[Report of the Medical Officer of Health for Port of London].

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110

PORT OF LONDON HEALTH AUTHORITY

ANNUAL REPORT

OF THE

MEDICAL OFFICER OF HEALTH

To 31st DECEMBER, 1954

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110

PORT OF LONDON HEALTH COMMITTEE

ANNUAL REPORT

OF THE

MEDICAL OFFICER OF HEALTH

(JOHN GREENWOOD WILSON, M.D., F.R.C.P., D.P.H.)

To 31st December, 1954

PORT OF LONDON HEALTH AUTHORITY
5, CHURCH PASSAGE,
LONDON, E.C.2.

Telegraphic Address: "PORTELTH LONDON."
Telephone Number: MONARCH 3030.

LIMITS OF THE PORT OF LONDON.

The limits of the Port of London as at present defined commence at high-water mark in the River Thames at Teddington Lock, in the County of Surrey, and extend down both sides of the River Thames to an imaginary straight line drawn from the pilot mark at the entrance of Havengore Creek, in the County of Essex, to the Land's End at Warden Point, in the Isle of Sheppey, in the County of Kent, such point being the north-western limit of the Port of Faversham, and extend up and include both sides of the River Medway to an imaginary straight line drawn from the south-east point of land westward of Coalmouth Creek, thence across the said River Medway to the western-most point of the piece of land which forms the eastern side of the Stangate Creek, or, in other words, the north-west point of Fleet Marsh and from thence in a southerly direction to Iwade Church in the said County of Kent, and thence in a north-easterly direction to Elmley Chapel in the said Isle of Sheppey, a supposed direct line from Elmley Chapel to Iwade Church, being the western limit of the Port of Faversham, and the said Port of London includes the Islands of Havengore Creek aforesaid, called Potton and Rushley Islands, and so much of the said Creek and Watercourse as extends from it to the Town of Rochford, and also includes all other Islands, Rivers, Streams, Creeks, Waters, Watercourses, Channels, Harbours, Docks and places within the before-mentioned limits contained.

SECTION I—STAFF.

TABLE A.

Name of Officer.	*Nature of Appointment.*	*Date of Appointment.*	*Any other Appointment held.*
J. Greenwood Wilson ..	Medical Officer of Health	July, 1954	Medical Inspector of Aliens.
H. M. Willoughby ..	Deputy Medical Officer of Health and Medical Officer in charge at Denton Hospital.	May, 1929	ditto.
J. A. Jones	Assistant Port Health Officer.	April, 1935	ditto.
R. D. MacLean	ditto.	October, 1953	ditto.
W. D. L. Smith	Do. Isle of Grain (part time).	January, 1954	ditto.
H. A. Madwar	Do. Sheerness Boarding Station (part time).	December, 1927	—
	CLERICAL.		
J. A. Gillis	Senior Clerk.	March, 1914	—
W. L. McLorg	Assistant Senior Clerk.	February, 1927	—
R. C. Ratliff	First Class Assistant Clerk.	March, 1930	—
E. V. Smith	Secretary to Medical Officer of Health.	October, 1938	—
(Vacant)	Clerical Officer.		
R. H. Lott	Intermediate Grade Clerk.	May, 1947	
A. E. Wood	ditto.	January, 1950	—
F. B. Osborn	ditto.	May, 1952	—
	INSPECTORIAL.		
T. L. Mackie, M.B.E. ..	Chief Sanitary Inspector and Supervisory Engineer of Launch Service.	November, 1934	—
P. W. Coombe	Senior Sanitary Inspector.	December, 1924	—
E. H. Johnson	Sanitary Inspector.	August, 1929	—
T. G. Edwards	ditto.	June, 1929	—
D. E. Madeley	ditto.	September, 1932	—
C. E. Wright	ditto.	July, 1931	—
J. S. Beattie	ditto.	May, 1931	—
G. Dring	ditto.	May, 1936	—
L. N. Tope	ditto.	August, 1946	—
P. A. Traynier	ditto.	October, 1950	—
A. C. Good	ditto.	September, 1951	—
T. C. H. Rogerson ..	ditto.	October, 1951	—
A. H. Marshall	ditto.	March, 1953	—
E. W. Ward	ditto.	April, 1953	—
W. M. Walker	ditto.	October, 1954	—
	RODENT INSPECTORS.		
C. W. Moody	Rodent Inspector.	February, 1929	—
E. C. Watkins	ditto.	June, 1929	—
S. A. Croft	ditto.	June, 1929	—
C. Stockton	ditto.	June, 1940	—
D. J. Davis	ditto.	August, 1941	—
F. D. Cartman	ditto.	September, 1943	—
G. Lamont	ditto.	March, 1945	—
(Vacant)	ditto.		
	RODENT CONTROL SCHEME.		
H. A. Baxter	ditto.	June, 1945	—
W. G. Stimson	ditto.	February, 1946	—
G. Clark	ditto.	January, 1949	—
A. L. Southwood	ditto.	January, 1949	—
R. M. Collier	Rodent Operative.	July, 1951	—
A. T. Evans	ditto.	January, 1953	—
C. E. W. Eastman ..	ditto.	April, 1954	—
H. J. Robinson	ditto.	December, 1954	—
	LAUNCHES AND HULKS.		
P. J. Wilkins	Navigator (Senior).	November, 1928	—
W. S. Stimson	Navigator (i/c Greenwich Station).	March, 1944	—
J. R. Steen	Navigator	March, 1926	—
W. G. A. King	ditto.	September, 1939	—
C. R. Simons	ditto.	August, 1938	—
H. J. Mason	ditto.	August, 1946	—
S. J. Crutchley, D.S.M...	Engineer (Senior).	June, 1939	—
J. F. Trice, M.B.E. ..	Engineer.	September, 1947	—
E. Alewood	ditto.	January, 1947	—
(Vacant)	ditto.		
A. R. L. Potter	Deckhand.	July, 1945	—
L. J. Nicholls	ditto.	September, 1945	—
R. A. Mantripp	ditto.	March, 1945	—
A. R. Watkins	ditto.	August, 1948	—
(Vacant)	ditto.		
C. S. Morgan	Deckboy.	January, 1953	—
A. T. Bridges	ditto.	March, 1953	—
B. Osenton	ditto.	December, 1953	—
M. P. Edwards	ditto.	March, 1954	—
P. C. Todd	ditto.	April, 1954	—
M. East	ditto.	September, 1954	—
A. Sustins	ditto.	November, 1954	—
J. F. Smeed	Steward (part time).	July, 1927	—
A. R. Burge	Shipkeeper.	August, 1945	—
A. C. Croft	ditto.	October, 1950	—
W. J. Mace	Watchman.	May, 1951	—
F. W. Woodrow	ditto.	October, 1954	—

	Date acquired.
LAUNCHES—	
"Howard Deighton"	1931
"Frederick Whittingham"	1934
"Alfred Robertson"	1938
"Alfred Roach"	1948
HULKS—	
"Hygeia" at Gravesend	1935
"Uplees" at Greenwich	1945

January, 1955.

To The Worshipful

The Port of London Health Committee,

Gentlemen,

In July of this year your Worshipful Committee did me the honour of appointing me your Medical Officer and I submit herewith my first Annual Report as Medical Officer of Health of the Port of London.

A letter from the Secretary, Ministry of Health, dated 18th October, 1954, contained a reminder that the Medical Officer of Health should prepare his Annual Report for 1954 on the lines indicated in Form Port 20 enclosed with Circular 33/52 of the 6th November, 1952, adapted as may be necessary to the special needs of the Administration of the London Port Health District.

Para. 5 of Form Port 20 reads as follows:—"The information required by Sections I, V, VI, VIII, XIV, XV and XVI, which has been given in an earlier Report and has not since changed, need not be repeated every year. A recapitulation of all information should be made in the Reports for the years 1952 and 1955 and thereafter quinquennially. For the intermediate years, only the changes which have occurred during the year covered by the Report need be mentioned in those Sections; if there is no change, 'No Change' should be entered." This Report has been prepared accordingly."

Tonnage. The tonnage of vessels entering the Port of London during 1954 was 33,789,022 tons as compared with 33,392,667 tons during 1953. Thirteen thousand three hundred and twelve vessels arrived from foreign ports and of these, 1,766 were visited by your Medical Officers (Table B).

Communicable Diseases. Five hundred and thirty-five cases of notifiable and other infectious diseases (including malaria) were reported as having occurred on 156 vessels during the voyage, of which 126 cases were landed in the Port (Table D).

Sixty-two cases, particulars of which are given in Appendix II (*b*) were admitted to the Denton Isolation Hospital.

Fumigations. One hundred and forty-two vessels were either fumigated, trapped or poison-baited for rodent destruction and the issue of International Certificates under the supervision of your Inspectors. Forty-one vessels were fumigated using hydrogen cyanide and resulted in the recovery of 532 rats and 565 mice. The remaining 101 vessels were subjected to various methods of poisoning and trapping in 92 of which '1080' was used, resulting in the destruction of 1,287 rats and 216 mice.

Rodents. A total of 5,584 rats were destroyed and their bodies recovered during the course of the year, 2,309 in ships and 3,275 on shore premises in the Port (Table E). In addition 5,081 mice were destroyed, 808 in ships and 4,237 on shore premises. Twenty-one rats were examined for plague with negative results.

Water Barges. Fourteen water barges were in use during the year. The annual registration of these craft by the Port of London Authority is made conditional upon a report of your Officers as to the fitness of the barges for carrying drinking water as also upon the purity of the water thus carried.

Houseboats. The routine inspection of houseboats was continued throughout the year and is the subject of a separate report. (See page 14.)

Imported Foods. The total amount of foodstuffs seized and condemned as unfit for human consumption and either reconditioned or disposed of for animal feeding or for industrial purposes under guarantee or destroyed outright either by burning or burying was 3,849 tons 19 cwts. 0 qrs. 16 lbs. as compared with 3,574 tons in 1953 and 2,203 tons in 1952.

Shellfish. Action taken under the Public Health (Shellfish) Regulations is reported on page 14.

Instruction of D.P.H. and D.I.H. Classes and Visitors to the Port. A detailed account appears on page 21 of this Report.

Your Medical Officer wishes to record his appreciation of the collaboration and assistance rendered by Officers of Her Majesty's Customs, of the Port of London Authority, of the Shipping Federation, by the Pilots and members of the Staffs of Shipping Companies and Merchants in every aspect of the work of the Port Health Authority throughout the year.

I have the honour to be, Gentlemen,

Your obedient Servant,

J. GREENWOOD WILSON.

SECTION II—AMOUNT OF SHIPPING ENTERING THE DISTRICT DURING THE YEAR.

TABLE B.

Ships from	Number.	Tonnage.	Number Inspected.		Number of ships reported as having, or having had during the voyage infectious disease on board.
			By the Medical Officer of Health.	By the Sanitary Inspector.	
Foreign Ports...	13,312	23,602,651	1,766	10,261	155
Coastwise ...	12,668	10,186,371	1	1,783	1
Total ...	25,980	33,789,022	1,767	12,044	156

SECTION III—CHARACTER OF SHIPPING AND TRADE DURING THE YEAR.

TABLE C.

Passenger Traffic	Number of Passengers—Inwards ...	104,857
	Number of Passengers—Outwards ...	115,038
Cargo Traffic	Principal Imports ...	All types of produce and merchandise.
	Principal Exports ...	
Principal Ports from which ships arrive.	The Port of London trades with all parts of the world.	

SECTION IV—INLAND BARGE TRAFFIC.

Numbers and tonnage using the district and places served by the traffic.

There are approximately 7,000 barges of all types ; dumb barges, mechanically-propelled barges, etc., registered annually with the Port of London Authority. The approximate tonnage is 500,000 tons.

The traffic of these craft extends throughout the length of the Port, while a number of them are employed carrying goods and merchandise via the canals to all parts of the country.

SECTION V—WATER SUPPLY.

1. Source of supply for—
   (*a*) The district—No change.
   (*b*) Shipping—No Change.
2. Reports of tests for contamination—No Change.
3. Precautions taken against contamination of hydrants and hosepipes—No Change.
4. Number and sanitary condition of water boats and powers of control by the Authority.

There were fourteen water boats working in the Port during the year.

Water boats are registered annually by the Port of London Authority and such registration is made conditional upon the report of the M.O.H. as to the fitness of the craft for the carriage of drinking water as also upon the purity of the water thus carried. To this end sampling is carried out from time to time.

SECTION VI—PUBLIC HEALTH (SHIPS) REGULATIONS, 1952.

1. List of Infected Areas (Regulation 6). *No change.*
2. Radio Messages.

   (*a*) Arrangements for sending permission by radio for ships to enter the district. (Regulation 13.) *No change.*

   (*b*) Arrangements for receiving messages from ships and for acting thereon. (Regulation 14 (1) (*a*) and (2)). *No change.*
3. Notifications otherwise than by Radio (Regulation 14 (1) (*b*)). *No change.*
4. Mooring Stations (Regulations 22 to 30). *No change.*
5. Arrangements for—
   (*a*) Hospital accommodation for infectious diseases ... ... *No change.*
   (*b*) Surveillance and follow up of contacts ... ... *No change.*
   (*c*) Cleansing and disinfection of ships, persons, clothing and other articles *No change.*

The attention of your Medical Officer was drawn to a rather serious defect in the instructions on the card issued to persons, contacts or potential contacts of a quarantinable disease, who are permitted to disembark under surveillance (medical supervision) on arrival in the Port of London.

