

REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 30,303

Port of Hull Date of First Survey 22/10/17 Date of Last Survey 18/12/17 No. of Visits 26
 No. in Reg. Book on the ~~Iron or Steel~~ R.F.A. "Francol" Port belonging to
 Built at Hull By whom Charles S. B. & Eng. Works When built 1914-12
 Owners British Admiralty Owners' Address
 Yard No. 624 Electric Light Installation fitted by Clarke, Chapman & Co. When fitted 1914-12

DESCRIPTION OF DYNAMO, ENGINE, ETC.

Two enclosed type vertical engines each direct coupled to a continuous current compound wound dynamo.

Capacity of Dynamo 250 Amperes at 105 Volts, whether continuous or alternating current continuous

Where is Dynamo fixed in Engine Room Whether single or double wire system is used Double

Position of Main Switch Board near Dynamo having switches to groups A, B, C, D, E, & F of lights, &c., as below

Positions of auxiliary switch boards and numbers of switches on each Each light & group of lights provided with switches as required.

If fuses are fitted on main switch board to the cables of main circuit Yes and on each auxiliary switch board to the cables of auxiliary circuits Yes and at each position where a cable is branched or reduced in size Yes and to each lamp circuit Yes

If vessel is wired on the double wire system are fuses fitted to both flow and return wires or cables of all circuits including lamp circuits Yes

Are the fuses of non-oxidisable metal Yes and constructed to fuse at an excess of 50 per cent over the normal current

Are all fuses fitted in easily accessible positions Yes Are the fuses of standard dimensions Yes If wire fuses are used are permanent instructions fitted on or near each switch board giving particulars of proper size of fuse for each circuit Yes

Are all switches and fuses constructed of incombustible materials and fitted on incombustible bases Yes, porcelain & mica.

Total number of lights provided for 204 arranged in the following groups:—

A	88	lights each of	86-16cp 2-8cp	candle power requiring a total current of	46.4	Amperes
B	40	lights each of	32-50cp 8-16cp	candle power requiring a total current of	55.4	Amperes
C	18	lights each of	11-16cp 6-8cp 1-32cp	candle power requiring a total current of	8.5	Amperes
D	4	lights each of	4-16	candle power requiring a total current of	2.1	Amperes
E	54	lights each of	54-16	candle power requiring a total current of	30.4	Amperes
2	20" PROJECTOR	"	20,000	" " " " " "	80	"
2	Mast head light with	1	lamps each of	16	candle power requiring a total current of	1.06
2	Side light with	1	lamps each of	1-16cp 1-32cp	candle power requiring a total current of	1.6
6	Cargo lights of	32-50cp 8-16cp	candle power, whether incandescent or arc lights	incandescent.		

If arc lights, what protection is provided against fire, sparks, &c. —

Where are the switches controlling the masthead and side lights placed in Wheel House.

DESCRIPTION OF CABLES.

Main cable carrying 250 Amperes, comprised of 34 wires, each .112 S.W.G. diameter, .350 square inches total sectional area
 Branch cables carrying 55.4 Amperes, comprised of 34 wires, each .16 S.W.G. diameter, .114 square inches total sectional area
 Branch cables carrying 46.4 Amperes, comprised of 19 wires, each .16 S.W.G. diameter, .060 square inches total sectional area
 Leads to lamps carrying 1.2 Amperes, comprised of 1 wires, each .14 S.W.G. diameter, .0025 square inches total sectional area
 Cargo light cables carrying 10.3 Amperes, comprised of 19 wires, each .20 S.W.G. diameter, .019 square inches total sectional area

DESCRIPTION OF INSULATION, PROTECTION, ETC.

Vulcanized india rubber taped & braided & lead covered.

Joints in cables, how made, insulated, and protected No joints except mechanical ones.

