marine Operation Division.

Maryland Port Authority names Mr. D. K. Tosic to Brussels Office

Mr. D. K. Tosic, International Commerce Representative for the Maryland Port Authority, has been assigned to the Authority's Trade Development Office in Brussels as acting manager. Mr. Tosic succeeds Mr. Stanley E. Horn who tendered his resignation.



Mr. D. K. Tosic

Japan Industry Floating Fair "Sakura Maru"

The 5th Japan Floating Fair m.s. "Sakura Maru," under sponsorship of the Japan Industry Floating Fair Association, sailed from Tokyo for Europe on May 2.

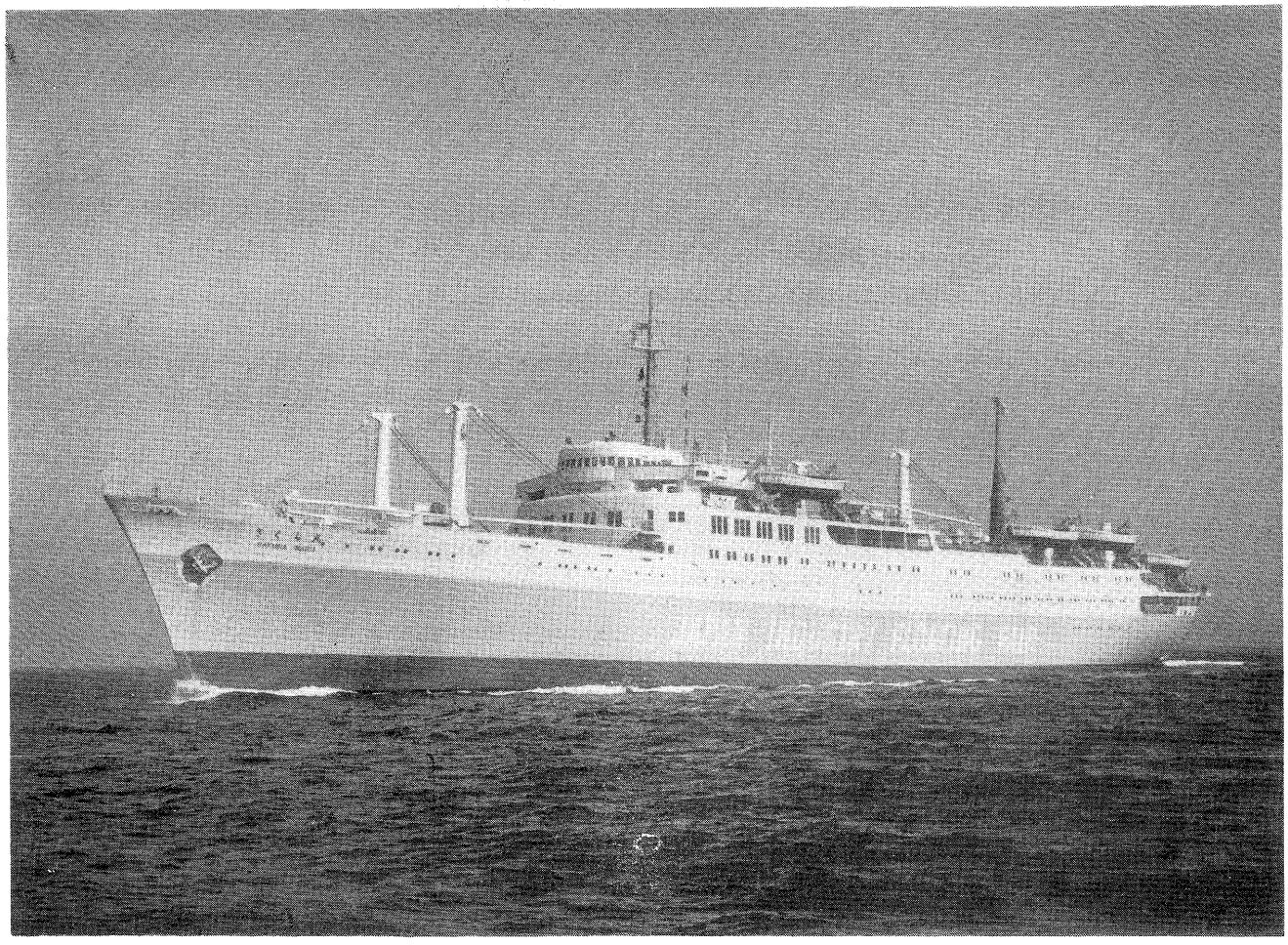
The floating fairs sent in the past visited South East Asia, Latin America, Australia, Middle and Near East and Africa. This will be the fairs first visit to Europe.

According to the Japan Industry Floating Fair Association, the m.s. "Sakura Maru" is the world's first vessel built specially for use as a floating fair. The ship was completed in October, 1962, and made its debut with the 4th Fair cruising African and Middle Eastern ports between November 1962 and March 1963. The present trip is its second floating fair mission. Ninety-five Japanese firms will exhibit their products on board the vessel.

The principal particulars of the "Sakura Maru" and schedule are as follows:—

Particulars		
Length (o.a.)	157.00	meters
Breadth (mld)	21.00	,,
Depth (mld)	11.00	,,
Draught (designed mld)	6.60	,,
Gross Tonnage	12,628	tons
Service Speed	17.6	knots
Exhibition Booths	430	

Schedule of the Fair		
Genoa	May	28, 29, 30
Barcelona	June	3, 4, 5
Le Havre	June	12, 13, 14
London	June	18, 19, 20, 21
Rotterdam	June	25, 26, 27
Hamburg	July	1, 2, 3
Copenhagen	July	8, 9, 10
Oslo	July	14, 15, 16
Gothenburg	July	20, 21
Antwerp	July	25, 26, 27
Lisbon	Aug.	3, 4



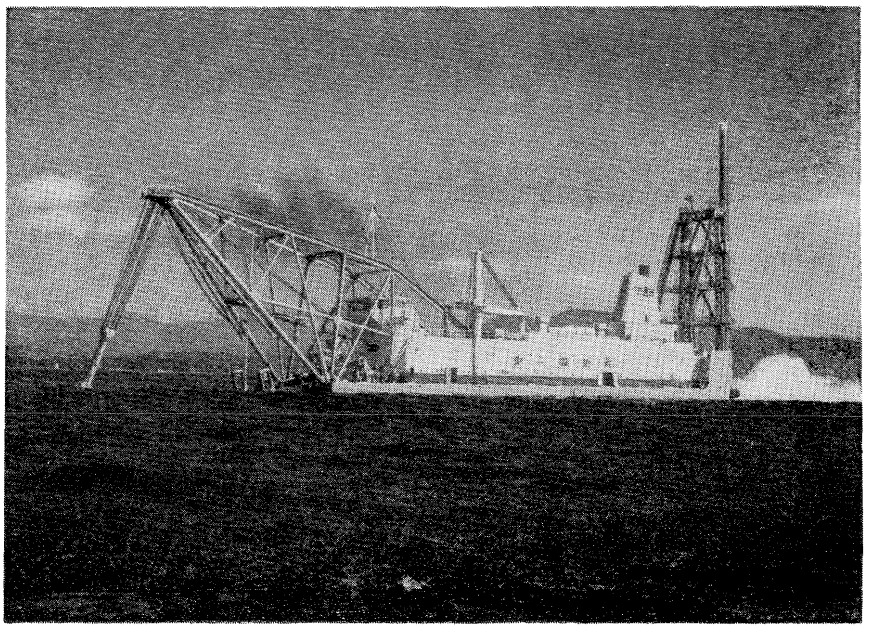
Japan Industry Floating Fair m.s. "Sakura Maru"

Hon. T. Hale Boggs awarded Honorary Membership

The certificate of Honorary Membership of the International Association of Ports and Harbors was presented to Hon. T. Hale Boggs, Member of U.S. House of Representatives, House Majority Whip, (left) by Mr. W. J. Amoss, Director of the Port of New Orleans (right) on the occasion of the Mississippi Valley World Trade Conference on May 12.

Mr. Boggs had been selected as Honorary Member of this Association at our New Orleans Conference in the honor and recognition of his meritorious services and outstanding achievements in fostering and promoting the ever expanding tempo of world trade between U.S.A. and other nations, thereby rendering inestimable service and benefit towards the development of the several ports and harbors of those nations. This was announced by Lt. General J. L. Huang, then President of the Association, on that occasion.

8,000 ps Suction Dredger "Kokuei Maru" No. 2



The dredger "Kokuei Maru" No. 2 of 3,600 Displacement Tons was delivered recently to the Japan Industrial Land Development Co., Ltd., one of Supporting Members of the International Association of Ports and Harbors, at the Hiroshima Yard of the Mitsubishi Shipbuilding and Engineering Company. The dredger is capable of dredging 2,000 cubic meters of mud and sand per hour to a depth of 30 meters, claimed to be the world's highest capacity.

FORUM ON PORTS PROBLEMS

Ports in the Age of Speed

Contribution by
Mr. Dudley Perkins
General Manager
Port of London Authority

If a future historian were asked to single out one distinguishing feature of the twentieth century he might answer that, of all ages, it was the one which placed a premium on time—it was "the age of speed." The reasons why we should place so much emphasis on speed, even to the extent of allowing it to exact an alarming toll of human lives, would form an interesting study in social history, but whatever these reasons may be, it cannot be denied that much of the explosive advance in technology we are now witnessing is motivated by the desire to travel faster. It is, therefore, natural that the effects of this advance are more evident in the field of transport than in any other.

Whenever an activity is speeded up, be it a manufacturing process or an aeroplane, the concomitant system of control must become more responsive, positive and rapid-acting. The need to develop and exercise such systems of control is one of the greatest problems facing industrial management to-day.

Ports are critical points in the transport complex because they are points where the transport medium changes. In them the movement of goods is temporarily halted in its transit from producer to consumer. In other words the transport speed temporarily reduces to zero. It is no wonder, therefore, that, given the spirit of the age, ports are a natural target for criticism. The objective of port operators must, therefore, be to reduce this period of rest to a minimum and the function of port control is to achieve this objective with the maximum economy.