Under the terms of the Public Health (Ships) Regulations, 1952, such persons are permitted to disembark provided they give to the Port Medical Officer the address to which they are immediately proceeding and undertake to notify him of any change of address during a period following disembarkation, depending on the incubation period of the quarantinable disease.

The card in use made no reference to the term "Surveillance" and your Medical Officer was informed by Mr. City Solicitor that any proceedings that might be taken against a person for a breach of the Regulations, i.e., who failed to notify a change of address or gave a false address, might fail on that account.

Your Medical Officer deemed it necessary to order a new supply of cards in which this defect was corrected and, with the approval of your Worshipful Committee, this was done.

The new card, which is in three sections, now reads as follows:—

LONDON PORT HEALTH AUTHORITY.
Public Health (Ships) Regulations, 1952.

(Complete in BLOCK letters).

I.....and the following members of my family.....

.....

are proceeding to the following address forthwith :—

No. or Name of House.....

Street ..... (1)

Town and Postal District .....

County.....

Signature.....

Date.....

For use of Medical Officer :

Previous Vaccinations (dates) or Scars.....

Last Vaccination (Validity of Certificate) .....

Read Carefully and Retain

Public Health (Ships) Regulations, 1952.
SMALLPOX PRECAUTIONS.

1. In accordance with the above Regulations you are permitted to disembark *under surveillance* (medical supervision) on the following conditions :—
   (*a*) That you give to the Medical Officer of Health of the Port of London the precise address to which you are proceeding immediately on landing.
   (*b*) That if you change your address at any time within 14 days of disembarkation you shall notify forthwith your new address to the Medical Officer of Health of the Port of London on the attached card. (2)
2. When you leave the ship, keep the bottom portion in case you change the address given by you on the top portion within fourteen days.
3. If you change your address or do not go to the address given on the top portion, complete the lower card and post it *at once*.
4. If you feel ill within the next fourteen days, report to a doctor at once.

PENALTY for Breach of the Regulations, £100.

LONDON PORT HEALTH AUTHORITY.
Public Health (Ships) Regulations, 1952.

NOTIFICATION OF CHANGE OF ADDRESS WITHIN 14 DAYS OF DISEMBARKATION.

(Complete in BLOCK letters).

Having disembarked from the s.s. .....

on (date).....my address from (date).....

to (date).....will be as under. (3)

Name .....

No. or Name of House .....

Street .....

Town and Postal District .....

County.....

Signature.....

This card may be sent through the post unstamped but if it is enclosed in an Envelope Postage must be Prepaid.

Postage will be paid by Licensee

No Postage Stamp necessary if posted in Great Britain or Northern Ireland

Reverse of (3)

Business Reply Card
Licence No.....

THE MEDICAL OFFICER OF HEALTH,
PORT OF LONDON,
5, CHURCH PASSAGE,
LONDON, E.C.2.

SECTION VII—SMALLPOX.

(1) Name of Isolation Hospital to which smallpox cases are sent from the district.

Denton Hospital is situated on the south bank of the River about a mile below Gravesend. The hospital buildings comprise a small administrative block and nurses' home, three ward blocks (one a cubicle ward with eight cubicles), a laundry, a disinfection station, a porter's cottage and a mortuary. Cases can be landed from the ambulance launch at a jetty and be wheeled straight into the hospital.

In the event of a case or cases of smallpox one of the ward blocks (the smallpox block) could be opened for the reception and nursing of patients. Alternatively, patients may be removed to other approved hospitals under the management of the South-East Metropolitan Regional Hospital Board.

(2) Arrangements for transport of such cases to that hospital by ambulance giving the name of the Authority responsible for the ambulance and the vaccinal state of the ambulance crews.

The removal of a case or cases from a vessel to Denton Hospital would be carried out by the Port Health Authority's Ambulance Launch and that Authority would be responsible for the vaccinal state of the ambulance crew.

In the case of patients removed to other isolation hospitals the responsible body would be the South-East Metropolitan Regional Hospital Board.

(3) Names of smallpox consultants available.

Dr. W. T. Boul.	Dr. J. P. Marsden.
Dr. W. J. Coughlan.	Dr. M. T. Mitman.
Dr. H. S. Banks.	Dr. J. W. Armstrong.

(4) Facilities for laboratory diagnosis of smallpox.

Facilities are available at the Virus Laboratory of the Central Public Health Laboratory at Colindale.

SECTION VIII—VENEREAL DISEASES.

No Change.

SECTION IX—Cases of notifiable and other infectious diseases on ships.

TABLE D

Cases landed from ships from foreign ports.

Disease.	*Passengers.*	*Crew.*	*Number of ships concerned.*
Pulmonary Tuberculosis	13	27	37
Chickenpox	16	7	17
Enteric Fever	1	3	4
Mumps	3	1	3
Dysentery	3	7	8
Pyrexia of Unknown Origin	1	6	7
Pleurisy	1	—	1
Measles	8	1	4
Jaundice	1	—	1
Glandular Fever	—	1	1
Pneumonia	1	—	1
Diabetes	1	—	1
Poliomyelitis	1	1	2
Enteritis	—	1	1
Influenza	—	3	2
Infective Hepatitis	2	—	2
Impetigo	1	—	1
Dermatitis	—	1	1
Hypertensive Encephalopathy	1	—	1
German Measles	6	—	1
Inflammation of Elbow	—	1	1
"Hiccough"	—	1	1
Schizophrenia	1	—	1
Glandular Swelling	—	1	1
Hæmorrhage	1	—	1
Epilepsy	—	1	1
Quinsey	—	1	1
Cases disposed of before arrival.			
Malaria	—	10	6
Measles	20	2	6
Chickenpox	20	2	14
Gastro-Enteritis	183	38	2
Pulmonary Tuberculosis	3	—	3
Pleurisy	—	1	1
German Measles	1	—	1
Encephalitis	—	1	1
Pyrexia of Unknown Origin	1	1	1
Hypertension	1	—	1
Poliomyelitis	—	1	1
Gall Stones	—	1	1
Mumps	9	3	5
Coronary Thrombosis	1	—	1
Enteric Fever	1	1	2
Influenza	1	—	1
Smallpox (suspected)	1	—	1

TABLE D.—*continued.*

Cases disposed of before arrival—*contd.*

Disease.	*Passengers.*	*Crew.*	*Number of ships concerned.*
Tonsillitis	2	—	1
Glandular Fever	—	1	1
Dengue Fever	—	1	1
Infective Hepatitis	—	1	1
Dysentery	1	—	1

s.s. "STRATHMORE"—SUSPECTED SMALLPOX.

Movements of Vessel.

Departed.		Arrived.	
Sydney	30.6.54	Melbourne	1.7.54
Melbourne	4.7.54	Adelaide	6.7.54
Adelaide	6.7.54	Fremantle	10.7.54
Fremantle	10.7.54	Colombo	17.7.54
Colombo	18.7.54	Bombay	20.7.54
Bombay	10.7.54	Aden	24.7.54
Aden	24.7.54	Suez	27.7.54
Suez	27.7.54	Port Said	28.7.54
Port Said	28.7.54	Marseilles	1.8.54
Marseilles	1.8.54	Gravesend	6.8.54

Previous Information.

At 9.50 a.m., on 3rd August, Dr. I. J. Corbett, the Medical Superintendent of the Peninsular and Oriental Steam Navigation Company, telephoned that the s.s. "Strathmore", which was due to arrive at Gravesend on Friday, 6th August, reported having a suspected case of smallpox on board in the person of a child passenger—Z..M..—aged 8 years who had embarked at Aden on the 24th July, 1954.

Dr. Corbett also reported that specimens taken from the pustules and vesicles had been landed at Marseilles on the 1st August and had arrived at the Central Public Health Laboratory, Colindale, on the morning of the 3rd August. He understood that the result of the complement fixation test should be available on the 4th August and the egg culture test, the following day, 5th August.

Subsequently Dr. Corbett reported by telephone that a further signal had been received from the Surgeon of the s.s. "Strathmore", as follows:—

> "Further case of suspected smallpox—repeat smallpox—P..G.., male, aged 7, embarked Bombay 20.7.54".

Having ascertained that the s.s. "Strathmore" was due to arrive at Brixham at approximately 3.0 p.m., on Thursday, 5th August, your Medical Officer immediately made arrangements to proceed to Brixham on Wednesday evening, 4th August, with your Chief Inspector, three members of the Office staff as well as Dr. Corbett and Dr. H. S. Banks, a Ministry of Health Smallpox Consultant attached to the Park Hospital, Hither Green. All were vaccinated before boarding the s.s. "Strathmore".

Action taken at Brixham.

Your Medical Officer made a point of meeting the Immigration Officers who would be dealing with the vessel and arranged with them that, in the event of the diagnosis of suspected smallpox being confirmed, they would co-operate with your Medical Officer in organising a muster of the ship's company who would all be medically inspected and dealt with by your staff before passing on to the Immigration Officers.

Action taken on arrival of the vessel off Brixham.

Your Medical Officer embarked at 4.0 p.m., on 5th August in company with Dr. H. S. Banks, the Smallpox Consultant, Dr. I. J. Corbett, the Medical Superintendent of the P. & O. Company, the Immigration Officers, the Channel Pilot, the baggage Clerks and members of your staff, and immediately arranged a medical consultation between the visiting doctors and the two Ship's Surgeons concerning the two doubtful cases who then received a thorough medical examination.

History of Cases.

Case 1. The history of the first case as reported by the Ship's Surgeon was as follows:—

"Z..M.., aged 8, embarked at Aden on 24.7.54. He was in possession of a vaccination certificate dated June, 1953 and his father stated that he was re-vaccinated in February, 1954. *31.7.54.* Seen by Ship's Surgeon and was found to have a small crop of vesicles extending from the upper lip to the brow; no others seen then or subsequently. Appeared two days previously—patient afebrile—number of vesicles 10. Some were umbilicating. He was re-vaccinated at once as were his parents and he was taken straight to the ship's isolation hospital where specimens were taken from pustules and vesicles for laboratory tests. One set was given to the Health Department at Marseilles and a second set was air-mailed from Marseilles to the Central Public Health Laboratory at Colindale.

1.8.54. Afebrile still—seen by Dr. Lemberg, Senior Port Health Officer, Marseilles who was guarded in his diagnosis but agreed with keeping the family in quarantine and vaccinating everyone on board. No more vesicles.

2.8.54. Vesicles commencing to dry up.
4.8.54. Vesicles drying up.
5.8.54. Vesicles dry and vanishing."

The patient was examined immediately on boarding the vessel on the 5th August and was found still to have some scabs on the face, particularly one at the root of his nose which on pressure yielded some purulent material.

The clinical diagnosis in this case was against smallpox, a diagnosis which also agreed with the negative findings of the complement fixation test that had come through before leaving London on the 4th August.

Case 2. P..G.., aged 7, embarked at Bombay 20.7.54.

Vaccination History.

As baby with two good scars—yearly since. Last in June, 1954. Never taken since primary.

31.7.54. Complained of sore throat—fever. Fauces infected—not swollen; no exudate. Temp. 100.4°F.

2.8.54. Still febrile. Temp. 100.4°F. Vaccination postponed.

3.8.54. Temp. 101°F. A few small pustules, septic looking but with no clear vesicles; not umbilicating but crusting on top. No reason found for his pyrexia; no spots on mucous membrane of mouth. Removed to ship's isolation hospital. No spots or vesicles anywhere else on body.

4.8.54. Vesicles drying up. Temperature normal. Vaccinated.

5.8.54. Vesicles dry and patient well.

On examination by Dr. Banks, the Smallpox Consultant, there were two spots on the forehead and one on each cheek near the nose. The submaxillary gland on each side was enlarged—corresponding to one spot. Fauces nil. Patient well. The spots were flat and superficial.

Diagnosis.

Not smallpox. Septic spots and sore throat. Nevertheless, as there remained a very slight uncertainty about this case and as an extra precaution, crusts were taken for laboratory tests to be undertaken at the Central Public Health Laboratory, Colindale, and these were sent by hand to the laboratory immediately on arrival of the vessel at Gravesend on the 6th August.

Hospital Admissions.

The patient and his mother were transferred to the Port Health Ambulance Launch on arrival of the vessel at Gravesend and admitted to Denton Hospital which had already been evacuated in accordance with the routine laid down for the reception of smallpox cases and with arrangements made by your Medical Officer before leaving London on the 4th August.

Vaccination of Passengers and Crew.

The *entire* ship's company, including the two suspected smallpox cases (Passengers 910 plus 4 Distressed British Seamen=914 and 533 Crew—259 European and 274 Asiatics) had already been vaccinated or re-vaccinated by the two Ship's Surgeons before arrival at Brixham.

Other Cases of Infectious Illness.

The only other cases of infectious illness that had occurred during the voyage were two cases of measles which had been isolated in the ship's hospital and had already fully recovered some time before the suspected smallpox cases were discovered.

Pratique.

Having reviewed all the facts and circumstances as outlined in the above report your Medical Officer decided that it would not be necessary to muster the ship's company for medical inspection and, therefore, free pratique was granted before the ship berthed at Tilbury Dock.

Disinfection.

The Cabin (No. 665) occupied by the G.. family had been sealed up and on arrival at Gravesend the contents of the cabin, including the personal effects of the occupants, were removed to Denton Hospital for disinfection. The cabin was again locked up pending fumigation and washing down which was carried out when the vessel berthed in the Tilbury Docks. The Ship's Female Isolation Hospital was stripped of all linen, etc., for disinfection at Denton Hospital and subjected to fumigation in the same way as the cabin.