Are all the joints of cables thoroughly soldered, and the flux used not containing acids or other corrosive substances Yes Are all joints in accessible positions, none being made in bunkers, cargo spaces, or spaces which may at any time be used for carrying cargo, stores, or baggage Yes No

Are there any joints in or branches from the cable leading from dynamo to main switch board No

How are the cables led through the ship, and how protected Lead covered cables run on galvanized iron plating along port & starboard alleyways, the plating being secured to underside of beams



DESCRIPTION OF INSULATION, PROTECTION, ETC.—continued.

Are they in places always accessible *Yes*

What special protection has been provided for the cables in open alleyways or where exposed to weather or moisture *Lead covered cables run in galvanized iron pipes.*

What special protection has been provided for the cables near galleys or oil lamps or other sources of heat *Cables run on raised platform*

What special protection has been provided for the cables near boiler casings *" " " "*

What special protection has been provided for the cables in engine room *" " " "*

How are cables carried through beams *in lead bushes* through bulkheads, &c. in *Brass W.T. packed*

How are cables carried through decks *in W.T. copper packed deck tubes.*

Are any cables run through coal bunkers *No* or cargo spaces *No* or spaces which may be used for carrying cargo, stores, or baggage *Yes*

If so, how are they protected *Lead covered cables run on raised galvanized iron plating.*

Are any lamps fitted in coal bunkers or spaces which may at times be used for cargo, coals, or baggage *Yes*

If so, how are the lamp fittings and cable terminals specially protected *special brass fittings with locks & keys*

Where are the main switches and fuses for these lights fitted *in alleyways.*

If in the spaces, how are they specially protected *—*

Are any switches or fuses fitted in bunkers *No*

Cargo light cables, whether portable or permanently fixed *portable* How fixed to W.T. Brass connection *Br*

In vessels fitted on the single wire system, how is the dynamo terminal fixed to the hull of vessel *Double Wire System*

How are the returns from the lamps connected to the hull *—*

Are all the joints with the hull in accessible positions *—*

Is the installation supplied with a voltmeter *Yes*, and with an amperemeter *Yes*, fixed on *Switchboard*

VESSELS BUILT FOR CARRYING PETROLEUM.

In vessels built for carrying petroleum, are all switches and fuses fitted in positions not liable to the accumulation of petroleum vapour or gas *Yes*

Are any switches, fuses, or joints of cables fitted in the pump room or companion *No*

How are the lamps specially protected in places liable to the accumulation of vapour or gas *special gas proof brass fittings.*

The copper used is guaranteed to have a conductivity of not less than that of the Engineering Standards Committee's standard and the wires are protected by tinning from the sulphur compounds present in the insulating material.

Insulation of cables is guaranteed to have a resistance of not less than ¹²⁵⁰ ~~4500~~ megohms per statute mile at 60° Farhenheit after 24 hours' immersion in water, the test being made after one minute's electrification at not less than 500 and while the cable is still immersed.

The foregoing statements are a correct description of the Electric Light installation fitted by us on this vessel and we declare that it is at this date in good order and safe working condition.

For Clarke, Chapman & Co., Ltd.

COMPASSES.

W. A. Stoddard Director. Electrical Engineers Date *January 15/1918*

Distance between dynamo or electric motors and standard compass *96 feet*

Distance between dynamo or electric motors and steering compass *90 feet*

The nearest cables to the compasses are as follows:—

Cable carrying	Amperes	feet from standard compass	feet from steering compass
A cable carrying <i>2.1</i>	<i>12</i>	<i>6</i>	
A cable carrying <i>2.1</i>	<i>6</i>	<i>12</i>	
A cable carrying <i>—</i>	<i>—</i>	<i>—</i>	

Have the compasses been adjusted with and without the electric installation at work at full power *Yes*

The maximum deviation due to electric currents, etc., was found to be *nil* degrees on *all* course in the case of the standard compass *nil* degrees on *all* course in the case of the steering compass.

W. A. Stoddard

Builder's Signature. Date *January 15/1918*

GENERAL REMARKS.

This vessel has been fitted with an electric light installation as above & the workmanship is good, on completion it was tested under full working conditions & found satisfactory.

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

J. W. D. 19.1.18

Frank A. Stanger

Surveyor to Lloyd's Register of Shipping.

Committee's Minute



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