But one cannot control one part of a system without regard to the other parts, and a port is particularly sensitive to activities in other sections of the transport complex. Ideally, centralised control over the whole system would achieve a correct balance between parts, but this would only be possible with some form of global, totalitarian government and, even then, the system would probably be inundated under a mass of bureaucratic administration. In practice, enlightened co-operation based on a mutual recognition of the common interest must be the means to achieve overall efficiency. Mr. V. G. Swanson drew attention to the need for an awareness of the port's role amongst the community it serves in his lucid and penetrating article in the September, 1963 issue of this journal. The need to foster this awareness is surely a part of the function of port management.

There is, however, another side to the coin and that is that port management must be aware of the circumstances and problems of the port users. Mutual co-operation can only come about by a continual interchange of information and ideas. It is this concept which informed the establishment of the Port of London Authority in the first decade of this century. The Board of the Authority is representative of a wide spectrum of port users. Thus the Members bring to problems of port management and development not only an intimate knowledge of the circumstances of the sector they represent but also a readiness to reconcile differences of interest in the common good. It is, therefore, readily understandable that the organisational structure of the Port of London Authority should have formed the pattern for other port authorities throughout the world.

Mr. Dudley Perkins

This then is the basis of our port control system in London. But what about the apparatus of control? Borrowing from the rapidly developing science of cybernetics, one can say that control constitutes the collection of information concerning the activity concerned, processing this information, making decisions, communicating the decisions and seeing that they are implemenetd. To discuss all these

aspects would involve a lengthy treatise on the function of management. One aspect is of especial interest: it comprises the collection of meaningful statistics and their rapid processing in a way which enables management to arrive quickly at informed decisions. In the Port of London we are acutely aware of this aspect of management and aware also that the information we need not only concerns the domestic activities within the port but also industrial, commercial, technological and indeed political developments over a very wide field.

The collection and processing of such data raises many problems, only one of which is the constant emphasis on speed to which I have alerady drawn attention. We have been using computers for the mechanisation of purely accounting functions for some years ,and are now in course of installing a very much more powerful computer for processing management control data. Helpful though these electronic machines undoubtedly are, they do not by any means obviate the need for men with the aptitude and training that enables them to decide what data are needed and what are the essential implications of the information when it is processed. This calls for men at middle and higher management levels with a somewhat different outlook to those who occupied these positions a generation ago. It calls also for the application of modern management aids—operational research, work study, organisation and methods, market research and so on. The introduction of these aids has been gradual in the Port of London Authority, as indeed it must be if the organisation is to adjust to them successfully, but substantial progress has been made. We are also at an advanced stage in re-appraising our training requirements.

It is a fact, oft re-iterated, that a port is sensitive to industrial change. If it is to survive successfully it must also be responsive to change. Indeed, in some respects it must anticipate change. This is no easy task. Essential to its fulfilment is an awareness of the need. In the Port of London the development of new facilities and the modification of operations is a continuing response to careful studies of the facts concerning the present, and informed assessments as to the requirements of the future. We make no claim to the gift of prophecy, but neither are we Jeremiahs. We look forward with confidence to a future in which our port will play its full part in this "age of speed."

New 110-mile Channel between Portland and the Pacific

Construction of a channel between Portland and the Pacific, length 110 miles, width 600 feet and depth 40 feet, started with a cost of $21.5 million. Completion is expected in 1968. Port officials from Oregon and Washington celebrated long awaited construction start aboard U.S. Army Corps of Engineers' dredge MUTLNOMAH.

Throwing levers which started construction of 110 – mile channel project between Portland and the Pacific are: (left to right) George M. Baldwin, general manager, Port of Portland, Col. Sterling K. Eisiminger, Portland District Engineer, Army Corps of Engineers, Warne Nunn, executive assistant to Oregon Gov. Mark O. Hatfield, and Bert E. Cole, director Natural Resources, State of Washington.

THE PORT OF GENOA

The Premier Port in the Mediterranean
Contribution by:
The Port of Genoa Authority

History, Cargo Movement, etc.

The port of Genoa originated in the pre-Roman age in the natural bay formed by the slope of the Sarzano Hill now named Molo Vecchio, meaning Old Mole, and remained substantially unchanged until the end of the XVII century, when the Molo Nuovo (New Mole) and the breakwater on the west side were built, to which extensions were made at intervals during the next century.

No other structural changes of any importance took place during the following two centuries. In the second half of the XIX century, the opening of new means of communications (the Genova-Turin railway dates from 1851) and the continuous development of traffic in the port, made necessary the first important enlargements which, planned by engineer Adolfo Parodi and partially financed by a 20 mn. Lire (Gold Lire) donation made by the Duke of Galliera, were started in 1877 and completed in 1888. At that time the branch railway to the Giovi was also built.

But as traffic continued to increase, there was an evident need for amplification of the port, and for an organization with sufficient power to coordinate the relations of all parties rendering service to the port and to undertake shore and harbour construction which would rapidly bring the efficiency of the port to the level required by the traffic. Thus in 1903 the Consorzio Del Porto Di Genova, (The Port of Genoa Authority) was created.

The Consorzio immediately began the work of extending the port westward by cutting a gap in the first section of the Galliera breakwater and extending the outer section toward the west; also building other jetties near the lighthouse.

At the end of the First World War a plan was approved by which the port would be extended to the Polcevera River, and would also be afforded further breakwater protection both to the east and west, with the prolongation of both ends of the Galliera mole and the construction of the Cagni mole.

With the extension of the Galliera breakwater parallel to the shoreline at Sampierdarena, the building of a protective wall at the mouth of the Polcevera, and the construction of five large piers in the basin thus created, Genoa attained a dominant position before the outbreak of the Second World War, when traffic reached its peak, and the port ranked first among Mediterranean commercial harbours.

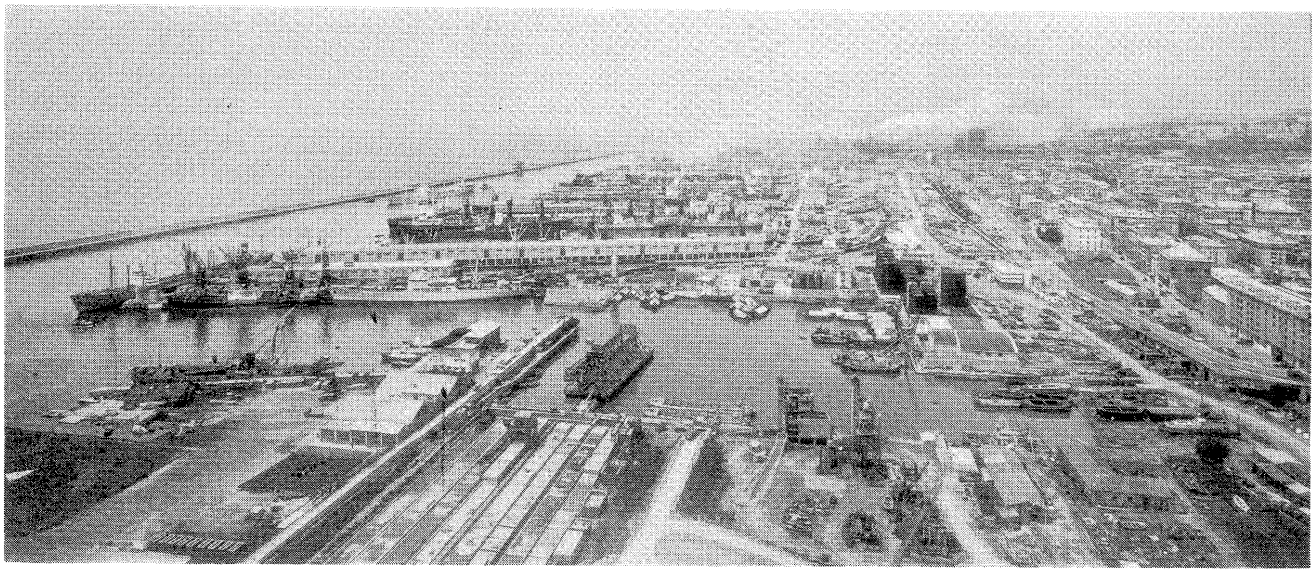
But with the outbreak of war the port came to a virtual standstill as a result of enemy attacks. The situation on Apr. 25, 1945, was as follows: harbour waters impassable due to the presence of 139 magnetic mines and about 900 sunken vessels of all tonnage; a break of 80 meter in the Galliera breakwater; 38 cent of the piers, 86 per cent of the warehouses, 86 per cent of the port machinery, and all of the shipbuilding and repair yards of the Bacino delle Grazie completely destroyed. But the work of mine clearing and reconstruction started immediately and on June 13, 1945, the first ship entered the harbour.

* * *

Over the past 18 years continuous efforts have been made to gear the port to meet the demands made upon it as a result of the ever-increasing volume of shipping calling there and the progressive industrialization of Italy itself.

In 1962 Genoa handled a record total of 28.0592mn tons of cargo, compared with 22.611mn tons in 1961. There were 19,376 ships arriving and departing, with a registered tonnage of 55,383,446.

It has been estimated that in



A view of the harbour looking east. In 1962, the port was called upon to handle a record volume of 28 million tons of cargo.

Eastern view from the lighthouse.

1962, Genoa handled more than 14mn tons of petroleum products, 2mn tons of coal, 1.2mn tons of grain, 4.3mn tons of metals, ores and scrap and 1.27mn tons of bunker.

A graphic illustration of the increase in cargo traffic since 1953 estimated at 200 per cent is provided by the following figures:—

Cargo Tonnage

Year	Tons
1953	8,956,000
1954	10,121,000
1955	12,054,000
1956	14,061,000
1957	16,357,000
1958	15,900,000
1959	16,634,000
1960	20,646,000
1961	22,611,000
1962	28,059,000

* * *

According to the Central Statistical Institute, Italy's foreign trade in 1962 amounted to 6,700mn lire. It has been estimated that Genoa handled 25.9 per cent in value of this foreign trade. During the year Italy's ports as a whole dealt with about 131mn tons of cargo an increase of 15 per cent over the previous year.

All this activity is taxing the port to the utmost and hopes are high that financial aid will be forthcoming from the government to help with the plans for expansion already in being.

As General Ruffini mentions in his article a major feature of these plans is the building of a satellite port at Voltri a few miles to the north. Voltri would handle bulk raw materials.

