

REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 42153

Port of GLASGOW. Date of First Survey 25-8-22 Date of Last Survey 30-8-22 No. of Visits 2
 No. in Reg. Book Y8183 on the ~~Iron~~ Steel S.S. "BEGUM" Port belonging to LONDON
 Built at PORT GLASGOW By whom MESRS LITHGOWS. LTD When built 1922
 Owners THE ASIATIC STEAM NAV. CO Owners' Address TURNER AND CO.
 Yard-No. 736 Electric Light Installation fitted by THE SONDERLAND FORGE & ENG. CO. When fitted 1922

DESCRIPTION OF DYNAMO, ENGINE, ETC.

TOTAL K.W. = 12.5.

One combined plant consisting of single cylinder vertical steam type inverted engine 100 H.P. steam coupled to compound wound multipolar dynamo.

Capacity of Dynamo 125 Amperes at 100 Volts, whether continuous or alternating current continuous

Where is Dynamo fixed Bottom platform main Engine Room Whether single or double wire system is used double

Position of Main Switch Board Off/Starboard main Engine Room having switches to groups Six of lights, &c., as below

Positions of auxiliary switch boards and numbers of switches on each In chartroom with switches controlling Foremast, Mainmast, Port, Starboard, Stern, Compasses & Telegraph lights

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-oxidizable metal yes and constructed to fuse at an excess of 100 per cent over the normal current

Are all fuses fitted in easily accessible positions yes Are the fuses of standard dimensions no 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

Total number of lights provided for 150 at 10 1/2 arranged in the following groups:—

A Navigation	21 lights each of	16	candle power requiring a total current of	12.6	Amperes
B Saloon	23 lights each of	"	candle power requiring a total current of	13.8	Amperes
C Engineers & Off.	47 lights each of	"	candle power requiring a total current of	28.2	Amperes
D Cargo	25 lights each of	"	candle power requiring a total current of	15.0	Amperes
E Engine & Boiler Rooms	34 lights each of	"	candle power requiring a total current of	22.4	Amperes
F Wireless	2 Mast head lights with 1 lamp each of	32	candle power requiring a total current of	2.4	Amperes
	2 Side lights with 1 lamp each of	32	candle power requiring a total current of	2.4	Amperes
	4 Cargo lights of	1000	candle power, whether incandescent or arc lights	Gas filled Incandescent	

If arc lights, what protection is provided against fire, sparks, &c. None fitted

Where are the switches controlling the masthead and side lights placed In chart room.

DESCRIPTION OF CABLES.

Main cable carrying 100 Amperes, comprised of 19 wires, each .085 S.W.G. diameter, .150 square inches total sectional area

Branch cables carrying 28.2 Amperes, comprised of 7 wires, each .044 S.W.G. diameter, .01 square inches total sectional area

Branch cables carrying 12.6 Amperes, comprised of 7 wires, each .036 S.W.G. diameter, .007 square inches total sectional area

Leads to lamps carrying 6 Amperes, comprised of 3 wires, each .029 S.W.G. diameter, .002 square inches total sectional area

Cargo light cables carrying 5 Amperes, comprised of 3 wires, each .029 S.W.G. diameter, .002 square inches total sectional area

DESCRIPTION OF INSULATION, PROTECTION, ETC.

Mains & Holders :- Part of the IR. taped vulcanized then covered in Steel Tubing

Accommodation :- do do then Lead Covered

Machinery Spaces :- do do then Armoured & Braided.

Joints in cables, how made, insulated, and protected None made.

Are all the joints of cables thoroughly soldered, and the flux used not containing acids or other corrosive substances - 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 229

Are there any joints in or branches from the cable leading from dynamo to main switch board None made.

How are the cables led through the ship, and how protected In steel tubing clipped 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 *Armoured & Braided or Steel Tubing as required.*

What special protection has been provided for the cables near galleys or oil lamps or other sources of heat *Armoured & Braided*

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 *Fibre Bushed Holes* through bulkheads, &c. *Fibre Bushes or Bands if 1 1/2"*

How are cables carried through decks *Watertight duck Tubes*

Are any cables run through coal bunkers *Yes* or cargo spaces *Yes* or spaces which may be used for carrying cargo, stores, or baggage *Yes*

If so, how are they protected *Steel Tubing*

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 *With 1/2" round iron bars.*

Where are the main switches and fuses for these lights fitted *Donkey Boiler House.*

If in the spaces, how are they specially protected *With 1/2" round iron bars.*

Are any switches or fuses fitted in bunkers *No.*

Cargo light cables, whether portable or permanently fixed *Portable* How fixed *—*

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

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 main 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 *—*

Are any switches, fuses, or joints of cables fitted in the pump room or companion *—*

How are the lamps specially protected in places liable to the accumulation of vapour or gas *—*

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 2500 megohms per statute mile at 60° Fahrenheit after 24 hours' immersion in water, the test being made after one minute's electrification at not less than 500 volts 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.

P. PRO. THE SUNDERLAND FORGE & ENGINEERING COMPANY LIMITED.

Electrical Engineers

Date 19th September 1922.

COMPASSES.

Distance between dynamo or electric motors and standard compass *104 feet*

Distance between dynamo or electric motors and steering compass *104 feet.*

The nearest cables to the compasses are as follows:—

A cable carrying	12.6	Amperes	10	feet from standard compass	8	feet from steering compass
A cable carrying	.6	Amperes	1	feet from standard compass	8	feet from steering compass
A cable carrying	.6	Amperes	4	feet from standard compass	4	feet from steering compass

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 *any* course in the case of the standard compass and *Nil* degrees on *any* course in the case of the steering compass.

W. J. Allan

Builder's Signature.

Date

21 Sept 1922

GENERAL REMARKS.

This installation has been fitted on board under special survey. Tested under full working conditions & found satisfactory.

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

FAK = £12.10.0
EXP. 10.6.

28/9/22

J. S. Rankin

Surveyor to Lloyd's Register of Shipping.

Committee's Minute

GLASGOW 27 SEP 1922

Elec. Light



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THE SURVEYORS ARE REQUESTED NOT TO WRITE ACROSS THIS MARGIN.

HC 26.9.22

2m.11.10.—Transfer.