

REPORT ON ELECTRIC FITTINGS.

(OTHER THAN FOR THE PROPULSION OF THE VESSEL)

Received at London Office.....28 SEP 1927

Date of writing Report 12.9.1927 When handed in at Local Office 27.9.1927 Port of GLASGOW.

No. in Survey held at GREENOCK Date, First Survey 12.5.27 Last Survey 9.9.27 19
Reg. Book. (Number of Visits 15)42256 on the M.V. PACIFIC RELIANCE. Tons { Gross 677
Net

Built at GLASGOW By whom built THE BLYTHWOODS S. B. CO. Yard No. 14 When built 1927

Owners MESSRS FURNESS WITHEY & CO. LTD Port belonging to LONDON.

Electric Light Installation fitted by MESSRS THE SUNDERLAND FORGE & CO. Contract No. 14 When fitted 1927

System of Distribution Double Wire

Pressure of supply for Lighting 220 volts, Heating 220 volts, Power 220 volts.

Direct or Alternating Current, Lighting Direct Current Power Direct Current

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 In Engine Room

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

with mica or micaite or other non-hygroscopic insulating material, and the slab similarly insulated from its framework yes

and is the frame effectually 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

Each Generator Triple Pole overload Reverse Current Circuit Breaker 3rd pole acts as equaliser. Each circuit either Double Pole switches & fuses or D.P.C.B. of 1d

Instruments on main switchboard 4 ammeters 3 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 Lamp Switch & Fuse