With the construction of this satellite port and the petroleum port of Multedo to be finished within the year and with the entry in service of the new Ronco pier, the port of Genoa could count on being relieved of a good part of its work of discharging ships.

* * *

Among the main improvements completed or nearing completion, are the Genoa-Sestri airport, reclaimed from the sea and covering 321 acres.

The airport, dedicated last October, also protects the petroleum port of Ponte Multedo, scheduled for completion by the end of this year.

When finished, Multedo will take a big load off current dock facilities. The 14mn tons of petroleum moved last year was half of all the cargo handled.

Multedo also is the sea terminal for the 620-mile Genoa Central Europe pipeline, scheduled for completion in 1964. At full operation, the pipeline will carry 18mn tons of petroleum annually to the Po valley, Aigle in Switzerland, and Stuttgart in Germany.

Passenger Liner Facilities

The passenger maritime stations of Ponte del Mille and Ponte Andrea Doria have berths available with all facilities required to serve five large liners and clear through Customs more than 3,000 passengers a day.

The maritime station at Ponte del Mille is equipped with loudspeakers for message concerning passenger service. An information office is at the disposal of the public. In addition to the offices for Customs inspection, immigration and medical service, the Police have their central office here directing their services for the whole port, there are also post and telegraph offices, the "Italcable" and E.N.I.T. (Ente Nazionale Industrie Turistiche), A.C.I. (Automobile Club Italiano), etc.

The maritime station at Ponte Andrea Doria is normally used for the berthing of the largest trans-Atlantic lines, its draft being

36ft. It is equipped with three mechanical gangways for embarking or landing passengers. One of these gangways has an adjustable and retractable floor inclination. Inside the station there are luggage elevators.

Facilities for Customs house inspection, checking of passports and medical visit are also available in this station. The "Italia" and "American Export Lines" steamship companies, E.N.I.T., A.C.I., etc., have offices here.

* * *

The port of Genoa is administered by an autonomous board composed of representatives of the Italian State Government of the provincial and municipal administrations having direct commercial relations with the port of Genoa, of the Chambers of Commerce and of employers' and workers' associations.

The Port Authority of Genoa was incorporated by Act Feb. 12, 1903 No. 50 (Unified Laws Jan. 16, 1936, No. 801 and subsequent amendments). Its objects are to carry out construction works, regulate the operation of the port and airport and co-ordinate their services. The Consorzio offices are located in the historic building known as Palazzo del Banco di San Giorgio, and the present Consorzio is the ideal successor to the ancient magistracy or "Rule over the Sea."

The Port Authority provides all maritime services; determines entirely the schedule of working hours in the port; regulates the use of loading and unloading machinery, and the occupation of space in the slipways and harbour basins and operates warehouses and wharves either directly or through contractors.

Dues and Charges

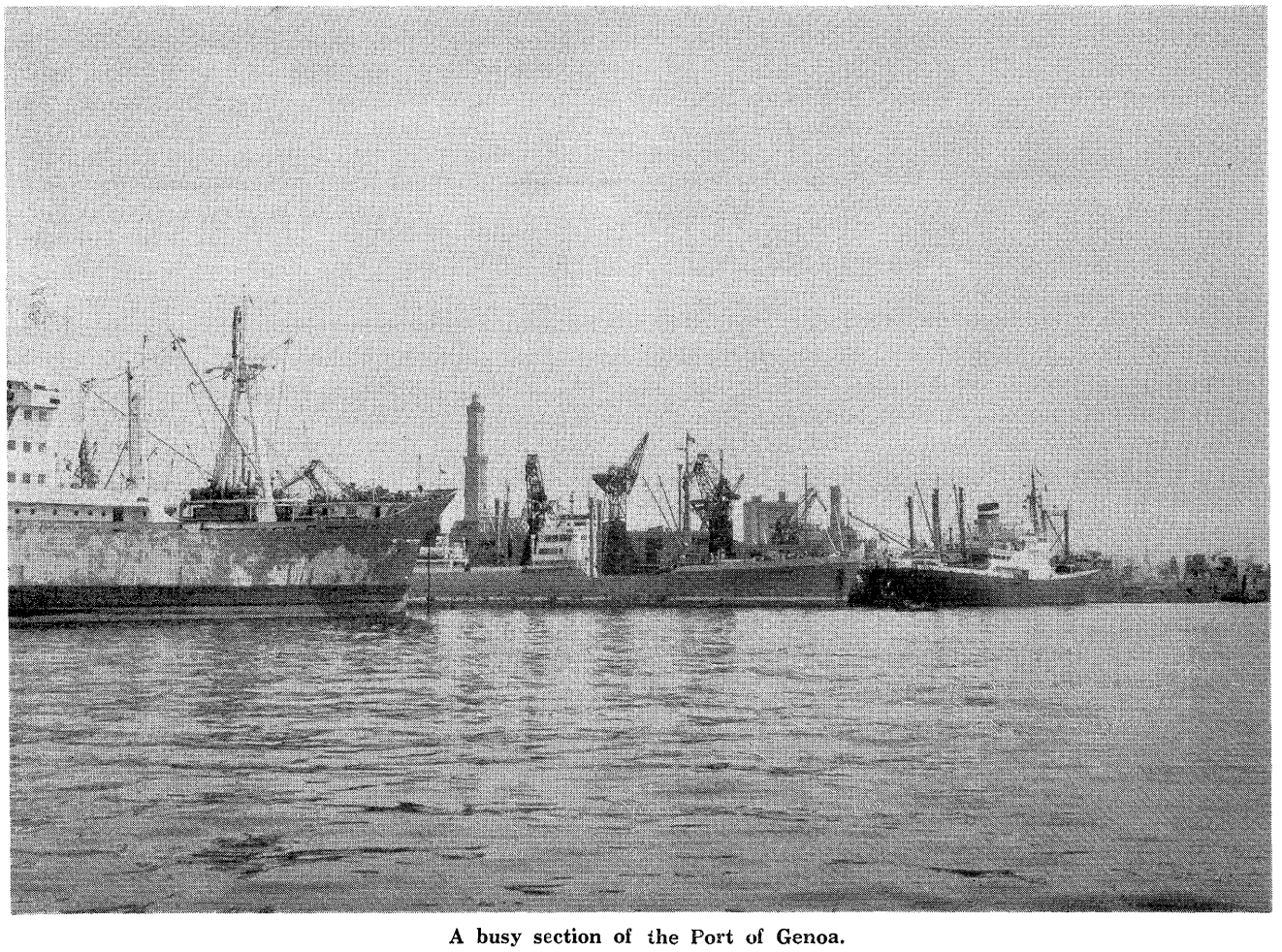
In addition it controls the dues and port charges, projects and performance of labour by the four companies of port workers; the group engaged in loading and unloading of general merchandise (including baggage), group of stevedores for unloading coal, the group making general repairs to vessels, and the group engaged exclusively in careening hulls of ships. Altogether they represent a total enrollment of 5,200 port workers.

The authority also assigns berthing space and arranges shifting of vessels with the use of 24 tugs with a total of 14,694 hp of the Societa Rimorchiatori Riuniti (United Tugboat Company).

The shipping information office, in the Palazzo San Giorgio, furnishes information concerning vessels, ports and routes, as well as meteorological information, and makes official reports available to the public.

Workers' Dwellings

The Port Authority, acting as contractors in the erection of workers' dwellings, has, since 1949, built on land it owned (and subsequently ceded to the INA-Cast) a vast residential quarter for its own workers, for port workers and for workers generally. This comprises 20 apartment houses (totalling 537 flats, divided into 2,888 rooms), the total capital out-



A busy section of the Port of Genoa.

The timber park

lay for which having been approximately 1,400 mn lire. To make the work complete, the Port Authority laid down roads within the area, installed street lighting and set up a social centre.

Services performed by other administrations:—

Harbour Master's Office

Located at the stazione marittima (passenger terminal), the office superintends the pilot service, which is obligatory for all vessels over 500 gross tons, and consists of 23 pilots with the rank of master, and three pilot boats equipped with radiotelephones, controls the entry and clearance of ships, the sanitary police, enforces the laws no recruitment of crews, registration of ownership of vessels, safety in navigation, fishing, provides for the outfitting and laying-up of ships, the engagement and discharge of seamen, and administers civil and penal justice.

Customs

The office of the superintendent for the Genoa port district is at St. Limbania and has at its dependence four senior zone directors who control 22 Custom house sectional offices distributed conveniently over the most important points in the port.

Railroads

The railroad net in the port area has a total of 64 miles of track (excluding the tracks in the tunnels leading to the port). Every pier and quay is provided with a side track, a direct connection track and a revolving platform for shunting. Two stations (Senate Limbania and San Benigno) and two substations (Di Negro and Caricamento) provide junctions with State Railways network.

Wireless Services

Genoa's radio transmission service allows for a two-way contact with vessels afloat; outgoing messages are despatched from the Forte di Castellaccio, whilst the incoming are picked up at the Villa Quartara radio-receiving station. This means that there is a permanent radiotelegraph and radiotelephone link between the port of Genoa and ships, and even between passengers aboard such ships and telephone subscriber in Italy and elsewhere. At Punta Vagno there is a radio-direction-finder which, on request, can notify a ship of her bearings.

Moreover, the Genoa lighthouse is equipped with a radio-beacon which sends out a pre-established signal whereby any vessel provided with a radiodirectional apparatus can establish her own bearings. On request, this radiobeam is sent out continuously so as to allow for the checking of the accuracy of radio-directional equipment aboard vessels.

Telephones

The telephone company (TETI, Telefonica Tirrena) has installed a telephone socket on every berth to connect ships with the city and long distance telephone system. The Consorzio has direct telephone connections to all port offices.

Fire-extinguishing Service

There are ready for duty two land fire trucks (manned by the National Firemen Corp) and six fire-extinguishing engines installed in motor boats. There are fireplugs on every quay and in every warehouse.

New Oil Terminal will expedite cargo discharge

Now under construction at the extreme western end of Genoa's harbour and airport system is the Multedo oil dock. The purpose of this project is to concentrate the mineral oil trade of the port into a single basin fitted with every facility to deal with cargoes efficiently and expeditiously.

