

**REPORT ON ELECTRIC FITTINGS.**

(OTHER THAN FOR THE PROPULSION OF THE VESSEL)

Received at London Office

[ 9 JUN 1932 ]

Date of writing Report

19

When handed in at Local Office

8 JUN 1932

Port of **NEWCASTLE-ON-TYNE**

No. in Survey held at

NEWCASTLE ON TYNE

Date, First Survey

12 Oct 1931

Last Survey

18 May

19 32

Reg. Book.

(Number of Visits.....8.....)

on the **S.S. HARPALION**Tons { Gross  
NetBuilt at **NEWCASTLE ON TYNE**

By whom built

**HAWTHORN LESLIE & CO LTD**When built **1932**Owners **NATIONAL S.S. CO LTD.**

Port belonging to

**LONDON.**

Electric Light Installation fitted by

**HAWTHORN LESLIE & CO LTD.**Contract No. **585**When fitted **1932**Is the Vessel fitted for carrying Petroleum in bulk **No.**System of Distribution **Double Wire**Pressure of supply for Lighting **110** volts, Heating **—** volts, Power **110** volts.

Direct or Alternating Current, Lighting

**Direct**

Power

**Direct**If alternating current system, state frequency of periods per second **—**Has the Automatic Governor been tested and found efficient when the whole load is suddenly thrown on or off **Yes**Generators, do they comply with the requirements regarding rating **Yes**, are they compound wound **Yes**are they over compounded 5 per cent. **Yes**, if not compound wound state distance between each generator **—**Where more than one generator is fitted are they arranged to run in parallel **—**

, is an adjustable regulating resistance fitted in

series with each shunt field **Yes**Are all terminals accessible, clearly marked, and furnished with sockets **Yes**

, are they so spaced or shielded that they cannot be accidentally earthed,

short circuited, or touched **Yes**Are the lubricating arrangements of the generators as per Rule **Yes**

Position of Generators

**Engine Room, Starboard side.**is the ventilation in way of the generators satisfactory **Yes**, are they clear of all inflammable material **Yes**

if situated near unprotected woodwork or other combustible material, state distance of same horizontally from or vertically above the generators

— and —, are the generators protected from mechanical injury and damage from water, steam or oil **Yes**are their axes of rotation fore and aft **Yes**Earthing, are the bedplates and frames of the generating plant efficiently earthed **Yes**

are the prime movers and

their respective generators in metallic contact **Yes**

Main Switch Boards, where placed

**Engine Room, Starboard side.**If the generators and main switchboard are not placed in the same compartment, is each generator provided with a fuse on each insulated pole as near as possible to the terminals of the generator, additional to that provided on the main switchboard **—**Switchboards, are they placed in accessible positions, free from inflammable gases and acid fumes **Yes**are they protected from mechanical injury and damage from water, steam or oil **Yes**

, if situated near unprotected

woodwork or other combustible material, state distance of same horizontally from or vertically above the switchboards **—** and **—**are they constructed wholly of durable, non-ignitable non-absorbent materials **Yes**

, is all insulation of high dielectric strength and of

permanently high insulation resistance **Yes**

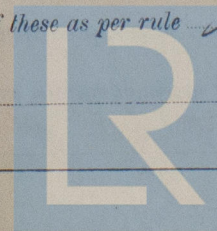
, if semi-insulating material is used, are all conducting parts insulated from the slab

with mica or micanite or other non-hygroscopic insulating material, and the slab similarly insulated from its framework **Yes**and is the frame effectively earthed **Yes**

