

CONTAINER TERMINALS AND DEPOTS
FUNCTIONS, OPERATIONS AND DOCUMENTATION

Operators of container terminals and depots are familiar with the requirements, both internal and external, necessary to achieve optimum efficiency. These are not always fully appreciated by the many parties who have an interest in the movement of cargo by containers which include such systems as :-

LO(lift on) LO(lift off) - (Cellular container vessel)

RO(ll-on) RO(ll-off) vessel

L(ighters) A(Board) SH(ip) vessel

LI(ghters) CO(ntainers) R(oll-on - Roll-off) vessel

Multipurpose vessel

It is therefore in the interest of all parties to be fully aware of each other's requirements. A seminar of this nature can make each and everyone of us aware of the problems and requirements of others. Hopefully, it will also result in greater efficiency and the stabilisation of costs.

Before going into detail of the functions and operations of container terminals and depots, I would like to give you a brief resume of container shipping as applicable to Australia. I should also point out when speaking of the operations and functions of terminals and depots, my remarks will mainly be orientated to those facilities operated by Seatainer Terminals Limited.

Containerisation in the true sense was first introduced to Australia by Associated Steamships Pty. Ltd. in January 1964 with the operation of m.v. KOORINGA on a two weekly service between Melbourne and Fremantle.

This vessel made shipping history as it was the first all purpose built fully cellular container vessel in the world. It also had the distinction of being designed and built in Australia.

Fitted with two gantry cranes on deck, she carried mainly containers measuring 16' 8"x8' and of varying heights, also 'D' type containers measuring 6'x4'2"x4'2" suspended in frames of 5 to facilitate handling.

In 1967 Seatainer Terminals Limited was formed to handle the requirements of the proposed Overseas Containers Service and terminals and depots were established in Fremantle, Melbourne and Sydney with the depot facilities also being provided in Adelaide.

Initially, the first container vessels to be serviced were the OCL Bay Class vessels (on the European service) and 3 vessels belonging to Associated Steamships Pty Ltd. (on the inter-state service between Brisbane, Sydney, Melbourne and Fremantle). These services were quickly followed by other European services managed by Seabridge Australia Pty Ltd., in the form of Hapag Lloyd, Nedlloyd, Messageries Maritimes and Lloyd Triestino. At the same time the Japanese services were introduced by Australia Japan Container Line, Nippon Yusen Kaisha, Mitsui OSK Lines and Yamashita-Shinnihon.

To give you an illustration of size, the first OCL vessel had a carrying capacity of some 1,200, 20'x8'x8' containers having a deadweight tonnage of 29,000 tonnes, capable of a cruising speed of 22½ knots at 32 ft. draught.

The significant features of these vessels are their lifting capacity, cruising speed and the reduced residency time in port, culminating in the speedier throughput of cargo. To achieve this, special berthing facilities and sophisticated machinery were required at terminals together with the necessary backup systems of road and rail transport. In addition, specialised depot facilities were also required for the basic functions of packing and unpacking of containers together with the storage of both full and empty containers and ancillary services such as container repairs, fumigation, steam cleaning, etc.

Containerised services now extend across the major trade routes of the world having largely displaced the conventional type of cargo vessels.

In the year 1975/76, 4,210,479 tonnes of general cargo through the Port of Sydney was moved by containers or other specialised vessels such as RO RO. This represented 54.9% of general cargo handled through the Port, each type of vessel satisfying a particular need.

The movement of cargo by containers when compared with the conventional methods has the advantage of :-

Speed

Reduced Costs

Improved Condition of Cargo on Out turn

Reliability and Frequency of Service

It may well be argued that cost has risen dramatically, but I would ask you to consider what costs would have been like today had the labour intensive conventional systems still been operating. Cost containment has been achieved especially in the movement of containers between areas of advanced economic development which are subject to high labour cost. The system is now rapidly spreading into areas where only one end of the transport link complies with this criteria.

The conventional type of cargo vessel was both labour and equipment intensive with a low cargo handling productivity. Numerous forms of unitisation were practised on these vessels, but it did not fully compensate for the delays caused by port congestion, shortage of labour, bad weather, etc.

Whilst the container shipping system has its critics, it has eliminated congestion and the prolonged delays of vessels in port. One has only to examine some of the conventional services to obtain a most favourable comparison for the container system. The present situation in West African and Persian Gulf ports where vessels can be delayed for up to 200 days, is an example of extreme congestion where the conventional method of shipping is the only one in use.

