



## LLOYD'S REGISTER OF SHIPPING

Port WELLINGTON, New Zealand.Date 29th July, 1966.

This is to Certify that at the request of Messrs. Newton King Ltd., and Messrs. Port Line Ltd., Lloyd's Agents at New Plymouth and Wellington respectively, and with the consent of the Owners, the undersigned Surveyor to this Society attended on board the m.s. "PORT WYNNDHAM" 8702 gross tons of London on various dates between the 13th & 28th May, 1966 inclusive whilst lying afloat at New Plymouth, and on various dates between the 30th May and 23rd June, 1966 inclusive whilst lying afloat at Wellington, for the purpose of ascertaining the nature and extent of damage alleged to have been sustained by a fire which broke out in the Engineroom at 1810 hrs on the 12th May, 1966.

Extract from Master's Official Log Book dated 12th May, 1966.

"At 1840 hours this day whilst myself and No.41 R.C. Morgan Chief Engineer were having dinner at the home of the Ships Agent Mr. K. Davis of The Taranaki Shipping Agencies Ltd., I was informed by the Chief Officer No.2 J.D. MacKinnon by telephone that the vessel had a serious fire in the Engine Room. I enquired what actions had been taken to fight this fire and was informed that the New Plymouth Fire Brigade was in attendance and was fighting the fire with foam. Mr. Morgan, Mr. Davis and myself then proceeded to the vessel by car arriving on board at 1905 hours. Once on board I was immediately in contact with the Chief Officer and No.67 C. Grant Senior 2nd Engineer, who informed me of the following facts.

At 1810 hours a flashback from the Donkey Boiler situated in the fore part of the engine room occurred. This flashback ignited waste oil floating on the water in the port E.R. bilge situated adjacent to the Donkey Boiler and to paint on the fore'd engine room bulkhead. Immediately No.47 G. Mosley Junior 4th Engineer who was

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Surveyor to Lloyd's Register of Shipping

This Certificate is issued upon the terms of the Rules and Regulations of the Society, which provide that:—

"The Committees of the Society use their best endeavours to ensure that the functions of the Society are properly executed, but it is to be understood that neither the Society nor any Member of any of its Committees nor any of its Officers, Servants or Surveyors is under any circumstances whatever to be held responsible or liable for any inaccuracy in any report or certificate issued by the Society or its Surveyors, or in any entry in the Register Book or other publication of the Society, or for any act or omission default or negligence of any of its Committees or any Member thereof, or of the Surveyors, or other Officers, Servants or Agents of the Society."



Extract from Master's Official Log Book dated 12th May, 1966-  
Continued:-

the duty engineer and present in the engine room sounded the engineers alarm. At 1812 hours Engineer Officers under the control of the Senior 2nd Engineer commenced fighting the fire with all the engine room fire extinguishers.

At 1820 hours the fire had got out of control and because of dense smoke the engine room was evacuated, the general fire alarm sounded, the New Plymouth Fire Brigade called, engine room skylights and ventilatorflaps closed, fire proof doors to the tunnels closed and after an engineroom personnel check, boiler drenching and steam smothering valves to the Donkey Boiler were opened.

At 1830 hours the New Plymouth Fire Brigade arrived and boarded the vessel under the control of the Chief Fire Officer Mr. Wesley. At 1845 hours a foam attack with hoses from the upper engine room platform was commenced and an attempt to reach the fire by firemen equipped with Breathing Apparatus through the shaft tunnels was made. They were unsuccessful but the foam attack from the upper platforms was continued.

At 2015 hours because the engine room temperature was increasing and the smoke getting denser I decided to flood the engine room with CO<sub>2</sub> gas. Complete sealing of the engine room was effected after all firemen and ships personnel fighting the fire had been accounted for, and at 2040 hours the engine room CO<sub>2</sub> flooding system was operated.

At 2030 hours Captain Giles of the New Plymouth Harbour Board brought the dredge "MOAMOTU" alongside the port side of this vessel and at my request commenced hosing water on to the shipside plates in an attempt to cool down the port 'tween deck bunker oil tanks which were empty and commencing to emit fuel oil vapour from the air pipes.

