

No. 51840

Rpt. 13.

REPORT ON ELECTRIC FITTINGS.

(OTHER THAN FOR THE PROPULSION OF THE VESSEL) Received at London Office 21 OCT 1931

Date of writing Report 10th October 31 When handed in at Local Office 17. 10. 31 Port of GLASGOW.

No. in Survey held at GLASGOW. Date, First Survey 25/3/31 Last Survey 14th Oct 1931 (Number of Visits... 1)

Reg. Book. 39711 on the T.S.M.V. "CLIONA" Tons (Gross 8375 Net)

Built at GLASGOW. By whom built HARLAND & WOLFF LTD Yard No. 9089 When built 1931

Owners THE ANGLO SAXON PETROLEUM CO. LTD. Port belonging to LONDON

Electric Light Installation fitted by HARLAND & WOLFF LTD Contract No. 9089 When fitted 1931

Is the Vessel fitted for carrying Petroleum in bulk YES.

System of Distribution DOUBLE WIRE volts, Heating - volts, Power 110 volts.

Pressure of supply for Lighting 110 volts, Heating - Power DIRECT

Direct or Alternating Current, Lighting DIRECT

If alternating current system, state frequency of periods per second YES

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 NO, 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

Position of Generators STAR² FOR^D END OF ENGINE ROOM, Are the lubricating arrangements of the generators as per Rule YES

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, are the prime movers and

Earthing, are the bedplates and frames of the generating plant efficiently earthed YES

their respective generators in metallic contact YES

Main Switch Boards, where placed STAR² FOR^D END OF ENGINE ROOM

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

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

connections of switches YES

Main Switchgear, description of switchgear for each generator and each outgoing circuit, and arrangement of equalizer switches GENERATORS! - D.P.

CIRCUIT BREAKERS WITH OVERLOAD TRIP, OUTGOING CIRCUITS! - D.P. CHANGE

OVER SWITCHES & D.P. FUSES

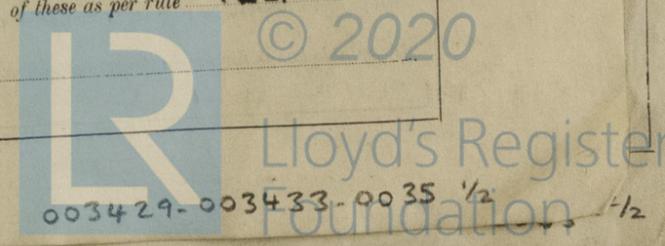
Instruments on main switchboard 2 ammeters 2 voltmeters - synchronising device for paralleling purposes.

Earth Testing, state what means are provided at the main switchboard for indicating the state of the insulation of the system TWO LAMPS IN

SERIES ACROSS BUS BARS, MID POINT EARTHED.

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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Cables: Single, twin, concentric, or multicore **SINGLE & TWIN** 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 **3.82 VOLTS (STERN LT)**

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 **YES**

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 **L.C. IN GAL. STEEL PIPES ALONG DECK, POS & NEG CABLES IN SEPARATE PIPES. L.C. & A CABLES (TWIN) IN ENG & BOILER ROOMS. L.C. IN GAL CONDUIT IN MIDSHIP STORES, L.C. EXPOSED WITH BRASS CLIPS IN ACCOMMODATION.**

If cables are run in wood casings, are the casings and caps secured by screws **YES**, are the cap screws of brass **YES**, are the cables run in separate grooves **YES**. If armoured and lead covered cables are secured by metal clips, are the clips spaced as per Table VIII **YES** WHERE NOT IN PIPES SEE NOTES ABOVE

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 **YES @ AT FOOT OF MASTS, MACINTOSH ALL INSULATED JOINT BOXES IN SPECIAL W.T. METAL BOX. BOILER ROOM, SPECIAL W.T. METAL BOX WITH TERMINAL BLOCKS ON MICANITE INSULATED TUBES.**

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 **METALLIC SHEATHING OF CABLES BONDED AND EARTHED BY MEANS OF CLIPS & GLANDS.**

are their connections made as per Rule **YES**

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 **YES**

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 **YES**

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 **NO**

are any fittings placed in spaces where inflammable or explosive dust or gases are liable to be present, if so, how are they protected **YES, IN PUMP ROOM**

SPECIAL GUARDED GAS TIGHT FITTINGS how are the cables led **YES**

GAL. PIPES KEPT OUTSIDE PUMP ROOM

where are the controlling switches situated **DISTRIBUTION STATION IN MID ACCOMMODATION HOUSE**

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

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

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 **OIL PURIFIER**

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 **YES EXCEPT**

if not of this type, state distance of the combustible material horizontally or vertically above the motors **YES** and **YES**

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 **YES**

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 **YES**

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

PARTICULARS OF GENERATING PLANT.

