

REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 74869

Port of NEWCASTLE-ON-TYNE Date of First Survey 2/8/21 Date of Last Survey 6/10/21 No. of Visits 7
No. in Steel All America Port belonging to London
Reg. Book Supp
36122 Built at Newcastle By whom Swan Hunter & Wigham Richardson When built 1921
Owners All America Cables Inc. Owners' Address
Yard No. 1120 Electric Light Installation fitted by Swan Hunter & Wigham Richardson Ltd. When fitted 1921

DESCRIPTION OF DYNAMO, ENGINE, ETC.

The compound, multipolar dynamo coupled direct to a single cylinder steam engine
The 12KW Parsons pump motor coupled direct to a multipolar compound dynamo

Capacity of Dynamos 240 + 120 Amperes at 100 Volts, whether continuous or alternating current Continuous

Where is Dynamo fixed Dynamo flat in engine room starboard Whether single or double wire system is used double

Position of Main Switch Board Dynamo flat engine room aft having switches to groups 8 of lights, &c., as below

Positions of auxiliary switch boards and numbers of switches on each 1 in chart room, 1 section box @ frame 16 upper deck,
1 section box on dynamo flat in engine room, 1 section box for aft lighting frame 34 upper deck starboard side
1 section box for midship lighting frame 40 upper deck starboard side

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 206 arranged in the following groups:—

A Forward	64	lights each of 11-10cp, 16-40W, 37-30W	candle power requiring a total current of	24.0	Amperes
B Midships	52	lights each of 52-30 watt	candle power requiring a total current of	16.0	Amperes
C aft	40	lights each of 22-16cp, 8-40W, 5-30W, 5-16cp	candle power requiring a total current of	19.92	Amperes
D Navigation	21	lights each of 6-6cp, 5-32cp, 10-30W	candle power requiring a total current of	9.86	Amperes
E Engine Room	29	lights each of 24-30W, 5-16cp	candle power requiring a total current of	10.0	Amperes
F Wireless	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
	6-4 lamp	Cargo lights of 320	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 Chart house.

DESCRIPTION OF CABLES.

Main cable carrying	240	Amperes, comprised of	37	wires, each	.103	S.W.G. diameter,	.3	square inches total sectional area
Branch cables carrying	24	Amperes, comprised of	19	wires, each	.064	S.W.G. diameter,	.06	square inches total sectional area
Branch cables carrying	9.86	Amperes, comprised of	7	wires, each	.029	S.W.G. diameter,	.0045	square inches total sectional area
Leads to lamps carrying	2.24	Amperes, comprised of	3	wires, each	.029	S.W.G. diameter,	.002	square inches total sectional area
Cargo light cables carrying	1.6	Amperes, comprised of	70	wires, each	.0076	S.W.G. diameter,	.003	square inches total sectional area

DESCRIPTION OF INSULATION, PROTECTION, ETC.

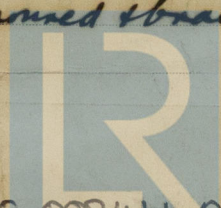
Lead covered cable clipped to bulkheads decks beams etc in accommodation
Lead covered armoured braided cable clipped to steelwork in engine & boiler rooms, tunnel etc.

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 —

How are the cables led through the ship, and how protected Lead covered cable & lead armoured & braided cable
clipped to deck bulkheads with galvanised iron clips.



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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 *conduit*

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

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

What special protection has been provided for the cables in engine room *lead covered armoured & braided cable*

How are cables carried through beams *holes lashed with lead* through bulkheads, &c. *waterlight bulkhead glands*

How are cables carried through decks *waterlight deck tubes*

Are any cables run through coal bunkers *no* or cargo spaces *no* or spaces which may be used for carrying cargo, stores, or baggage *no*

If so, how are they protected

Are any lamps fitted in coal bunkers or spaces which may at times be used for ~~stoves~~, or ~~boilers~~ *4 in each cable tank*

If so, how are the lamp fittings and cable terminals specially protected

Where are the main switches and fuses for these lights fitted *passages*

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 from connection box* How fixed *clipped to bulkhead*

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

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 *2500* 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.

SWAN, HUNTER & WIGMAN, ENGINEERS, LTD.

Electrical Engineers

Date *18 October 1921*

COMPASSES.

Distance between dynamo or electric motors and standard compass *70 feet*

Distance between dynamo or electric motors and steering compass *70 feet*

The nearest cables to the compasses are as follows:—

A cable carrying	<i>9.86</i>	Amperes	<i>6</i>	feet from standard compass	<i>8.6</i>	feet from steering compass
A cable carrying	<i>.56</i>	Amperes	<i>on the</i>	feet from standard compass	<i>6.0</i>	feet from steering compass
A cable carrying	<i>.56</i>	Amperes	<i>5.0</i>	feet from standard compass	<i>on the</i>	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.

FOR SWAN, HUNTER & WIGMAN, ENGINEERS, LTD.

Builder's Signature. Date *19th Oct. 1921*

GENERAL REMARKS.

The above installation is in accordance with the Society's Rules. The vessel is eligible in my opinion for notation Elec light & wireless

It is submitted that this vessel is eligible for THE RECORD.

applied for 17/10/21

Elec. Light.

26/10/21

W.T. Badger.

Surveyor to Lloyd's Register of Shipping.

Committee's Minute

THE SURVEYORS ARE REQUESTED NOT TO WRITE ACROSS THIS MARGIN.



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