

REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 65293.

Port of Newcastle Date of First Survey 1st Nov. 1913 Date of Last Survey 10th Dec. 1913 No. of Visits 7
 No. in Reg. Book 525 on the ~~Iron or Steel~~ S.S. "Elsinore" Port belonging to Liverpool
 Built at Newcastle By whom Swan Hunter & Co. Ltd When built 1913
 Owners C. J. Bowring Owners' Address _____
 Yard No. 931 Electric Light Installation fitted by Swan Hunter & Co. Ltd When fitted 1913

DESCRIPTION OF DYNAMO, ENGINE, ETC.

Engine & Dynamo by Clark Chapman inverted engine open type
 steam 100 lbs 400 Revs Dynamo multi pole compound with carbon brushes
 Capacity of Dynamo 5.5 KW Amperes at 65 Volts, whether continuous or alternating current continuous

Where is Dynamo fixed Engine room below aft Whether single or double wire system is used double
 Position of Main Switch Board Besides dynamo having switches to groups 4 circuits of lights, &c., as below

Positions of auxiliary switch boards and numbers of switches on each No auxiliary switch boards
Switches in engine room for distribution in Boiler & engine Rooms & at other places switches near to 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 10% 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

Total number of lights provided for 110 arranged in the following groups:—

A	26	lights each of	16	candle power requiring a total current of	22-26	Amperes
B	15	lights each of	"	candle power requiring a total current of	12-60	Amperes
C	36	lights each of	"	candle power requiring a total current of	31-06	Amperes
D	33	lights each of	"	candle power requiring a total current of	28-20	Amperes
E		lights each of		candle power requiring a total current of		Amperes
2	Mast head light with	1	lamps each of	32	candle power requiring a total current of	1-47
2	Side light with	1	lamps each of	32	candle power requiring a total current of	1-47
2-6	cluster Cargo lights of		16	candle power, whether incandescent or arc lights	incandescent	

If arc lights, what protection is provided against fire, sparks, &c. no arc lights

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

DESCRIPTION OF CABLES.

Main cable carrying 94 Amperes, comprised of 37 wires, each 16 S.W.G. diameter, .11680 square inches total sectional area
 Branch cables carrying 31 Amperes, comprised of 19 wires, each 18 S.W.G. diameter, .03375 square inches total sectional area
 Branch cables carrying 4 Amperes, comprised of 2 wires, each 18 S.W.G. diameter, .0053230 square inches total sectional area
 Leads to lamps carrying 8 Amperes, comprised of 1 wires, each 18 S.W.G. diameter, .0018100 square inches total sectional area
 Cargo light cables carrying 5.11 Amperes, comprised of 108 wires, each 38 S.W.G. diameter, .0032170 square inches total sectional area

DESCRIPTION OF INSULATION, PROTECTION, ETC.

Armoured with galvanized steel wire lead covered braided vulcanized Taped & pure India rubber

Joints in cables, how made, insulated, and protected No joints in this vessel

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

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

How are the cables led through the ship, and how protected main are laid in galvanized iron piping at other places lead & armoured or lead covered

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 piping or lead & armoured as the case may be

What special protection has been provided for the cables near galleys or oil lamps or other sources of heat as above

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 fibre ferrules through bulkheads, &c. in W's glands

How are cables carried through decks in lead or Iron piping 18" above deck in all cases

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

If so, how are they protected In bunkers in galvanized piping

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

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 " "

Cargo light cables, whether portable or permanently fixed portable How fixed with W's connection

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

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 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 in gas tight-protected 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 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.

Swan Hunter & Wigham Richardson Electrical Engineers

Date 2/1/14

COMPASSES.

Distance between dynamo or electric motors and standard compass 180 ft.

Distance between dynamo or electric motors and steering compass 176 ft.

The nearest cables to the compasses are as follows:—

A cable carrying	Ampere	feet from standard compass	feet from steering compass
<u>1.4</u>	<u>180</u>	<u>176</u>	<u>"</u>
<u>"</u>	<u>"</u>	<u>"</u>	<u>"</u>
<u>"</u>	<u>"</u>	<u>"</u>	<u>"</u>

Have the compasses been adjusted with and without the electric installation at work at full power Yes on day of trial

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.

DATE

PLAN No.

ENGINEER'S OFFICE.

Builder's Signature.

Date

GENERAL REMARKS.

This installation has been fitted in accordance with the requirements, it has been tried under full power with satisfactory results. In my opinion this vessel is eligible for the record of Elec. Light

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

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

Committee's Minute