

REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 59902

Port of NEWCASTLE ON TYNE Date of First Survey 14th Feb'y Date of Last Survey 1st Mar 1911 No. of Visits 6
 No. in Reg. Book on the Iron or Steel Arabien Port belonging to Copenhagen
 Built at Neptune Works, Walker By whom Swan, Hunter & Wigham Richardson Ltd When built 1911
 Owners Det Ostasiatiske Kompagni Owners' Address Copenhagen
 Yard No. 846 Electric Light Installation fitted by Swan Hunter Wigham Richardson When fitted 1911

DESCRIPTION OF DYNAMO, ENGINE, ETC.

Open Single cylinder engine 6 1/2 dia x 6" stroke 100 lbs pressure coupled direct to multipolar dynamo
 Capacity of Dynamo 10 KW Amperes at 65 Volts, whether continuous or alternating current continuous
 Where is Dynamo fixed Starboard below in Engine Rm Whether single or double wire system is used double wire
 Position of Main Switch Board near Dynamo having switches to groups 4 groups of lights, &c., as below
 Positions of auxiliary switch boards and numbers of switches on each in 6 chartroom for navigation & switches beside lights at other places

If cut outs 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 cut outs fitted to both flow and return wires or cables of all circuits including lamp circuits
 Are the cut outs of non-oxidisable metal Yes and constructed to fuse at an excess of 10% 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

Are all switches and cut-outs constructed of incombustible materials and fitted on incombustible bases Yes Porcelain

Total number of lights provided for 95 arranged in the following groups:—

A	15	lights each of	16	candle power requiring a total current of	12.6	Amperes
B	25	lights each of	16	candle power requiring a total current of	21.3	Amperes
C	27	lights each of	16	candle power requiring a total current of	23.1	Amperes
D	28	lights each of	16	candle power requiring a total current of	24.0	Amperes
E		lights each of		candle power requiring a total current of		Amperes
	2	Mast head light with 4 lamps each of	32	candle power requiring a total current of	1.4	Amperes
	2	Side light with 1 lamp each of	32	candle power requiring a total current of	1.4	Amperes

5 clusters Cargo lights of 5 lamps each 16 candle power, whether incandescent or arc lights & arc

If arc lights, what protection is provided against fire, sparks, &c. Guarded glass globe

Where are the switches controlling the masthead and side lights placed Chartroom

DESCRIPTION OF CABLES.

Main cable carrying 100 Amperes, comprised of 19 wires, each 13 L.S.G. diameter, .123 square inches total sectional area
 Branch cables carrying 24 Amperes, comprised of 7 wires, each 14 L.S.G. diameter, .034 square inches total sectional area
 Branch cables carrying 12 Amperes, comprised of 7 wires, each 18 L.S.G. diameter, .012 square inches total sectional area
 Leads to lamps carrying 7 Amperes, comprised of 1 wires, each 18 L.S.G. diameter, .0018 square inches total sectional area
 Cargo light cables carrying Amperes, comprised of wires, each L.S.G. diameter, square inches total sectional area

DESCRIPTION OF INSULATION, PROTECTION, ETC.

Armouring of Galvanized steel wire Lead covering vulcanized braided & pure India rubber Iron piping where necessary

Joints in cables, how made, insulated, and protected none

Are all the joints of cables thoroughly soldered, resin only having been used as a flux none 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 none

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 main clipped to deck under side

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 Armour & lead covering

What special protection has been provided for the cables near galleys or oil lamps or other sources of heat armoured & lead

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 fiber furells through bulkheads, &c. W & Brass glands

How are cables carried through decks Iron piping not less than 18 above deck

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

If so, how are they protected between decks lead & armoured wire

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 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 portable socket

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

How are the returns from the lamps connected to the hull "

Are all the joints with the hull in accessible positions "

The installation is yes supplied with a voltmeter and yes an amperemeter, fixed Main board

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 copper used is guaranteed to have a conductivity of 100% 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.

Swan Hunter Wigham Richards Electrical Engineers Date Mar 4 1911

COMPASSES.

Distance between dynamo or electric motors and standard compass 100 ft

Distance between dynamo or electric motors and steering compass "

The nearest cables to the compasses are as follows:—

A cable carrying	<u>8</u>	Amperes	<u>6</u>	feet from standard compass	<u>7</u>	feet from steering compass
A cable carrying	"	Amperes	"	feet from standard compass	"	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 all course in the case of the standard compass and nil degrees on all course in the case of the steering compass.

SWAN, HUNTER & WIGHAM RICHARDS
SHIPBUILDERS & ENGINEERS,
WALLINGTON-TYNE.
DATE 7/3/11
FLAN No. [Signature]
ENGINEER'S OFFICE.

Builder's Signature. Date 7/3/11

GENERAL REMARKS.

This electric light installation has been satisfactorily fitted on board, and the vessel is eligible in my opinion to have the record Electric Light in the Register Book

R. W. Coomber, Surveyor to Lloyd's Register of British and Foreign Shipping.

Committee's Minute

THE SURVEYORS ARE REQUESTED NOT TO WRITE ACROSS THIS MARGIN.



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