In recent weeks, one of the large second generation container vessels, the TOKIO EXPRESS berthed at White Bay Terminal to exchange 2,378 TEUs (20ft. equivalent units). This was achieved in 75.25 hours the equivalent hourly handling rate being 31.6 containers per hour.

Over a 24-hour period, the equivalent tonnage handled would therefore be 15,168 tonnes. A conventional vessel would handle cargo at a rate of approximately 100 tonnes per gang per shift, and therefore the superiority of the container handling rate can be easily seen.

The transition from the conventional method of shipping cargo was not a smooth one. The natural human reaction to resist change was encountered at all stages of the system. Vulnerability to industrial action was and still is one of the disadvantages especially where small key unions are involved. However, with the passage of time and hopefully with a more rational union coverage, this too will change.

Container Terminal

It is the area where containers are loaded or discharged from ships. It consists of :-

1. A wharf area with sophisticated container cranes.
2. Backup areas where containers are received for export and marshal for loading, and where containers are sorted for delivery to importers or exporters.
3. Container handling and transfer equipment to move containers to/from wharf areas or to/from road/rail transport.
4. Ancillary services such as maintenance, empty container processing and storage, repairs, cleaning and supply of the necessary refrigeration plant for perishable cargo.
5. A control and planning system which can accurately locate and process each individual container through the system with minimum delay.
6. A ship planning service which calculates stability, trim, draught and other information relating to the

Although these are the basic functions, a terminal is a hive of highly co-ordinated activities calling for varying types of skills from the many people involved in its operation.

However, a terminal is not the beginning or the end of the system, but only a link in the through transport chain which has to meet the pressures and demands of the links on either side of it.

The Ships

Let us take the ship as being the first link. A typical Bay Class vessel calling at Sydney would now have a capacity of some 1,500 containers and as the cost of one of these vessels to build would be approximately \$30,000,000, the ship owners' basic requirement is for as fast a turnaround as possible as each day's delay can cost as much as \$15,000.

The other requirements of the ship owner are :-

Close liaison with shore personnel regarding the planning for the discharging/loading of the vessel and the receipt/delivery of cargo.

Accurate stowage plans together with stability, trim and stress calculations.

Specialised requirements appertaining to the loading of refrigerated and hazardous cargo which also calls for detailed programming either when loading or discharging.

An accurate application of the lashing systems required for containers stowed on deck.

A sufficient allocation of terminal equipment to provide the service required.

Last but not least, a speedy removal from the terminal to destination of all import containers.

Road Transport Operators

The road transport operators who are delivering containers to/from the terminal, require :-

Prompt service which in turn requires -

Speedy documentation processing,

Equal opportunities for equipment utilisation,

A recognition of the part he plays in the system.

Railways

The railway operator is no different from any other operator in the transport system, although possibly he is not as flexible, having to work to stricter timetables than is the case say, with road transport operators. Apart from this, his needs are similar, these being :-

Pre-determined schedules which are normally set no less than 24 hours ahead.

A prompt service therefore ensuring timetables are adhered to.

Equal opportunity for equipment utilisation.

Maximum utilisation of rolling stock and locomotives.

Recognition of his role in the system.

Having given this brief resume of the basic role of the terminal and the demands made upon it, I would now like to take you through a typical cycle involved in the discharging/loading of a container vessel.

The Pre-Planning of a Vessel

Dependent on the length of the voyage from the final port of loading to its arrival time in Australia, documentation relative to the positions of all containers within the ship are air-mailed to the Terminal Operator, for him to commence his pre-planning operation. On the longer sea routes, such documentation comes via the ship owner who has received a computer tape from the port of loading, which on processing in Australia, prints out bay stowage plans, manifests, consignee notifications, delivery orders, etc.

Careful analysis is made of the plans and information supplied by a team of specialist employees, consisting of master mariners and clerical staff. Allocations are then made for the positioning of these containers within the terminal prior to the ships arrival. Similarly, loading plans are drafted, allocations within the ship in broad terms being supplied by the ship operator. Representatives of the company operating the vessel maintain close liaison with exporters to co-ordinate the receipt pattern of export containers. Where possible, export containers are received into the terminal in such a position that the next move is into the stowage designated in the ship. To achieve a speedy loading operation with minimal disruption, it is necessary to ensure that all containers are received into the terminal prior to loading commencing. Cut-off dates and times for the receipt of export cargo is therefore necessary if maximum efficiency is to be obtained.

prior to the loading operation commencing, terminal planning staff together with a representative of the shipowner, consult with the master of the vessel regarding the proposed loading plans. No longer is the master of a vessel or his officers in a position to participate in loading operations to the same degree as was possible in the days of conventional shipping and they therefore have to rely on terminal staff to provide them with constant information relating to stability, trim, draught, and other information relating to the ever-changing stresses which apply during the course of a vessel's exchange. The master also requires detailed information regarding refrigerated and hazardous cargo, this being extremely sensitive to certain conditions.

