

REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 51423

Port of Newcastle Date of First Survey July 16 Date of Last Survey 14 Aug '06 No. of Visits 6
 No. in Reg. Book on the Iron or Steel 1/2" Brownfels Port belonging to Bremer
 Built at Low Walker By whom Messrs Swan, Hunter, & Wigham Rich. Ltd. When built 1906
 Owners The Harma Co. Owners' Address Bremer
 Yard No. Y60 Electric Light Installation fitted by Messrs Clarke Chapman & Co. Ltd When fitted 1906

DESCRIPTION OF DYNAMO, ENGINE, ETC.

One vertical, compound, double acting open type engine, coupled direct to a continuous current compound wound dynamo.

Capacity of Dynamo 120 Amperes at 110 Volts, whether continuous or alternating current continuous

Where is Dynamo fixed Engine room, star. side lower platform Whether single or double wire system is used double

Position of Main Switch Board Near dynamo. having switches to groups A. B. C. D. E. F. of lights, &c., as below

Positions of auxiliary switch boards and numbers of switches on each light, and group of lights fitted with switches as required.

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 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, slate & ambroin.

Total number of lights provided for 136 arranged in the following groups:—

A 1-20" Projector lights each of 20,000 candle power requiring a total current of 60 Amperes

B 26 lights each of 16 candle power requiring a total current of 14.2 Amperes

C 23 lights each of 16 candle power requiring a total current of 12.5 Amperes

D 18 lights each of 16 candle power requiring a total current of 9.8 Amperes

E 39 lights each of 16 candle power requiring a total current of 21.1 Amperes

F 30 lights each of 16 candle power requiring a total current of 16.4 Amperes

2 Mast head light with 1 lamps each of 32 candle power requiring a total current of 1.1 Amperes

2 Side light with 1 lamps each of 32 candle power requiring a total current of 1.1 Amperes

8 Cargo lights of each 5.16 candle power, whether incandescent or arc lights incandescent.

If arc lights, what protection is provided against fire, sparks, &c. Totally enclosed in hexagonal clear glass lanterns.

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

DESCRIPTION OF CABLES.

Main cable carrying 120 Amperes, comprised of 37 wires, each 13 L.S.G. diameter, .24310 square inches total sectional area

Branch cables carrying 14.2 Amperes, comprised of 7 wires, each 17 L.S.G. diameter, .01706 square inches total sectional area

Branch cables carrying 12.5 Amperes, comprised of 7 wires, each 18 L.S.G. diameter, .01254 square inches total sectional area

Leads to lamps carrying .54 Amperes, comprised of 1 wires, each 18 L.S.G. diameter, .0018 square inches total sectional area

Cargo light cables carrying 3 Amperes, comprised of 7 wires, each 20 L.S.G. diameter, .0070 square inches total sectional area

DESCRIPTION OF INSULATION, PROTECTION, ETC.

Vulcanized, rubber taped, braided & lead covered overall, and where exposed, steel armoured, braided & heavily bitumen compounded.

Joints in cables, how made, insulated, and protected No joints except mechanical ones.

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, No,

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 Lead covered, steel armoured, braided, and heavily bitumen compounded.

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 covered steel armoured, braided & heavily bitumen compounded.

What special protection has been provided for the cables near galleys or oil lamps or other sources of heat Lead covered 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 In lead bushes through bulkheads, &c. in watertight glands.

How are cables carried through decks In galvanized iron watertight deck tubes.

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

If so, how are they protected Lead covered, armoured & braided overall & secured by brass clips.

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 No

Cargo light cables, whether portable or permanently fixed portable How fixed In Cast Iron watertight boxes.

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

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

Are all the joints with the hull in accessible positions —

The installation is now supplied with a voltmeter and also an amperemeter, fixed on main switchboard

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 2,000 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 Clarke, Chapman & Co. Ltd

V. Walker Director.

Electrical Engineers

Date 18/8/06.

COMPASSES.

Distance between dynamo or electric motors and standard compass 112 ft.

Distance between dynamo or electric motors and steering compass 100 ft.

The nearest cables to the compasses are as follows:—

A cable carrying 6 Amperes 3 feet from standard compass 6 feet from steering compass

A cable carrying 6 Amperes 6 feet from standard compass 3 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 Nil degrees on — course in the case of the steering compass.

SWAN, HUNTER, & WIGHAM RICHARDSON, LTD.

J. Richardson Director.

Builder's Signature.

Date Aug: 1906.

GENERAL REMARKS.

The installation examined & found satisfactory.

John H. Heck.

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

Committee's Minute —

It is submitted that the Record Elec. Light be noted in the Reg. Book.

Lloyd's Register
Foundation
23.8.06