Rpt. 13.

RETAIN

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REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 20844

Port of Hull. Date of First Survey Jan 2nd Date of Last Survey Jan 12th No. of Visits 4

No. in Reg. Book 21 Supp. on the ~~Iron or~~ Steel S/Trawler "ROSE OF ENGLAND" Port belonging to Liverpool

Built at Selby. By whom Cochrane & Sons When built 1909

Owners J. Duncan Sons & Co Owners' Address Liverpool

Yard No. 445 Electric Light Installation fitted by Campbell, Brierwood When fitted 1909.

DESCRIPTION OF DYNAMO, ENGINE, ETC.

A 4 pole compound wound dynamo direct coupled to a Roby Engine
The dynamo a Campbell & Brierwood standard pattern

Capacity of Dynamo 35- Amperes at 100 Volts, whether continuous or alternating current continuous

Where is Dynamo fixed starboard side of Engineroom Whether single or double wire system is used double

Position of Main Switch Board Forward bulkhead of Stores having switches to groups 3 of lights, &c., as below

Positions of auxiliary switch boards and numbers of switches on each Engineroom 6 switches
Chart room 4 switches & a switch in a convenient position to each light

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 Are the fuses of standard dimensions 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

Total number of lights provided for 62-16 cp arranged in the following groups :—

A	~~17~~ 18	lights each of	17 of 16 1 of 32	candle power requiring a total current of	9.5	Amperes
B	11	lights each of	6 of 16 5 of 32	candle power requiring a total current of	8.0	Amperes
C	15	lights each of	3 of 16 12 of 32	candle power requiring a total current of	13.5	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	included in B	Amperes
2	Side light with 2 lamps each of		32	candle power requiring a total current of	" " B	Amperes
4	Cargo lights of 3 lamps of 32			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 in Engineroom

DESCRIPTION OF CABLES.

Main cable carrying	35- Amperes, comprised of	19 wires, each	18	L.S.G. diameter,	.035	square inches total sectional area
Branch cables carrying	12.6 Amperes, comprised of	7 wires, each	18	L.S.G. diameter,	.0126	square inches total sectional area
Branch cables carrying	7 Amperes, comprised of	7 wires, each	20	L.S.G. diameter,	.007	square inches total sectional area
Leads to lamps carrying	1.8 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.

Cabins lead covered cables Engineroom Galvanised wire armoured & braided over all. where exposed to weather in screwed steel tubing galvanised

Joints in cables, how made, insulated, and protected soldered with resin as a flux & insulated with pure rubber tape & braided over all

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 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 Cabins lead covered Engineroom Galvanised wire armoured & braided where exposed to weather in screwed steel tubing galvanised

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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 in screwed steel tubing screwed

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

What special protection has been provided for the cables near boiler casings armoured & braided over all

What special protection has been provided for the cables in engine room armoured & braided over all

How are cables carried through beams fibre bushes *through bulkheads, &c.* glands

How are cables carried through decks Iron deck pipes flanged to deck

Are any cables run through coal bunkers yes *or cargo spaces* ——— *or spaces which may be used for carrying cargo, stores, or baggage* yes

If so, how are they protected screwed steel tubing galvanised

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 heavy cast iron guards

Where are the main switches and cut outs for these lights fitted in Engineroom

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 permanently *How fixed* Iron pipes flanged & bolted through the deck

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 yes *supplied with a voltmeter and* yes *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 98% *per cent. that of pure copper.*

Insulation of cables is guaranteed to have a resistance of not less than 2500 *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.

Campbell & Isherwood Ltd *Electrical Engineers* *Date* Jan 11 1909

COMPASSES.

Distance between dynamo or electric motors and standard compass 80 feet

Distance between dynamo or electric motors and steering compass 80 feet

The nearest cables to the compasses are as follows :—

A cable carrying	12	*Amperes*	18	*feet from standard compass*	12	*feet from steering compass*
A cable carrying	5	*Amperes*	3	*feet from standard compass*	7	*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 ———

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.*

Cochrane & Sons *Builder's Signature.* *Date* 19.1.09.

GENERAL REMARKS. This installation of electric light, as far as can be seen has been well fitted & the workmanship good; tried under working conditions & found satisfactory.

John. W. Gwynne

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.

L.S. 21.1.09

THE SURVEYORS ARE REQUESTED NOT TO WRITE ACROSS THIS MARGIN.