At 2100 hours I decided that the flooding of the engine room with CO<sub>2</sub> gas was having no effect as the temperature of the engine room bulkheads had risen appreciably since 2015 hours and I ordered the introduction of water to the engine room directly through the for'd engine room skylights. This introduction of water was commenced at 2105 hours, and at 2130 hrs. it had cooled the temperature and cleared the smoke in the engine room sufficiently for the re-introduction of the foam attack from the upper engine room platforms. This had the further effect of controlling the fire so that at 2155 hours I was able to cease the introduction of water to the engine room, and firemen equipped with Breathing Apparatus were able to reach the seat of the fire through the watertight doors.

Also at 2130 hours the spraying of the ships side with water by "MOAMOTU" had the desired effect of cooling the port 'tween fuel tanks and fuel oil vapour had ceased

Continued/.....



Extract from Master's Official Log Book dated 12th May, 1966 -  
Continued:-

emitting from the air pipes and shipside spraying was stopped. The "NGAMOTU" left the vessel shortly after.

At 2215 hours the fire was finally extinguished and the foam attack was stopped. At 2230 hours the engine room was inspected and all shipside valves closed, and as the tank room and paint store locker bulkhead temperatures were still very high it was decided to spray these bulkheads with light water. This spraying continued until 2400hrs when it was considered safe to stop. At this time I considered that the emergency was over, but I requested that firemen and a tender remain with the vessel throughout the night.

During and after the fire emergency all non-essential crew members were sent ashore and accommodated at hotels in the town of New Plymouth.

Lloyd's Surveyor in Wellington has been informed of this engine room fire and will be attending the vessel as soon as possible."

Extract from Chief Engineer's Log Book dated 12th May, 1966.

"1810 hrs. Fire broke out in the Port Forward corner of the Engine Room in front of the Donkey Boiler situated on bottom platform.

Immediately the Engineers Alarm was sounded by the Duty Engineer G. Mosley, J/4/E, who was present in the Engine Room at the time, and who then commenced to attack the fire using foam extinguishers assisted by D. Greer, Donkeyman.

Engine Room staff on board vessel at the time and alerted by the alarm continued fighting the fire with foam appliances under the direction of C. Grant, S/2/E.

1820 hrs. C. Grant considered the fire out of control. General alarm sounded and New Plymouth fire brigade called. Donkey Boiler drenching and steam smothering valves were operated, Engine Room sealed off.

1830 hrs. Fire Brigade in attendance.

1845 hrs. Foam attack under way from upper levels of Engine Room.

1905 hrs. I returned to vessel in company of Master.

2015 hrs. Engine Room evacuated and sealed off.

2040 hrs. CO2 Flooding system operated.

2105 hrs. Water introduced by hoses through Engine Room skylight.

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Extract from Chief Engineer's Log Book dated 12th May, 1966 -  
Continued:-

2130 hrs. Foam re-introduced from Engine Room levels.

2155 hrs. Fire extinguished and foam attack stopped.

2230 hrs. I entered Engine Room with Mr. Wesley, Chief Fire Officer, through tunnel doors.

Tank Room and Paint Store bulkheads sprayed with water to reduce their high temperature.

Shipside valves closed by C. Grant, S/2/E, and K. Williams, J/2/E acting on my instruction.

2400 hrs. Spraying of Tank Room and Paint Store bulkheads ceased. One unit of Fire Brigade in attendance with fireman on watch in Engine Room throughout night."

Upon examination, the undersigned found the damage directly attributable to the fire to be mainly confined to buckled bulkhead plating in the vicinity of the boiler; major electrical damage to power and lighting cables, motors and equipment mostly port side; numerous leaking pipe line and valve chest joints port side; leaky cylinder liners on No.1 (port forward) generator engine; condenser S.W. cooling overboard discharge valve chest fractured; and various other damages to pumps, pressure gauges, lubricators, floor plates and bearers, etc. A considerable area of paint work was burned, and the whole of the exposed surfaces of the engineroom and its contents up to skylight level was blackened by soot.