In recent years there has been a big jump in the volume of oil traffic handled at the port, it having increased from 485,941 tons in 1948 to about 13mn tons last year. The new berths will mean that the oil will be handled more safely and

more quickly-linked as the terminal will be by pipelines to the Polcevora valley, to Po valley and Switzerland.

Protection from Sea

The Multedo Dock is being built in a water basin protected from the sea and adjacent to the airport maritime works. The avevrage depth of water in the approach channel, in the turning basins and alongside the berths will be about 49ft enabling the big tankers to discharge their cargoes.

The terminal will consist of a shore quay 1,940ft in length and include an embankment area of about 124,384 sq. yd. on which various installations concerned with dock operations will be installed.

Inward bound tankers will berth at special terminals. The first of these, Pier "A," 958ft in length with a depth of 36ft alongside, was opened on July 25 last when the tanker Agip-Cola arrived.

Work is almost complete on the Pier "B" (935ft long with a depth alongside of 42ft 6in). Pipelines are now being laid down and it was hoped that the pier would become operational this month.

Third Pier

The construction of the third terminal—pier "C," 1,086ft long and 49ft deep alongside — is well under way and the terminal will be operative at the end of this year. A fourth pier, "D," 1,181ft long, is in the planning stage.

The terminals will be linked by mobile floating installations to prevent the possible overflow of oil.

When all work is completed the new oil dock will be able to accommodate seven tankers simultaneously as well as bunkering barges and smaller craft. There are already large storage tanks and others will be built by private companies in the immediate hinterland along the left bank of the Varenna.

Amongst the more important buildings are:—

Cotton warehouses: these can accommodate about 100,000 bales, and are provided with Grinnel automatic fire-extinguishing equipment.

Cold storage warehouse: total capacity, 39,000 cubic metres.

City docks: the property of the City of Genoa since 1870; mainly used for the storage of foodstuffs.

* * *

Warehouse, Silos, etc.

Bonded warehouses: the property of the Chamber of Commerce. They cover the same area as did the old Bonded Warehouses, which, in the XIV Century, were used for the storage of goods from Eastern ports. These warehouses have a floor-space of 16,300 square metres, and the goods stored there are mainly coffee, cocoa and other colonial products.

Other Plant.

Grain silos, with a storage capacity of 65,000 tons; it is served by six suction units, these having a total intake of 7,200 tons every 24 hours.

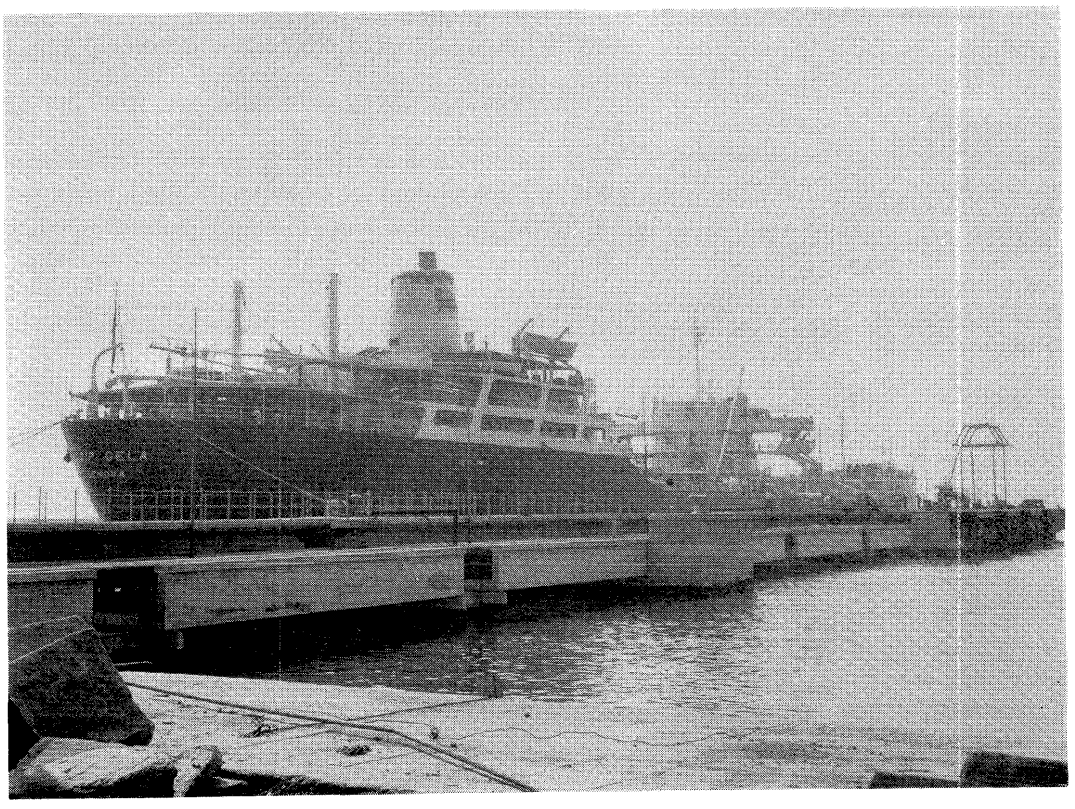
Wine silos. Total capacity, 1,997,400 gallons.

Salt silos. This covers an areea of 8,300 square metres.

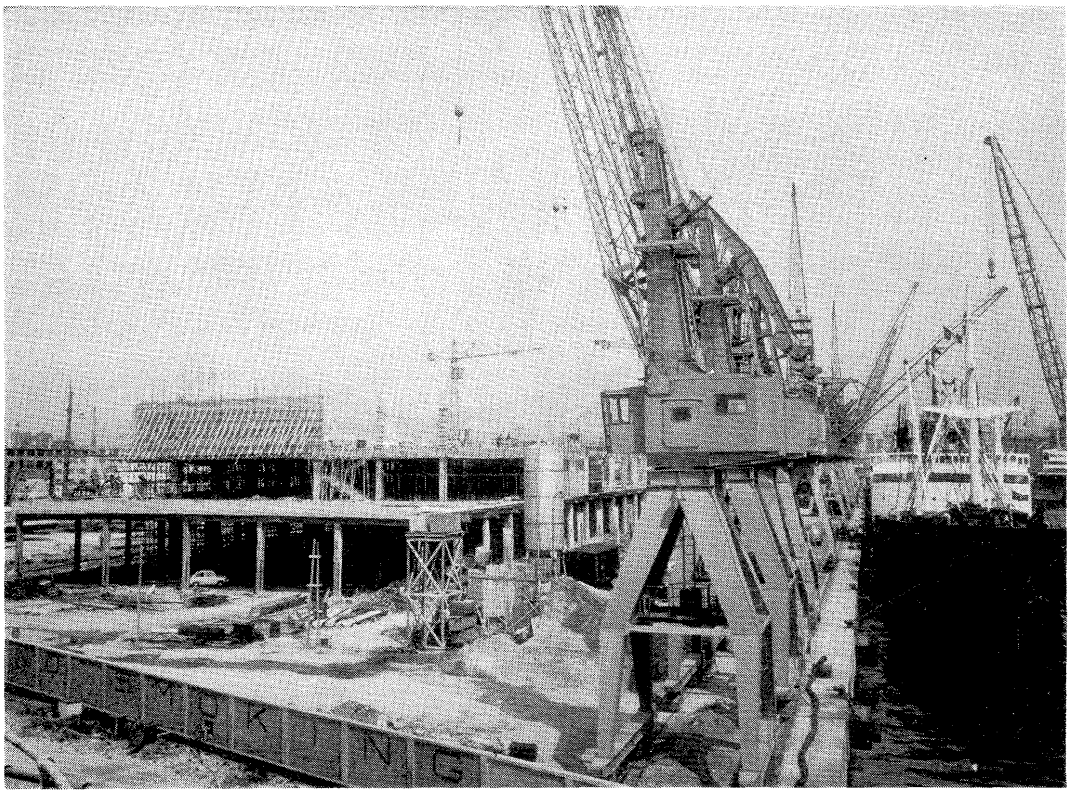
Warehouses for the storage of vegetables and animal oils and greases. Total capacity 25,000 cubic metres.

Mineral oil storage tanks (within and outside the port area). These are connected to the sea by oil pipelines. They have a total capacity of 614,000 cubic metres. Work is at present on hand to increase the capacity of certain storage tanks by a further 160,000 cubic metres.

The unloading of oil—by reason of the destruction of the petrol dock equipment at Molo Ronco by the cyclone that hit Genoa in February, 1955—has been transferred to the "Ponte Libia," which is the terminal of the oil pipe-lines



Multedo's oil dock-Pier No. 1 in activity.



This photograph shows warehouses under construction which when completed will handle the port's wool trade which is increasing year by year.

which feed the Ligurian refineries of the Val Polcevera, and that of Rho, in the Province of the Milan (length of pipe-line: 135kms).

Maritime sanitary station with room for 120 beds and equipment for any form of disinfection or sanitary measure.

* * *

An emigrants' hostel, located outside the Port area: this has 500 beds and is fully equipped for the accommodation of emigrants awaiting embarkation.

Quarantine cattlesheds able to hold 200 animals.

Laundry plant of the "ITALIA" Steamship Company.

The port also has about 600 lighters, which have a total carrying capacity of over 60,000 tons; 55 floating tanks for sundry liquids, vegetable oils and ships' bunkers; floating storage equipment for latex (700 tons); 90 pontoons fitted with machinery and workbenches; 45 barges for sundry refuse; 31 tugs and 193 motor-launches for various services.

Dry Docks

These are owned by the Port Authority, but are operated through an administration known as the "Societa Ente Bacini." They comprise four large docks located in the area called "Bacini delle Grazie," and their length is 170,210,260 and 280 metres, respectively. They are fitted with electric power points for vessels' use, and provide compressed air, salt water and fresh water. The first drydock to be built in the port (in 1851) is located in the City Docks; it is 83 metres in length and, like the others, is administered by the "Soccieta Ente Bacini."