Now that containers are stowed up to 4 high on deck, it is of paramount importance that the recognised lashing instructions are adhered to and these are closely supervised by ship's personnel as any deficiency could result in containers lost overboard.

Stowage plans and container lists are made up and photo-copied prior to a vessel's departure and copies given to the master. Future ports of call are notified by telephone, telex and air-mail documentation in sufficient time as to allow the operators in those ports to pre-plan for the arrival of that vessel.

Export Receivals

The receival of exports is co-ordinated by the various ship operators in conjunction with the terminal operator who indicates when it is preferable for various commodities to be received.

A number of factors determine the position in which a container has to be placed in the vessel. Obvious ones such as refrigeration requirements need little explanation, but many other considerations do have to be given with regard to the destination, weight and size. Similarly matters such as the requirements of the ports of discharge and the requirements of other ports in Australia have to be taken into account.

Export Documentaiton

The shipper having received an order to supply books space on a vessel to suit his requirements. Having obtained this, he then has to :-

- a. Obtain the necessary export licence and permits.
- b. Deliver cargo to the point specified.
- c. Obtain interim receipt.
- d. Pay freight.
- e. Obtain Bill of Lading.
- f. Arrange letter of credit if required.
- g. Forward Bill of Lading to consignee.

Vessels Residency Time

One of the major objectives of a container shipping operator is to achieve a rapid turnround of vessels.

The Port of Sydney has in general been criticised for poor container handling rates in the past and I would like to briefly outline the reason for same.

1. Sydney White Bay Terminal which is operated by my company, has an annual throughput of some 110,000 containers which are handled in a limited area of 29 acres.

2. Delivery of FCL containers and many LCL containers were delivered by road transport direct ex the terminal.
3. Vessels worked on a three shift basis 7 days a week, whereas importers only required delivery during normal day working hours Monday to Friday.
4. Export receivals by road were only received during normal day working hours Monday to Friday.
5. Import/Export containers had to be handled to/from rail.

This is expressing the situation in the simplest of terms, but as you will deduct, it resulted in congestion and a poor ship exchange rate as there was just not enough space available.

Various systems such as time slotting and stack run-downs were introduced, but although successful to a degree, could not cope with the ever-increasing volume of containers.

Container Terminals represent a very high investment cost, and any unexpected growth in trade cannot be accommodated immediately due to the construction lead-in time, assuming of course that additional space is available.

It was therefore decided, in order to obtain maximum efficiency at our White Bay Terminal, to decentralise FCL deliveries. A development programme costing \$1.4 million dollars was embarked upon at our Chullora Depot. This entailed the construction of a concrete park area, the first stage of which was completed and in operation in December 1974, the second stage being completed and in operation by July 1975.

Basically, the system operates as follows :-

1. FCL containers ex European and Japanese trades are on discharge, block stacked on No.4 berth at White Bay adjacent to the rail siding.
2. Containers are then loaded onto specially designed rail waggons and transferred to Chullora. Currently up to 10 trains a day are being despatched to Chullora(300 containers). As will be appreciated, this has resulted in the terminal area being kept clear for the exchange of vessels and a greater surge space being available at Chullora Depot where a total of 1,100 FCLs can be stacked awaiting delivery. The implementation of the decentralised park operation has resulted in a more rapid turnround of vessels and an improved service to all consignees who are now able to collect their FCL containers with no undue delay.

To handle this volume of cargo, it is essential that :-

- a. Importers clear their cargo without delay,
- b. That there is a high degree of co-ordination between all links in the chain from the importer or his agent to the transport fields of both road and rail.

Import Documentation

To detail the documentation procedure would in itself be a lengthy task and I do not propose to go into that in any detail. However, in general the procedure for import documentation would be along the following lines :-

1. Commercial invoice received by importer.

2. Bill of Lading received by importer (dependent on how shipped, e.g. letters of credit, etc.)
3. Importer or his agent presents Bill of Lading and commercial invoice to HM Customs and receives "May be delivered" copy of Customs' entry.
4. Bill of Lading and "May be Delivered" copy of entry presented to shipping company.
5. Shipping company issues delivery order.
6. Importer or his agent makes application for delivery of goods from container terminal/depot.