Damage attributable to extinguishing operations was mainly confined to low resistance readings of the port forward and port after generators, and contamination of the main engine lubricating oil due to a starboard main engine cylinder and a port main engine crankcase door being open at the time of the fire. Oil from the bilges had also spread generally about the tank tops in the engine room and tunnel.

The following recommendations were made without prejudice to the terms and conditions of insurance, and all these recommended repairs have been completed to the undersigned's satisfaction:-

REPAIRS OF A PERMANENT NATURE DIRECTLY ATTRIBUTABLE  
TO THE FIRE

- (1) No.1 (port forward) generator engine - All cylinder liners to draw, re-rubber and refit; pedestal bearing to remetal; damaged No.8 cylinder fuel pump to remove and replace with ship's new spare; tachometer to repair with new parts as necessary; crankcase and sump to thoroughly clean out and re-charge with new lubricating oil; first two lengths of exhaust pipe lagging to renew.
- (2) Bilge pump (including air pump) to open up for examination and overhaul; impeller shaft steady bearing to remetal; ball float on air pump to renew together with Owner's spare buckets and rings.

Continued/.....



REPAIRS OF A PERMANENT NATURE DIRECTLY ATTRIBUTABLE TO THE FIRE -  
Continued:-

- (3) Lower auxiliary boiler - Ruptured copper scum pipe to renew; flexible oil burner pipes to renew in copper; all damaged lagging on boiler to remove and renew; fractured air blower casing to repair with bronze welding; boiler air failure fuel shut-off device to open for examination and overhaul, and rubber diaphragm and valve spring to renew.
- (4) All defective pipe line and valve chest joints, condenser door joints, boiler door joints, port forward generator engine crankcase door joints, etc. to remake. (Note: This damage was extensive and widespread both below and above the floor plates, port side.)
- (5) Leaking main outlet valve at bottom of the port forward oil fuel side bunker to make tight. Bunker to open up, clean and gas free for access.
- (6) Port M.E. mechanical cylinder lubricators to overhaul using ship's spare glasses and joints as necessary.
- (7) Various pressure gauges to renew (8 in number).
- (8) Buckled floor plates and bearers, port side, in way of No.1 generator engine to remove, fair and refit.
- (9) Six broken engine room skylight glasses to renew.
- (10) All damaged steam and exhaust pipe lagging to make good.
- (11) All damaged foam extinguishers to test, repair and/or renew as necessary.
- (12) Generator F.W. pump motor - Scorched leads from coils to commutator to lift and re-insulate, and seized bearings to replace with ship's new spares.
- (13) Generator F.W. pump starter - To completely rewire and hold-on coil to renew.
- (14) Boiler blower motor - To repair with ship's new spare armature, field coils and other spares; interpoles to rewind; and damaged armature to rewind and remica commutator as spare.
- (15) Boiler blower motor starter - To replace with ship's spare purifier motor starter suitably modified to have the remote stop switch incorporated.
- (16) Bilge pump motor - To repair with ship's spare armature, field coils, interpoles and other spares, and damaged armature to rewind and commutator remica as spare.
- (17) Bilge pump motor starter - To recondition with port new wiring.
- (18) "Radio Visor" lower boiler flame failure alarm - Automatic valve solenoid, amplifying valve, and photo-electric cell to replace with ship's spares, and solenoid valve and photo-electric cell

Continued/.....



REPAIRS OF A PERMANENT NATURE DIRECTLY ATTRIBUTABLE TO THE FIRE - Continued:-

(18) Cont'd/.....

wiring to renew.

(19) Engineerroom crane - Auxiliary wiring, port side, to repair with part new.

Other permanent repairs of a minor nature also recommended.