Port Equipment and Installations

Mechanised Hoists	No.		Total Lifting Capacity	
Elevators for minerals in bulk	28	.....	139	Tons
Electric cranes	125	.....	353.5	,,
Hydraulic cranes	69	.....	121.5	,,
Gantry (inside) cranes	29	.....	29	,,
Self-powered mobile cranes	29	.....	111.5	,,
Lifts	20	.....	20	,,
	300	.....	774.5	Tons

A further 134 privately owned cranes brings the total number of mechanical hoists to 434 pieces (unit lifting capacity ranging from 1.5 tons to 45 tons). There are 35 privately-owned floating cranes, their lifting capacity ranging from a minimum of five tons to a maximum of 400 tons.

Warehouses	No. of Buildings	Floor Space
Owned by Port Authority	40	154,668 sq. metres
Under concession to shipowners	7	49,922 ,,
Privately-owned or owned by other administrations	29	100,049 ,,
	76	304,639 sq. metres

Industrial Plant

In the "Grazie" industrial zone, over 80 privately-owned plant or workshops have been set up or are authorised to operated; they are able to carry out any ship fitting-out or repair job.

At Ponte San Georgio there is

a large thermo-electric plant that is run by "Edison-Volta;" its installed power is 190,000kw.

* * *

West of the port, on land reclaimed by filling in an extensive sea area, there is the Cornigliano Steel Foundry, one of the largest and most up-to-date in Europe. Located at the Molo Ronco—within the port area — it has equipment that serves for the unloading of the minerals that feed the plant itself; through the successive working phases, these minerals are transformed into rolled plate.

Up the coast, at Sestri, there are the Ansaldo Shipyards where the largest vessels can be built and fitted out.

Acting on the law passed on Apr. 16, 1954, the Genoa Port Authority has commenced work on the construction of the Genoa Airport. This airport is to consist of a large flat area on land, with runways and all necessary aeronautical plant. The land itself is to be reclaimed by filling in the stretch of water that lies between the Cornigliano Steelworks and the Molo Multedo, and it is to be protected by an imposing breakwater.

* * *

Further west, there is the piece of water where the new Petroleum Harbour is to be built, this to take the place of the temporary mooring facilities at Ponte Libia. The westwards delimitations are therefore to be the Molo Multedo (already now serving for the mooring of tankers) representing the west limit of the area comprising the future combined Genoa harbour and airport and over which the Genoa Port Authority's jurisdiction extends (from Varenna Torrent, westwards, to Punta Vagno, eastwards).

THE PORT OF CHITTAGONG

The Gateway of East Pakistan

Contribution by:

P. B. A. Salim

Chief Engineer

Chittagong Port Trust

(Mr. Salim was assighed to ECAFE, Bangkok later and Mr. M. S. Zaman succeeded him)

Situated at the south eastern arm of East Pakistan, the Port of Chittagong occupies the northern and western side of Karnafuli River, on the north eastern shore of the Bay of Bengal. The main Port installations are located in the heart of the Second biggest city, within 9 miles of the open Sea, at a distance of 2,650 Sea-miles from Karachi.

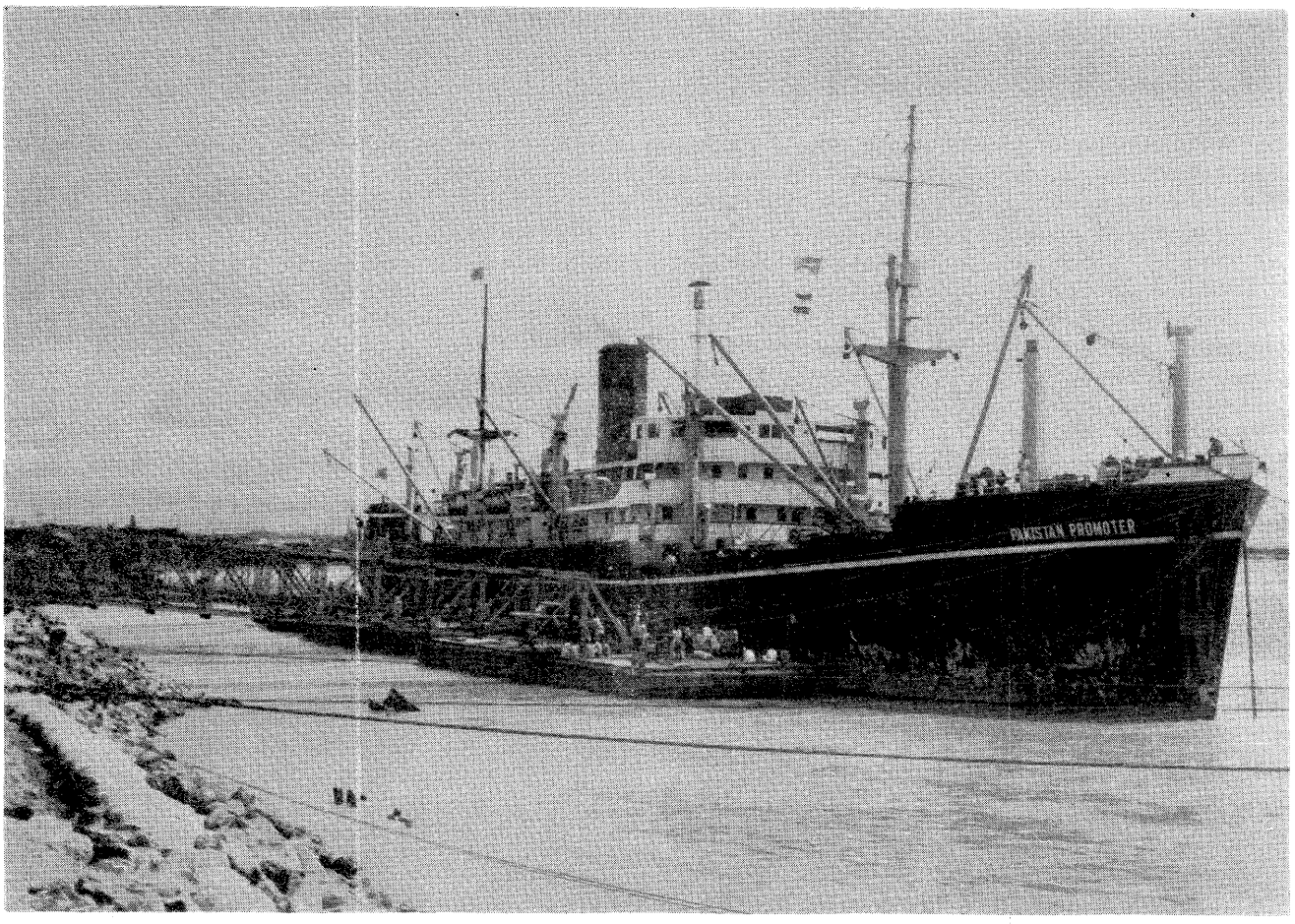
At the approach to the Port of Chittagong is 'South Patches' shoal marked by a light float in position 21°27′06″ N 91° 39′ 30″ E showing group flash (3) every 10 seconds with a visibility of approximately 10 miles. North Patches buoy fixed in position 21° 40′ 36″ N 91° 42′ 54″ E flashes every five seconds with a visibility of approximately 5 miles. The distance of South-Patches shoal from the Pilot ground (1.5 miles Sea-ward from the mouth of the river) is nearly 46 miles on safe direct course. Further towards the Port, a ship next marks Kutubdia Light House, showing two group flashes every 10 seconds to a distance of 17 miles and then Norman Point Light House flashing every five seconds to a distance of about 12 miles. The latter is situated 4-5 miles from the anchorage and helps mariners to fix their position with the assistance of Patenga Beacon Light situated at the mouth of Karnafuli River. Before recahing the anchorage, the ship contacts Juldia Signal Station where constant watch is kept and a 12 inches Signalling Projector exists to transmit urgent messages to appropriate authority. Pilotage of 11.4 miles starts from the anchorage. Entrance to the river is marked by the two fairway channel buoys flashin gevery 5 seconds. The ship has thereafter to cross three bars, namely Outer, Inner and Gupta. Tracks on all the bars are marked by shore marks painted in visible colour scheme. The channel is marked by buoys at different places for convenience of pilotage. The ship is berthed by the Pilot along the jetties or moored to the buoys in accordance with a prearranged programme.

At the Port of Chittagong ships' berths are provided along the northerly or right bank of the Karnafuli River. Each berth is designated by Jetty Number with the numbering beginning at the upstream end. Jetties No. 1-13 make a continuous wharf structure, approximately 7000 ft. long built of steel screw piles supporting a reinforced Jack arch concrete deck.

Along the shore west of Jetty No. 13 there is an open stretch approximately 3400 ft. long containing two small light steel temporary Jetties. This waterfront is used only for small scale lighterage operations. Further downstream are four jetties No. 14, 15, 16 & 17 the first two of which are pontoons and the other two are light steel piles supported structures, all capable of berthing 500 ft. long ships. Beyond Jetty No. 17 there are seven moorings available for oil tankers and cargo vessels.

Along Jetties No. 7 to 13, nineteen electrically operated portal cranes, each of 3 tons lifting capacity are provided.

Transit sheds for handling general import and export are provided at Jetty berths No. 1-9 and 12-16 with a total area of approximately 1,150,000 square feet. In addition covered storage space in the form of warehouses is available and there are several paved



New Mooring Pontoon Jetty renovated.

and unpaved open dumps for general cargo and coal storage.

There is a terminal provided for the embarkation and disembarkation of passengers. It is located between Jetty No. 1 and the Railway Station.

Harbour craft available at the Port consist of 2 Dredgers, 4 Tugs, 1 small Motor Tug, 1 Pilot Vessel, 2 Survey Vessels, 5 Motor Launches and 24 Barges.

By early 1964 the Port will have one buoy lifting vessel with 20 tons lifting capacity and a fast pilot vessel and by the end of 1964 a third cutter Suction Hopper Dredger of 2000 T.D.W. capacity.