Further Information on the Results of Laboratory Tests.

Z..M.. —Egg Culture Test—Negative.
P..G.. —Complement Fixation and Egg Culture Tests both Negative.

Re-Vaccination of P..G..

It was reported by Dr. Jones, your Boarding Medical Officer, on the morning of 9th August, that the re-vaccination of the little boy P..G.. which had been carried out by the Ship's Surgeon on board the s.s. "Strathmore" on the 4th August had "taken" strongly, a fact overwhelmingly against the diagnosis of recent smallpox.

Arrangements were made forthwith for the discharge of P..G.. and his mother from Denton Hospital and for the restoration of the normal routine there.

s.s. "STRATHAIRD"—SUSPECTED SMALLPOX.

The Confidential "Weekly Record of Quarantinable Diseases" for the week ending 3rd September, issued by the Ministry of Health, contained a note to the effect that the s.s. "Strathaird" from London, via Port Said, Aden, Bombay and Colombo, arrived at Fremantle on the 7th August with a case of smallpox. The patient, a member of the crew, was removed on the same day to the Quarantine Station at Perth. Date of onset of disease: 5th August. Probable source of infection: Bombay.

Since the s.s. "Strathaird" was expected to return to London in due course, your Medical Officer called the attention of the Boarding Medical Officers at Gravesend to the report, stressing the importance of boarding the vessel on arrival to make sure that there was no danger of the introduction of smallpox into this country, e.g., through "missed cases" on the vessel.

The vessel duly arrived off Gravesend at 0500 hours on the 30th September and was boarded by your Deputy Medical Officer, Dr. H. Willoughby, who reported as follows:—

"The patient, a bedroom steward, had been in the ship since 10.9.52, on which date he had been vaccinated but there was no information as to reaction.

"On 28.7.54 he went ashore in Bombay where he met some friends one of whom gave him a second-hand suit of clothes. On 5.8.54 (8 days later) he developed headache, backache, temperature 101°—103° and a rash, profuse on hands, feet, face, arms and chest. The lesions did not crop but developed into ' blisters ' which were multilocular.

"On 7.8.54 the case was seen by the Medical Officer of Health of Fremantle who diagnosed smallpox and removed the case to hospital ashore. His diagnosis was supported by a specialist who also saw the case.

"The peak occupied by the patient was fumigated with formaldehyde gas and potassium permanganate. His peak mates were taken ashore for bathing and disinfection as was all bedding, etc.

"The entire crew and passengers were vaccinated at Fremantle.

"An Assistant Medical Officer of Health from Fremantle accompanied the ship to Melbourne where he was relieved by another Medical Officer who continued in her to Adelaide where yet another Medical Officer joined and accompanied the ship to Sydney—14 days after removal of the patient. No further case occurred.

"In the absence of a confirmatory completent fixation and egg culture test the diagnosis must be in some doubt and it is significant that the incubation period was only eight days if the case was, in fact, infected in Bombay. On the other hand nine cases of chickenpox occurred on the outward voyage soon after leaving London.

"It would appear possible, therefore, that in reality this case was one of chickenpox of some severity and atypical in the distribution of the rash.

"The Ship's Surgeon was a Czech who stated that he had had considerable experience of smallpox in the Balkans and that he thought this case was a true smallpox.

"Although the case occurred on the outward voyage it is reported as of interest and the measures taken were carefully enquired into to ensure that there was no residual infection.

"In fact six cases of chickenpox (3 passengers and 3 crew) developed on the homeward journey. All three passengers embarked at Sydney on 25.8.54. The first case occurred on the 9.9.54, the second on 15.9.54 and the third on 16.9.54. The three cases amongst the crew—all Goanese—occurred on the 7th, 9th and 10th September and it is significant that chickenpox was epidemic in Sydney at the time of the vessel's call at that Port.

"One passenger and the three members of the crew were landed at Bombay on the 13.9.54. The remaining two passengers recovered and were well on arrival.

"All infected bedding was removed on arrival to Denton Hospital for steam disinfection and the ship's isolation hospital was fumigated."

s.s. "INDIAN MERCHANT" SUSPECT BUBONIC PLAGUE.

The above-mentioned vessel arrived off Gravesend at 0745 hours on the 24th November, having called at Calcutta 22.10.54; Cochin 30.10.54; Alleppy 2.11.54; Aden 7.11.54; Suez 11.11.54; Port Said 13.11.54 and Alexandria 15.11.54.

The vessel was boarded by your Boarding Medical Officer, Dr. J. A. Jones, who reported as follows:—

"The patient, a native seaman, aged 21, embarked at Calcutta on 11.10.54. On 16.11.54 the patient reported to the Ship's Surgeon with a swelling in the right axilla with pains and puffiness. This condition reached maximum in two days and the patient was treated with penicillin and subsequently with sulphathiazole which gradually reduced the swelling. The patient was never ill nor at any time did he show feverish symptoms. He was last ashore at Cochin (30.10.54).

"On arrival at Gravesend the patient was up and about. He did not look ill and his temperature was normal. On being examined he was found to have a fusiform swelling in the right axilla. No other glands were enlarged."

Dr. Jones further reported his opinion that the appearance of the swelling was consistent with that found in certain mild cases of plague, otherwise there was nothing in favour of such a diagnosis. On the contrary there were many factors against—

1. The Chief Officer's statement that there were no rats on board.
2. The patient had not been ashore for 16 days before onset.
3. The patient had had no fever.
4. The patient had two small healed scars on the right hand but had had no lymphangitis.

Dr. Jones, however, recalled having seen similar cases during an epidemic of bubonic plague of low virulence in Algeria during his war service.

It was decided, therefore, with the concurrence of your Medical Officer who had journeyed to Gravesend to see the patient, to remove him to Denton Isolation Hospital, pending pathological investigation of a specimen of pus taken from the swelling in the axilla, but as there did not seem to be sufficient evidence to justify putting into operation the full measures prescribed in the Public Health (Ships) Regulations, 1952, in respect of a plague infected or suspected ship, the vessel was allowed to proceed to her berth in the Tilbury Dock.

This decision was further justified when, on the afternoon of 24.11.54, the Pathologist reported that a preliminary investigation of the specimen forwarded to him failed to reveal any evidence of B.pestis.

Action taken in Dock.

Immediately on the arrival of the vessel in dock, mooring ropes and the gangway were guarded to prevent the passage of any rats from the vessel to the shore.

Measures against Insects.

The patient's personal effects and bedding were collected and heavily sprayed with a liquid insecticide containing D.D.T. The effects and bedding were subsequently made up into bundles ready for removal ashore, if necessary. All the crew spaces were sprayed by the ship's company under the supervision of your Sanitary Inspector, particular care being taken to cover all bedding and clothing which might harbour fleas.

In view of the unknown concentration of D.D.T. in the insecticide first used, as a further precaution, all the accommodation was again sprayed by a Servicing Company using power sprays and a liquid insecticide containing 20% Dieldrin emulsion concentrate.

Measures against Rodents.

The vessel was in possession of a valid Deratting Exemption Certificate issued in Hamburg on 29.6.54.

The vessel was loaded with approximately 4,422 tons of general cargo. Nevertheless an immediate search was carried out for the presence of rats but no trace was found. Since, owing to the amount of cargo some parts of the vessel were inaccessible, this search could not be regarded as conclusive.

Accordingly traps and poison baits were laid as follows:—

44 traps; 70 Zinc Phosphide Baits; 92 '1080' Baits.

These traps and baits were maintained during the vessel's stay in the Port, the number and position being varied as the cargo situation changed. A daily search was made but no evidence of rats was discovered nor did any of the traps or baits appear to have been disturbed.

General Sanitary Condition.

The vessel was maintained in good order throughout. The crew accommodation was clean and apart from the presence of a few cockroaches in the galley, no other insect life was found.

On the morning of the 27th November a report was received from the Pathologist on a further investigation of the specimen submitted which again gave a negative reaction to B.pestis.

Arrangements were therefore made for the patient's discharge from hospital and he was handed over to a representative of the Ship's Agents on the 28th November, on which day the vessel left the Port of London for the Continent.

MYXOMATOSIS AMONGST RABBITS IN TILBURY DOCK.

Your Medical Officer has to report that there are some 400 acres of land inside the Tilbury Dock curtilage much of which is marsh land that is seldom visited but which, from the observations of your Sanitary Inspector, Mr. Madeley, is (or was), heavily infested with rabbits. On the 30th August your Sanitary Inspector was asked to see the body of a wild rabbit which had been killed by a dock worker on the waste land at the rear of No. 4A Shed, Tilbury Dock.

An inspection showed that the rabbit was blind with heavily swollen eye-lids and had swollen hind quarters. Your Inspector immediately suspected myxomatosis and in addition to reporting the matter to your Medical Officer also informed the Essex Office of the Ministry of Agriculture and Fisheries who thereupon sent their Pest Officer to the Dock. After examining the rabbit this Officer confirmed that it was suffering from myxomatosis and removed the body for further examination.

The following day, 31st August, an Assistant County Pest Officer arrived at the dock to search the outlying parts of the dock area and to assess the extent of rabbit infestation and, if possible, the proportion of rabbits infected.

Your Medical Officer was subsequently informed that as a result of this search six dead infected rabbits were found but that owing to the dense undergrowth, some of it impenetrable, it was difficult to estimate the rabbit population alive or dead. It appeared from tracks in the grass that there were still a number of healthy rabbits.

Finally some 30 dead rabbits were recovered from the marsh land to the north of the dock buildings. The bodies were burned on the refuse tip.

It was anticipated that if the disease were to spread it would occur mainly on the waste land where any dead bodies would be dealt with by the normal dock scavenging service thus avoiding any possible nuisance, since the Port of London Authority Dock Superintendent had been informed of the situation and would be on the look out.

SECTION X—Observations on the occurrence of malaria in ships.

Only ten cases of malaria were reported on six vessels during the year under review. All the cases occurred among members of the crews, and were disposed of prior to the arrival of the vessel in this Port.

SECTION XI—Measures taken against ships infected with or suspected for plague.

Plague being primarily a disease of rats all vessels are inspected immediately on arrival at their berths in the dock and river for the presence of any mortality among the rats on board which is not attributable to any known cause, such as trapping, poisoning, etc.

Any such rats are immediately sent to the Central Public Health Laboratory at Colindale for examination for bacillus pestis, each rat being accompanied by a label on which is given precise information as to where the rat was found in order to arrive at a focus of infection should the examination prove positive.

In the event of a positive result the discharge of the cargo would be promptly stopped and, if necessary, arrangements made for the vessel to be fumigated throughout with hydrogen cyanide, with the cargo *in situ*, the vessel being removed to an approved mooring.

Following the initial fumigation and collection of dead rats, further samples of which would be submitted for examination, the discharge of the cargo would be permitted under observation. The destination of the cargo would be ascertained and a note of the circumstances would be forwarded to the Medical Officer of Health of the district to which the cargo was proceeding.

Should any of the cargo be discharged overside into lighters, such lighters would be fumigated immediately they were empty.

On completion of the discharge of cargo from the vessel a second fumigation would be carried out again using hydrogen cyanide to destroy the residual rat population, if any.

SECTION XII—Measures against rodents in ships from foreign ports.

(1) Procedure for inspection of ships for rats.

The Port Health Authority employs fifteen Rodent Operators working in conjunction with and under the supervision of the Sanitary Inspectors.

The Rodent Operator's first duty is the examination of such ships in his area as are due for inspection under Article 19 of the Public Health (Ships) Regulations, 1952, relating to the granting of Deratting and Deratting Exemption Certificates.

His second duty is to visit all ships arriving in his district, to search for evidence of rats, paying particular attention to vessels which have arrived from plague infected ports and to visit such vessels during the discharge of cargo.

The Rodent Operator's third duty is the examination of shore premises for signs of rat infestation paying particular attention to premises adjoining the berths of vessels from plague infected ports.

In 1941 the Port Health Authority instituted a Rodent Control Scheme in all docks and premises of the Port of London Authority, on behalf of that Authority and in the premises of the tenants of the Authority on behalf of the occupiers.

This scheme in its early days relied principally on trapping but with experience and the application of a more up-to-date knowledge of the habits of rats, new and scientific methods of poisoning gradually took the place of trapping, the latter now only being occasionally used to clear up residual rats, if any, which have escaped a major poison operation.

The Port of London Authority have made byelaws requiring the Master of every ship to cause all ropes and mooring tackle to be fitted with guards to prevent rats passing from ship to shore. The byelaws also prescribe that when the discharge or loading of cargo is not actually proceeding, one gangway, whitened for a length of 10 feet at the end next the vessel, may be used as communication between the ship and the shore.

(2) Arrangements for the bacteriological examination of rodents, with special reference to rodent plague, including the number of rodents sent for examination during the year.

As described in Section XI above all rats for examination for plague, either by post mortem and subsequently, if necessary, by bacteriological examination, are promptly sent to the Central Public Health Laboratory at Colindale.

The bodies are placed in canvas bags which in turn are placed inside metal boxes, sealed and labelled so that there is no risk of the escape of any rat fleas during their transit to the Laboratory. The boxes are, of course, delivered by hand.

Examination of rats for evidence of plague being a public health measure, is now carried out at the Government Laboratory at Colindale free of charge, representing a considerable saving in cost to the Port Health Authority.

