

REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 12901

Port of *Aberdeen* Date of First Survey *9th Nov 1921* Date of Last Survey *30 Nov 1921* No. of Visits *11+6=17*
 No. in Reg. Book on the Iron or Steel *S.S. "Truro"* No 459. Port belonging to *Hull*.
 Built at *Aberdeen* By whom *J. Duchie Lorry S.B. Co* When built *1921*.
 Owners *Messrs. Ellerman's Wilson Line Ltd.* Owners' Address *Hull*.
 Yard No. *459* Electric Light Installation fitted by *J. Holmes & Co, Newcastle*. When fitted *1921*.

DESCRIPTION OF DYNAMO, ENGINE, ETC.

One 6½" x 5" open single cylinder engine by Robey & Co, Lincoln, coupled direct to one open, compound wound dynamo by J. Holmes & Co.

Capacity of Dynamo *60* Amperes at *100* Volts, whether continuous or alternating current *continuous*

Where is Dynamo fixed *Engine Room*. Whether single or double wire system is used *double*.

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

Positions of auxiliary switch boards and numbers of switches on each *2 way 10 amp Section Box in Steering Gr. House, 3 way 5 amp fusebox in Saloon Pantry, 2 way 10 amp Section Box in Saloon Pantry, 6 way 5 amp fusebox in Saloon Pantry, 6 way 5 amp fusebox in Chart Rm, 2 way 10 amp Section Box in Eng's Mess Rm, 4 way 5 amp fusebox in Eng's Mess, 4 way 5 amp box in Foremen's Qtrs, 12 way 5 amp box in Engine Rm.*

If fuses are fitted on main switch board to the cables of main circuit *Yes*. and on each auxiliary *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 *94-16 AP (including 25-30 watt metal fls.)* arranged in the following groups :-

A	24	lights each of	16	candle power requiring a total current of	<i>approx 13.4</i>	Amperes
B	<i>18½</i>	lights each of	32	candle power requiring a total current of	<i>" 12.3</i>	Amperes
C	24	lights each of	16	candle power requiring a total current of	<i>" 13.3</i>	Amperes
D	24	lights each of	16	candle power requiring a total current of	<i>" 13.4</i>	Amperes
E		lights each of		candle power requiring a total current of		Amperes
2	Mast head light with	1 lamp each of	32	candle power requiring a total current of	<i>" 2.24</i>	Amperes
2	Side lights with	1 lamp each of	32	candle power requiring a total current of	<i>" 2.24</i>	Amperes
4	Cargo lights of	6 x 16		candle power, whether incandescent or arc lights	<i>incandescent</i>	

Included above.

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

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

DESCRIPTION OF CABLES.

Main cable carrying *60* Amperes, comprised of *19* wires, each *.064* S.W.G. diameter, *.060* square inches total sectional area
 Branch cables carrying *13.4* Amperes, comprised of *7* wires, each *.052* S.W.G. diameter, *.014* square inches total sectional area
 Branch cables carrying *12.3* Amperes, comprised of *7* wires, each *.052* S.W.G. diameter, *.014* square inches total sectional area
 Leads to lamps carrying *.56* Amperes, comprised of *3* wires, each *.029* S.W.G. diameter, *.002* square inches total sectional area
 Cargo light cables carrying *3.36* Amperes, comprised of *3* wires, each *.036* S.W.G. diameter, *.003* square inches total sectional area

DESCRIPTION OF INSULATION, PROTECTION, ETC.

Conductors of High Conductivity Copper wire, insulated with Pure & vulcanized India Rubber, taped, lead covered, taped, & armoured with galv. steel wires.

Joints in cables, how made, insulated, and protected *None, looping-in system carried out.*

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 *No*.

How are the cables led through the ship, and how protected *Cables, Saloon &c lead covered clipped up: Cargo Spaces & Engine & Boiler Rooms, Lead covered & armoured. Mast Head Lights, twin U.S.R. in galv. pipes.*

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 & Armoured

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

Lead Covered & Armoured

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

Bushed with fibre.

through bulkheads, &c. stuffing glands.

How are cables carried through decks

in lead or iron deck 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

Lead Covered & Armoured.

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 fuses for these lights fitted

✓

If in the spaces, how are they specially protected

✓

Are any switches or fuses fitted in bunkers

No

Cargo light cables, whether portable or permanently fixed

Portable

How fixed socket connection.

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 board.

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 standard, 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° Fahrenheit after 24 hours' immersion in water, the test being made after one minute's electrification at not less than 500 volts 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 declare that it is at this date in good order and safe working condition.

COMPASSES.

Distance between dynamo or electric motors and standard compass

Approx. 78 ft.

Distance between dynamo or electric motors and steering compass

" 80 ft.

The nearest cables to the compasses are as follows:—

A cable carrying	Amperes	inside	feet from standard compass	inside	feet from steering compass
.56					
approx 7.56		approx 6	feet from standard compass	approx 16	feet from steering compass
" 12.3		" 18	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.

THE JOHN BUTHIE TORRY SHIPBUILDING COY

hp W

Builder's Signature.

Date

GENERAL REMARKS.

The various parts of the installation have been examined, during the fitting on board. The materials & workmanship are good.

The installation was tried under full load & found good & efficient.

Fee £6-0-0

1/3 fee

£2/- due Hull

Charlotte. Robert Rae

Elec. Light.

Part for due Aberdeen

Surveyor to Lloyd's Register of Shipping.

27/3/22

Committee's Minute

FRI 10 MAR 1922



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