NOTE:- There being a strong smoke taint in the No.3 lower hold, and it being stated by one of the ship's officers that heavy smoke was emanating from within the insulation at the port after corner of the hold at the time of the fire, it was recommended that the insulation be exposed in that area for the full depth of the hold necessitating the removal of brine grids and galvanised steel sheathing. Upon exposure it was found that a small section of cork about 2'0" deep had been left in the bulkhead wing stiffener space and in the after shell frame space presumably at the time the bulkhead insulation was changed to glass wool about 8/9 years ago. This cork was found to be severely charred and obviously the source of the taint. The whole of the removed insulation was replaced with new glass wool, but despite a thorough general washing down of the hold, including the removal and replacement by new of the wood battening on the floor of the hold and the continuous use of ozonair machines, the taint, although much reduced in strength, was, on 9th June, still considered too strong for the carriage of refrigerated cargo, and the Owners decided to convert to general cargo. In this connection the undersigned would remark that should the taint be still present upon the vessel's return to the United Kingdom, it might well be that the cause is impregnation of the insulating material by smoke necessitating further stripping and renewal.

REPAIRS OF A TEMPORARY NATURE DIRECTLY ATTRIBUTABLE TO THE FIRE

- (1) Cement box to fit around fractured condenser S.W. overboard discharge valve chest bend. Chest to be renewed at the next drydocking.
- (2) All loose and burnt felt in the port M.E. scavenge pump air intake to remove. Felt to be made good upon vessel's return to the United Kingdom.
- (3) Ten broken portlight glasses on E.R. casing in way of the port and starboard accommodation alleyways to remove and replace with bolted steel plate blanks; permanent repairs being left to Owner's convenience.
- (4) The following severely burnt electric cables to replace with efficient temporary leads pending re-examination upon the vessel's return to the United Kingdom:-

Nos. 1 & 2 generator mains, equalising & shunt cables.  
Generator F.W. pump mains and shunt from board to starter.  
Generator F.W. pump wiring between starter and motor.

Continued/.....



REPAIRS OF A TEMPORARY NATURE DIRECTLY ATTRIBUTABLE TO THE FIRE -  
Continued:-

(4) Cont'd.

Boiler blower mains and shunt from board to starter and remote stop wiring.  
Boiler blower wiring between starter and motor.  
Bilge pump mains and shunt from board to starter.  
Bilge pump wiring between motor and starter.  
E.R. auxiliary board No.2 - mains from S.B. to panel (serving M.E. turning gear, F.O. transfer pump and generator extractor fans).  
E.R. auxiliary board No.3 - mains from S.B. to panel (serving purifiers, grinder and E.R. crane motor).  
Mains from heating section board, starboard, to engineers and crew's heating distribution boards, port.  
Mains from port forward E.R. distribution board to aft distribution (lighting).  
E.R. lighting cables and fittings generally about port side.  
Emergency lighting circuits on port side of E.R. (12 volts).

Other temporary wiring repairs of a minor nature also recommended.

NOTE:- No.1 (port forward) generator main cables have been replaced by a 65 ft. run of aluminium sheathed P.V.C. covered 1,100 volt grade cables comprising three single core 0.3 sq. in. cables per pole, the equalising cable being replaced by one 0.3 sq. in. and one 0.2 sq. in. single core cables run in parallel. The continuous rating of these cables being 1,135 amps against the generator rating of 1,100 amps. The shunt regulator cable was replaced by one single core 7/064, P.V.C. insulated, copper armoured and P.V.C. oversheathed cable.

No.2 (port after) generator main cables have been replaced by a 95 ft run of lead sheathed, steel tape armoured and braided cables of four core construction. These temporary cables are of the oil impregnated paper insulated type of 1,100 volt grade. Each pole is served by one of these cables having three cores of 0.3 sq. in. section and one core of 0.15 sq. in. section totalling 1.05 sq. in. per pole. The equalising cable has been replaced by a four core cable of similar construction but comprising four cores of 0.2 sq. in. totalling 0.8 sq. in. The continuous rating of the main cables being 1665 amps and that of the equalising cable 820 amps against the generator rating of 1700 amps. The shunt regulator cable was replaced by a single core 7/064 P.V.C. insulated, copper armoured and P.V.C. oversheathed cable. The cables serving this generator were re-routed along the cat walk grating at the back of the port main engine necessitating the fitting of a channel iron support at the forward end of the grating to the switchboard, alterations to the after end of the grating, and the fitting of a steel protection cover over the cables in way of the cat walk. It was also necessary to cut an access hole in the forward bulkhead in order to feed the cable into the engine room from No.3 upper 'tween deck, the hole afterwards being closed with a welded steel plate patch.

