

REPORT ON ELECTRIC FITTINGS.

(OTHER THAN FOR THE PROPULSION OF THE VESSEL)

Received at London Office **18 OCT 1922**

Date of writing Report 19... When handed in at Local Office **18 OCT 1922** Port of **SUNDERLAND**

No. in Survey held at **SUNDERLAND** Date, First Survey **Sep 6** Last Survey **21st Sept 1922**
Reg. Book. (Number of Visits... **6**)

on the **5/5 "Stakesby"** Tons { Gross **4767**
Net **2906**

Built at **Sunderland** By whom built **J. Thompson & Sons Ltd** Yard No. **544** When built **1920**

Owners **Holland & Harwood's & Co Ltd** Port belonging to **Whitby**

Electric Light Installation fitted by **The Sunderland Docks & Quay Co Ltd** Contract No. When fitted **1922**

System of Distribution **Two Wire**

Pressure of supply for Lighting **100** volts, Heating _____ volts, Power _____ volts.

Direct or Alternating Current, Lighting **Direct** Power _____

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 overload **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 and clearly marked **yes** ✓, are they so spaced or shielded that they cannot be accidentally earthed, or short circuited **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 _____

are their axis 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 _____

Main Switch Boards, where placed **Close to Generators** ✓

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, incombustible 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 connected to one pole insulated from the slab with mica or micanite and the slab similarly insulated from its framework **yes** ✓, and is the frame effectively earthed **yes** ✓

Are the following fittings as per Rule, viz. :— 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 **Double pole switch & fuses for generator, single pole switches & double pole fuses for outgoing circuits** ✓

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** ✓

Switches, Circuit Breakers and Fusible Cut-outs, do these comply with the requirements of the Rules **yes** ✓

Section and Distribution Boards, is the construction, protection, insulation, material, and position of these as per rule **yes** ✓

Insulation of Cables, state type of cables, single or twin *single* are the cables insulated and protected as per Tables III or IV of the Rules *yes* ✓

Fall of Pressure, state maximum between bus bars and any point of the installation under maximum load *3 volts* ✓

Cable Sockets and other connections, are the ends of all cables having a sectional area of 0.007 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 *Armoured & Braided cable clipped to underside of beams.* ✓

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 VI _____

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 Positions, 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 *brass* ✓

Earthing Connections, state what earthing connections are fitted and their respective sectional areas *none* _____, are their connections made as per Rule _____

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

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* ✓, are separate screens provided for the use of oil and electric side lights *yes* ✓, are separate oil lanterns provided for the mast head lights and side lights *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 _____, 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 _____

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 _____, are the coils self-contained and readily removable for replacement _____, are the brushes, brush holders, terminals and lubricating arrangements as per Rule _____, are the motors placed in well-ventilated compartments in which inflammable gases cannot accumulate and clear of all inflammable material _____, are they protected from mechanical injury and damage from water, steam or oil _____, are their axis of rotation fore and aft _____, 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 as per Rule _____

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.	Ampères.	Revs. per Min.		Fuel Used.	Flash Point of Fuel.
MAIN ...	1	10	100	100	360	Open type inverted 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. Ampères.	Approximate Length. (Lead and Return.) Feet.	Insulated with	HOW PROTECTED.
				No.	Diameter.				
	MAIN GENERATOR...	2	1	19	0.83	100	40 ft	rubber	Armoured & Braided ✓
	AUXILIARY GENERATOR								
	EMERGENCY GENERATOR								
	ROTARY TRANSFORMER...								
	AUXILIARY SWITCHBOARDS								
	ENGINE ROOM } ...	2	0.04	4	0.36	11.2	42 ft	do	L.C.A. & Braided ✓
	BOILER ROOM } ...	2	0.01	4	0.44	21.6	188 "	do	Armoured & Braided ✓
	Saloon } ...	2	0.04	4	0.36	13.8	256 "	do	do ✓
	Apr. } ...	2	0.04	4	0.36	13.8	256 "	do	do ✓
	WIRELESS ...	2	0.01	4	0.44	-	92 ft	rubber	Armoured & Braided ✓
	SEARCHLIGHT ...								
	MASTHEAD LIGHT...	2	0.02	3	0.29	1.12	130 "	do	do ✓
	SIDE LIGHTS ...	2	0.02	3	0.29	2.24	25 "	do	Lead covered ✓
	COMPASS LIGHTS ...	2	0.02	3	0.29	0.56	10 "	do	do ✓
	STEER- POST LIGHTS ...	2	0.02	3	0.29	1.12	280 "	do	Armoured & Braided ✓
	CARGO LIGHTS ...	2	0.03	4	0.46	3.36	55 "	do	Lead type replace ✓
	ARC LAMPS ...								
	HEATERS ...								

Ref. No.	DESCRIPTION.	No. of Motors.	Effective Area of each Conductor. Sq. Ins.	COMPOSITION OF STRAND.		Total Maximum Current. Ampères.	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 ...								
	WORKSHOP MOTOR ...								
	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.

p.pro. THE SUNDERLAND FORGE & ENGINEERING CO., LTD.

Electrical Engineers.

Date 13th October 1922

COMPASSES.

Distance between electric generators or motors and standard compass 126 feet

Distance between electric generators or motors and steering compass 120 feet

The nearest cables to the compasses are as follows:—

A cable carrying 10.8 Ampères 4 feet from standard compass 12 feet from steering compass.

A cable carrying .56 Ampères 6 feet from standard compass led into ~~feet from~~ steering compass.

A cable carrying .56 Ampères led into ~~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 any course in the case of the standard

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

JOSEPH L. THOMPSON & SONS, LIMITED,

J. L. Thompson
Chairman

Builder's Signature.

Date 16th Oct. 1922

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 installation has been satisfactorily fitted in the vessel, tested and found good.

It is submitted that this vessel is eligible for THE RECORD. Elec. Light. C.H.B. 1/11/22

Total Capacity of Generators 10 Kilowatts

The amount of Fee ... £ 10 :-

When received, 23/9/1922

Travelling Expenses (if any) £ :

When received, See debit book.

L. C. Davis

Surveyor to Lloyd's Register of Shipping.

Committee's Minute

Assigned

Im. 8.22.—Transfer. (The Surveyors are requested not to write on or below the space for Committee's Minute.)



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