Are the fittings as per Rule regarding:— spacing or shielding of live parts

**Yes**, accessibility of all parts **Yes**, absence of fuses on back of board **Yes**

, proportion of omnibus

bars **Yes**, individual fuses to voltmeter, pilot or earth lamp **Yes**, connections of switches **Yes**Main Switchgear, description of switchgear for each generator and each outgoing circuit, and arrangement of equalizer switches **D.P. Switch and****fuses for generator. S.P. switch and D.P. fuses for each outgoing circuit.**Instruments on main switchboard **1** ammeters **1** voltmeters **—** synchronising device for paralleling purposes.Earth Testing, state what means are provided at the main switchboard for indicating the state of the insulation of the system **Earth lamps****connected to earth through switches and fuses.**Switches, Circuit Breakers and Fusible Cut-outs, do these comply with the requirements of the Rules **Yes**Joint Boxes Section and Distribution Boards, is the construction, protection, insulation, material, and position of these as per rule **Yes**

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Lloyd's Register

Foundation

W 42-0131(112)



Cables: Single, twin, concentric, or multicore *Single* are the cables insulated and protected as per Tables IV or V of the Rules *Yes*

Fall of Pressure, state maximum between bus bars and any point of the installation under maximum load *4 volts*

Cable Sockets and other connections, are the ends of all cables having a sectional area of 0.04 square inch and above provided with soldering sockets *Yes*

Paper Insulated Cables. If cables are paper covered, is the dielectric at the exposed ends of the conductor protected from moisture by being suitably sealed with insulating compound *—*

Cable Runs, are the cables fixed as far as possible in accessible positions not exposed to drip or accumulation of water or oil, or to high temperature from boilers, steam pipes, uptakes or other hot objects, or to avoidable risk of mechanical damage *Yes*

Support and Protection of Cables, state how the cables are supported and protected *mainly V.I.R. in galvanized iron pipes*

Accommodation: L.C. cables clipped up. Machinery Spaces: L.C. & A cables clipped up.

If cables are run in wood casings, are the casings and caps secured by screws *—*, are the cap screws of brass *—*, are the cables run in separate grooves *—*. If armoured and lead covered cables are secured by metal clips, are the clips spaced as per Table VIII *Yes*

Refrigerated Chambers, if lights are fitted, are the cables and fittings in accordance with the special requirements *Yes*

Joints in Cables, state if any, and how made, insulated, and protected *none made*

Watertight Glands and Deck Tubes, are all cables passing through decks and watertight bulkheads provided with deck tubes or watertight glands *Yes*

Bushes in Beams and Non-watertight Partitions, where unarmoured cables pass through beams and non-watertight partitions, are the holes efficiently bushed *Yes*. state the material of which the bushes are made *Lead*

Earthing Connections, state what earthing connections are fitted and their respective sectional areas *—*, are their connections made as per Rule *—*

Alternative Lighting, are the groups of lights in the propelling machinery space arranged as per Rule *Yes*

Emergency Supply, state position and method of control of the emergency supply and how the generator is driven *—*

Navigation Lamps, are these separately wired *Yes*, controlled by separate switch and separate fuses *Yes*, are the fuses double pole *Yes*, are the switches and fuses grouped in a position accessible only to the officers on watch *Yes*, has each navigation lamp an automatic indicator as per Rule *Yes*

Secondary Batteries, are they constructed and fitted as per Rule *—*

Fittings, are all fittings on weather decks, in stokeholds and engine rooms and wherever exposed to drip or condensed moisture, watertight *Yes*, are any fittings placed in spaces in which goods are liable to be stacked in close proximity to them; if so, how are they protected *—*, are any fittings placed in spaces where inflammable or explosive dust or gases are liable to be present, if so, how are they protected *—*, how are the cables led *—*, where are the controlling switches situated *—*

Searchlight Lamps, No. of *—*, whether fixed or portable *—*, are their fittings as per Rule *—*

Arc Lamps, other than searchlight lamps, No. of *—*, are their live parts insulated from the frame or case *—*, are their fittings as per Rule *—*

