

Rpt. 13.

No. 16556

# REPORT ON ELECTRIC FITTINGS.

(OTHER THAN FOR THE PROPULSION OF THE VESSEL)

Received at London Office 9 NOV 1927

Date of writing Report

19

When handed in at Local Office

8. 11.

10 27.

Port of

WEST HARTLEPOOL

No. in Survey held at  
Reg. Book.

WEST HARTLEPOOL

Date, First Survey

5th Sept.

Last Survey

8th October 1927

(Number of Visits.....)

43152, on the SS UMBERLEIGH

Tons { Gross 4930  
Net 2965

Built at Hartlepool

By whom built W. Gray &amp; Co.

Yard No. 992

When built 1927

Owners Tatem Steam Navigation Co. Ltd.

Port belonging to

Cardiff

Electric Light Installation fitted by

Messrs Clarke Chapman &amp; Co.

Contract No. 992

When fitted 1927

## System of Distribution

Double wire system

Pressure of supply for Lighting

110

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 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

Engine Room Starboard side

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

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

Yes

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 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

, 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

4 fuses in dynamo main, single pole switches double pole  
fuses in each outgoing circuit

Instruments on main switchboard

One

ammeters

One

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

Leakage lamps

coupled to each through switches &amp; 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

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Cables: Single, twin, concentric, or multicore *single* are the cables insulated and protected as per Tables IV *Yes* of the Rules.

Fall of Pressure, state maximum between bus bars and any point of the installation under maximum load *3.4 Rules*

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

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 *Lead Armoured in Engine Room, Lead Armoured Braided clamped to underside of deck in cargo space lead covered in deck*

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 *Yes*

Refrigerated Chambers, if tight, 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

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 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, 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 axes 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 and fitted 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

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.	12	110	109	350	Single cylinder 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. Ampères.	Approximate Length. (Lead and Return.) Feet.	Insulated with	HOW PROTECTED.
				No.	Diameter.				
1.	MAIN GENERATOR...	2	10090	19	.083	109	24	Pure rubber	Lead covered
	EQUALISER CONNECTIONS								
	AUXILIARY GENERATOR								
	EMERGENCY GENERATOR								
	ROTARY TRANSFORMER...								
	AUXILIARY SWITCHBOARDS								
2.	ENGINE ROOM	2	.01462	7	.052	13.6	40	"	Lead Armoured
3.	BOILER ROOM	2	.02214	7	.064	21.2	220	"	Lead Armoured & Braided
4.	ACCOMMODATION	2	.00701	7	.036	8	240	"	"
5.	WIRELESS	2	.01462	7	.052	25	240	Pure rubber	Lead Armoured & Braided
	SEARCHLIGHT								
6.	MASTHEAD LIGHT	2	.00194	3	.029	.9	260	"	In iron pipes
7.	SIDE LIGHTS	2	.00194	3	.029	.9	30	"	Lead covered
8.	COMPASS LIGHTS	2	.00194	3	.029	.5	12	"	Lead Armoured & Braided
9.	STEER LIGHTS	2	.00194	3	.029	.9	260	"	"
10.	CARGO LIGHTS	2	.00455	168	.38	3	100	"	Braided & Compounded
	ARC LAMPS								
	HEATERS								
MOTOR CONDUCTORS.									
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								
	(a) MOTOR GENERATOR								
	(b) MAIN MOTOR								
	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 CLARKE, CHAPMAN & Co. LTD.

*W. T. Woodeson* Electrical Engineers.  
Director.

Date *Nov. 4<sup>th</sup> 1927.*

#### COMPASSES.

Distance between electric generators or motors and standard compass *120 feet*

Distance between electric generators or motors and steering compass *114 "*

The nearest cables to the compasses are as follows:—

A cable carrying *.5* Ampères *12* feet from standard compass *6* feet from steering compass.

A cable carrying *.5* Ampères *6* feet from standard compass *12* 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 *all* course in the case of the standard compass, and *nil* degrees on *all* course in the case of the steering compass.

For William Gray & Co., Limited.

*Wm. S. Simpson*

Builder's Signature.

Date *7<sup>th</sup> Decr. 1927.*

General Manager.

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 under survey.  
The materials and workmanship are good.  
On completion it was tried under full working  
conditions and found satisfactory.*

*It is submitted that  
this vessel is eligible for  
THE RECORD. Elec. Light.*

*R.D. 16/11/27.*

Total Capacity of Generators *12.* Kilowatts.

The amount of Fee ... £ *12: 0* : { When applied for, *15.10.27.*

Travelling Expenses (if any) £ : : { When received, *11.11.27.*

*R.D. Shilston*

Surveyor to Lloyd's Register of Shipping.

Committee's Minute

Assigned

*Elec. Light*



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