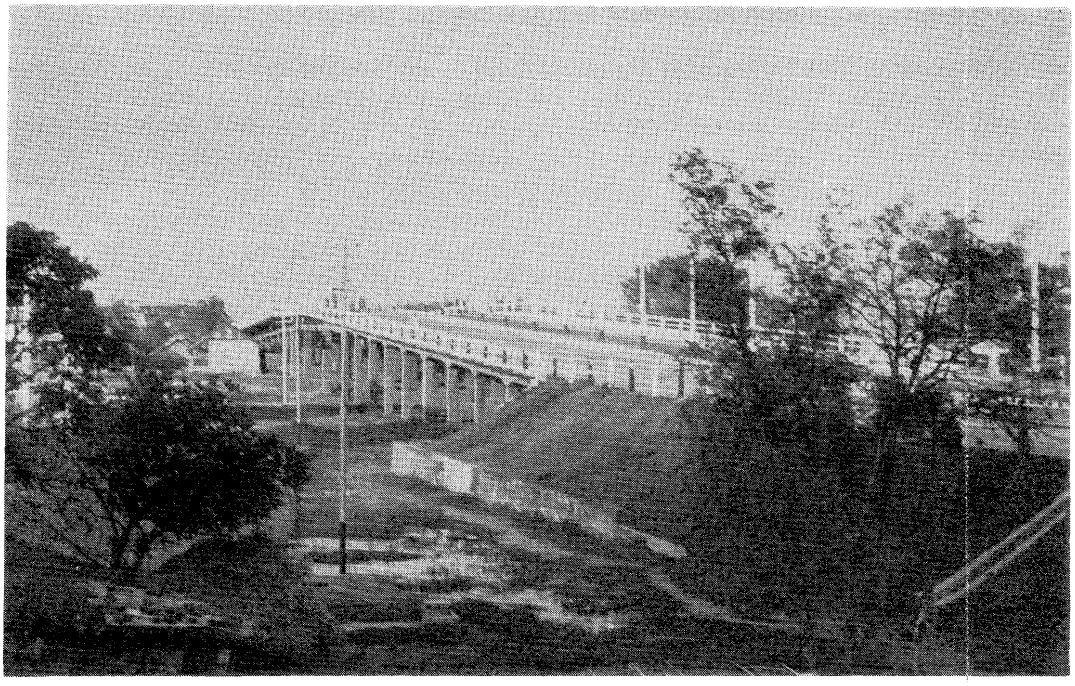
A small Port at the time of Independence catering mainly to the needs of the tea gardens of Assam, Chittagong Port had only four permanent berths about fifty years old and 0.3 million sq. ft. of covered area with a handling capacity 0.5 million tons, which at Independence in 1947 was found absolutely inadequate to cater for the trade and commerce pertaining to a hinterland of 54,000 sq. miles with a population of 42 millions.

By construction of nine new permanent and four temporary jetties suppotred by adequate covered space with ancilliary facilities, the capacity of the Port was increased to 2.5 million tons per annum.

In spite of the establishmetn in 1950 of an anchorage for deep seaship in Chalna on Pushur River, situated 35 miles south of Khulna, the trade at the Chittagong Port has been steadily on the increase. While the Port handled 1.53 million tons (457 ships) in 1955-56 and 2.56 million tons (810 ships) in 1959-60, traffic handled during 1961-62 was 2.89 million tons and 824 ships visited the Port during the year. During the year 1962-63 the Port handled 3.22 million tons and 889 ships visited the Port. From the upward trend of traffic, it would be realistic to visualise that the quantum of traffic Chittagong Port would be required to handle in future years would be further increased.

About three quarters of the volume of East Pakistan's seaborne trade pass through Chittagong Port handling about 80% of imports and 40% of exports. With the terminal and shore facilities extensively developed and rail communication for feeding the hinterland destinations available, most of the commercial concerns have a natural preference to bring majority of imports through Chittagong.

Chalna is essentially an export outlet for raw jute and jute goods and certain bulk commodities as import. The traffic through Chalna has increased from 33,002 tons in 1950 (six months) to one million tons in 1961-62, and 1.5 million tons in 1962-63. This increase reflects the increased pace of development of the country and would in no way reduce the import and export through Chittagong Port.



Newly built Dewan Hat Over Bridge connects the Main City with the Port.

of 500 ft. clear.

(4) Construction of a terminus railway station and a Passenger Terminal at Jetty No. 1.

(5) Diversion of a natural water course (canal) for a length nearly 2 miles. (Moheshkhal)

(6) Construction of 1,136 staff quarters in 2 Colonies, including several miles of roads, drains water mains and electric lines.

(7) Construction of several Railway bridges and four reinforced concrete road overbridges.

(8) Provision of main roads, paved areas, customs security fencing, gate houses etc.

(9) Water supply and drainage for the whole area including arrangement for the supply of sweet water to the ships.

(10) Providing jetty cranes, and other equipment for handling cargo at the new jetties.

(11) Providing fire fighting arrangements, including 3 fully equipped fire fighting stations.

(12) Construction of new railway yards for marshalling, sorting ,stabling, loading etc.

(13) Electrification of the whole area.

(14) Providing staff welfare centres viz. recreation clubs, dispensary, market places, schools etc.

By implementing the above project, the capacity of the Port was elevated to a target handling capacity of 2.5 million tons annually with provision for increase upto 3.5 million tons in case of emergency by introduction of third shift.

Condition of the Navigational Channel

The condition of the Navigational Channel, specially near the jetties was not satisfactory. It was noticed that the main channel of the river Karnafuli immediately upstream of jetty No. 1 had a tendency to bifurcate, resulting in shallower depths at the jetties. In addition, very rapid silting was taking place, when in 1949 a ship named "Swan Point" went aground in the main channel of the river. By the time the wreckage of this ship was removed from the site the damage had been done and the river opposite Jetty No. 2 shoaled very badly. The problem was how to bring back the deep channel close to the jetties and if this be not possible whether the jetty mentioned above was to be abandoned. It was also to be considered to what extent this change in the course of the river would develop further and would effect the depths at other jetties down below.

The matter was referred to the Port Commissioner Consulting Engineers—Messrs. Rendel, Palmer & Tritton in U.K. The latter invited Sir Cluade Inglis, a retired Hydraulic Engineer of the Government of Bombay (India) and one of the world's authority on alluvial river hydraulics who after a very careful study of the old records on the behaviour of this river recommended:—

(1) To close the right bank channel at Nazir Char, 7 miles upstream from Jetty No. 1;

(2) To construct a guide bank at Nazir Char and take such action as would induce the river course to take the position of 1925 when the channel condition was the best opposite the jetties.

(3) To remove the upper training spur on the right bank, situated at a distance of 4 miles from Jetty No. 1 and

(4) To carry out an experiment on a field model at Hydraulics Research Laboratory at Wallingford, Berkshire, U.K. to determine any long term measure for stabilising the course of the river to get the best navigable channel.

Acton was taken immediately on all recommendations stated above. Items 1 to 3 were completed. The works under item 4, were entrusted to Hydraulic Research Station, at Wallingford, U.K. under the

East Pakistan depends mainly on an agricultural economy and has been striving hard for self-sufficiency by develpoment and gradual industrialization. The population according to 1961 census was 50,844,000.

The Principal commodities produced within the area consists of jute, tea, hides and skins, kapock, hemp, bones, chillies, betel nuts, timber, bamboo, safety matches, rice, tobacco, eggs, horns, oil-cakes, salt, sheet glass, fertilizer, sugar, paper, newsprint etc.

Foodgrains (rice, wheat and products), sugar, cement, cotton-yarn and piece goods, iron and steel, machinery, soda and chemicals, fertilizer, oil and oil seeds, tea-shoks, coke, petroleum products and other general items are imported.

After Independence the development of the Port was undertaken in two phases—the Short Term and Long Term. The Short Term Project was completed in two phases. The total cost of the short term project was about 10 million rupees. The completion of the short terms scheme increased the handling capacity of the Port to 12 full sized ships excluding tankers.

The major works done under this programme are as follows:—

A. Phase I. works completed in 1948.

(1) Extension of the jetty No. 4 (old) at both ends so that two ships of full size could be handled in place of one of full size and one of much smaller size.

(2) Reconditioning of the timber jetty built during the War to handle one ship of full size.

(3) Increase in the warehouse accommodation by 50,000 sq.ft. by extension of the transit shed on Jetty No. 4 (old) and rebuilding a bomb damaged shed ('A' Shed).

(4) Increase in the capacity of the Railway Yard to cope up with the increased traffic to and from the Port.

B. Phase II. works completed in 1950.

(1) Construction of an auxiliary Port, which is now commonly known as the Newmoorings. The main items of works in this connection consisted of the construction of:—

a) two Pontoon jetties; (Jetties No. 14 & 15)
b) two Light jetties (Jetties No. 16 & 17)
c) two jetties for lighterage
d) several wooden ramps for handling coal unloaded by lighters;
e) 3 large transit sheds each of 100,000 sq.ft. covered area,
f) a number of smaller sheds at different places of the Port and
g) railway yards, roads, cargo handling equipment to handle the traffic offered at this auxiliary Port.

(2) Laying of 2 river moorings at which ships could discharge or load cargo by means of lighters.

While the works under the short-term scheme were in progress, the work under a long term scheme was drawn up in consultation with the Consulting Engineers at an approximate estimated cost of Rs. 134.2 millions, which was reduced subsequently to Rs.110.1 millions only due to establishment of an Anchorage at Chalna.

The main items of work included in the long term scheme were:—

(1) Earthwork, approximately 100 million Cft.

(2) Provision of 6 Transit Sheds, 2 Export Sheds and 2 Bonded Warehouses, having 950,000 sq.ft. of covered area in all.

(3) Construction of 8 new jetties, each having a frontage

Newly purchased cargo handling equipments — Komatsu Fork Lifting Mobile Cranes.

Technical Assistance programme to the Colombo Plan. The experiment was completed in June 1961 and report submitted in two parts. The recommendations of the Research Station are now being implemented at an estimated cost of Rs.15 million.

Present Development Programme

Under the Second Five Year Plan the Port received an allocation of rupees 15.41 millions as follows:—

Sl. No.	Schemes.	
1.	River Training Scheme	2.50
2.	River Lighting Scheme	0.50
3.	Twin Screw Suction Hopper Dredger	7.50
4.	Twin Screw Tug for surveying	0.76
5.	Twin Screw Pilot Vessel	0.69
6.	Fast Patrol Launch	0.41
7.	Pontoon Barge	0.26
8.	Buoy Lifting and Mooring Vessel	1.79
9.	Quarters for Employees	1.00
	Total:	15.41

(In million of Rupees)

For meeting the Foreign Exchange component of items 3, 5 and 8 the Port has acquired a loan of $2.0 millions from the Development Loan Fund of I.C.A.