The routine Laboratory examination of rats found dead from an unknown cause has been a regular practice in this Port for many years and it would appear to be a necessary and desirable precaution. Even the practice of sending rats killed by trapping or poisoning or a proportion of the number so killed would appear to be desirable.

RODENT CONTROL.

Field Experiments with a New Preparation—"1081."

Although highly satisfactory results are obtained throughout the Port by using Sodium-fluoroacetate ("1080"), "Warfarin" and Zinc Phosphide in order to poison rodents in appropriate circumstances, some experiments have been carried out during the year with another substance—Fluoroacetamide, which is a derivative of Sodium-fluoroacetate.

It can be dispensed and used with the same technique as "1080", i.e., to deploy the baiting points as poisoned drink and/or food.

"1081"—Physical Characteristics.

Unlike "1080" powder, which is fine and buoyant in air currents, Fluoroacetamide is of a coarser crystalline nature and much less liable to become air-borne as a hazard to the dispenser.

It is almost readily soluble in cold water, forming a colourless and odourless solution.

Because of its close relation to "1080", Fluoroacetamide has been designated "1081" during the several field trials to which it has been subjected.

Toxicity.

When tested pharmacologically on rats and mice it has an L.D.—50 about seven times that of "1080", i.e. about 14 mgm. per kgm. body weight for the amide and 1-2 mgm. per kgm. body weight for the sodium salt. This indicates that "1081" is very much less toxic to rats than "1080".

Despite its relatively low toxicity, it is almost certain to warrant a prominent place among present day rodenticides.

It has been established in research work that the toxicity of "1080" is due to formation of fluorocitrate in the live rodent and it is suggested that "1081" is converted more slowly into this toxin as compared with "1080", thus giving smaller blood concentrations of fluorocitrate, which is sufficient to kill the rodents without the epileptiform convulsions so characteristic of "1080" poisoning.

Since "1081" is less toxic than "1080", there is a wider margin of safety in using it in rodent control.

Antidote.

As yet there is no known antidote for either "1080" or "1081", but it has been observed that rats pre-dosed with Fluoroacetamide 12–24 hours before, usually survive the administration of "1080", which may be a pointer in the search for an antidote for this poison.

Trials.

Fourteen operations have been carried out on premises where stacked, rodent attractive foodstuffs predominated and provided harbourage.

The selected sites were affected by slight, but very persistent infestations of rats and/or mice due, in some cases, to rodents in parcels of incoming cargo and, in others, to bulky stowage over considerable periods of time.

In some respects it has been unfortunate that there was no site of infestation in the docks where a spectacular result could be obtained, but one operation outside the docks has proved quite conclusive. Here a large colony of rats, hitherto persistent, has been eliminated in a single operation over a week-end.

Either poisoned water or soaked cereal baits were used with a concentration of 0.5%. Baits were contained in plastic trays and strategically deployed exactly as for "1080" operations.

In almost every operation visible results were forthcoming within the first 24 hours check and poisoned rodents collected.

The amount of poisoned baits taken indicated that either it was lacking in effective toxicity or that dying rodents had escaped into the harbourages. Owing to the lower toxicity of "1081", it was anticipated that poisoned rodents would survive long enough to retreat into harbourages and die there, thus rendering any immediate results inconclusive.

This, in fact, has happened and it is only when the stacks of cargo are being broken down and delivered that more dead rodents are recovered.

Conclusions.

These earliest field trials have proved very encouraging and indicate the usefulness of Fluoroacetamide—"1081"—as a rodenticide, especially where the more toxic "1080" cannot be used with a reasonable margin of safety to human beings and domestic animals.

There is every indication that it can be used in a variety of ways as a readily acceptable rodenticide and, providing the applied technique is carefully planned, satisfactory results should be achieved overnight. The minimum effective concentration for rodent control appears to be 0.5%.

It is noteworthy that some rodents were recovered near to the poison bait and in a comfortable resting posture, without any signs of pain or rigors.

PREVENTION OF DAMAGE BY PESTS (APPLICATION TO SHIPPING) ORDER, 1951.

The provisions contained in the above-named Order have been exercised fully during the year under review and Rodent Control Certificates in the form prescribed in the Order have been issued to 61 coasting vessels, none of which required deratting treatment.

The number of Rodent Control Certificates (61) issued is significantly less than last year (101). This reduction has been influenced by the issue of International Deratting Exemption Certificates to coastwise vessels that have been chartered to import coal from the Continent as a diversion from their normal trade.

The inspection of harbour craft, especially lighters, has been intensified during the year and appropriate measures taken to destroy rat infestations whenever such action has been justified.

Although rat-proofing measures are not included in the provisions of the Order, the wisdom of denying harbourages in which these pests can hide and breed, cannot be ignored and, to this end, suggestions and advice has been sought by several owners and submitted by the Authority when and where applicable. Such rat-proofing measures include simple and relatively inexpensive modifications which are carried out at the repair yards.

The beneficial effect of rat-proofing is apparent by the considerably reduced ratio between lighters inspected and those found to harbour rats—

Number of lighters inspected	3,267.
,, ,, ,, without evidence of rats	2,814.
,, ,, ,, with negligible evidence of rats	369.
,, ,, ,, reported for treatment	84.
,, ,, rats recovered after treatment	427.

TABLE E.

Rodents destroyed (bodies recovered) during the year in ships and in shore premises.

(1) On vessels.

Number of	Jan.	Feb.	Mar.	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Total
Black Rats...	175	354	164	239	243	230	131	174	190	42	176	187	2,305
Brown Rats	—	1	—	—	—	—	—	1	—	2	—	—	4
Rats examined	—	—	1	—	3	—	—	8	8	—	—	—	20
Rats infected with plague	—	—	—	—	—	—	—	—	—	—	—	—	—

(2) In Docks, Quays, Wharves and Warehouses.

Number of	Jan.	Feb.	Mar.	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Total
Black Rats...	128	77	160	79	126	107	154	162	105	152	97	115	1,462
Brown Rats	252	89	99	343	98	102	74	95	139	193	172	157	1,813
Rats examined	—	—	—	—	1	—	—	—	—	—	—	—	1
Rats infected with plague	—	—	—	—	—	—	—	—	—	—	—	—	—

TABLE F.

Deratting Certificates and Deratting Exemption Certificates Issued during the Year for Ships from Foreign Ports.

No. of Deratting Certificates Issued.						Number of Deratting Exemption Certificates Issued.	Total Certificates Issued.
After Fumigation with		After Trapping.	After Poisoning.	After Trapping and Poisoning.	Total.		
HCN	Other Fumigant (state Method) SO_2						
1.	2.	3.	4.	4(a)	5.	6.	7.
41.	NIL	NIL	"1080" 92 "Warfarin" 5 Zinc Phosphide 1 "1080" and Warfarin 1	Trapping and "1080" 1 Trapping & Warfarin 1	142.	916.	1,058.

SECTION XIII—Inspection of Ships for nuisances.

TABLE G.

Inspections and Notices.	No. of Vessels.
Number of vessels visited by Sanitary Inspectors	12,754
Number of vessels on which sanitary defects were found, and details reported to the Master, Owners and/or Ministry of Transport	734
Number of Statutory Notices served	Nil
Number of vessels on which sanitary defects were remedied	713

Summary of Structural and other Defects.

Inadequate ventilation	8
Defective Lighting—Natural	—
Do. do. —Artificial	3
Defective Heating	14
Condensation	10
Leaking Decks	20
Leaking Ports, Decklights, etc.	14
Leaking Sideplates	2
Leaking Hawse and Chain Pipes	—
Deficient or Obstructed Floor Drainage	8
Water lodging on top of Peak Tanks	2
Defective Bulkheads	6
Do. Floors	19
Do. Doors	4
Do. Chain Pipes	—
Do. Bunks	1
Do. Clothes Lockers	1
Do. Food Lockers	8
Do. Food Storage	20
Do. Cooking Arrangements	17
Defective or Uncleanly Drinking Water Storage	9
Water Closet Obsolete	4
Do. Defective	26
Do. Foul or Choked	17
Do. Inadequate Flush	14
Wash Basins Defective	23
Do. Foul	3
Neglected Paintwork or Distemper	28
Absence of Washrooms	1
Absence of Messrooms	—
Misappropriation of Crew Spaces	1
Verminous Quarters	88
Dirty Quarters	556
Miscellaneous	54
TOTAL	981

HOUSEBOATS AT BENFLEET CREEK.

The Essex County Council Act, 1952 provides that the mooring or placing of any houseboat within the county shall not be lawful without the written consent (which may be conditional) of the council of the district in which the houseboat is situated and that the council may require the owner or occupier to remove or demolish any houseboat not authorised by them.

Your Worshipful Committee are, however, still responsible for the sanitary supervision under the Public Health (London) Act, 1936, of houseboats coming within the area of jurisdiction of the Port Health Authority, although under the Essex County Council Act, the local council are now responsible for the licensing and drawing up of conditions under which they are prepared to grant licenses to houseboats.

The duties of your Committee in regard to the sanitary supervision of houseboats and also, incidentally, those of the Port of London Authority, are safeguarded by Section 212 of the Essex County Council Act which reads as follows:—

(1) No consent shall be given by the controlling authority to the mooring or placing of any houseboat under Part VII (Houseboats) of this Act—

(a) (i) Within the Port of London without the previous written assent of the port authority; or

(ii) Within the Port of London as defined by sub-section (1) of Section 304 of the Public Health (London) Act, 1936, without the previous written assent of the mayor and commonalty and citizens of the City of London as the port health authority for the said Port of London;

Provided that the port authority or the said port health authority may only withhold such assent respectively until any requirement which may be lawfully imposed with respect to such houseboats by the port authority or the port health authority shall have been complied with to the satisfaction of the port authority or the port health authority as the case may be; or

(b) in contravention of any powers for the time being lawfully exercisable by the port authority or the port health authority with respect to any such houseboat.

In November of last year your past Medical Officer was informed by the Clerk of the Benfleet Urban District Council that his Council had already served notices requiring a number of houseboats to be removed or demolished within a period of six months, but that before any further action was taken in the matter of licenses the Council would like the opportunity of discussing the subject with your Medical Officer.

As the result of an informal meeting and subsequent correspondence, the Benfleet Urban District Council agreed that it would be advisable, in the first instance, to serve removal or demolition notices on houseboats definitely unsatisfactory or unfit, and to issue 'temporary' consents to other houseboats so as to enable the Council to be given time to gain experience before giving final consent to houseboats which conform with reasonable standards of hygiene and sanitation, including spacing, water supply and disposal of night soil. Your Medical Officer also arranged to furnish the Benfleet Urban District Council with a list of houseboats considered by him to be unsatisfactory from a public health point of view, and this was done.

The Clerk of the Benfleet Urban District Council wrote to the Town Clerk to say that his Council have agreed that, subject to the approval of the Port Health Authority under Section 212 of the Essex County Council Act, 1952, consents shall be issued in respect of forty craft for a period of twelve months without any conditions; and that the owners be informed that the boats must be removed at the expiration of that period unless a previous application had been made by them to the Council and renewal granted. The Clerk to the Benfleet Urban District Council asked the authority of the Port Health Authority to the issue of such consents. The houseboats concerned were:—

East Creek.

Manana, Whylaway, Madeline, Buchra, Frogmore, Bligh, Pamela, MTB 231, Lets Pretend, MTB 492, Invader, Bettaglen, Margaret, Bendigo, Mendip and Margot.

West Creek.

Bill Lusty, Blaranald, Smugglers, Patsy Ann, Sans Souci, Nisene, Lydia, Amy, Jewel, Hi-de-Hi, Lowestoft, Haven, Wanderlust, Marguerite, Herald, Sunrise, Winmoor, Iris, Blake, Havic, Emma Jane, The Zep, Swimming Club Boat and Yacht Club Boat.

Your Worshipful Committee after considering the proposal of the Benfleet Urban District Council raised no objection to the proposed action and instructed Mr. Town Clerk to inform the Benfleet Urban District Council accordingly.

SECTION XIV—PUBLIC HEALTH (SHELLFISH) REGULATIONS, 1934.

A full and detailed report on the operation of the above-named Regulations was made last year, with particular reference to the Cockle industry. The recommendations and improvements described in that report have been maintained throughout the year and since no complaints of gastro-intestinal disturbance have been received either from individuals or from the Medical Officer of Health of Southend, it must be assumed that the recommendations made have had the desired effect.

SECTION XV—Medical Inspection of Aliens.

1. List of Medical Inspectors of Aliens holding warrants of appointment.

Dr. J. Greenwood Wilson; Dr. H. M. Willoughby; Dr. J. A. Jones; Dr. R. D. MacLean; Dr. W. D. L. Smith.

2. List of other staff engaged on this work.
Clerical staff at the Central Office.

3. Organisation of work.

The inspection of aliens is carried out in accordance with the terms of The Aliens Order, 1953. All vessels carrying aliens are intercepted on arrival at Gravesend and the aliens are examined by the Medical Inspector of Aliens who is, in fact, the Medical Officer on duty. Complete liaison exists between the Port Health staff and the Immigration staff at Gravesend and should any doubtful case arrive the Medical Officer is immediately communicated with by telephone and an opinion given.

4. Nature and amount of alien traffic.

(*a*)	Total number of arriving vessels carrying aliens	2,334
(*b*)	Total number of aliens (excluding transmigrants, seamen and airmen).	
	(i) Arriving at the port	29,717
	(ii) Medically inspected	18,589
	(iii) Medically examined	445
(*c*)	Certificates issued	NIL
(*d*)	Transmigrants landing and medically examined	NIL

FOOD INSPECTION.