DESCRIPTION OF GENERATOR.	No. of	RATED AT				DRIVEN BY		WHERE DRIVEN BY AN INTERNAL COMBUSTION ENGINE	
		Kilowatts.	Volts.	Amps.	Revs. per Min.	100% STEAM.	100% OIL	Fuel Used.	Flash Point of Fuel.
MAIN	2	16	110	146	390	100%	100%	SOLAR	150° F
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	.15	37	.072	146	152	40 & 66	V.I.R.	LEAD COVERED & WIRE ARMoured
EQUALISER CONNECTIONS									
AUXILIARY GENERATOR									
EMERGENCY GENERATOR									
ROTARY TRANSFORMER MOTOR GENERATOR									
ENGINE ROOM	1	.04	19	.052	42	64	40	"	"
BOILER ROOM	1	.04	19	.052	42	64	40	"	"
AUXILIARY SWITCHBOARDS									
ACCOMMODATION APT. D° BRIDGE	1	.04	19	.052	41	64	246	"	"
	1	.10	19	.083	57	118	516	"	"
WIRELESS	1	.0145	7	.052	24	37	256	"	"
SEARCHLIGHT	1	.002	3	.029	37	78	450	"	"
MASTHEAD LIGHT	1	.002	3	.029	37	7.8	104	"	LEAD COVERED
SIDE LIGHTS	1	.002	3	.029	37	7.8	36	"	"
COMPASS LIGHTS	1	.002	3	.029	37	7.8	36	"	"
POOP LIGHTS	1	.04	19	.052	42	64	246	"	LEAD COVERED & WIRE ARMoured
CARGO LIGHTS	1	.04	19	.052	42	64	246	"	"
ARC LAMPS									
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	2	1	.06	19	.064	80	83	140 & 252	V.I.R.	LEAD COVERED & WIRE ARMoured
ENGINE TURNING GEAR										
ENGINE REVERSING GEAR										
LUBRICATING OIL PUMPS										
OIL FUEL TRANSFER PUMP										
WINDLASS										
WINCHES, FORWARD	1	1	.01	7	.044	28	31	148	"	"
LUB. OIL PURIFIER	1	1	.01	7	.044	28	31	148	"	"
WINCHES, AFT										
STEERING GEAR—										
(a) MOTOR GENERATOR										
(b) MAIN MOTOR	3	1	.06	19	.064	84	83	192	"	"
WORKSHOP MOTORS										
VENTILATING FANS										

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.

HARLAND & WOLFF, LIMITED.

Electrical Engineers.

Date 15/10/31

COMPASSES.

Distance between electric generators or motors and standard compass APPROX 218 FT

Distance between electric generators or motors and steering compass APPROX 215 FT

The nearest cables to the compasses are as follows:—

A cable carrying .7 Ampères 8 feet from standard compass 2 feet from steering compass.

A cable carrying 1.1 Ampères 10 feet from standard compass 4 feet from steering compass.

A cable carrying 13.1 Ampères 10 feet from standard compass 6 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 ALL course in the case of the standard compass, and NIL degrees on ALL course in the case of the steering compass.

for HARLAND AND WOLFF, LIMITED

R. J. G. Govan
Govan Secretary

Builder's Signature.

Date 15th October 1931

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, etc.)

This installation has been fitted on board under special survey, tested under full working condition and found satisfactory. The materials and workmanship were found to be good and sound.

A.S.
12/10/31

THIS DEED IS TO BE FOR
THE ...
See light.
23/10/31

Total Capacity of Generators 32 Kilowatts.

The amount of Fee ... £ 23 : 0 : 0 10.10.31.

Travelling Expenses (if any) £ 15.10.1931.

L. Haffner
Surveyor to Lloyd's Register of Shipping.

Committee's Minute GLASGOW 20 OCT 1931

Assigned Elec. Light

Im. 9.30.—Transfer.
(The Surveyors are requested not to write on or below the space for Committee's Minutes.)



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