All other power and lighting cables used were of equal or greater rating than those replaced, and were P.V.C. insulated,

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REPAIRS OF A TEMPORARY NATURE DIRECTLY ATTRIBUTABLE TO THE FIRE -  
Continued:-

Note Cont'd.:-

copper armoured, and P.V.C. oversheathed.

The original burnt cables were merely disconnected and left in place, the new temporary cables being, for the most part, slung underneath with efficient steel supporting bands.

- (5) The engineroom and its contents to wash down, burnt paint-work to roughly scale off, and some temporary repainting to carry out for brightening purposes only.

REPAIRS OF A PERMANENT NATURE DIRECTLY ATTRIBUTABLE  
TO EXTINGUISHING OPERATIONS.

- (1) No.1 (port forward) generator - to clean and dry out in place by the application of hot air blowers. (Insulation value subsequently raised from 0.01 megohms to 4 megohms).
- (2) No.2 (port after) generator - armature, upper field coils and interpoles to thoroughly clean and dry out in place by the application of hot air blowers, the three lower shunt field coils to replace by ship's spares, and the series coils to re-insulate.

NOTE:- All-in insulation value subsequently raised to 6 megohms but after 8 hours satisfactory running on 500 amps load, the armature suffered a severe blow-down necessitating a complete re-insulation of the coils and commutator. There being no facilities at New Plymouth for electrical work of this magnitude, the vessel was brought to Wellington where the repair was satisfactorily completed.

- (3) Port M.E. wrong-way alarm wiring to renew.
- (4) No.2 fuel valve cooling pump - wiring between starter and motor to renew.
- (5) Port and starboard M.E. crankcases and lubricating oil doubler bottom tanks to thoroughly clean out, and contaminated lubricating oil to replace with new.
- (6) All expended foam fire extinguishers to recharge.
- (7) All expended C.O.2 gas bottles to recharge.
- (8) Temporary flexible lead with strum to make up for the purpose of pumping out the flooded tank tops in engineroom and tunnel. The tank tops, bilges, tunnel sides and well to afterwards thoroughly clean down. NOTE The bilge lines serving a number of these spaces were inoperative due to the defective pipe joints resulting from the fire.



DEFERRED DAMAGES DIRECTLY ATTRIBUTABLE  
TO THE FIRE

The following structural damage was found:-

- (1) Forward engineroom bulkhead, port side, to be buckled between stiffeners to a maximum depth of approximately 2", the buckling to extend from the ship's side to about the centre line of the auxiliary boiler, and from floorplate level to a height corresponding to the top of the cofferdam between the port forward side bunker and the bulkhead.
- (2) Tank side of the port forward side bunker in engineroom to be buckled at the forward end to a maximum depth of approximately 1½"; the bunker forward bulkhead (within cofferdam) to be slightly buckled, and the cofferdam floor to be buckled.
- (3) Baffle plating above the lower auxiliary boiler and in way of the boiler on the forward bulkhead to be buckled.

Time did not allow repairs being effected to these three items without considerable further delay to the vessel, and at the instance of the Owner's Superintendent, the damages have been left to be re-examined and dealt with as considered necessary upon the vessel's return to the United Kingdom. Considered satisfactory meantime.

CAUSE OF DAMAGE:-

The undersigned considers that the origin of the fire was reasonably attributable to the alleged cause viz: due to a flash-back from the lower auxiliary boiler igniting waste oil floating on the water in the adjacent port bilge.

COSTS:-

Copies of the accounts for the repairs effected, and for other relevant charges incurred directly as a result of the fire, are attached to the original of this report. The accounts are listed below, and the relative amounts as considered equitable by the undersigned have been allocated between fire and extinguishing costs.