Motors, are their working parts readily accessible *Yes*, are the coils self-contained and readily removable for replacement *Yes*, are the brushes, brush holders, terminals and lubricating arrangements as per Rule *Yes*, are the motors placed in well-ventilated compartments in which inflammable gases cannot accumulate and clear of all inflammable material *Yes*, are they protected from mechanical injury and damage from water, steam or oil *Yes*, are their axes of rotation fore and aft *Yes*, if situated near unprotected woodwork or other combustible material, are the motors of the totally enclosed, pipe ventilated, forced draught, drip or flame proof type *—*, if not of this type, state distance of the combustible material horizontally or vertically above the motors *—* and *—*

Control Gear and Resistances, are the generator field and motor speed regulators, starters and controllers constructed and fitted as per Rule *Yes*

Lightning Conductors, where lightning conductors are required, are these fitted as per Rule *—*

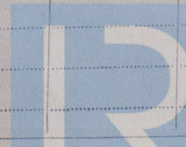
Ships carrying Oil having a Flash Point less than 150° F. Have the special requirements of the Rules been complied with regarding switches, joint boxes, section and distribution boards, protection of cables, method of distribution, lead of cables, lights and fittings *—*

If portable lamps for use in dangerous spaces are supplied, are they of a type approved by the Home Office *—*

PARTICULARS OF GENERATING PLANT.									
DESCRIPTION OF GENERATOR.	No of	RATED AT				DRIVEN BY	WHERE DRIVEN BY AN INTERNAL COMBUSTION ENGINE.		
		Kilowatts.	Volts.	Ampères.	Revs. per Min.		Fuel Used.	Flash Point of Fuel.	
MAIN ... ..	1	14	110	127	600	S.C. Steam Engine.			
AUXILIARY ... ..									
EMERGENCY ... ..									
ROTARY TRANSFORMER									

GENERATOR, LIGHTING AND HEATING CONDUCTORS.									
DESCRIPTION.	CONDUCTORS.		COMPOSITION OF STRAND.		TOTAL MAXIMUM CURRENT. AMPERES.		Approximate Length. (Lead and Return.) Feet.	Insulated with	HOW PROTECTED.
	No. per Pole.	Total Effective Area per Pole Sq. Ins.	No.	Diameter.	In Circuit.	Rule.			
MAIN GENERATOR ... ..	1	0.11680	37	.064	127	130	50	V.I.R.	L.C. & A.
EQUALISER CONNECTIONS ... ..									
AUXILIARY GENERATOR ... ..									
EMERGENCY GENERATOR ... ..									
ROTARY TRANSFORMER } MOTOR									
GENERATOR ... ..									
ENGINE ROOM ... ..	1	0.00455	7	.029	11	18.2	24	V.I.R.	do do.
BOILER ROOM ... ..	1	0.00455	7	.029	11	18.2	60	do.	do do.
AUXILIARY SWITCHBOARDS ... ..									
ACCOMMODATION AFT. ... ..	1	0.01046	7	.044	9.5	31	450	do.	Galv. Iron Pipe.
do. MIDSHIPS ... ..	1	0.03960	19	.052	33.3	64	150	do	do do
NAVIGATION ... ..	1	0.00455	7	.029	1.9	18.2	400	do	do do
WIRELESS ... ..	1	0.01046	7	.044	21	31	400	do	do do.
SEARCHLIGHT ... ..									
MASTHEAD LIGHT ... ..	1	0.00194	3	.029	36	7.8	360	do	do do
SIDE LIGHTS ... ..	1	0.00194	3	.029	36	7.8	90	do	L.C.
COMPASS LIGHTS ... ..	1	0.00194	3	.029	36	7.8	30	do	do
STERN LIGHTS ... ..	1	0.00194	3	.029	36	7.8	640	do	Galv. Iron Pipe.
CARGO LIGHTS ... ..	1	0.02214	7	.064	20.2	46	150	do	do do
ARC LAMPS ... ..	1	0.03960	19	.052	20.2	64	330	do	do do
HEATERS ... ..									