The total amount of foodstuffs seized and condemned for human consumption and either reconditioned or disposed of for animal consumption or for industrial purposes under guarantee or destroyed was 3,849 tons 19 cwts. 0 qrs. 16 lbs. The following is a summary showing the method of disposal of the foodstuffs seized:—

Method of Disposal.	*Weight*				*Percentage of*
	Tons.	*Cwts.*	*Qrs.*	*Lbs.*	*total weight.*
Burnt	82	9	2	10	2·14
Buried	2,287	14	3	7	59·42
Released to other districts ...	159	4	2	4	4·13
Animal Feeding	626	19	2	20	16·29
Boiling Down	91	10	1	21	2·38
Industrial Purposes	47	6	1	14	1·23
Reconditioning	111	18	3	25	2·91
Manufacturing Purposes ...	20	0	0	0	0·52
Re-Export	62	8	2	0	1·62
Refining	360	6	0	27	9·36
Total ...	3,849	19	0	16	100·00

Of the 3,849 tons mentioned above, the principal items condemned for human consumption consisted of:—

Burnt.—99 cartons, 50 cases and 4,838 tins Canned Fruit and Fruit Juices (burst, blown and leaky); 134 cartons, 26 cases and 1,718 tins Canned Meats (burst, blown and leaky); 120 cartons and 3 boxes Marzipan (rancid and dirty); 540 boxes Coconut Ice (rancid); 22 cases and 104 cartons Confectionery (wet damaged); 69 cartons Prunes (wet damaged and decomposing); 24 cartons Cheese (decomposed and maggotty); 66 bags Kola Nuts (wet damaged and wasty); 8 tons Bananas (decomposed and rotten); 16 tons Onions (wasty); 163 cases and 1 box Grapefruit (rotten and wasty); 3 cases and 5 boxes Oranges (rotten and wasty); 16 boxes Apples (dock water damaged).

Buried.—2,200 tons Bananas (over-ripe and rotten); 150 cases, 104 cartons and 10,326 tins Canned Fruit and Fruit Juices (burst, blown and leaky); 19 cases, 3 cartons and 194 tins Canned Meats (burst, blown and leaky); 10 bags Whelks (decomposed); 56 boats Tomatoes (rotten); 325 bags Figs (perished); 11 bags Coconuts (putrid and sour); 101 crates and 20 cases Potatoes (wasty); 68 cases Mandarines (wasty); 13 cases Pineapples (decomposing); 26 cases and 5 boxes Oranges (wasty); 1 case Pears (dock water damaged); 16 cases Lemons (wasty).

Released to Other Districts.—For conversion into animal feedingstuffs, etc. under the supervision of the local Medical Officer of Health—113 tons Rejected Ship's Stores (weevilly and out of condition).

For sorting etc. under the supervision of the local Medical Officer of Health—437 cases, 3 cartons and 52 tins Canned Fruits (burst, blown, leaky and rusty tins); 917 cartons Canned Meats (burst, blown and leaky); 115 cases Canned Fish (burst, blown, leaky and rusty); 329 cases Currants (wet damaged and mouldy); 140 bags Coconuts (rancid and out of condition); 79 cases Dried Prunes (wet damaged); 75 cases Desiccated Coconut (weevilly).

Animal Feeding—602 tons Bananas (over-ripe and rotten); 103 cases and 126 cartons Canned Meats (blown, burst and bacteriologically unsatisfactory); 14 cases, 4 cartons and 670 tins Canned Fruits (burst, blown and leaky); 271 tins Anchovies (aged and stale); 75 bags Pea Bean Sweepings (wet and dirty); 5 bags Flour (dirty and contaminated with extraneous matter); 82 Cheeses (perished); 55 bags and 2 boxes Almonds (wet and oil damaged); 6 bags and 2 cases Walnuts (vermin damaged and dirty); 37 bags and 26 cartons Milk Powder (dock water damaged and vermin damaged); 141 bags Flour (rejected ship's stores—weevilly and out of condition).

Boiling Down—51 tons Beef, Pork, Lamb, Mutton and Offal, etc. (dock water damaged, dirty, soft, decomposed, etc.); 2 tons Meat Sawdust (dirty); 568 crates Rabbits (soft and decomposed); 38 tins Ham (contents sour); 108 drums Oleo Stock (contaminated with chemicals); 7 cwts. Butter (rancid); 3 drums loose collected Tallow and 2 drums loose collected Lard (contaminated with extraneous matter).

Industrial Purposes—58 bags Rice (contaminated with anti-fouling composition); 135 drums Pig Fat and 81 drums Beef Tallow (uncertificated).

Reconditioning—44 crates Cheese (dock water damaged, etc.); 3,144 boxes and 26 cartons Butter (dock water damaged and brine damaged); 173 cases Dried Prunes (wet damaged); 151 cases Shelled Walnuts (dirty and infested with moths); 114 bags Shelled Almonds (infested with grubs, etc.); 90 bags Hazelnut Kernels (heavy infestation of moth maggots); 46 bags Wheat Germ (patches of mould on bags); 21 cases Desiccated Coconut (damaged and rancid); 6 bags Confectionery (dirty).

Manufacturing Purposes—200 bags Almond Kernels (dirty and infested with moth maggots).

Re-Export—100 cartons Canned Pork Luncheon Meat and 594 cases Canned Ham (bacteriologically unsatisfactory); 2 casks and 1 barrel Sheep Casings, 5 cases Pigs Legs and 3 cases Braised Pork, 1 carton Canned Ham and 86 drums Tallow (uncertificated); 1,074 cases Stalk Raisins (mite infested); 563 cartons Canned Picnic Roll (poor vacuum in tins); 48 cases Canned Ham (blown tins); 250 cases Canned Pineapple (burst or blown tins).

Refining—4,418 bags Sugar Sweepings (dirty); 2,276 boxes Lard (dirty and contaminated).

PUBLIC HEALTH (IMPORTED FOOD) REGULATIONS, 1937 and 1948.

Republic of Spain—Official Certificate.

Circular MF 9/54 dated 21st June, 1954, directs that the Minister of Food caused to be published in the "London Gazette" of the 18th June, 1954, a notice containing in the Schedule thereto the description of a label or stamp issued by the Government of Spain which has been recognised as an official certificate for the purposes of the above-named Regulations.

The notice reads as follows:—

"The Minister of Food gives notice in pursuance of the above-named Regulations, that he hereby recognises the official certificate of which particulars are given in the Schedule hereto as showing (a) that the meat to which it relates or the meat from which the meat product to which it relates was prepared, was derived from animals inspected ante and post mortem and passed in accordance with criteria satisfactory to the Minister and (b) that all necessary precautions for the prevention of danger to public health were taken in the dressing or preparing and packing of the meat or meat product.

The Certificate being in the form of a label or stamp, recognition will apply only if the label is securely affixed to or the stamp is clearly impressed on the meat or the package containing the meat or meat product and the label or stamp has not in any other circumstances or on any other occasion been used as an official certificate.

The label or stamp hereby recognised is in substitution for the label or stamp having on it the certificate reproduced in the Schedule to the Notice published in the "London Gazette" of the 27th April, 1954, which is hereby revoked."

The certificate is for meat (namely cured ham) and meat products and is completed by the insertion of the number of the factory.

DANGEROUS DRUGS.

During the year forty-three certificates authorising the purchase of scheduled Dangerous Drugs were issued under the Dangerous Drugs (No. 3) Regulations, 1923, amending the Dangerous Drugs Regulations, 1921, Regulation 15 of which is as follows:—

"If a foreign ship in any port in Great Britain requires to obtain a supply of any of the drugs in order to complete the necessary equipment of the ship, the master of the ship is authorised to purchase and be in possession of such quantity of any of the drugs as may be certified by the Medical Officer of Health of the Port where the ship is (or in his absence by the Assistant Medical Officer of Health) to be necessary for the purpose, the quantity not to exceed what is required for the use of the ship until it next reaches its home port. The certificate given by the Medical Officer of Health of the Port shall be marked by the supplier with the date of the supply and shall be retained by him and kept available for inspection."

PUBLIC HEALTH ACT, 1936. PART X—CANAL BOATS.

Eighty-five inspections of canal boats were made during 1954. Twelve canal boats were found to have a total of seventeen defects, as follows:—

	No. of defects.
Dampness due to defective condition of cabin tops, ship's sides, etc.	4
Defective condition of cooking stove	1
Bunk in need of repair	1
Fumes from engine room entering cabin	1
Wood lockers in cabin requiring repair	1
Cabin in need of general overhaul	1
Cabin in need of cleaning and painting	2
Cabin in need of painting	6
	17

The Owners and/or Masters of the defective craft were in each case notified and required to carry out the necessary repairs.

In one instance the Certificate of Registration was not on board and the Owners were informed of the requirements of the Act in this respect.

DENTON ISOLATION HOSPITAL—KENT DEVELOPMENT PLAN.

Early in 1954 your past Medical Officer of Health submitted to your Worshipful Committee copies of correspondence which he had had with the Kent Council Planning Officer and the Secretary of the Dartford Hospital Management Committee regarding a proposal to allocate to primarily industrial use, including the establishment of a gas works, the land in the vicinity of Denton Hospital.

After due consideration of the correspondence your Worshipful Committee endorsed the views expressed by Dr. Morgan in his letter to the Kent County Planning Officer and instructed Mr. Town Clerk to inform the Kent County Planning Officer accordingly and to ask that your Worshipful Committee be provided with further details of the proposal and the opportunity of being represented at any Enquiry which might be held.

The following is the correspondence referred to:—

ADMINISTRATION OF THE COUNTY OF KENT,
PLANNING DEPARTMENT,
COUNTY HALL,
MAIDSTONE,
18th December, 1953.

DEAR SIR,

Kent Development Plan (Part B) 1953.
Objections No. 69 (Item 4) and 83—Isolation Hospital,
Denton Marshes, Gravesend.

Objections have been lodged with the Minister of Housing and Local Government to the above-mentioned Plan, seeking an amendment thereto to allocate to primarily industrial use the land south and east of the hospital at Denton Marshes, between the River Thames and the Canal. You will also be aware that a proposal has been made to establish a new gas works on the marshes further east, which is to be the subject of a Conference next week.

In regard to the representations that the Development Plan should provide for industrial development south and east of the Hospital, I should be glad to have, as soon as possible, any observations which as the Authority responsible for the hospital, you wish to make.

Yours faithfully,
(Sgd.) JAMES W. R. ADAMS,
County Planning Officer.

The Medical Officer of Health,
Port of London Health Authority,
5, Church Passage,
Guildhall, E.C.2.

5, CHURCH PASSAGE,
LONDON, E.C.2,
23rd December, 1953.

DEAR SIR,

Kent Development Plan (Part B) 1953.
Objections No. 69 (Item 4) and 83—Isolation Hospital,
Denton Marshes, Gravesend.

I am in receipt of your letter of the 18th instant referring to objections to the above-mentioned Kent Development Plan (Part B).

Denton Isolation Hospital was removed from the control of the Port Health Authority, Corporation of London, on the entry into force of the National Health Service Act, 1946. The hospital was in the first instance handed over to the Seamen's Hospital Branch of the South-East Metropolitan Regional Hospital Board, but recently it was transferred from that Board to the Dartford Hospitals Group, who are now in control of the hospital.

Nevertheless, the Port Health Authority are still responsible for the prevention of the entry of infectious disease into the port and, to that end, for the prompt and appropriate isolation of cases suffering from or suspected to be suffering from infectious disease, and their contacts.

Denton Isolation Hospital still fulfils an appropriate role in the arrangements made to this end and, consequently, the Port Health Authority have an interest in securing that in the vicinity of Denton Hospital no building should be erected within a distance which might weaken the functions of Denton Hospital as an Isolation Hospital. The depth of the area of neutral ground encircling the hospital on which building should not be planned depends on the nature of the building, e.g., residential or industrial, and the population to be accommodated.

In these matters the Port Health Authority would, I feel sure, wish to be kept informed and to take part in any discussions relating thereto, and equally, I am sure, will the Dartford Hospital Management Committee.

Will you please regard this as an interim reply which does not commit the Port Health Committee of the Corporation of London but does, I am sure, reflect their views. Your letter will be placed before that Committee at their meeting early in February.

A copy of this letter has been sent to the Secretary of the Dartford Hospitals Management Committee.

Yours faithfully,
(Sgd.) M. T. MORGAN,
Medical Officer of Health,
Port of London.

The County Planning Officer,
Planning Department,
County Hall,
Maidstone.

DARTFORD HOSPITAL MANAGEMENT COMMITTEE,
THE BOW ARROW HOSPITAL,
DARTFORD,
KENT,

30th December, 1953.

DEAR DR. MORGAN,

Kent Development Plan, Part B.
Proposed Gas Works at Gravesend.

We thank you very much for your letter of the 23rd December and enclosures.

At the invitation of the Clerk of the County Council I recently attended a conference at Gravesend for a preliminary discussion of the matter, when representatives of a considerable number of Authorities likely to be affected by the scheme were present, including representatives of the Port of London Authority insofar as the proposals were likely to affect that Authority's responsibilities for the river.

You will, no doubt, have heard that the South-Eastern Gas Board's proposals will involve the use of an area of the marshland up to 150 acres, upon which the Board proposes to erect a very large Gas Works which it is intended eventually to serve an area extending from and including Belvedere to the Medway Towns.

