

REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 11966

at of Greenock Date of First Survey 13th Oct 1897 Date of Last Survey 30th March 1898 No. of Visits 18
 in on the Iron or Steel S.S. ARABIA Port belonging to Greenock
 Book Built at Greenock By whom Messrs Baird & Co Ltd When built 1897-8
P.O. S.S. Co Owners' Address London
 No. 286 Electric Light Installation fitted by Messrs Siemens Bros & Co Ltd When fitted 1897-8

DESCRIPTION OF DYNAMO, ENGINE, ETC.

3 Siemens H.B. 1 1/20 compound wound dynamos, each coupled direct to a "Langye" compound engine running at 190 revs per min.
 Capacity of ^{EACH} Dynamo 220 Amperes at 105 Volts, whether continuous or alternating current continuous
 Are the dynamos fixed in main engine room
 Location of Main Switch Board in main engine room having switches to groups A to K of lights, &c., as below
 Numbers of auxiliary switch boards and numbers of switches on each

Are cut-outs 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
 Are cut-outs fitted on the double wire system are cut outs fitted to both flow and return wires or cables of all circuits including lamp circuits yes
 Are the cut outs of non-oxidizable metal yes and constructed to fuse at an excess of 50 per cent over the normal current
 Are all cut outs 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 cut-outs constructed of incombustible materials and fitted on incombustible bases yes

number of lights provided for 852 arranged in the following groups:—

A	101	lights each of	16	candle power requiring a total current of	64	Amperes
B	73	lights each of	"	"	46	"
C	64	lights each of	"	candle power requiring a total current of	40	Amperes
D	94	lights each of	"	"	60	"
E	54	lights each of	"	candle power requiring a total current of	34	Amperes
F	78	lights each of	"	"	49	"
G	80	lights each of	"	candle power requiring a total current of	51	Amperes
H	60	lights each of	"	"	38	"
I	57	lights each of	"	candle power requiring a total current of	36	Amperes
J	90	lights each of	"	"	57	"
K	101	lights each of	"	candle power requiring a total current of	64	Amperes
1	Mast head light with 2 lamps each of	"	"	candle power requiring a total current of	1.28	Amperes
2	Side lights with 2 lamps each of	"	"	candle power requiring a total current of	2.56	Amperes
13	Cargo lights, each of 3 lamps	"	"	candle power, whether incandescent or arc lights	incandescent	

Are the 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.

One cable carrying	220	Amperes, comprised of	37	wires, each	13	L.S.G. diameter,	0.2459	square inches total sectional area
Each cable carrying	34	Amperes, comprised of	7	wires, each	14	L.S.G. diameter,	0.03519	square inches total sectional area
Each cable carrying	64	Amperes, comprised of	19	wires, each	16	L.S.G. diameter,	0.06113	square inches total sectional area
Cables to lamps carrying	64	Amperes, comprised of	1	wires, each	18	L.S.G. diameter,	0.00181	square inches total sectional area
Cargo light cables carrying	2	Amperes, comprised of	7	wires, each	20	L.S.G. diameter,	0.0013	square inches total sectional area

DESCRIPTION OF INSULATION, PROTECTION, ETC.

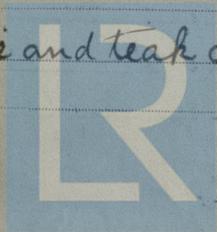
Tinned copper conductors insulated with pure india-rubber, then vulcanized india-rubber, taped, braided and coated with preservative compound.

Are the joints in cables, how made, insulated, and protected generally jointless system.

Are all the joints of cables thoroughly soldered, resin only having been used as a flux 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

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 in well seasoned pine and teak casings & in iron pipes.



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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 Iron pipes

What special protection has been provided for the cables near galleys or oil lamps or other sources of heat Iron pipes & teak casings

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 through insulating fibre tubes through bulkheads, &c. in special gun-metal }
How are cables carried through decks in specially constructed deck pipes. watertight glands }

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

If so, how are they protected

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

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

Where are the main switches and cut outs for these lights fitted

If in the spaces, how are they specially protected

Are any switches or cut outs fitted in bunkers

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 by a gunmetal eye bolted to hull.

How are the returns from the lamps connected to the hull by 3/8" brass screws & washers. (Whitworth thread)

Are all the joints with the hull in accessible positions yes.

VESSELS BUILT FOR CARRYING PETROLEUM.

In vessels built for carrying petroleum, are all switches and cut-outs fitted in positions not liable to the accumulation of petroleum vapour or gas

Are any switches, cut outs, 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 installation is supplied with a voltmeter and an amperemeter, fixed

The copper used is guaranteed to have a conductivity of 98 per cent. that of pure copper.

Insulation of cables is guaranteed to have a resistance of not less than 600 megohms per statute mile after 24 hours' immersion in seawater.

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 SIEMENS BROTHERS & CO. LIMITED.

H. Schmitt

Electrical Engineers

Date April 6-98

COMPASSES.

Distance between dynamo or electric motors and standard compass over 250 feet

Distance between dynamo or electric motors and steering compass " 250 "

The nearest cables to the compasses are as follows:—

A cable carrying	<u>34</u>	Amperes	<u>35</u>	feet from standard compass	<u>25</u>	feet from steering compass
A cable carrying	<u>34</u>	Amperes	<u>40</u>	feet from standard compass	<u>20</u>	feet from steering compass
A cable carrying		Amperes		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

The maximum deviation due to electric currents, etc., 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.

Builder's Signature.

Date

GENERAL REMARKS. The electric light installation in this vessel, has been fitted under our inspection and to our satisfaction.

A.C. Howard, J. Phillips

Surveyors to Lloyd's Register of British and Foreign Shipping.

Committee's Minute

This installation appears to be Satisfactory



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THE SURVEYORS ARE REQUESTED NOT TO WRITE ACROSS THIS MARGIN.

REPORT FORM No. 12.

By Salt