After formation of Port Trust on the first day of July 1960 which synchronised with the commencing date of Second Five Year Plan, a balanced assessment of requirements were taken up. Representations were, thereafter, constantly made to the Government for additional grants for several other urgent schemes. The Directorate General of Ports and Shipping immediately after its inception made a thorough study of working conditions of this Port, and were convinced about the demand for further allocation and took up the matter in all seriousness and earnesteness with the Planning Commission. As a result, the following scheme have been included for consideration under the Second Five Year Plan.

Sl. No.	Schemes.	
1.	Rehabilitation of Jetty No. 1 to 6	28.72
2.	Construction of Workshop and Slipway including purchase of machinery	10.00
3.	Imodco Buoy Off-Shore discharge of Oil-Tankers	7.00
4.	Reclamation equipment, Conversion, Modification of S.D. "Patunga"	2.20
5.	Additional grant for river training scheme	3.50
	Total:	51.42

(In million of Rupees)

Schemes under items 1, 2 and

(IMPORTS)

FIGURES IN THOUSANDS OF TONS.

Name of Commodity	1955-6	1956-7	1957-8	1958-9 (15 months)	1959-60	1960-1	1961-2	1962-3
1. Foodgrain	67	472	382	545	488	550	313	857
2. Salt	122	146	128	52	132	25	88	15
3. Coal & Coke Coal	48	204	158	330	211	121	167	224
4. Cement	98	68	78	88	238	116	335	206
5. Iron & Steel	16	21	31	53	41	78	167	115
6. Artificial Manure	6	27	56	12	25	90	62	35
7. General Cargo	342	417	442	460	447	650	668	580
8. Bulk Oil	300	371	375	510	565	592	655	682
TOTAL:	999	1,726	1,651	2,050	2,147	2,222	2,455	2,714

(EXPORTS)

FIGURES IN THOUSANDS OF TONS.

Name of Commodities	1955-6	1956-7	1957-8	1958-9 (15 months)	1959-0	1960-1	1961-2	1962-3
1. Jute	345	255	280	351	259	183	228	266
2. Jute Products	28	50	63	72	60	47	38	66
3. Tea	23	28	24	30	29	22	29	28
4. Hides & Skin	3	3	3	4	4	3	3	3
5. General Cargo	137	116	102	169	145	139	143	145
TOTAL:	536	552	472	626	497	394	441	508
Total Imports:	999	1,726	1,651	2,050	2,147	2,222	2,455	2,714
Total Exports:	536	452	472	626	497	394	441	508
Grand Total :	1,555	2,178	2,123	2,676	2,644	2,616	2,896	3,222

5 have already been approved by the Executive Committee of the National Economic Council subject to availability of Rupee component by adjustment within Plan ceiling and Foreign Exchange component from loan by any Foreign Agency. Schemes 1 & 2 are under consideration for Loan from USAID to meet the Foreign Exchange component.

In appreciation of the present day need of progressive Planning and development, supreme call to cope with the increasing tendency of trade and commerce and overall National cause of service to the people, the Board of Trustees for the Port of Chittagong has very recently established a "Planning Cell" under the administrative control of Chief Engineer to deal exclusively with the aspect of meeting the demand of the hour and anticipating the call of future. A Master Plan for the Port of Chittagong Port is under preparation and it is hoped that the present shortcomings would be overcome in the very near future.

THE PORT OF MURORAN

The Bustling Industrial Port in Hokkaido, Japan

Contribution by:
Port Bureau
City of Muroran

The port of Muroran is a good natural port located at Latitude North 42° 19′ Longitude East 140° 54′, in south-west of Hokkaido, north of Japan mainland, huddled by the crescent shaped Etomo Peninsula.

Since about 350 years ago, Muroran has developed as a trade port between Hokkaido and Japan mainland. In 1892, coal produced in the central part of Hokkaido came to be shipped from this port. The ferry service between Hakodate and Aomori became an incentive to increase importance of this port.

It was after 1918 that financial offices and cultural institutions were established in large numbers in parallel with construction of steel works, paper mills and other factories. The Muroran grew into a big industrial city as well as seaport.

Hokkadio has been noticed as the only undeveloped area in Japan and various means to develop it have been worked out in recent years. Muroran is expected to display an important role in the development and industrialization of this undeveloped area.

Number of ships entering port:

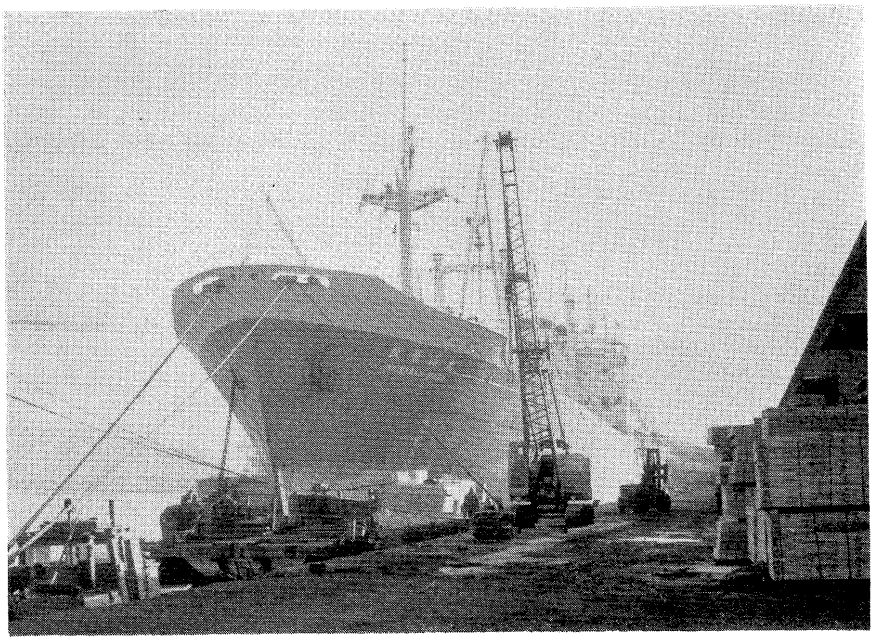
	OCEAN GOING VESSELS		COASTWISE VESSELS		TOTAL	
Year	Vessels	Cross ton	Vessels	Cross ton	Vessel	Cross ton
1958	274	1,760,501	2,117	3,621,741	2,391	5,382,242
1959	312	2,194,143	2,417	4,190,320	2,729	6,384,463
1960	417	3,085,715	6,207	7,914,013	6,624	10,999,728
1961	546	4,209,805	5,696	7,320,658	6,242	11,530,463
1962	728	6,064,674	6,201	7,922,397	6,929	13,987,071

Quantity Export & Import Cargo (in ton):

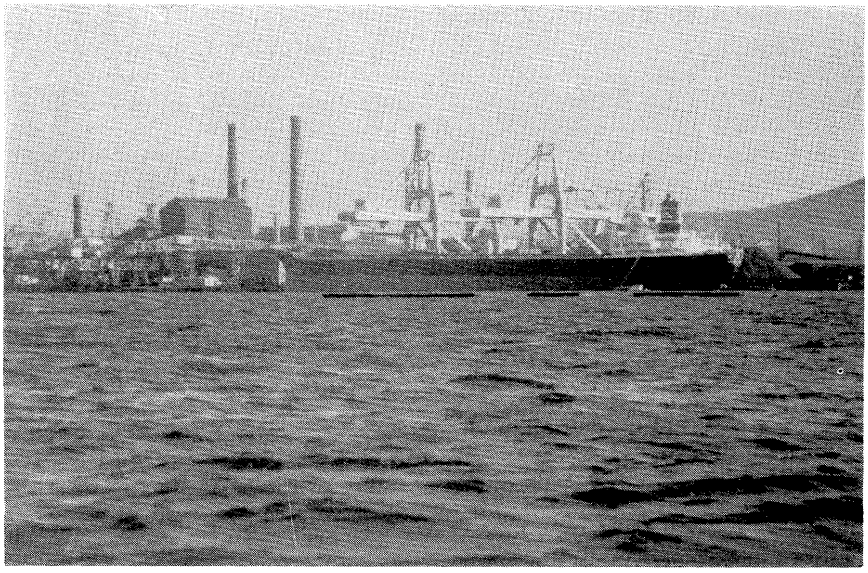
	FOREIGN TRADE		DOMESTIC TRADE		TOTAL	
Year	Export	Import	Export	Import	Export	Import
1958	98,267	1,168,008	5,653,123	928,526	5,751,390	2,096,534
1959	139,304	1,631,654	7,439,918	1,154,336	7,579,222	2,785,990
1960	145,260	2,622,603	8,760,121	1,812,194	8,905,381	4,434,797
1061	159,195	4,226,738	9,641,868	2,266,795	9,801,063	6,493,533
1962	330,709	3,943,763	9,534,433	2,474,245	9,865,142	6,418,008

Chief export: Iron & Steel, Wood, Coal

Chief imports: Oil, Coal, Ore, Salt

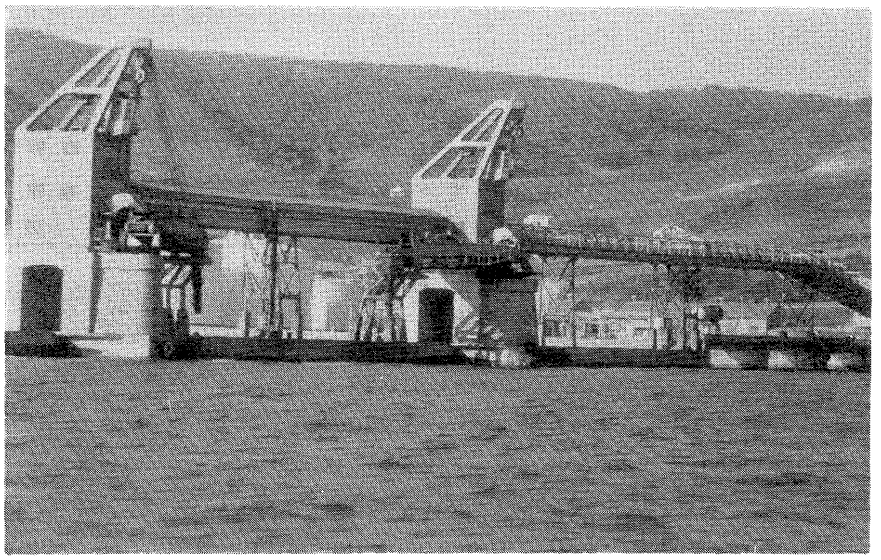


Muroran City Central Wharf.

