

# REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 74441

Port of NEWCASTLE-ON-TYNE Date of First Survey 3/4/21 Date of Last Survey 9/5/21 No. of Visits 11  
 No. in on the Steel Modum Port belonging to Christania  
 Reg. Book 24590 Built at Newcastle By whom Northumberland Ship Co Ltd When built 1920  
 Owners Jvas An Christensen Owners' Address \_\_\_\_\_  
 Yard No. 242 Electric Light Installation fitted by Campbell & Sherwood & Co. When fitted 1920

## DESCRIPTION OF DYNAMO, ENGINE, ETC.

Dynamo compound multipoles direct coupled to a Rokeby steam engine, single cylinder open type.  
 Capacity of Dynamo 100 Amperes at 100 Volts, whether continuous or alternating current continuous  
 Where is Dynamo fixed engine room starboard side Whether single or double wire system is used double  
 Position of Main Switch Board engine room off side aft having switches to groups 6 of lights, &c., as below  
 Positions of auxiliary switch boards and numbers of switches on each 1-3 way dis box in chart house, 1-6 way dis box off pass aft, 2-6 way dis boxes in engine room, 1-6 way dis box in chart house, 3 way dis in lamp room, 6 way dis in pantry, 1-2 way dis in boiler room.  
 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 146 arranged in the following groups:—

Group	Description	Quantity	Wattage	Current (Amperes)
A	Saloon + fore	43	30 watt	12.9
B	hangar	6	5-32 cp, 1/5-6	6.65
C	Compasses	6	8	1.68
D	Engine + aft	56	30 watt	16.8
E	Eng + Boiler	35	30 watt	10.5
F	Wireless	2	32	2.4
	Mast head light with 1 lamp each of	1	32	2.4
	Side light with 1 lamp each of	1	32	2.4
	Cargo lights of			

If arc lights, what protection is provided against fire, sparks, &c. \_\_\_\_\_  
 Where are the switches controlling the masthead and side lights placed in chart house.

## DESCRIPTION OF CABLES.

Main cable carrying	100 Amperes, comprised of	37 wires, each	16 S.W.G. diameter,	.1168 square inches total sectional area
Branch cables carrying	16.8 Amperes, comprised of	7 wires, each	20 S.W.G. diameter,	.007 square inches total sectional area
Branch cables carrying	10.0 Amperes, comprised of	7 wires, each	16 S.W.G. diameter,	.0221 square inches total sectional area
Leads to lamps carrying	1.2 Amperes, comprised of	3 wires, each	22 S.W.G. diameter,	.0018 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.

Main cables are V.I.R. in conduit, wiring in cabins lead covered.  
 Joints in cables, how made, insulated, and protected none made  
 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 in conduit V.I.R. cables.

**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 run in Conduit with screwed connections

What special protection has been provided for the cables near galleys or oil lamps or other sources of heat no

What special protection has been provided for the cables near boiler casings no

What special protection has been provided for the cables in engine room no

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

How are cables carried through decks deckpipes

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

If so, how are they protected V.I.R cable run in conduit with screwed connections

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 none fitted 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 —

Is the installation supplied with a voltmeter yes, and with an amperemeter yes, fixed main switchboard

**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 yes

Are any switches, fuses, or joints of cables fitted in the pump room or companion no

How are the lamps specially protected in places liable to the accumulation of vapour or gas gas tight fittings

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.

CAMPBELL & ISHERWOOD, LTD. Electrical Engineers Date 2<sup>nd</sup> Aug 1921

**COMPASSES.**

Distance between dynamo or electric motors and standard compass 84 feet

Distance between dynamo or electric motors and steering compass 90 feet.

The nearest cables to the compasses are as follows:—

A cable carrying	<u>6.65</u> Amperes	<u>5' 6"</u> feet from standard compass	<u>9' 0"</u> feet from steering compass
A cable carrying	<u>.56</u> Amperes	<u>on the</u> feet from standard compass	<u>6</u> feet from steering compass
A cable carrying	<u>.56</u> Amperes	<u>6</u> feet from standard compass	<u>on the</u> 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 in the case of the standard compass and nil degrees on all course in the case of the steering compass.

J. P. Murray Builder's Signature. Date 16<sup>th</sup> Aug. 1921

**GENERAL REMARKS.** The above installation is in accordance with the Society's Rules. The vessel is eligible in my opinion to have notation elec light, written. Final trial of electric light installation will be held before the vessel proceeds to sea. It is submitted that this vessel is eligible for THE RECORD. Elec Light

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

£10.0.0 Paid 13/7/21 24/8/21

Committee's Minute

THE SURVEYORS ARE REQUESTED NOT TO WRITE ACROSS THIS MARGIN.

