

# REPORT ON ELECTRIC FITTINGS.

(OTHER THAN FOR THE PROPULSION OF THE VESSEL) WED. NOV. 15 1922  
Received at London Office

Date of writing Report 9<sup>th</sup> Nov. 1922 When handed in at Local Office 14<sup>th</sup> Nov. 1922 Port of Southampton

Survey held at Cowes Date, First Survey Sept 16. Last Survey Sept 25. 1922  
(Number of Visits 3)

on the S.S. "Hitherwood" Tons Gross  
Net

built at Cowes By whom built J.S. White & Co. Yard No. 1562. When built 1922.

owners C. A. Stewart & Co. Port belonging to London.

Electric Light Installation fitted by J.S. White & Co. Contract No. When fitted 1922.

**System of Distribution** Two-wire distribution box system

**Pressure of supply for Lighting** 110 volts, **Heating** Nil volts, **Power** Nil volts.

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

alternating current system, state frequency of periods per second -

Is the **Automatic Governor** been tested and found efficient when the whole load is suddenly thrown on or off  Yes  No

**Generators**, do they comply with the requirements regarding overload  Yes, are they compound wound  Yes  No

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 and clearly marked  Yes, are they so spaced or shielded that they cannot be accidentally earthed, short circuited  Yes. Are the lubricating arrangements of the generators as per Rule  Yes  No

**Position of Generator** Engine Room Starboard.

the ventilation in way of the generators satisfactory  Yes, are they clear of all inflammable material  Yes  No

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  No

their axis of rotation fore and aft  Yes

Nothing, 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 near dynamo 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  No

are they protected from mechanical injury and damage from water, steam or oil  fitted in protected position 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 same 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 fuses  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

For generator: - 1- double pole linked switch and 2 single pole fuses.

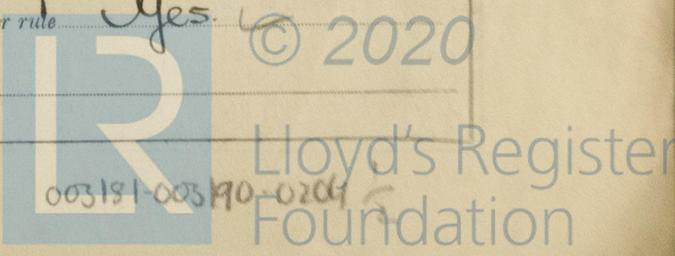
Out-going Circuits: - Ditto also 1 S.P. Switch and 2 S.P. fuses.

**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 2 Earth Lamps with switch and fuse to each.

**Switches, Circuit Breakers and Fusible Cut-outs**, do these comply with the requirements of the Rules  Yes  No

**Construction and Distribution Boards**, is the construction, protection, insulation, material, and position of these as per rule  Yes  No



**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 3-9

**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 —

**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 In machinery spaces, on decks and where exposed they are run in Steel conduit (Galv. W.T.) Wood casing 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 VI Not so fitted

**Refrigerated Chambers**, if lights are fitted, are the cables and fittings in accordance with the special requirements Not so fitted

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

**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 mica and hardwood and lead

**Earthing Connections**, state what earthing connections are fitted and their respective sectional areas none fitted  
 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, 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 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 No  
 how are the cables led —  
 where are the controlling switches situated —

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

**Arc Lamps**, other than searchlight lamps, No. of Nil, 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 Not required

**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	385	110	35	400	Single enclosed Steam Engine		
AUXILIARY								
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								
	AUXILIARY GENERATOR								
	EMERGENCY GENERATOR								
	ROTARY TRANSFORMER								
	AUXILIARY SWITCHBOARDS								
	ENGINE ROOM	2		7	0.029	6	65	2500 MEG. V.P.R.	by means of heavy gauge galv. Steel Conduit, W.T.
	BOILER ROOM			3	0.036	3	250	do.	do.
	Aft Crew Space								
	Midship Accomd <sup>n</sup>			7	0.036	6	140	do.	wood casing
	Navigation			7	0.029	5	210	do.	Galv. Steel conduit as above.
	WIRELESS								
	SEARCHLIGHT								
	MASTHEAD LIGHT			3	0.029	1 each	220	do.	ditto
	SIDE LIGHTS			3	0.029	1 each	40	do.	ditto
	COMPASS LIGHTS			3	0.029	5	30	do.	ditto
	POOP LIGHTS								
	CARGO LIGHTS			7	0.036	10	65	do.	ditto
	ARC LAMPS								
	HEATERS								

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								
	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.

For J. SAMUEL WHITE & COMPANY, Ltd.

*W. Brown*  
 Managing Director.

Electrical Engineers.

Date 10/11/1922

COMPASSES.

Distance between electric generators or motors and standard compass 60 feet

Distance between electric generators or motors and steering compass 60 feet

The nearest cables to the compasses are as follows:—

A cable carrying 5 Ampères 15 feet from standard compass 10 feet from steering compass.

A cable carrying 1 Ampères 15 feet from standard compass 10 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 — course in the case of the standard compass, and — degrees on — course in the case of the steering compass.

For J. SAMUEL WHITE & COMPANY, Ltd.

*W. Brown*  
 Managing Director.

Builder's Signature.

Date 10/11/1922

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.) This installation of electric light has been well fitted, The materials & workmanship are good. It has been tried under full working conditions and found satisfactory.

It is submitted that this vessel is eligible for THE RECORD. Elec. Light 16/11/22  
*CMS*

Total Capacity of Generators 3.85 Kilowatts

The amount of Fee ... £ 5 : 0 : When applied for, 14/11/1922

Travelling Expenses (if any) £ : : When received, See Debit Book

*J. G. Mackillop*  
 Surveyor to Lloyd's Register of Shipping.

FRI. 8 JUN. 1923

Committee's Minute

TUE. NOV. 21 1922

Assigned

Im. 3.22.—Transfer. (The Surveyors are requested not to write on or below the space for Committee's Minute.)