In recent years, a greater degree of standardisation of documents has been achieved, but there are still many improvements which could be made in this area.

Delays still occur from time to time due to importers presenting partial or incorrect documentation and this is an aspect over which we as operators have no control as delivery cannot be effected unless the correct documentation is presented.

Terminal/Depot Rail Transfer

In the case of Seatainer Terminals, Sydney operation, all import FCL 20' containers are railed to Chullora Depot for subsequent delivery from that location together with the LCL content to be unpacked.

As previously stated, up to 300 containers can be handled by this method in a 24-hour period. Each container is checked onto a train at the terminal and a detailed rail list showing container numbers forwarded with the train. Advanced information is also given by telephone as soon as the train is loaded in order that pre-planning of stacking positions at the Depot can be implemented.

On arrival at the Depot, each individual container is again tallied off the train. FCLs being stowed for immediate delivery whilst LCLs are Block-stacked for removal into unpacking bays as they become available

Container Depot

Having dealt with the terminal operation, I would now like to explain the role of a container depot.

As previously stated, my remarks will be orientated to the Chullora Depot operated by Seatainer Terminals Limited, which is unique having incorporated a large decentralised park facility.

Depots were established on the introduction of the container service in order to ensure that the high volume of LCL cargo could be handled efficiently, not all importers either requiring or having the need for full container loads.

Whilst it may be argued that the then existing facilities operated by transport companies and other parties, could have been used, it was essential for the benefit of the total operation, that selection from the terminal be minimal. A number of depot operations were therefore established, Chullora being one of these.

Chullora Depot is located in the heart of Sydney's industrial western suburbs with direct rail link to White Bay/Glebe Island terminals as well as being adjacent to main highways.

Services offered are :-

- a. packing/unpacking of LCL cargo (also FCL cargo if required).
- b. receipt/delivery of loose cargo from/to road/rail transport.
- c. a bond store facility of some 20,000 sq.ft. which eliminates the necessity of transporting cargo to outside bond areas.
- d. storage facilities for import and export FCL containers.
- e. storage facilities for containers of refrigerated cargo.
- f. storage facilities for empty containers.
- g. steam cleaning facilities for both cargo and containers.
- h. specialised equipment for the handling of heavy lifts up to 60 tonnes.
- i. facilities for the repairing of damaged containers.
- j. facilities for fumigation of both full containers or particular cargo.
- k. officers of H.M. Customs and Department of Primary industries and Quarantine are also on site.
- l. a total undercover area of 150,000 sq.ft.
- m. a decentralised park facility with a capacity for 1,100 full containers.
- n. two rail sidings with direct access to White Bay Terminal and also to main lines for the receipt and despatch of containers to country areas.

Imports

Within 24 hours of containers being discharged at White Bay, they are normally en route to Chullora where rail transport is handled on a 3 shift basis Monday to Friday and also at weekends if required.

On arrival at Chullora, LCL containers are shunted into the crane bay where they are placed into the unpacking bays by an overhead travelling crane. FCL containers are removed by heavy duty forklift trucks with top lifting attachments, and placed into predesignated positions in the decentralised park. The operation now divides into two distinct functions, LCL and FCL, and firstly I would like to deal with the former.

Unpacking and Delivery of LCL Cargo

Unpacking is carried out on a day work basis, and the containers which have been positioned in the unpacking bays are unpacked according to a pre-planned programme which is established on a daily basis.

The contents of each container are checked off against the manifest for that container and any discrepancy is noted. Wherever possible, cargo is palletised on removal from the container in order to facilitate a good stowage in the storage sheds and to eliminate the necessity for rehandling on delivery. Cargo which is already palletised in the container is subject to a 25% discount providing the whole container is palletised, and the cargo remains on pallets from the time of unpacking until final delivery.

After unpacking, cargo is stored free of charge for 3 days from the time of availability, after which if it is not claimed, it is removed to the bond and free store area.

Availability

LCL containers which have been unpacked and FCL containers received during the course of any working day Monday to Friday, are listed under Vessel heading and telexed in a alpha-numerical order to the Daily Commercial News, who publish this information in the following days edition. This gives importers or their agents an up-to-date situation regarding the availability of their containers.

In order to assist major clients, the same telex is also despatched to them at approximately 1500 hrs. on the day that the containers have been unpacked or received, which assists them even further by being able to make the necessary transport arrangements for the following day.