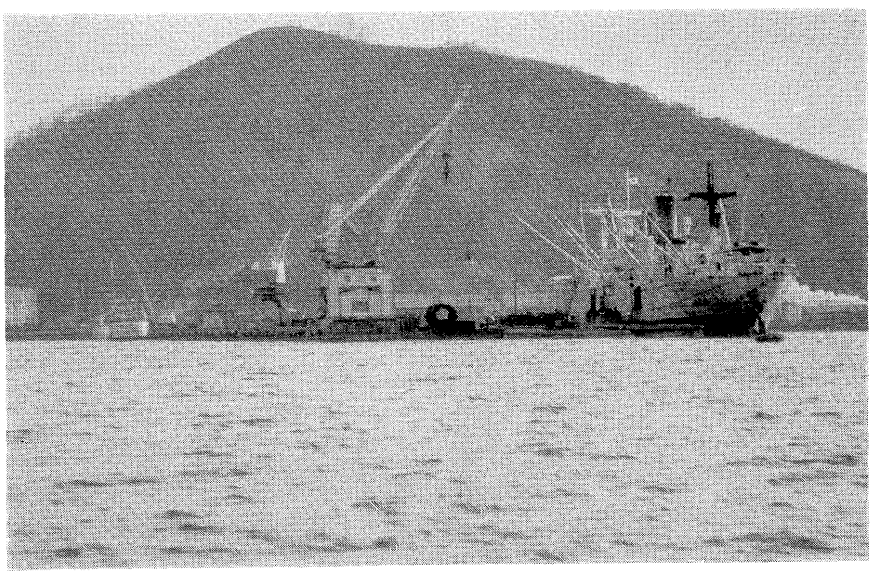


Fuji Iron & Steel Co. Wharf.

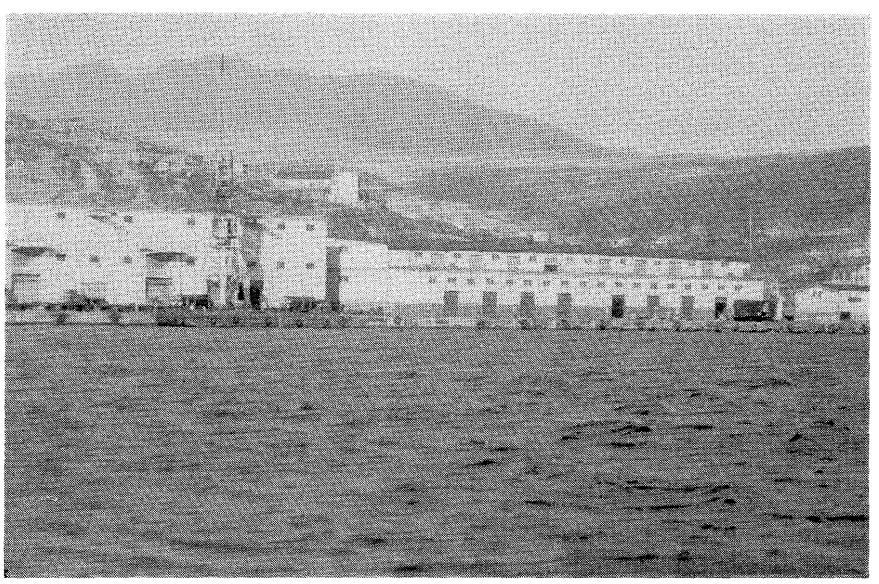
The Nippon Wharf & Shipping Co. Wharf.



Hokkaido Coal Handling Co. Wharf.



Nippon Steel Works Wharf.



Motowanishi Wharf.

Fairways:

Length	4,100	meters
Width	300-360	,,
Depth	13	,,

Breakwaters:
6, total length 2,276 meters

Tide Range:
1.08 meters

Tidal Current:
neglible

Winds:
from E. SE in summer and early autmu,
from W. NW in other seasons

Anchorage:

	Sheltered	Unsheltered
4.0 – 7.5 m. deep	1,612,000 sq. m.	717,000 sq. m.
7.5 – 9.0 ,,	1,236,000 ,,	465,000 ,,
Over 9.0 ,,	3,473,000 ,,	3,473,000 ,,

Warehouses & Sheds:
43 79,306 sq. m.

Coal Yards:
6 235,265 sq. m.

Open Space:
7 218,365 sq. m.

Lumber Yards:
3 102,280 sq. m.

Storage Tanks:
135 Oil Tanks have a storing capacity of total 203,384 tons of various kind of oil

Barges:
72 Barges, 7,668 tons, 43 barges over 100 tons.

Tug Boats:
28 Tug boats, 8 over 200 h.p.

Bunkers:
Oil available at up to 200 tons per hour at various piers from storage tanks. Coal available at National Railways and Hokuni Piers, or by lighter. Water by hydrant at main wharves at 50 tons per hour each hydrant and from 150-ton water barge.

Shiprepairs:
Drydock for vessels up to 10,000 tons gross (Muroran Shipyard of the Hakodate Dock Co., Ltd.)

Pilotage:
N. C. four pilots available

Airport:
Chitose Airport, 96.3 k.m.

Officials:
Muroran Divn. of Hokkai Maritime Bureau; Muroran Branch of Hakodate Custom House; Portmaster's Office; Muroran Branch of Maritime Safety Board.

Wharves & Cranes:

Fuji Wharves:

	Wharf Length	Berth Depth	Berthing Capacity		Owners
Pier A	742m	9.0m	Four	10,000G/T	Fuji Iron &
Pier B	400m	9.0m	Two	6,000 ″	Steel Co.
			One	4,000 ″	
Pier C	1,590m	7.5m	Six	3,000 ″	
			Four	2,000 ″	
Ore Pier	290m	13.0m	One	67,000 ″	

* 20 Cranes of various types are available.

Motowanishi Wharves:

Pier No. 1	327m	7.4–8.1m	Two	5,000G/T	Kuribayashi
Pier No. 2	326m	5.4–8.8m	Two	5,000 ″	Shokai
New Pier	436m	7.5–9.5m	Two	5,000 ″	
			One	10,000 ″	

* 4 Cranes are available.

Nippon Wharves:

Pier No. 6	160m	9.0m	One	10,000G/T	Nippon Wharf &
Pier No. 5	150m	9.0m	One	10,000 〃	Shipping Co.
Pier No. 7, 8	170m	4.5–7.5m	One	5,000 〃	
			One	2,000 〃	

* 4 Loaders and 1 Crane are available.
* Other piers for smaller vessels are omitted.

Nikko Wharves:

Pier No. 1	185m	8.5m	One	8,000G/T	Nippon Steel
Pier No. 2	205m	4.5–8.0m	One	5,000 〃	Works

* 2 Cranes are available.

Kokutetsu Wharves:

Pier No. 4	325m	8.1–9.6m	One	10,000G/T	Japan National
			One	6,000 〃	Railway
Shimashiki	140m	7.0m	One	5,000 〃	

Pier* 3 Loaders & 4 Gantry Cranes.
* Other piers for smaller vessels are omitted.

Central Wharves:

Pier A	310m	9.0m	One	10,000G/T	Muroran City
Pier B	256m	6.5m	One	6,000 〃	

* Other piers for smaller vessels are omitted.

Kitani Wharf:

One Pier	240m	7.0–8.5m	One	10,000G/T	Hokkaido Coal Handling Co.

* 3 Belt Conveyors are available.

Nisseki Pier:

Nisseki Dolphin	69m	11.0m	One	30,000G/T	Nippon Sekiyu

Kitanihon Pier:

One Pier	180m	8.0m	One	5,000G/T	Kitanihon Warf Co.

Besides the abovementioned, there are several piers available for smaller vessels.

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Japan-New York Joint Shipping Company Started

The New York Liner Administration Co., Ltd., established by Japanese Shipping Companies for the purpose of streamlining service on the Japan-New York trade route, officially started opeartions on April 1, 1964.

This firm was formed through the joint investment of 9 major Japanese shipping lines operating on the Japan-New York route. The 9 companies were reorganized into 5 firms, effective on April 1, on the basis of shipping industry integration program.

Capitalized at Yen 25 million, the N.Y.L.A.C. will unify operations on the Japan-New York route by chartering the Japanese ships now assigned to the route.

It will commission the task of cargo bookings and operations of the ships to the various shipping lines from whom the vessels were chartered.

At present, the Japanese lines are making 168 sailings on the route annually. However, the N.Y.L.A.C. plans to cut down the number of sailings to 144 per annum.

Mr. Yoshiya Ariyoshi, Vice President of the Nippon Yusen Kaisha, has been elected as the President of the N.Y.L.A.C.

British Goods Exhibition Planned Here Next Year

Mr. W. P. N. Edwards, director of the Federation of British Industries and managing director of British Overseas Fairs Ltd., revealed at a press conference June 1 at the Palace Hotel that an exhibition of British products will be held at the No. 2 and No. 3 halls of the Tokyo International Trade Center at Harumi from Sept. 17 through Oct. 3 next year.

Mr. Edwards, who will be in charge of the fair, called it the first major trade exhibition to be staged in Japan by any Western country. He disclosed two rules under which British manufacturers wil take part in the show. They were:

1. Only British manufacturers and their agents or distributors in Japan are eligible to participate.

2. All goods shown must have been produced in Britain or manufactured and assembled in Japan under license from British manufacturers.

THE FOURTH CONFERENCE
of
The International Association of Ports and Harbors

May 11th ---- 14th, 1965

at London, England

---- The place of meeting will be announced later ----

Chelsea Embankment By D. Shepherd, S.Av.A.

Central Secretariat of the International Association of Ports and Harbors

Tokyo, Japan

The gigantic breakwater.

The Passenger Terminals. The berths for big cargo liners in the background. →

Central Secretariat of the International Association of Ports and Harbors

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