MOTOR CONDUCTORS.										
DESCRIPTION.	No. of Motors.	CONDUCTORS.		COMPOSITION OF STRAND.		TOTAL MAXIMUM CURRENT. AMPERES.		Approximate Length. (Lead and Return.) Feet.	Insulated with	HOW PROTECTED.
		No. Per Pole.	Total Effective Area per Pole Sq. Ins.	No.	Diameter.	In Circuit.	Rule.			
BALLAST PUMP ... ..										
MAIN BILGE LINE PUMPS ... ..										
GENERAL SERVICE PUMP ... ..										
EMERGENCY BILGE PUMP ... ..										
SANITARY PUMP ... ..										
CIRC. SEA WATER PUMPS ... ..										
CIRC. FRESH WATER PUMPS ... ..										
AIR COMPRESSOR ... ..										
FRESH WATER PUMP ... ..										
ENGINE TURNING GEAR ... ..										
ENGINE REVERSING GEAR ... ..										
LUBRICATING OIL PUMPS ... ..										
OIL FUEL TRANSFER PUMP ... ..										
WINDLASS ... ..										
WINCHES, FORWARD ... ..										
WINCHES, AFT ... ..										
STEERING GEAR—										
(a) MOTOR GENERATOR ... ..										
(b) MAIN MOTOR ... ..										
WORKSHOP MOTOR ... ..										
VENTILATING FANS ... ..										
REFRIG. COMPRESSOR MOTOR ... ..	1	1	0.02214	7	.064	24	46	380	V.I.R.	Galv. Iron Piping
do CIRC. PUMP MOTOR ... ..	1	1	0.02214	7	.064	8	46	450	do	do do.



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Hodgk



All Conductors are of annealed copper conforming to British Standard Specification No. 7.

The Insulated Conductors are guaranteed to withstand the immersion and resistance tests specified in the Rules.

The foregoing is a correct description.

FOR R. & W. HAWTHORN, LESLIE & Co. LIMITED.

*Mr. L. G. G. G.*

Electrical Engineers.

Date *7<sup>th</sup> June 1932*

#### COMPASSES.

Distance between electric ~~generators~~ or motors and standard compass *40 ft approx*

Distance between electric ~~generators~~ or motors and steering compass *32 ft approx*

The nearest cables to the compasses are as follows:—

A cable carrying *109* Amperes *in the* feet from standard compass *8* feet from steering compass.

A cable carrying *109* Amperes *8* feet from standard compass *in the* feet from steering compass.

A cable carrying *109* Amperes *8* feet from standard compass *in the* feet from steering compass.

Have the compasses been adjusted with and without the electric installation at work at full power *Yes*

Has the effect of switching on and off circuits, motors and other electro-magnetic apparatus within the vicinity of the compasses been noted *Yes*

The maximum deviation due to electric currents was found to be *nil* degrees on *any* course in the case of the standard

compass, and *nil* degrees on *any* course in the case of the steering compass.

FOR R. & W. HAWTHORN, LESLIE & Co. LIMITED.

*Mr. L. G. G. G.*

Builder's Signature.

Date *7<sup>th</sup> June 1932*

Is this installation a duplicate of a previous case *No*. If so, state name of vessel

General Remarks (State quality of workmanship, opinions as to class, &c. *This installation has been fitted*)

*on board under special survey and has been tested under full working conditions and found satisfactory.*

*The materials and workmanship have been found to be good and sound.*

It is submitted that  
this vessel is eligible for  
THE RECORD.

*Elec. Light.*

*10/6/32*

Total Capacity of Generators *14* Kilowatts.

The amount of Fee ... £ *14* : - : When applied for, *30.5.32*

Travelling Expenses (if any) £ : : When received, *1.6.32*

*R. C. Clayton.*

Surveyor to Lloyd's Register of Shipping.

Committee's Minute

Assigned

*Elec. Lt.*



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