Rpt. 13.

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REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 73445.

Port of Liverpool Date of First Survey 12th May Date of Last Survey 16th June 1915 No. of Visits 3.

No. in Reg. Book 1209 on the Iron or Steel S.S. "Husser" now "General Lomax" Port belonging to

Built at Newcastle " By whom Tyne Iron S.B. Co. Ltd. When built 1903-6

Owners Owners' Address

Yard No. Electric Light Installation fitted by J. H. Holmes & Co. When fitted 1915.

DESCRIPTION OF DYNAMO, ENGINE, ETC.

One 4½"×4" open single cylinder engine coupled direct to one Holmes dynamo.

Capacity of Dynamo 28. Amperes at 100 Volts, whether continuous or alternating current continuous

Where is Dynamo fixed in Engine Rm. Whether single or double wire system is used double.

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

Positions of auxiliary switch boards and numbers of switches on each 1-4 way D.P. fusebox fixed in Midship Passage, 1-3 way D.P. fusebox with sw's in Wheel Hse, 1-6 way D.P. fusebox with sw's in Engine Room, 1-2 way D.P. fusebox in Eng's Mess, 1-2 way D.P. fusebox with sw's in Refrigerating Room.

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 100 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 Porcelain or slate.

Total number of lights provided for 34-16 C.P. 3-32 C.P. arranged in the following groups :—

A	18 3	lights each of	16 32	candle power requiring a total current of	6·48.	Amperes
B	18	lights each of	16	candle power requiring a total current of	3·36.	Amperes
C	7.	lights each of	16	candle power requiring a total current of	10·08.	Amperes
D		lights each of		candle power requiring a total current of		Amperes
E		lights each of		candle power requiring a total current of		Amperes
1	Mast head light with 1 lamps each of		32.	candle power requiring a total current of	1·12.	Amperes } included above.
2	Side lights with 1 lamps each of		32.	candle power requiring a total current of	2·24	Amperes }
none	Cargo lights of	~	candle power, whether incandescent or arc lights ~			

If arc lights, what protection is provided against fire, sparks, &c. none.

Where are the switches controlling the masthead and side lights placed in Wheel Hse.

DESCRIPTION OF CABLES.

Main cable carrying 28. Amperes, comprised of 4 wires, each 15 L.S.G. diameter, ·088. square inches total sectional area

Branch cables carrying 10. Amperes, comprised of 4 wires, each 18. L.S.G. diameter, ·012. square inches total sectional area

Branch cables carrying 10·08 Amperes, comprised of 4 wires, each 18 L.S.G. diameter, ·012 square inches total sectional area

Leads to lamps carrying ·56 Amperes, comprised of 1 wires, each 18. L.S.G. diameter, ·0018 square inches total sectional area

Cargo light cables carrying none Amperes, comprised of ~ wires, each ~ L.S.G. diameter, ~ square inches total sectional area

DESCRIPTION OF INSULATION, PROTECTION, ETC.

Vulcanized India Rubber, lead covered, & armoured with galv. iron wires.

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 none

How are the cables led through the ship, and how protected L.S., armoured mains, L.S. in Accommodation, L.S. & armoured in Machinery Spaces.

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 L.S. armoured or U.S.R. in Iron Pipe.

What special protection has been provided for the cables near galleys or oil lamps or other sources of heat L.S. armoured.

What special protection has been provided for the cables near boiler casings — do —

What special protection has been provided for the cables in engine room — do —.

How are cables carried through beams bushed with fibre. *through bulkheads, &c.* stuffing glands.

How are cables carried through decks lead or iron tubes, flanged made watertight.

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 L.S. armoured.

Are any lamps fitted in coal bunkers or spaces which may at times be used for cargo, coals, or baggage none.

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 none.

Cargo light cables, whether portable or permanently fixed none *How fixed* ✓

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 ✓

The installation is ..... *supplied with a voltmeter and* ..... *an amperemeter, fixed* on 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.

J & H Holmes & Co. *Electrical Engineers* *Date* June 29. 15.

COMPASSES.

Distance between dynamo or electric motors and standard compass 48 ft. approx.

Distance between dynamo or electric motors and steering compass 38 ft approx.

The nearest cables to the compasses are as follows:—

A cable carrying .56. *Amperes* 5 *feet from standard compass* 4 *feet from steering compass*

A cable carrying 3.36. *Amperes* 8 *feet from standard compass* 6 *feet from steering compass*

A cable carrying 10 *Amperes* 12 *feet from standard compass* 10 *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.*

..... *Builder's Signature.* *Date* .....

GENERAL REMARKS. This electric light installation has been fitted under survey, and when complete examined at work satisfactorily.

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

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

Committee's Minute LIVERPOOL. 2 JUL 1915
Electric Light.

THE SURVEYORS ARE REQUESTED TO WRITE ACROSS THIS MARGIN.

2c.1.12.—Transfer.