Not having had any prior information, it was, of course, impossible for me to form any clear impression as to the effect of such a project upon the future of the Denton Hospital, but it would seem to me that the proposal will be of no possible advantage to the hospital, and can only add to the problems of its future administration.

The Gravesend Borough Council is raising strong objection and I understand that there are to be further detailed consultations with the County Planning Authority. My personal impression is that the Gas Board is proceeding in the matter with some determination and that the strongest opposition to the scheme comes from the Gravesend Borough Council.

I have reported the matter to the Regional Hospital Board and propose to submit a report also to the next meeting of the General Purposes Sub-committee of the Management Committee. The observations which you have made in your letter to the County Planning Officer will then be submitted to the Members.

Without having available the detailed plans of the project I cannot say precisely how close the final boundary of the new Gas Works will be to the boundary of the Denton Hospital, but my impression is that the Gas Works boundary may come within 500 feet of the boundary of the Hospital on the east side, and apart from its proximity to the hospital, quite obviously so large a project is likely to affect materially the development of the whole area on that side of Gravesend.

Yours sincerely,

(Sgd.) E. J. M. DURRANT,
Group Secretary.

The Medical Officer of Health,
Port of London Health Authority,
5, Church Passage, E.C.2.

5, CHURCH PASSAGE,
LONDON, E.C.2,

31st December, 1953.

DEAR MR. DURRANT,

Kent Development Plan, Part B.
Proposed Gas Works at Gravesend.

Many thanks for your letter of the 30th instant and for kindly writing so fully about the proposed development at Denton Hospital.

I was always under the impression that the marshland in the vicinity of Denton was not to be developed but I suppose there has been some change of mind about that. The prospects of a large gas works in the near vicinity of Denton Hospital is somewhat depressing but it might not perhaps be dangerous unless residential accommodation for the employees is to be developed near the site.

In any case, your Committee, and also mine for that matter, will doubtless wish to know a good deal more about the plans in due course if they ever reach such a stage of possible materialisation, and it seems to me that the important thing is to make certain, as far as possible in such circumstances, that we are kept fully *au courant* with the proposals and have a very early opportunity to make observations on them.

In recent years my Authority has been involved to some extent in the development of the new Basildon town in Essex, and particularly of the proposed sewage disposal scheme for that town. We have repeatedly urged that we should be kept informed of proposals but I am afraid that has not always been the case and we have been presented with plans at a stage when it was difficult to resist what was practically a *fait accompli*.

Yours sincerely,

(Sgd.) M. T. MORGAN,
Medical Officer of Health,
Port of London.

The Secretary,
Dartford Hospital Management Committee,
The Bow Arrow Hospital,
Dartford, Kent.

Mr. Town Clerk, following consultation with Mr. Comptroller and City Solicitor, addressed a letter to The Secretary, Ministry of Health, reminding the Minister of the various health considerations involved in planning buildings which could be used for human habitation in the neighbourhood of a hospital which might, at any time, be occupied by a case of smallpox, the Ministry of Health having themselves in the past laid down rules and conditions governing such planning.

At the end of the year 1954 no further development had taken place and your Medical Officer has now been given to understand that the project has been dropped, as far as Denton is concerned, and a fresh application has been made for the erection of a gas works on the Isle of Grain, where it is proposed to erect a plant jointly with the British Petroleum Company in the manufacture of gas from petroleum products.

EFFECT OF THE DOCK STRIKE ON THE WORK OF THE PORT HEALTH AUTHORITY.

Your Medical Officer felt that your Worshipful Committee would be interested to know something of the effect of the dock strike on the work of the Port Health Authority and he therefore asked various members of the Inspectorial staff to submit a short report on the subject. The following are the principal observations made in these reports:—

Royal Dock Group.

The Dock Strike of 1954 has followed the pattern of previous post-War disputes with the exception that the stoppage of the P.L.A. Permanent Dockers has not occurred since the General Strike of 1926. The action of the P.L.A. Permanent Dockers in joining the present strike has brought work in the docks to a complete stop.

These P.L.A. "Perms" play a vital part in the dock service for they "man" the Cold Stores, Tobacco Warehouses, and the majority of import and export sheds and warehouses. The withdrawal of their labour has an immediate effect on the work of the Port Health Authority who are unable to have cases of foodstuffs opened up for examination or meat handled in the Cold Stores; consequently, with the exception of the privately owned Swift's Cutting Store in the Victoria Dock, which has been able to carry on, there has been a complete stoppage of work.

As soon as it was realised that the "stoppage" might be of long duration, many shipping companies sailed their ships, leaving the docks somewhat depleted; however, about twenty ships have entered the Royal Group during the strike period to date.

The following gives a brief survey of the work carried out by each branch under the restricted conditions:—

Rodent Control. All sheds, warehouses, etc., have been kept locked except those in which a P.L.A. Foreman's Office is situated. This has not prevented the normal examination of premises by the rodent staff because all premises have been opened as requested for inspection, and poisoning has been carried out where necessary.

The complete inspection of ships by the rodent staff has not always been possible, especially where crews have been paid off and there was nobody to remove hatches, but in these cases the rest of the ship has been inspected and action taken where necessary.

The rodent staff have taken the opportunity of making extensive examinations of waste ground and shore premises, and for the period 4th to 20th October the following premises were inspected:—

Royal Albert Dock	404	
Victoria Dock	170	including mills and silos.
King George V Dock	135	
Total ...	709	

Dock and Ship Hygiene.

The normal inspection of crews quarters by the Inspectors has proceeded without interruption.

Owing to the strike of lightermen a partly loaded refuse lighter was left in the Victoria Dock and created a 'nuisance' owing to the flies. As the craft could not be removed from the dock, the owners were requested to spray the refuse and this was done using Dieldrin.

Inspection of Foodstuffs.

With the exception of Messrs. Swift's Cutting Store, Victoria Dock, where normal work on the cutting and reconditioning of meat has been carried on, it has not been possible to examine foodstuffs in the Cold Stores or Warehouses owing to the absence of labour for opening up cases or handling meat. The Inspectors have therefore concerned themselves with daily visits to those premises where foodstuffs are stowed to observe any obvious change in condition or undue rise in temperature. In two cases it has been necessary to take action and detention notices have been issued. Two banana ships arrived from Jamaica and were able to complete discharge but a further ship has not been touched.

General.

Normal dock repairs and maintenance have proceeded and requests from the Port Health Authority have received attention. During this difficult period the Port of London Authority have afforded every facility within their limited means.

Tilbury Dock.

The Strike did not effect Tilbury Dock until Monday, the 11th October—about a week later than in the other dock groups. The general effect has been to reduce the number of ships entering the dock very considerably. Of the 23 Deep Sea Berths at Tilbury only 5 are at present occupied, and of the 4 Short Sea Berths only 1 is occupied. None of the ships is working cargo. One is working ship's stores by means of the ship's crew.

The inspection of imported food has ceased as no cargoes are being worked. The number of ship inspections has been drastically reduced as so few ships are arriving.

Mention should however be made of a "rush" inspection of ss. "Oronsay" (27,631 tons) on Monday 11th October, 1954 for a new Deratting Exemption Certificate. This ship would normally have arrived on 4th October for voyage repairs after a season's cruising, and to load for Australia. In the exceptional circumstances she arrived on 11th October at 11 a.m. having carried out the repairs at a Continental port, and sailed without cargo on 11th October. To ensure that the new Deratting Exemption Certificate was available by sailing time, it was necessary to complete the inspection on Monday, 11th October. This was done by having the Inspector and both Rodent Officers on the job.

The reduction in the number of ships allowed the staff to concentrate first on barges and lighters in the Dock, and when these were completed, a systematic search of the shore premises, followed by 'Operations' where the evidence justified such procedure. A successful "Block Operation" with '1080' was carried out on Sheds 22–26. The evidence of rat infestation in this area was small, nevertheless 5 brown rats were recovered after the '1080' operation.

The Workshops at the North end of the Dock belonging to Harland & Wolff, John Mowlem, Blundell & Crompton, and the Port of London Authority (Hydraulic Station) have for some time past had a small but persistent mouse infestation which has been difficult to deal with as the shops were always busy. The whole area is now being treated with dry Warfarin baits with success. Owing to the Strike, the shops are now quiet and unoccupied; also there is now no alternative supply of food from crumbs, etc., which has previously been such a trouble.

An Operation was started at the Refuse Tip on the 28th September last before the Strike started, but it has been possible on this occasion to "follow up" for a much longer period than usual. The semi-permanent baits laid on the 1st October are still kept up, but are now largely inactive. So far 65 rats have been recovered from this operation but it is not expected that many more rats will be recovered. The undergrowth in the vicinity of the refuse tip is now so dense that it is improbable that more than 25% of the rats killed have been recovered.

India and Millwall Docks.

In the earlier stages of the Strike no noticeable effect on the routine duties was apparent as vessels were arriving and sailing as usual. Then as the effect on shipping began to take place and as the P.L.A. Permanent Dockers were still employed, there was a great drive by importers generally to obtain delivery of all foodstuffs. This necessitated constant inspection and supervision of any sorting operations.

When the Strike spread and the P.L.A. permanent staff ceased work, all routine work virtually ended. The opportunity was consequently taken to do rodent control work which it had not been possible to do during the normal work of the docks. For instance, Central Granary normally works throughout the twenty-four hours with the various floors constantly changing their quantities of bulk grain and therefore in the past it has not been possible to treat the Granary to full satisfaction. The opportunity has been taken during the quiet period to treat with full staff the complete Granary in one operation, as a result of which 42 rats were recovered. This procedure was also carried out at McDougall's Granary, where 11 rats and 1 mouse were recovered. Central Granary was given a second treatment later, when a further 14 bodies were recovered.

In addition to these large scale operations, routine inspections, as far as possible, of those vessels entering port and of all premises under the Rodent Control Scheme have been carried out.

Warehouses known to contain perishable foodstuffs have been visited daily to ascertain the condition of the foodstuffs. So far no great deterioration has been discovered, except for one instance where three cases containing various provisions had to be seized.

Surrey Commercial and London Docks.

Both groups of docks have suffered heavily as far as ship arrivals and movement of cargoes are concerned with the result that the scope for Port Health activity has been restricted and reduced to the maintenance of sanitary standards aboard idle ships and the shore premises.

Regular visits have been made to warehouses into which foodstuffs have been imported and limited inspections of the commodities carried out as deemed necessary. There has not been any apparent deterioration in the stored foodstuffs and no detentions or seizures have been made. Close contact between H.M. Customs, Port of London Authority and the Port Health Authority has been maintained at the various food centres.

Ships have been revisited to ascertain health and sanitary conditions and rodent control inspections have been carried out on ships and craft as far as possible.

The lull in food warehouse activity has afforded the opportunity to carry out some experimental work with a new type of rodenticide which may prove an additional useful weapon for the destruction of rodents.

More detailed inspections have been possible in connection with the sanitation of all shore premises, including general cleanliness, fresh water supplies, latrine accommodation, refuse collection and disposal, rodent control, etc.

Advantage has been taken to carry out sanitary work in any branch which would normally be more difficult and the Port of London Authority Officers have co-operated fully whenever requested to do so.

Lower River.

Until the 20th October the Strike had little effect on the number of ships boarded in this district. Oil tankers and colliers were arriving as usual at the main discharging wharves. Since then new arrivals have dropped considerably although a number of vessels with cargoes for the riverside wharves are berthed at Gravesend Buoys. There have nevertheless been several smaller craft for inspection and the opportunity has been taken to inspect houseboats. All refuse barges are lying empty at their moorings.

Middle and Upper River.

There was little change on the River during the first week of the Strike. The second week, however, when the lightermen came out, saw an almost complete stoppage as far as fresh arrivals were concerned. Refuse lighters have ceased moving on the River, but this has not created any difficulty yet, so far as the Port Health Authority is concerned.

Conclusions.

It will be seen from the above observations of your Inspectors that the normal day to day work was greatly curtailed but that advantage was taken, in all the Dock Groups, to tackle in greater detail, some of the more outstanding problems that are peculiar to each of the Dock Groups.

VISITORS AND STUDENTS.

The organisation and activities of the Port Health Authority have always been of outstanding interest and value to visitors from overseas engaged in port health administration and during the year thirteen doctors or sanitary inspectors from Aden, Belgium, Ceylon, Egypt, Jamaica, India, Malta, New South Wales, Sudan, and Sweden, were, at the request of the Ministry of Health, Colonial Office and other Departments, shown various branches of port health work in London.

Facilities were also provided for students of the London School of Hygiene & Tropical Medicine, the Royal Institute of Public Health, the Army School of Health, and the National College of Food Technology to see aspects of port health work relating to their studies. Further, at the request of the Ministry of Health two sanitary inspectors attached to the Milford Haven Port Health Authority were trained in the inspection of ships for the issue of Deratting Exemption Certificates.

SHIP-BORNE PESTS
and
A NEW INSECTICIDAL TREATMENT.

Your Worshipful Committee are already aware that your Chief Inspector, Mr. T. L. Mackie, was awarded the Watts Prize for 1954, and by courtesy of the Institution of Naval Architects the winning paper is reproduced as follows:—

Maritime history records that certain creatures prefer to make their habitat in the environs of mankind even though he lives aboard ship. Here they are able to shelter and thrive on his person or his possessions and many are the harrowing stories of misery, disease and even death as a consequence of their presence. It is a long time since the Venetians, having realised the dangers of sea-borne communicable diseases, imposed quarantine restrictions in the hope of curbing the spread of such diseases from ships. The real value of this procedure is difficult to assess, but it is known to have hampered commercial enterprise and incurred considerable financial loss to the shipping interests.