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



© 2019

Lloyd's Register Foundation

W284-0029 (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. 4.5 volts 11g 9000th power
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, valves 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.B.A. B cables in 2nd Deck covered with steel metal, LCA+B in ER-7 file & LCB 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. 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. no joints
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 & Fibre
Earthing Connections, state what earthing connections are fitted and their respective sectional areas. Yes 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. No Emergency Supply
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 where 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. Yes 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 how are the cables led Yes where are the controlling switches situated Yes
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, laced 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 Yes and Yes if not of this type, state distance of the combustible material horizontally or vertically above the motors 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.	Amperes.	Revs. per Min.		Fuel Used.	Flash Point of Fuel.	
MAIN	3	165	220	750	300/315	Diesel Oil Engine	Diesel Oil	150°F.	filled May 1932
AUXILIARY	1	85	220	386	300	Atlas Island Diesel Engine	Diesel Oil	150°F.	
EMERGENCY									
ROTARY TRANSFORMER									
LIGHTING AND HEATING CONDUCTORS.									
Ref. No.	DESCRIPTION.	No. of Conductors.	Effective Area of each Conductor. Sq. Ins.	COMPOSITION OF STRAND.		Total Maximum Current. Amperes.	Approximate Length. (Lead and Return). Feet.	Insulated with	HOW PROTECTED.
				No.	Diameter.				
	MAIN GENERATOR...	2	0.6	61	0.093	750	320	Varn Camb.	LCA+B
	EQUALISER CONNECTIONS	1	0.6	61	0.093		160	"	"
	AUXILIARY GENERATOR								
	EMERGENCY GENERATOR								
	ROTARY TRANSFORMER...								
	AUXILIARY SWITCHBOARDS								
	ENGINE ROOM								
	BOILER ROOM								
	ACCOMMODATION								
	Forward Winches	2	0.4	61	0.093	400.	230	Varn Camb	LCA+B
	Aft Winches	4	0.4	61	0.093	400.	"	"	"
	R.M. Lts Fore Cont. Ho.	4	0.75	19	0.12	80		Rubber Insul.	"
	Foremast	4	"	19	0.12	80		"	"
	E-Casing Pt	2	"	19	0.12	2.5		"	"
	Starb	2	"	19	0.12	2.5		"	"
	Main Mast	2	"	19	0.12	2.5		"	"
	Heaters	2	0.4	61	0.093	250		Varn Camb	"
	WIRELESS	2	0.045	7	0.029	18.0		Rubber	LCB
	SEARCHLIGHT								
	MASTHEAD LIGHT								
	SIDE LIGHTS	2	0.08	3	0.029	0.5	16	Rubber	LCB
	COMPASS LIGHTS	2	"	3	0.029	0.5	6	"	"
	POOP LIGHTS	2	"	3	0.029	"	"	"	"
	CARGO LIGHTS	2	0.03	3	0.036	"	70	"	"
	ARC LAMPS								
	HEATERS	2	0.02	3	0.029	4.5	15	"	"
MOTOR CONDUCTORS.									
Ref. No.	DESCRIPTION.	No. of Motors.	Effective Area of each Conductor. Sq. Ins.	COMPOSITION OF STRAND.		Total Maximum Current. Amperes.	Approximate Length. (Lead and Return). Feet.	Insulated with	HOW PROTECTED.
				No.	Diameter.				
	BALLAST PUMP	1	0.15	37	0.072	190	190	Rubber	LCA+B
	MAIN BILGE LINE PUMPS	2	0.01	7	0.044	30	110	"	"
	GENERAL SERVICE PUMP								
	EMERGENCY BILGE PUMP								
	Galley Blower	1	0.003	3	0.036	3.2	15	"	"
	SANITARY PUMP								
	CIRC. SEA WATER PUMPS	2	0.1	19	0.083	102	120	Rubber	LCA+B
	CIRC. FRESH WATER PUMPS								
	Dist. Keel San	1	0.003	3	0.036	22	20	"	LCB
	AIR COMPRESSOR	1	0.007	7	0.036	16	96	rubber	LCA+B
	FRESH WATER PUMP	2	0.0225	7	0.064	43	48	"	"
	ENGINE TURNING GEAR	1	0.2	37	0.083	120	35	"	"
	Warping Wheel	1	0.2	37	0.083	120	35	"	"
	ENGINE REVERSING GEAR	1	0.2	37	0.083	120	35	"	"
	LUBRICATING OIL PUMPS	3	0.0225	7	0.064	42	72	rubber	LCA+B
	OIL FUEL TRANSFER PUMP	2	0.01	7	0.044	2.5	200	"	"
	WINDLASS	1	0.2	37	0.083	148	10	"	"
	WINCHES, FORWARD	6	0.2	37	0.083	152	15	"	"
	WINCHES, AFT	6	0.2	37	0.083	152	15	"	"
	STEERING GEAR								
	(a) MOTOR GENERATOR	2	0.06	19	0.064	72	440	"	"
	(b) MAIN MOTOR	1	0.01	7	0.044	21.5	180	"	"
	WORKSHOP MOTOR								
	VENTILATING FANS								
	Boiler Fans	4	0.0225	7	0.064	40	260	Rubber	LCA+B
	Purified Fuel Pump	1	0.007	7	0.036	13.6	180	"	"
	Centrifuge Pumps	3	0.007	7	0.036	10.8	185	"	"
	Cargo Pumps	2	0.25	37	0.083	190	56	"	"
	Cargo Brine Pump	2	0.0225	7	0.064	44	50	"	"
	Rigging Case	1	0.01	7	0.044	27.5	70	"	"
	Domestic CO2 w/c	1	0.0225	7	0.064	10.5	50	"	"
	Brine Pump	1	0.007	7	0.036	13.7	60	"	"

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.

The Sunderland Forge & Engineering Co Ltd. Electrical Engineers.
per E.B.

Date 21/9/27

COMPASSES.

Distance between electric generators or motors and standard compass 130 feet

Distance between electric generators or motors and steering compass 120 feet

The nearest cables to the compasses are as follows:—

A cable carrying 446 Ampères 6 feet from standard compass 3 feet from steering compass.

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

A cable carrying Ampères feet from standard compass 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.

GLYTHSWOOD BUILDING CO. LTD.

Builder's Signature

Date 23/9/1927

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. Tested under full working conditions and found satisfactory. The workmanship was found to be good and sound.

It is submitted that this vessel is eligible for Elec. light.

14/10/27

Total Capacity of Generators 495 Kilowatts.

The amount of Fee ... £ 43.14.6. When applied for, 12/9/27

Travelling Expenses (if any) £ 1.10.0. When received, 15/9/27

Committee's Minute

Assigned Elec Light

J. Rankin
Surveyor to Lloyd's Register of Shipping.

GLASGOW 27 SEP 1927