Rpt. 13.

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REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 75487

Port of NEWCASTLE-ON-TYNE Date of First Survey 2/9/21 Date of Last Survey 20/3/22 No. of Visits 23

No. in Reg. Book 21646 on the ~~—~~ Steel "Laconia" Port belonging to Liverpool

Built at Newcastle-on-Tyne By whom Swan Hunter & Wigham Richardson Ltd When built 1922

Owners Cunard S.S. Co Ltd. Owners' Address

Yard No. 1125 Electric Light Installation fitted by Swan Hunter & Wigham Richardson Ltd When fitted 1922.

DESCRIPTION OF DYNAMO, ENGINE, ETC.

2-375 K.W Shunt wound turbo generators. The makers of the unit Metropolitan Vickers Co Ltd
1-36 K.W. emergency dynamo by Metropolitan Vickers engine fitted by Metropolitan Vickers

Capacity of Dynamos 1700 each Amperes at 220 Volts, whether continuous or alternating current Continuous
" " emergency dynamo 160 Amperes 220

Where is Dynamo fitted Eng. room aft end Whether single or double wire system is used double wire system with earthed neutral
" " ASC " "B" deck aft
Position of Main Switch Board engine room aft end having switches to groups of lights, &c., as below
" " emergency " " Boat deck " "
Positions of auxiliary switch boards and numbers of switches on each See book of diagrams

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 100 ✓ 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 ✓

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

See book of diagrams

A	lights each of		candle power requiring a total current of		Amperes
B	lights each of		candle power requiring a total current of		Amperes
C	lights each of		candle power requiring a total current of		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
2	Mast head light with 1	lamps each of 32	candle power requiring a total current of	2.24	Amperes
2	Side light with 1	lamps each of 32	candle power requiring a total current of	2.24	Amperes
14	Cargo lights of 6 lights of 16		candle power, whether incandescent or arc lights	incandescent	

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

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

DESCRIPTION OF CABLES.

See book of diagrams

Main cable carrying	Amperes, comprised of	wires, each	S.W.G. diameter,	square inches total sectional area
Branch cables carrying	Amperes, comprised of	wires, each	S.W.G. diameter,	square inches total sectional area
Branch cables carrying	Amperes, comprised of	wires, each	S.W.G. diameter,	square inches total sectional area
Leads to lamps carrying	Amperes, comprised of	wires, each	S.W.G. diameter,	square inches total sectional area
Cargo light cables carrying	Amperes, comprised of	wires, each	S.W.G. diameter,	square inches total sectional area

DESCRIPTION OF INSULATION, PROTECTION, ETC.

V.I.R cable along cable passages & V.I.R in conduit. Engine room, stokehold are lead covered armoured & braided, chart house, wheelhouse lead covered cable. Dynamo mains are V.I.R run on insulators ✓

Joints in cables, how made, insulated, and protected

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

How are the cables led through the ship, and how protected in cable passages by means of insulators, in engine room perforated plating ... station exposed places V.I.R cable in pipe ✓

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 V.I.R cable in pipe

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

What special protection has been provided for the cables near boiler casings lead covered armoured tbraided cable

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

How are cables carried through beams lead lined holes *through bulkheads, &c.* watertight gland

How are cables carried through decks watertight deck pipes

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 lead covered armoured tbraided cable

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

If so, how are the lamp fittings and cable terminals specially protected cast iron covered fittes

Where are the main switches and fuses for these lights fitted on deck above.

If in the spaces, how are they specially protected switches are in cast iron boxes.

Are any switches or fuses fitted in bunkers no

Cargo light cables, whether portable or permanently fixed flexible from W.T. socket *How fixed* clipped to deck beam

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 —

Is the installation supplied with a voltmeter yes , *and with an amperemeter* yes , *fixed* on main [illegible]

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

Are any switches, fuses, 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 not less than that of the Engineering Standards Committee's [illegible] 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° Fahr[enheit] after 24 hours' immersion in water, the test being made after one minute's electrification at not less than 500 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 [illegible] that it is at this date in good order and safe working condition.

FOR SWAN, HUNTER, & WIGHAM RICHARDSON, LTD. *Electrical Engineers* *Date* 9 June 22

COMPASSES.

Distance between dynamo or electric motors and standard compass 230 feet

Distance between dynamo or electric motors and steering compass 226 feet.

" "emergency" " " " " compass aft 48 feet.

The nearest cables to the compasses are as follows:—

A cable carrying 18·8 *Amperes* 10 *feet from standard compass* 8 *feet from steering com[pass]*

A cable carrying 10·2 *Amperes* 10·6" *feet from standard compass* 8 *feet from steering com[pass]*

A cable carrying 160 *Amperes* 600 *feet from* aft *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[s] in the case of the standard compass and* nil *degrees on* all *course[s] in the case of the steering compass.*

FOR SWAN, HUNTER & WIGHAM RICHARDSON, LTD. Ablaughton *Builder's Signature.* *Date* 9th June 1922

GENERAL REMARKS. The above installation is in accordance with the Societys Rules. The vessel is eligible in my opinion for notation elec light, wireless.

It is submitted that this vessel is eligible for THE RECORD. Elec. Light A.A.B. 7/12/22

W.T. Badger. *Surveyor to Lloyd's Register of Shipping.*

Fa £51.3.0 applied for 20/6/22 Paid 11/8/22

Committee's Minute