Rpt. 13.

Received from Surveyor 11 JAN. 1902

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596

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# REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 19535

Port of Glasgow  Date of First Survey  Date of Last Survey  No. of Visits

No. in Reg. Book  on the Iron or Steel S.S. "SEACOMBE"  Port belonging to

Built at Annan  By whom Cochran & Co Annan Ltd  When built 1901.

Owners  Owners' Address

Yard No. 311  Electric Light Installation fitted by Cochran & Co. Annan Ltd.  When fitted 1901

**DESCRIPTION OF DYNAMO, ENGINE, ETC.**

Compound wound, two pole inverted, drum armature, Coupled direct to Shanks engine running at 350 revolutions per min.

Capacity of Dynamo 50 Amperes at 70 Volts, whether continuous or alternating current continuous

Where is Dynamo fixed on a bracket fixed to bulkhead in Engine room

Position of Main Switch Board on bulkhead to Aft from Dynamo having switches to ~~groups~~ 3 circuits of lights, &c., as below

Positions of auxiliary switch boards and numbers of switches on each none

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 ——— and at each position where a cable is branched or reduced in size yes and to each lamp circuit no

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 + only

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 ~

Are all switches and cut-outs constructed of incombustible materials and fitted on incombustible bases brass Vulcanized fibre on slate base

Total number of lights provided for 50 arranged in the following groups :—

| | | | | | | |
|---|---|---|---|---|---|---|
| A | 11 | lights each of | 16 | candle power requiring a total current of | 8.8 | Amperes |
| B | 20 | lights each of | 16 | candle power requiring a total current of | 16 | Amperes |
| C | 19 | lights each of | 16 | candle power requiring a total current of | 12.8 | 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 lights with | 1 | lamps each of 16 | candle power requiring a total current of | .8 | Amperes |
| 4 | Side light with | 1 | lamps each of 16 | candle power requiring a total current of | 1.6 | Amperes |
| 2 | Cargo lights of | 5 -16 cp. each | | candle power, whether incandescent or arc lights | 8.0 | |

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

Where are the switches controlling the masthead and side lights placed in Mates Rm.

**DESCRIPTION OF CABLES.**

| | | | | | | |
|---|---|---|---|---|---|---|
| Main cable carrying | 37.6 | Amperes, comprised of | 19 | wires, each | 16 | L.S.G. diameter, .0612 square inches total sectional area |
| Branch cables carrying | 16 | Amperes, comprised of | 19 | wires, each | 20 | L.S.G. diameter, .0194 square inches total sectional area |
| Branch cables carrying | 7.2 | Amperes, comprised of | 7 | wires, each | 20 | L.S.G. diameter, .00714 square inches total sectional area |
| Leads to lamps carrying | 2.4 | Amperes, comprised of | 1 | wires, each | 16 | L.S.G. diameter, .00322 square inches total sectional area |
| Cargo light cables carrying | 4 | Amperes, comprised of | 7 | wires, each | 20 | L.S.G. diameter, .00714 square inches total sectional area |

**DESCRIPTION OF INSULATION, PROTECTION, ETC.**

All cables wires are insulated with pure Vulcanised rubber, taped, braided & compounded they are run in wood casing except where as protection from weather or mechanical injury Iron pipe was considered necessary

Joints in cables, how made, insulated, and protected All joints were cleaned tinned & soldered, insulated with pure rubber strips & solution & black prepared tape (linen)

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

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 Casing on underside of deck

**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* Iron pipe and lead covered cable

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

*What special protection has been provided for the cables near boiler casings* Iron pipe

*What special protection has been provided for the cables in engine room* Iron pipe where necessary

*How are cables carried through beams* none are through beams *through bulkheads, &c.* Teak plugs

*How are cables carried through decks* through iron or lead pipes protected by additional insulation

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

*If so, how are they protected* Sheet iron fixed over wood casing

*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* permanent *How fixed* in Iron pipe

*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*

**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 installation is* ——— *supplied with a voltmeter and* not *an amperemeter, fixed* on Switchboard

*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* 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.**

For COCHRAN & CO., ANNAN, LIMITED,

J. H. Bell Director. *Electrical Engineers* *Date* 9 Jan.y 1902

**COMPASSES.**

*Distance between dynamo or electric motors and standard compass* } one compass. 24 feet.
*Distance between dynamo or electric motors and steering compass* }

*The nearest cables to the compasses are as follows:—*

| | | | | | | |
|---|---|---|---|---|---|---|
| *A cable carrying* | 5.6 | *Amperes* | 6'-0" | *feet from standard compass* | 6'-0" | *feet from steering compass* |
| *A cable carrying* | 4.0 | *Amperes* | 6'-0" | *feet from standard compass* | 6'-0" | *feet from steering compass* |
| 4 *cable carrying* | 3.2 total | *Amperes* | 6'-0" | *feet from standard compass* | 6'-0" | *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 *courses in the case of the standard compass and* ✓ *degrees on* ✓ *course in the case of the steering compass.*

For COCHRAN & CO., ANNAN, LIMITED,

J. H. Bell Director. *Builder's Signature.* *Date* 9 Jan.y 1902

**GENERAL REMARKS.**

This installation has been examined during fitting aboard tried with all lights on & found satisfactory

J. W. Dunnock

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

*Committee's Minute* Glasgow. 13 JAN. 1902

Record "Electric light"

It is submitted that this installation appears to be satisfactory.

15.1.02

REPORT FORM No. 15.

THE SURVEYORS ARE REQUESTED NOT TO WRITE ACROSS THIS MARGIN.