<u>PRESENTED BY</u>	<u>AMOUNT</u>	<u>ALLOCATED</u>	<u>ALLOCATED TO</u>
		<u>TO FIRE</u>	<u>EXTINGUISHING</u>
		<u>A/C</u>	<u>A/C.</u>
	£. s. d.	£. s. d.	£. s. d.
Swanson Engineering .....	4224- 9-11	4224- 9-11	-
" " .....	926- 3-10	555-14- 4	370- 9- 6
" " .....	473- 8- 6	-	473- 8- 6
" " .....	3071-18- 9	3071-18- 9	-
" " .....	96-10- 0	96-10- 0	-
<u>Carried Fwd:-</u>		8792-11- 0	843-18- 0



<u>PRESENTED BY</u>	<u>AMOUNT</u>	<u>ALLOCATED</u>	<u>ALLOCATED TO</u>
		<u>TO FIRE</u>	<u>EXTINGUISHING</u>
		<u>A/C</u>	<u>A/C</u>
	£. s. d.	£. s. d.	£. s. d.
Brought Forward:	8792-11- 0	7948-13- 0	843-18- 0
Taranaki Shipping Agencies..	120- 5- 7	120- 5- 7	-
Dominion Stevedoring.....	237-11-11	237-11-11	-
" " .....	1-17- 0	1-17- 0	-
" " .....	28- 6- 0	28- 6- 0	-
" " .....	46- 1- 9	46- 1- 9	-
Boon Bros.....	206- 1- 7	206- 1- 7	-
" " .....	19-19- 6	19-19- 6	-
William Cables.....	3674- 5- 3	-	3674- 5- 3
" " .....	775- 8- 4	775- 8- 4	-
Port Line Ltd. (Pd. to crew in respect of overtime worked by deck Department) .....	154-12- 0	154-12- -	-
Port Line Ltd. (Pd. to crew in respect of overtime worked by Engine Department).....	77- 5- 0	77- 5- 0	-
B.P. (N.Z.) Ltd.....	14-11- 9	-	14-11- 9
Taranaki Harbour Board.....	391-18- 7	-	391-18- 7
" " " .....	1370-17- 9	787- 9- 3	583- 8- 6
New Plymouth Fire Brigade...	789-11- 3	-	789-11- 3
Wormald Brothers .....	81- 7- 6	70-15- 0	10-12- 6
* " " .....	812-10- 0	-	812-10- 0
 TOTAL	 £17595- 1- 9	 £10474- 5-11	 £7120-15-10

Included in these amounts are sums of £1021-1-9 and £595-7-2 being penal rates incurred by reason of working overtime on the Fire and Extinguishing Damages respectively.

The accounts have been carefully examined and are considered fair and reasonable and in accordance with prevailing local conditions, except the account marked \* for £812-10-0 which appears excessive and is presently being questioned.

Also attached to the original of this report, is a list of Engineerroom and Deck Department stores and spares claimed by the Owners to have been used in making good the fire damage (including cleaning up the Engineerroom), and another list of Engine and Deck Department stores, etc., damaged during extinguishing operations. Copies of the accounts for the items supplied in New Zealand are attached to the respective lists.

It was necessary for the crew to be accommodated ashore pending restoration of services on board, and the Owners, it is understood, will be submitting claims in respect of these extra disbursements.

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TIME SAVED:-

On the basis of a 40 hour week the undersigned estimates the time saved by reason of working overtime to be 13 normal working days of 8 hours duration for the repairs carried out at New Plymouth, and 17 days for those carried out at Wellington.

CHRONOLOGICAL SUMMARY:-

Fire broke out .....	1810 hrs.	12-5-66
Fire extinguished .....	2230 hrs.	12-5-66
Repairs completed at New Plymouth and vessel sailed for Wellington.....	1200 hrs.	28-5-66
Vessel arrived Wellington.....	0900 hrs.	29-5-66
Repairs completed at Wellington & vessel sailed.	2029 hrs.	23-6-66

Fee : : : : 2272-0-0

Exes: : : : 57-13-0

*LS*

*[Signature]*

Surveyor to Lloyd's Register  
of Shipping



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