

REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 70521

Port of Newcastle on Tyne Date of First Survey 9th Nov Date of Last Survey 4th Dec. 1917 No. of Visits 10

No. in Reg. Book 1038 on the Iron or Steel S.S. "War Daffodil" Port belonging to By whom

Built at Newcastle By whom Swan Hunter & Wigham Richardson Ltd When built 1917

Owners' Address Waltham on Tyne

Yard No. 1038 Electric Light Installation fitted by Messrs Swan Hunter & Wigham Richardson Ltd When fitted 1917

DESCRIPTION OF DYNAMO, ENGINE, ETC. In 2.41 one 15KW set + 1-10KW set fitted See des. Keel 115649.

One Steam Driven Direct Coupled Electric Generating Plant 10K.W at 100 volts 400 revs. Engine by Robey & Co open single cyl double acting cyl. 6 1/2" dia X 6" stroke. Dynamo by Brush Electrical Eng Co Ltd compound multipolar pattern

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

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

Position of Main Switch Board " " " having switches to groups 5 of lights, &c., as below

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

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 50 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 140 arranged in the following groups :-

A Navigation	12 lights each of 3-32 ⁹ / ₁₆ 49-16 ⁹ / ₁₆	candle power requiring a total current of	7	Amperes
B Cabin & Crew	65 lights each of 3-32 ⁹ / ₁₆ 50-16 ⁹ / ₁₆ 12-8 ⁹ / ₁₆	candle power requiring a total current of	34	Amperes
C Engine & Boilers	28 lights each of 28-16 ⁹ / ₁₆	candle power requiring a total current of	14	Amperes
D Cargo	30 lights each of 30-16 ⁹ / ₁₆	candle power requiring a total current of	15	Amperes
E Wireless Telegraphy	lights each of	candle power requiring a total current of	15	Amperes
1 Mast head light with	1 lamps each of 32	candle power requiring a total current of	1	Amperes
2 Side light with	1 lamps each of 32	candle power requiring a total current of	2	Amperes
5 Cargo lights of	96	candle power, whether incandescent or arc lights	incandescent	

If arc lights, what protection is provided against fire, sparks, &c. None

Where are the switches controlling the masthead and side lights placed Wheel House

DESCRIPTION OF CABLES.

Main cable carrying 250 Amperes, comprised of 37 wires, each 112 ~~SWG~~ diameter, .35 square inches total sectional area

Branch cables carrying 34 Amperes, comprised of 7 wires, each 14 S.W.G. diameter, .03459 square inches total sectional area

Branch cables carrying 15 Amperes, comprised of 7 wires, each 17 S.W.G. diameter, .01695 square inches total sectional area

Leads to lamps carrying 2 Amperes, comprised of 1 wires, each 18 S.W.G. diameter, .00181 square inches total sectional area

Cargo light cables carrying 3 Amperes, comprised of 108 wires, each 38 S.W.G. diameter, .003217 square inches total sectional area

DESCRIPTION OF INSULATION, PROTECTION, ETC.

600 Megohm Grade Rubber Insulated, Taped Vulcanized Armoured & Braided Cables. Mains Armoured & Braided clipped direct to Steel Work. Cables in Accommodation Lead Covered clipped to woodwork. Cables in Engine & Boiler Spaces Armoured & Braided clipped to Steel Work. Cables exposed to weather lead covered & armoured clipped to Steel Work

Joints in cables, how made, insulated, and protected None

Are all the joints of cables thoroughly soldered, and the flux used not containing acids or other corrosive substances None 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 None

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 Mains run through Tweendeck space starboard. Feeds to Forecastle & Poop run along bulworks.



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 & Armoured

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

What special protection has been provided for the cables near boiler casings Armoured & Braided

What special protection has been provided for the cables in engine room " " "

How are cables carried through beams Bushed Holes through bulkheads, etc. Bulkhead Glands

How are cables carried through decks Deck Tubes

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 Armoured & Braided

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 _____

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 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 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.

FOR SWAN, HUNTER & WIGHAM RICHARDSON, LTD. Electrical Engineers Date Dec. 8th 1917.

COMPASSES.

Distance between dynamo or electric motors and standard compass 108 feet

Distance between dynamo or electric motors and steering compass 100 feet

The nearest cables to the compasses are as follows:—

A cable carrying	8	Amperes	8	feet from standard compass	4	feet from steering compass
A cable carrying	3	Amperes	6	feet from standard compass	4	feet from steering compass
A cable carrying	2	Amperes	3	feet from standard compass	3	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 any course in the case of the standard compass and nil degrees on any course in the case of the steering compass.

SWAN, HUNTER & WIGHAM RICHARDSON, LTD. Builder's Signature. Date 19 December 1917.

GENERAL REMARKS.

The materials and workmanship are good. On completion the installation was tested and found to work satisfactorily.

It is submitted that this vessel is eligible for THE RECORD. Elec. light. J.W.D. 2/12/17 Surveyor to Lloyd's Register of Shipping.

Committee's Minute FRI. 18 JAN. 1918

THE SURVEYORS ARE REQUESTED NOT TO WRITE ACROSS THIS MARGIN.

