

REPORT ON ELECTRIC LIGHTING INSTALLATION.

 FEB. 13 1922
 No. 1152

Port of Southampton Date of First Survey 5th Dec 1921 Date of Last Survey 19th Jan No. of Visits 3
 No. in on the Iron or Steel S.S. "Belasco" Port belonging to Null
 Reg. Book 36467 Built at Woolston, Southampton By whom Messrs J. I. Thornycroft & Co. When built 1922
 Owners The Dover S^r Co. (J Bell & Co) Owners' Address _____
 Yard No. 994 Electric Light Installation fitted by Messrs J. I. Thornycroft & Co. Ltd. When fitted 1922

DESCRIPTION OF DYNAMO, ENGINE, ETC.

Generating Machinery consists of an 8½ kW continuous current compound wound dynamo direct coupled to a single cylinder open type vertical engine. Both engine and dynamo being mounted on a combined bedplate.
 Capacity of Dynamo (8½ kW) 81 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 wire
 Position of Main Switch Board In Engine Room having switches to groups A, B, C, D & E of lights, &c., as below
 Positions of auxiliary switch boards and numbers of switches on each _____

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 _____ and at each position where a cable is branched or reduced in size _____ 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 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 _____
 Are all switches and fuses constructed of incombustible materials and fitted on incombustible bases Yes

Total number of lights provided for 102 arranged in the following groups:—

Group	Number of lights	Each of	Candle power	requiring a total current of	Amperes
A	30	lights each of	16	18.0	Amperes
B	43	lights each of	16	25.8	Amperes
C	18	lights each of	16	10.8	Amperes
D	$\frac{6}{2}$ 8	lights each of	$\frac{8}{32}$ 16	9.0	Amperes
E	2 Cargo	lights each of	256	17.6	Amperes
	1 Mast head light with	1 lamp each of	32	1.7	Amperes
	1 Side light with	1 lamps each of	32	1.7	Amperes
	2 Cargo lights	each of	256	Incandescent.	

If arc lights, what protection is provided against fire, sparks, &c. No Arc lights fitted

Where are the switches controlling the masthead and side lights placed In Chart House

DESCRIPTION OF CABLES.

Main cable carrying	82	Amperes, comprised of	19	wires, each	15	S.W.G. diameter,	.075	square inches total sectional area
Branch cables carrying	25.8	Amperes, comprised of	7	wires, each	.044	" " " diameter,	.01	square inches total sectional area
Branch cables carrying	18	Amperes, comprised of	7	wires, each	20	S.W.G. diameter,	.007	square inches total sectional area
	10.8	" " " " " "	3	" " " "	20	" " " " " "	.003	" " " " " "
Leads to lamps carrying	5	Amperes, comprised of	3	wires, each	.029	" " " diameter,	.002	square inches total sectional area
* Cargo light cables carrying	5	Amperes, comprised of	72	wires, each	36	S.W.G. diameter,	.003	square inches total sectional area

DESCRIPTION OF INSULATION, PROTECTION, ETC.

Cables insulated with Pire and Vulcanised India rubber vulcanised and taped together and sheathed with a solid tube of lead. Lead casing generally considered sufficient protection but in special cases cable has been lead through conduit and protected by light cover plating.

Joints in cables, how made, insulated, and protected No joints 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 _____

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 Clipped to Ships structure and in special cases run in Conduit

* Twin Flexible Cable.



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 casing considered sufficient protection

What special protection has been provided for the cables near galleys or oil lamps or other sources of heat Cables so run to avoid undue heat

What special protection has been provided for the cables near boiler casings None

What special protection has been provided for the cables in engine room Lead casing considered sufficient

How are cables carried through beams Through Bushes through bulkheads, &c. Through glands

How are cables carried through decks Through Deck Tubes

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

If so, how are they protected In Conduit or by special cover plating

Are any lamps fitted in coal bunkers or spaces which may at times be used for cargo, coals, or baggage No

If so, how are the lamp fittings and cable terminals specially protected ✓

Where are the main switches and fuses for these lights fitted ✓

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 Permanent to Socket connectable low fixed Run in Conduit

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 600 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.



J. G. Mackillop
Electrical Engineers Date

COMPASSES.

Distance between dynamo or electric motors and standard compass 85'-0" Approx.

Distance between dynamo or electric motors and steering compass 75'-0" Approx.

The nearest cables to the compasses are as follows:—

A cable carrying	<u>2.4</u>	Amperes	<u>On</u>	at the standard compass	<u>12</u>	feet from steering compass
A cable carrying	<u>1.8</u>	Amperes	<u>On</u>	at the steering compass	<u>12</u>	feet from steering compass
A cable carrying	<u>9.0</u>	Amperes	<u>12</u>	feet from standard compass	<u>12</u>	feet from steering compass

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

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



J. G. Mackillop
Builder's Signature. Date

GENERAL REMARKS.

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

8 1/2 K.W See 78:10:0
J. G. Mackillop
Surveyor to Lloyd's Register of Shipping.

Committee's Minute

FRI. AUG. 11 1922

THE SURVEYORS ARE REQUESTED NOT TO WRITE ACROSS THIS MARGIN.

2m.11.10.—Transfer.