In addition to this, an availability service is available by telephone for any client wishing to know the status of their particular container.

It greatly assists our availability section if precise details can be given at the time of enquiry, designating ship, voyage No., whether FCL or LCL, and the shipping company concerned.

Delivery

When delivery is required, the truck driver is directed into a bay nearest to his cargo and the pallets which have been stacked to Bill of Lading mark are then delivered either to his tailboard where the cargo is offloaded or delivered together with the pallet onto the vehicle. At the present time we have been forced to only allow the total pallet plus its load to leave the depot providing pallets have been received on a one for one exchange basis.

The number of delivery gangs employed is dependent on the demand on delivery, but I would emphasise that priority is always given to delivery, and as there is complete flexibility within the depot working force, this can be achieved.

There are however instances when the above procedures do not apply and I refer here to such cargo as hazardous, refrigerated and heavy lifts, which are only unpacked after arrangements have been made with consignees to take delivery direct ex the containers.

Exports

The packing of export containers is another function which is carried out by depots. This entails :-

- a. receival of loose cargo either by road or rail.
- b. receival of special cargo such as heavy lifts, hazardous or refrigerated cargo by road or rail.
- c. the packing of containers in such a manner as to ensure that all cargo is stowed in such a manner as to outturn in good condition which entails special skill.
- d. storage of the container until required at the terminal.
- e. the removal of the container from storage area to rail for transfer direct to the terminal.

All the above points require the closest liaison with all parties concerned, from the time the cargo is booked until the time it is eventually loaded on the carrying vessel.

Quarantine

All import containers come under the scrutiny of the quarantine department, who issue lists of FCL containers requiring inspection of contents which may be in relation to the actual cargo or the material used in the packaging of same.

On the arrival of an FCL container, the quarantine list is checked and if it is marked for an inspection the quarantine officer, who is notified, then inspects the containers. If the container requires fumigation, this is arranged by depot staff.

In the case of LCL consignments, these are inspected after unpacking by the quarantine officer. If in his opinion any cargo requires fumigation, the quarantine officer issues an instruction for fumigation to be carried out prior to delivery. The appropriate shipping company is then notified and they authorise the depot operator to carry out fumigation.

Although the fumigating of cargo does occasionally cause some delays, this is minimal as the contractors used for this process are available on a 24 hour basis.

Security

As will be appreciated, security is a very essential function' in a depot operation where there is an enormous volume of loose cargo and full containers concentrated in one area.' Various checks on documentation are made in order to safeguard interests of all parties.

Security officers check both incoming and outgoing traffic, spot checks being made on loaded vehicles as well as private cars. Frequent patrols are made of cargo sheds and container parks, and in addition to this senior supervisory staff are always alert for any mal-practice.

General

The container shipping system has rapidly extended operations to cover the main trade routes of the world. It is still expanding and now encompasses areas which do not provide and indeed could not warrant the construction of sophisticated terminals.

The container lends itself to a number of intermodal movements the permutation of which are many, for example :-

- Warehouse -- Road -- Rail -- Road -- Consumer
- Warehouse -- Rail -- Road -- Consumer
- Warehouse -- Road -- Sea -- Road -- Consumer
- Warehouse -- Road -- Rail -- Sea

Most types of general cargo and some liquid cargo are compatible for carriage by container. However, to operate efficiently container shipping companies must as far as possible have a two-way trade otherwise they become involved in an imbalance cost. This means ship has to load empty containers for return when no cargo is available.

Whilst the ship, terminal and depot operations are now operating smoothly, industry in general has not as yet geared up to handle containers and loose cargo to the same extent and therefore full advantage of the container system is not being obtained.

Earlier in this paper, I made reference to the shift work in terminals and depots but industry in general is still only capable of receiving loose cargo and full container loads during normal day working hours, and in many cases, only then to a very limited extent.

As new factories and warehouses are built, they will be of improved design and layout thus enabling containers to be handled in a more efficient manner.

Australia is dependent on its sea links for survival and to a large extent, our economy is based on the efficiency and costs incurred in that link.

Seatainer Terminals as a company and other operators engaged in similar fields endeavour to obtain maximum efficiency. I would stress however, that it is most important for all parties concerned from shipper to importer to be involved in the total system in order to obtain maximum efficiency and cost savings which will be to the advantage of all who enjoy life in Australia.

