

no more

3 AUG 1926

Rpt. 13.

No. 80400

REPORT ON ELECTRIC FITTINGS.

(OTHER THAN FOR THE PROPULSION OF THE VESSEL)

Received at London Office.....

Date of writing Report 19... When handed in at Local Office 30/7/1926 Port of NEWCASTLE-ON-TYNE

No. in Survey held at Sunderland Date, First Survey 20th May Last Survey 10th July 1926
Reg. Book. Suff. (Number of Visits.....)

38542 on the Cairnest Tons { Gross 5000
Net 2900

Built at Sunderland By whom built W. Pickersgill & Sons Ltd Yard No. When built 1926

Owners Cairn Line Steamships Ltd Port belonging to Newcastle

Electric Light Installation fitted by Campbell & Isherwood & Co. Ltd Contract No. When fitted 1926

System of Distribution Double wire

Pressure of supply for Lighting 110^v volts, Heating — volts, Power 110^v volts.

Direct or Alternating Current, Lighting Direct Power 110 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 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 Are the lubricating arrangements of the generators as per Rule Yes

Position of Generators On dynamo flat 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 bed-plates 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 On dynamo flat in 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

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 main bus 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 Double pole switches & fuses on dynamo mains. Single pole switches & double pole fuses on each outgoing circuit.

Instruments on main switchboard two ammeters two 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 & 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



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 3.97 volts

Cable Sockets and other connections, are the ends of all cables having a sectional area of 0.01 square inch and above provided with soldering sockets

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 Maconite cables run in steel conduit

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 _____

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

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 none fitted

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 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 - protected by cast iron guards, are any fittings placed in spaces where inflammable or explosive dust or gases are liable to be present, if so, how are they protected no, 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 _____

Are 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 _____

DESCRIPTION OF GENERATOR.	No of	RATED AT				DRIVEN BY	WHERE DRIVEN BY AN INTERNAL COMBUSTION ENGINE	
		Kilowatts.	Volts.	Amps.	Revs. per Min.		Fuel Used.	Flash Point of Fuel.
MAIN	2	12.5	110	114	400	Compd steam engine		
AUXILIARY								
EMERGENCY								
ROTARY TRANSFORMER								

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	.1009	19	.083	114	74	V.I.R.	Lead cov & braided
	EQUALISER CONNECTIONS								
	AUXILIARY GENERATOR								
	EMERGENCY GENERATOR								
	ROTARY TRANSFORMER...								
	AUXILIARY SWITCHBOARDS								
	ENGINE ROOM								
	BOILER ROOM	2	.00701	7	.036	10	10	V.I.R.	Lead cov. arm. braided
	ACCOMMODATION aft	2	.00701	7	.036	9.4	320	Maconite	in steel pipe
	Accommod. mid	2	.00701	7	.036	9.9	200	Maconite	do
	Accommod. Engrs	2	.00701	7	.036	12.0	110	Maconite	do
	Navigation Box	2	.00701	7	.036	9.5	260	Maconite	do
	WIRELESS	2	.01046	7	.044	20	260	Maconite	do
	SEARCHLIGHT								
	MASTHEAD LIGHT	2	.00194	3	.029	.9	400	do	do
	SIDE LIGHTS	2	.00194	3	.029	.9	50	do	do
	COMPASS LIGHTS	2	.00194	3	.029	.9	25	do	do
	STERN LIGHTS	2	.00194	3	.029	.9	410	do	do
	CARGO LIGHTS forward	2	.01046	7	.044	20.0	300	do	do
	CARGO LIGHTS aft	2	.01046	7	.044	20.0	220	do	do
	CARGO LIGHTS midship	2	.00701	7	.036	10	250	do	do

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								
	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 aft	1	.01046	7	.044	7.0	220	Maconite	in steel pipe
	Vent fans fwd	1	.01046	7	.044	5.0	220	do	do
	Oil purifier	1	.01046	7	.044	5.0	300	do	do
	Oil purifier	1	.00299	5	.036	10.0	60	V.I.R.	Lead cov & arm.

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.

CAMPBELL & ISHERWOOD, LTD.

Per *Thomas Wade* Electrical Engineers.

Date *24th July 1926*

COMPASSES.

Distance between electric generators or motors and standard compass *90 feet*

Distance between electric generators or motors and steering compass *96 feet*

The nearest cables to the compasses are as follows:—

A cable carrying *.25* Amperes *on the* ~~foot~~ from standard compass *6* feet from steering compass.

A cable carrying *.25* Amperes *6* feet from standard compass *on the* ~~foot~~ from steering compass.

A cable carrying *9.5* Amperes *7* feet from standard compass *12* 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* courses in the case of the standard compass, and *nil* degrees on *all* course in the case of the steering compass.

FOR WM PICKERSGILL & SONS, LTD.

Samuel S. Munnis Builder's Signature.

Date *29. 7. 1926.*

SECRETARY.

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. _____)

The above installation is in accordance with the Society's Rules. The vessel is eligible in my opinion for notation elec light, wireless

It is submitted that this vessel is eligible for THE BOARD, Elec. Light.

W.T.

10/8/26.

Total Capacity of Generators *25* Kilowatts.

The amount of Fee ... £ *20* : -

When applied for, FROM *5/9* LD.

Travelling Expenses (if any) £ : : *23. 9. 26*

When received, *19*

W.T. Badger

Surveyor to Lloyd's Register of Shipping.

Committee's Minute

Assigned

Elec Light

1m. 1.28.—Transfer. (The Surveyors are requested not to write on or below the space for Committee's Minute.)



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