These penalties on shipping spread to other sea ports and persisted over the centuries, although the true causes of the trouble were not as yet really understood. It was not until the latter part of the nineteenth century that the problem was vigorously attacked in the legislative and scientific fields. Public Health legislation empowered port sanitary authorities to take appropriate action and the Clayton process of fumigating ships was initiated.

In the twentieth century, interest and activity gathered momentum, even to the point of international collaboration. Scientific investigators discovered more about causative agents and vectors of tropical diseases; hydrogen cyanide was introduced as an effective fumigant and International Sanitary Regulations 1926 were adopted.

At a later stage, Port Sanitary Regulations were operated, then finally, a new set of International Sanitary Regulations 1951 were introduced to cover sea and air transport and provided the substance from which the Public Health (Ships) Regulations 1952 have been created.

Progress continues in the scientific field. Already, sulphur dioxide has been superseded by hydrogen cyanide as a fumigant and this method of destroying rats is being challenged by an expedient and substantially successful method of a quick-acting poison bait. A great deal of success has crowned these concerted efforts which have struck the final blow to obsolete quarantine practices and associated burdens on shipping, thereby increasing the economic efficiency of the industry as a whole.

It is clear that the efficiency of each ship's performance is dependent not only on the ship as a structure or her commercial managers, but upon the crew who sail in her. Bearing in mind that a ship is intended to function as a profitable commercial enterprise, it is reasonable to pause from time to time and review the gains and losses. Among the various observations, one may find losses due to discontent of the crew, sickness, or a detention in port with associated expenditure to comply with a port regulation. These three adversities have often a common cause and owe their origin to pest life aboard the ship—pests such as rats, cockroaches, bed bugs, ants, weevils, etc., which are always a social nuisance, a danger to health and saboteurs of foodstuffs. Where there is general discomfort there is unhappiness, consequent loss of interest and efficiency, and such conditions may act as a deterrent to the best type of seamen. There are three essential conditions for the survival of pest life aboard ship:—

(*a*) obscure places in which to hide and multiply,

(*b*) convenient places providing food and moisture,

(*c*) means of communication between these places.

While these conditions are fulfilled in ship construction, the repeated process of eradication must continue and every effort made to discover and apply better antidotes which will exterminate the resident pests as effectively, quickly and economically as possible. So far, a reasonable measure of success has been achieved and this policy has considerably reduced the prevalence of gross infestations known to seamen twenty years ago. The menace associated with ship-borne rat populations has declined because of the drastic measures adopted for the suppression of rats at regular intervals and a growing tendency to deny them breeding harbourages in the compartments by a technique of "rat-proofing". Deratting of ships is gradually becoming the exception rather than the rule.

The insect problem presents some difficulties which cannot be so ruthlessly overcome. The harbourage sought by insects need not be remote though obscure, for they can thrive and breed in conditions generally found in the accommodation. The cavities and crevices provided by wood linings, sheathing, cabinets, open joints, heating installations, etc., are readily available, and these are considered essential units in the design. It remains, therefore, to carry out "insect-proofing" by reducing accessible harbourages to a minimum compatible with comfort and amenity and by treating the inevitable harbourages in such a manner as to make life impossible for any insect which might use it, including the "steam fly" or German cockroach, hitherto so difficult to eradicate.

The details of construction being the prerogative of the ship designer has left the insecticidal treatment open to development and it is intended to describe now a formulation and technique which has been applied to many cockroach infested ships during the past three years and which has exterminated the infestations for at least two years by a single treatment. No subsequent treatment has been required of the crew during the periods when these observations have been made.

Insecticidal Lacquer.

For a considerable time research workers have sought to discover a durable film or coating which could be impregnated with an insecticide possessing persistent properties. These characteristics led scientists to explore the field of urea-formaldehyde resins which were originally developed for moulding purposes, since synthetic resins of this type are thermosetting and are characterised by rapidity of cure under conditions of heat. In this form the resins are not suitable for surface coatings because they are only soluble in special solvents. However, modified resins suitable for surface coatings can be prepared by condensing urea and formaldehyde in the presence of monohydric or complex polyhydric alcohols. These modified urea resins are used in stoving finishes, but they can also be made to polymerise, cure or "set" in the presence of added acidic catalysts which render these products suitable for air-drying applications. Since films obtained from cured urea-formaldehyde resins alone are brittle, very hard and lack adhesion qualities, it is the general practice to combine them with more elastic film-forming resins and these are usually alkyd resins. Alkyd resins are formed by the condensation of polybasic acids or anhydrides with polyhydric alcohols and since the most common member of this group is a glycerol-phthalic acid polymer, the specific name "glyptal" is frequently used for alkyd resins. The primary use for these resins is in surface coating materials, also in cements and binders. Alkyds too can be modified by the addition of other synthetic resins, with advantages derived from the properties of each component.

At the Government Research Station, Paul Bracey used a standard lacquer of the following components:—

Urea formaldehyde resin BE610	50	parts by weight
Castor oil alkyd resin BA502	50	do.
Butanol	27·5	do.
Xylol	22·5	do.
Insecticide	12	do.

This formula produced a free-flowing and clear lacquer containing 40% solids, which was stable to long storage at room temperatures ranging from freezing to 85°F.

The proportion of insecticide was always based on the weight of resin solids and, in the foregoing formula, a solid coating containing 20% by weight of insecticide was obtained, although the resin in the form of a clear liquid can dissolve 50% DDT without impairing its clarity. To produce a satisfactory air-drying lacquer from this formulation and a finished surface of correct hardness, an acid accelerator known as AC54 should be added. The accelerator consists of 10% concentrated sulphuric acid in butanol and should be added to the lacquer just before the application in the proportion of one part of accelerator to twenty parts of lacquer. The hardness of the film of lacquer is very important, since this factor governs the durability of the coating and the rate of insecticidal activity. A cleaning medium mixture of four parts of Xylol and one part of butanol is very effective for cleaning any equipment used in this process of lacquering.

Insecticidal Formulations.

When assessing the value of insecticides consideration should be given to such factors as relative toxicity to man, specific insecticidal properties, possible contamination of foodstuffs by contact or taint, nature of odour, fire hazard, and any losses which may be sustained by decorative or fabric deterioration. Economics will also play a decisive part and the final decision will invariably demand a form of single treatment which gives an immediate "knock-down" and will continue to kill off any insects for as long a period as possible, using materials which are always readily available and the overall cost of the operation is fair and reasonable when compared with the results achieved.

Attention has so far been concentrated on four proven insecticides, e.g. DDT, BHC, Aldrin and Dieldrin and from a practical viewpoint it has proved advantageous to incorporate two insecticides to complement one another in a formulation. Both Aldrin and BHC have a higher vapour pressure than either DDT or Dieldrin, therefore such combinations as DDT + BHC and Aldrin + Dieldrin have been used very effectively.

The volatility of the Aldrin and BHC causes the evolution of a vapour readily toxic to insects, while the action of DDT and Dieldrin is relatively postponed due to the lower vapour pressure.

The presence of active DDT and Dieldrin is exhibited by a crystalline "bloom" which is exuded from the reservoir in the film of clear transparent lacquer. This phenomenon is not precisely understood, but the innumerable and microscopic crystals are of a size and shape easily picked up by the insects and their toxicity is not reduced by any substance contained in the lacquer film. Moreover, the "bloom" may be generated spontaneously in a matter of hours with a sufficient concentration of DDT or Dieldrin and crystals can also be induced by the mechanical stimulation produced as an insect runs over the lacquer surface or by the friction created during human cleaning operations.

Should the crystals be carried away by some external mechanical operation such as washing or rubbing, they will regenerate from within the film until the reservoir of insecticide is exhausted. Accordingly, three formulations have been dispensed for trials, each having a common lacquer formula of resin, xylol and butanol to which has been added the following proportions of insecticides by weight:—

(*a*) 20% DDT and 2% BHC.
(*b*) 10% DDT and 5% BHC.
(*c*) 10% Dieldrin and 5% Aldrin.

Application.

In the early stages of investigation, lacquer with these formulations was brushed on various surfaces such as unpainted wood, painted surfaces, glass, brick and tiles and did not indicate any significant variation of insecticidal performance despite reasonable exposure to the elements. Insects were allowed to contact the crystals and Houseflies, Yellow Fever Mosquitoes and Flour Beetles all succumbed after various durations of contact ranging from seconds to one hour.

Three years ago, by an arrangement between the Colonial Office Research Unit, the Agricultural Research Council and the Port of London Health Authority, it was decided to do several experiments aboard ships in collaboration with the shipowners. Ships which were persistently infested with insects, particularly cockroaches, and those engaged in diverse trade routes were selected. Most of the selected ships were freighters which regularly traded to the Port of London and for that reason were available for intermittent inspection, and the records compiled by the ships' officers were collected and examined. Two ships, however, which are engaged consistently on the Far Eastern trade were included in major tests and records of the results obtained over long periods mailed to London.

In the earliest tests, the treatment was confined to the pantries and galleys which were heavily infested and the entire surfaces of deckheads, partitions and lockers were lacquered with a clean brush, but it was soon realised that a more effective treatment could be given by spraying the lacquer with a pneumatic paint sprayer. The spread produced a clean, uniform film and the spray penetrated into insect harbourages inaccessible to the brush.

For large scale applications in confined spaces it was found necessary to wear protective clothing and a respirator owing to the vapour evolved, particularly when the mechanical sprayers were used. Wherever possible, the maximum amount of ventilation was introduced to minimise any physical irritation from the vapour and, in the absence of naked lights, to reduce any fire hazard to a minimum. Having achieved excellent initial results by a complete coverage, attempts were made to secure the same results by reducing the area of treated surfaces to include the runs and harbourages only, thus making a considerable saving in material and labour costs. Such operations were limited to all obscure places, warm pipes and electrical circuits, being the surfaces where insects live for the greater part of their existence and over which they crawl in search of subsistence.

In order to avoid dirty smears or sealing of dust, all the surfaces to be treated were appropriately cleaned and no freshly painted surface was covered until it had set sufficiently to avoid excessive absorption of the lacquer.

Results.

The lacquer dried in less than six hours, leaving the surfaces with the appearance of having been varnished. The odour of the solvents became negligible as the ventilation and drying continued.

An immediate "knock-down" of insects was obtained and insects continued to perish as they emerged from harbourages and contacted the treated surfaces.

The average area covered by the brush method was approximately 70 square yards and by sprayers nearly 80 square yards per gallon.

Every care being taken to exclude fire hazards brought its reward, and no evidence of danger occurred at any time. It was established by holding a naked flame to a dry treated surface, that the lacquer changed to a hard, charred crust, but did not support combustion.

When the crystals did eventually appear as a "bloom", they were not readily visible to the naked eye except when viewed in a strong light at a suitable angle. Even so, this "blooming" did not affect the decorative effects of painted surfaces, but could be better recognised on unpainted surfaces in lockers, etc. The needle type crystals varied in length from 5 to 120 microns and the density of the DDT "bloom" appeared greater than that of Dieldrin, but that is due to the opaque nature of DDT crystals.

All the formulations proved very effective, but the ultimate order of merit as far as ship trials are concerned are as follows:—(*c*), (*a*), (*b*).

Subsequently, the reports from the ships on various trade routes and inspection visits proved that a single treatment did in fact eradicate cockroaches for at least two years, and there is good reason to believe that this period will be extended provided the "bloom" is not obliterated and destroyed by a coat of paint or varnish.

Summary.

Successful scientific investigation has established that certain ship-borne pests may communicate diseases which were the cause of the severe quarantine restrictions imposed on shipping for many centuries.

Systematic eradication of these pests voluntarily or by means of legislation on an international scale, has rendered obsolete and protracted quarantine measures unnecessary to the advantage of the commercial shipping industry.

The rat menace has been relatively controlled and continued efforts are being directed against the insect pests which can adversely affect the health and welfare of the crew, ravage foodstuffs and cause delay and expense with consequent loss of operational efficiency.

An insecticidal lacquer is now available which has proved its ability to eradicate insect pests aboard ship for a period of at least two years, providing it is adequately applied by persons who are sufficiently skilled and interested in pest control. Moreover, the lacquer must be dispensed according to the makers' instructions.

While every effort must be made to avoid risk of fire, there appears to be no more danger arising from this treatment than painting or varnishing operations, since the lowest flash point of the solvent vapour is 78°F. and it is claimed by some manufacturers that this can be raised to 98°F.

If the operation is carried out by competent personnel at a time when the vessel is new, idle or refitting, there is enough evidence to prove that no other treatment of the spaces will be required by anyone else until the next refit. The overall results have been exceedingly good and worthy of consideration.

Acknowledgment.

To the Colonial Research Department for information related to the laboratory tests.

APPENDIX I.

MEDICAL INSPECTION—From 1st January to 31st December, 1954.

GRAVESEND.

	Jan.	Feb.	Mar.	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Total.
No. medically inspected ...	177	151	161	156	151	150	150	159	166	74	132	140	1,767
No. of Passengers	544	694	824	960	2,414	4,194	4,866	3,998	3,091	365	687	589	23,206
No. of Crew ...	412	730	819	561	498	526	452	458	549	352	389	446	6,192
No. of Foreign Arrivals ...	971	842	1,053	960	1,046	1,067	1,119	1,100	1,047	582	980	1,057	11,824

APPENDIX II.