CONTAINER TRAFFIC (TEU) HANDLED AT WORLD
PORTS IN 1975 WITH COMPARATIVE 1974 POSITION

<u>Position</u>		Port	TEU handled in 1975
1975	(1974)		
1	(1)	New York	1,621,800
2	(2)	Rotterdam	1,078,661
3	(3)	Kobe	904,549
4	(4)	Hong Kong	802,283
5	(6)	Oakland	522,355
6	(7)	Seattle	481,094
7	(5)	San Juan	452,375
8	(8)	Bremen/Bremerhaven	409,791
9	(12)	Baltimore	400,000+
10	(9)	Yokohama	396,484
11	(10)	Long Beach	390,689
12	(11)	Tokyo	380,000+
13	(21)	Jacksonville	377,323
14	(15)	Melbourne	364,752
15	(17)	Hamburg	332,328
16	(18)	Los Angeles	327,177
17	(14)	Antwerp	297,268
18	(13)	Hampton Roads	292,051
19	(19)	Sydney	262,166
20	(16)	London	260,440
21	(24)	Keelung	246,029
22	(23)	Le Havre	231,675
23	(22)	Felixstowe	230,397
24	(25)	Kaohsiung	225,036
25	(28)	Honolulu	202,376
26	(20)	Southampton	198,866
27	(32)	Zeebrugge	193,341
28	(30)	Singapore	191,568
29	(36)	Anchorage	184,722
30	(27)	Genoa	162,000
31	(40)	New Orleans	150,991
32	(41)	Houston	145,593
33	(26)	Halifax	144,259
34	(29)	Gothenburg	142,196

<u>Position</u>		<u>Port</u>	<u>TEU handled in 1975</u>
<u>1975</u>	<u>(1974)</u>		
35	(34)	Dublin	*140,513
36	(37)	Charleston	138,332
37	(33)	Harwich PQ	136,978
38	(38)	Nagoya	133,816
39	(39)	Liverpool	131,749
40	(31)	Belfast	126,000
41	(35)	Montreal	108,504
42	(42)	Osaka	*105,896
43	(43)	Esbjerg	*104,000
44	(47)	Vancouver	96,861
45	(53)	Marseille	95,372
46	(56)	Manila	95,176
47	(46)	Haifa	92,340
48	(44)	Philadelphia	88,128+
49	(45)	Greenock	87,856
50	(60)	Barcelona	77,514
51	(52)	Bilbao	*66,926
52	(53)	Leghorn	66,024
53	(58)	Oslo	65,000
54	(71)	Piraeus	64,184
55	(48)	Boston	63,981
56	(72)	Leningrad	63,889
57	(61)	Fremantle	63,879
58	(74)	Nakhodka	60,238
59	(49)	Lisbon	59,147
60	(69)	Helsinki	58,926
61	(62)	Savannah	58,447
62	(59)	Cadiz	*57,602
63	(55)	Portland	55,974
64	(86)	Port Kelang	55,610
65	(50)	Holyhead	53,000
66	(87)	Kingston (Jamaica)	51,317

Position		Port	TEU handled in 1975
1975	(1974)		
67	(67)	Preston	51,203
68	(66)	Copenhagen	51,145
69	(64)	Santa Cruz	50,443
70	(65)	Brisbane	50,000
71	(63)	Waterford	49,188
72	(57)	Ashdod	46,072
73	(51)	Quebec	43,966'
74	(75)	Leixoes/Douro	40,987
75	(84)	St. John NB	38,818
76	(79)	Dunkirk	38,389
77	(76)	Auckland	35,856
78	(88)	Trieste	33,645
79	(97)	Ipswich	33,641
80	(68)	San Francisco	32,650
81	(77)	Aarhus	32,526
82	(85)	Shimizu	*32,277
83	(70)	Amsterdam	32,180
84	(82)	Stockholm	30,400
85	(91)	Gdynia	29,554
86	(80)	Grangemouth	28,448
87	(78)	Miami	28,360
88	(89)	Santos	*28,260
89	(110)	Vlissingen	27,872
90	(106)	Cape Town	26,209
91	(81)	Tees/Hartlepool	25,553
92	(83)	Helsingborg	24,868
93	(90)	Wellington	24,457
94	(93)	Warrenpoint	23,662
95	(96)	Durban	22,628
96	(94)	Reykjavik	20,816
97	(92)	Naples	20,302
98	(95)	Bristol	19,100
99	(99)	La Spezia	17,006
100	(98)	Port of Spain	*16,843

* 1974 throughput; 1975 returns awaited