INFECTIOUS DISEASES.

Disease.	1945	1946	1947	1948	1949	1950	1951	1952	1953	Mean Annual No. for 10 years ending 31st December, 1954	1954
(a) Cases reported—											
Cholera (including suspected cases) ...	—	—	—	—	—	—	—	—	—	—	—
Plague do. ...	—	—	—	—	—	—	—	—	—	—	—
Yellow fever do. ...	—	—	—	—	—	—	—	—	—	—	—
Typhus fever do. ...	1	—	—	1	5	—	—	—	—	0·7	—
Smallpox do. ...	—	5	2	3	2	4	6	—	1	2·3	1
Scarlet fever... ...	5	2	10	3	3	7	3	—	2	3·5	—
Enteric fever ...	4	9	5	10	82	9	7	8	8	14·2	6
Measles	8	11	26	99	80	58	74	56	97	50·9	31
German measles ...	2	6	5	3	3	17	67	13	6	12·2	7
Diphtheria	5	8	5	2	1	—	—	2	—	2·3	—
Erysipelas	—	—	—	1	—	1	—	—	1	0·3	—
Pulmonary tuberculosis	14	21	27	32	43	41	53	67	46	34·4	43
Other diseases (including Chickenpox)	115	79	102	106	124	114	130	128	184	108·2	347†
Totals	154	141	182	260	343	251	340	274	345	229·0	435
(b) Admitted to Hospital—											
Cholera (including suspected cases) ...	—	—	—	—	—	—	—	—	—	—	—
Plague do. ...	—	—	—	—	—	—	—	—	—	—	—
Yellow fever do. ...	—	—	—	—	—	—	—	—	—	—	—
Typhus fever do. ...	—	—	—	1	3	—	—	—	—	0·4	—
Smallpox do. ...	—	—	—	—	—	—	—	—	—	0·2	2*
Scarlet fever... ...	4	2	—	3	—	—	1	—	—	1·0	—
Diphtheria	5	7	4	2	—	—	1	—	—	1·9	—
Enteric fever ...	3	—	2	3	—	6	—	1	1	1·6	—
Measles	4	6	10	24	8	5	12	3	16	10·9	21
Parotitis	1	5	1	4	3	1	13	4	2	3·5	1
Dysentery	1	8	9	3	1	—	1	1	—	3·0	6
Other diseases (including Chickenpox)	50	43	60	80	34	56	35	35	48	47·3	32
Totals ...	68	71	86	120	49	68	63	44	67	69·8	62

† Includes 221 Cases of Gastro-Enteritis

* 1 Contact (for observation)

APPENDIX III.

RETURN OF RATS CAUGHT AND DESTROYED DURING THE YEAR 1954.

	Jan.	Feb.	Mar.	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Total.
London Dock—													
Warehouses ...	40	16	29	18	39	30	109	33	32	16	38	19	419
Vessels ...	2	3	—	—	—	3	—	—	—	—	2	—	10
St. Katharine Dock—													
Warehouses ...	1	2	—	—	—	—	—	9	2	—	—	—	14
Vessels ...	—	—	—	—	—	—	—	—	—	—	—	—	—
Surrey Commercial Dock—													
Warehouses ...	5	1	4	15	4	7	11	2	12	1	2	—	64
Vessels ...	—	49	—	—	—	—	—	—	—	—	—	—	49
East India Dock—													
Warehouses ...	2	—	4	—	4	18	1	9	21	16	—	—	75
Vessels ...	—	—	—	—	—	33	—	—	—	—	7	—	40
West India Dock—													
Warehouses ...	31	33	50	26	11	16	23	83	17	19	19	18	346
Vessels ...	1	199	—	—	50	—	40	—	—	6	16	53	365
Millwall Dock—													
Warehouses ...	90	24	59	55	28	35	23	24	21	90	18	37	504
Vessels ...	—	—	—	—	—	—	—	—	4	—	6	—	10
Royal Albert Dock—													
Warehouses ...	22	16	5	2	28	6	3	4	10	50	7	11	164
Vessels ...	54	88	4	22	19	52	27	38	39	—	70	58	471
Royal Victoria Dock—													
Warehouses ...	101	49	73	70	65	67	48	85	48	100	153	142	1,001
Vessels ...	30	—	50	204	75	33	51	74	91	12	—	—	620
King George V. Dock—													
Warehouses ...	11	12	22	12	5	—	8	—	8	19	—	6	103
Vessels ...	28	1	46	—	—	15	—	3	17	—	23	—	133
Tilbury Dock—													
Warehouses ...	76	13	13	223	40	30	2	8	70	34	31	38	578
Vessels ...	29	1	37	—	7	16	13	24	5	—	9	23	164
Regent's Canal Dock—													
Warehouses ...	1	—	—	1	—	—	—	—	3	—	1	1	7
Vessels ...	—	—	—	—	—	—	—	1	—	—	—	—	1
River—													
Vessels ...	31	14	27	13	92	78	—	35	34	26	43	53	446
Totals ...	555	521	423	661	467	439	359	432	434	389	445	459	5,584

APPENDIX IV—General Summary and Analysis of the Sanitary Inspections, etc., in the Port of London for the year ended 31st December, 1954.

Foreign Going.	
Steam—	
Inspected	10,261
Defective	277
To be cleaned	461
Sail—	
Inspected	—
Defective	—
To be cleaned	—
Coastwise.	
Steam—	
Inspected	1,772
Defective	28
To be cleaned	69
Sail—	
Inspected	11
Defective	1
To be cleaned	—
Inland Navigation.	
Steam—	
Inspected	93
Defective	5
To be cleaned	4
Inland Navigation.—*Continued*	
Sail—	
Inspected	—
Defective	—
To be cleaned	—
Lighters—	
Inspected	617
Defective	8
To be cleaned	22
Canal Boats—	
Inspected	85
Defective	15
To be cleaned	2
Shore Premises.	
Inspected	7,579
Defective	154
To be cleaned	202
Sick Seamen referred to Hospital	70
Water Barges.	
No. in district in good condition on 31st December, 1953	11
New Barges	—
Condemned	—
Use discontinued	—
Previously withdrawn and since resumed work	3
No. in district on 31st December, 1954	14

Inspections.		*Dock and River.*	*No.*
Total Inspections 1st January to 31st December, 1954 :—		London and St. Kats.	901
Foreign Going	10,261	Regent's Canal	529
Coastwise	1,783	Surrey Commercial	1,260
Inland Navigation	710		
Shore Premises	7,579	East India	225
Total	20,333		
		West India	1,079
		Millwall	619
Number of Vessels inspected in the Launches :—		Royal Albert	1,200
		Royal Victoria	801
"Alfred Roach" / "Howard Deighton"	1,790	King George V.	782
"Frederick Whittingham"	1,004	River—Upper	1,004
"Alfred Robertson"	650	River—Middle	650
		River—Lower	1,790
		River Medway	757
		Tilbury	1,157
In Docks, etc.	9,310	Total Vessels	12,754
Shore Premises	7,579	Shore Premises	7,579
Total	20,333	Total	20,333

Nationalities.	*No*
American (U.S.A.)	106
Argentinian	36
Belgian	56
Brazilian	13
British	8,225
Costa Rican	21
Danish	199
Dutch	1,336
Finnish	162
French	93
German	617
Greek	84
Honduras	2
Icelandic	7
Indian	16
Israeli	16
Italian	58
Japanese	37
Liberian	53
Monrovian	10
Moroccan	1
Panamanian	123
Polish	27
Portuguese	18
Puerto Rican	4
Russian	63
South African	2
Spanish	33
Swedish and Norwegian	1,234
Swiss	24
Syrian	1
Turkish	26
Yugo Slavian	51
Total Vessels	12,754
Shore Premises	7,579
Total	20,333

APPENDIX V.

DOCKS WITHIN THE JURISDICTION OF THE PORT HEALTH AUTHORITY.

Docks.	*Water Area.* *Acres.*	*Yards.*	*Lineal Quayage.* *Miles.*	*Yards.*
Regent's Canal	11	38	—	966
St. Katharine	10	488	—	1,654
London	34	4,460	3	119
Surrey Commercial...	161	2,717	16	200
West India	97	3,957	4	1,134
East India	31	2,878	1	1,242
Millwall	35	3,217	2	155
Royal Victoria	95	1,772	5	1,479
Royal Albert	87	213	3	905
King George V.	64	997	3	663
Tilbury	104	2,166	3	1,667

The River distance between the Western and Eastern limits of the Port is about 68½ miles.

POWERS.

The work of the Port of London Health Authority is carried out under the following Acts of Parliament and Statutory Instruments :—

CONSTITUTION OF THE AUTHORITY.

Public Health (London) Act, 1936.

ASSIGNMENT OF POWERS.

L.G.B. Order, Port Sanitary Authority Assignment of Powers, Port of London, 25th March, 1892.

L.G.B. Order, Port Sanitary Authority Assignment of Further Powers, Port of London, 29th December, 1894.

L.G.B. Order, Port Sanitary Authority Assignment of Powers, Port of London, 30th June, 1898.

London Port Sanitary (Additional Powers) Order, 1922. S.R. & O. No. 781.

London Port Sanitary (Additional Powers) Order, 1923. S.R. & O. No. 812.

Port of London (Assignment of Powers) Order, 1933. S.R. & O. No. 803.

ADMINISTRATION.

Port Sanitary Administration and Medical Inspection of Aliens under the Aliens Order, 1920. (Grants in Aid).

City of London (Various Powers) Act, 1922, Part IV, Section 30.

City of London (Various Powers) Act, 1933, Part III, Sections 6 and 7.

Sanitary Officers Order, 1926. S.R. & O. No. 552.

Sanitary Officers (London) Regulations, 1951. S.I. No. 1021.

INFECTIOUS DISEASE.

Prevention of Epidemic Diseases Regulations as to Plague. Destruction of Rats, 1910. S.R. & O. No. 1165.

Public Health (Notification of Infectious Diseases) Regulations, 1918. S.R. & O. No. 67.

Infectious Diseases (London) Regulations, 1927. S.R. & O. No. 1207.

Public Health (Acute Poliomyelitis, Encephalitis and Meningococcal Infection) Regulations, 1949. S.I. No. 2259.

Public Health (Leprosy) Regulations, 1951. S.I. No. 1036.

Public Health (Ships) Regulations, 1952. S.I. No. 1411.

CANAL BOATS.

Public Health Act, 1936.

FOOD.

Public Health (Meat) Regulations, 1924-1948 (Part IV) S.R. & O. 1924. No. 1432 ; 1935 No. 187 ; S.I. 1948, No. 1119.

Public Health (Preservatives, etc., in Food) Regulations, 1928. S.R. & O. 1925, No. 775 ; 1926, No. 1577 ; 1927, No. 577.

Public Health (Imported Milk) Regulations, 1926, S.R. & O., No. 820.

Public Health (Imported Food) Regulations, 1937 and 1948, S.R. & O., 1937, No. 329 ; S.I. 1948, No. 886.

Food and Drugs (Whalemeat) Regulations, 1949. S.I. No. 404.

Food and Drugs (Whalemeat) (Amendment) Regulations, 1950. S.I. No. 189.

Food and Drugs Amendment Act, 1954 (Section 24).

SHELLFISH.

Public Health (Shellfish) Regulations, 1934. S.R. & O. No. 1342.

Medway (Shellfish) Regulations, 1935. S.R. & O. No. 1221.

RATS AND MICE.

Prevention of Damage by Pests Act, 1949.

Prevention of Damage by Pests (Application to Shipping) Order, 1951. S.I. No. 967.

SMOKE ABATEMENT.

Public Health (London) Act, 1936.

ABATEMENT OF NUISANCES AND REMOVAL OF REFUSE.

Public Health (London) Act, 1936.

FERTILISERS AND FEEDING STUFFS.

Fertilisers and Feeding Stuffs Act, 1926.

Order appointing 1st July, 1928, as the date for the coming into operation of the Fertilisers and Feeding Stuffs Act, 1926. S.R. & O. 1928. No. 439.

Fertilisers and Feeding Stuffs Regulations, 1932. S.R. & O. No. 658.

Fertilisers and Feeding Stuffs (Amendment) Regulations, 1951. S.I. No. 1189.

DANGEROUS DRUGS.

Dangerous Drugs (No. 3) Regulations, 1923. S.R. & O. No. 1095.

ALIENS.

Aliens Order, 1953. S.I. No. 1671.

AIRCRAFT.

Public Health (Aircraft) Regulations, 1952. S.I. No. 1410.

IMPORTATION OF CATTLE.

Ministry of Agriculture and Fisheries Animals (Importation) Order, 1930, dated 4th November, 1930. Part III, Article 22 ; Part IV, Articles 23, 24 and 25.

Ministry of Agriculture and Fisheries Animals (Landing from Ireland, Channel Islands and Isle of Man) Order, dated 17th January, 1933. Part II, Article 17.

BYE-LAWS.

Bye-laws have been made by the Port of London Health Authority :—

1. For preventing nuisances arising from barges or vessels carrying offensive cargoes.

2. For removing to hospital any person suffering from dangerous infectious disorders, and for the keeping therein of such persons as long as may be deemed necessary.

3. With respect to Houseboats used for human habitation within the limits of the Port of London.