NEWCASTLE-ON-TYNE No: 74483.

Disc Box 132.

SAT. 6 AUG. 1921

Rpt. 13.

Received at London Office 19

REPORT ON ELECTRIC LIGHTING INSTALLATION. No.

Port of NEWCASTLE-ON-TYNE Date of First Survey 6th July 21 Date of Last Survey 6 July 21 No. of Visits 1

No. in Reg. Book 37929 on the Steel Twin Screw Ferry "A.B. GOWAN" Port belonging to Newcastle

Built at Amble By whom Amble Shipbuilding Co Ltd. When built 1921

Owners Jarrow Corporation Owners' Address Jarrow on Tyne.

Yard No. 27 Electric Light Installation fitted by Palmers Shipbuilding & Iron Co Ltd When fitted 1921

DESCRIPTION OF DYNAMO, ENGINE, ETC.

One 2½ BHP Petrol driven engine direct coupled to compound wound dynamo running in conjunction with a 115 Ampere hour intermittent rated battery

Capacity of Dynamo 39.06 Amps. Amperes at 32 Volts, whether continuous or alternating current Continuous

Where is Dynamo fixed Bridge deck aft Whether single or double wire system is used double

Position of Main Switch Board mounted on generator having switches to groups A. of lights, &c., as below

Positions of auxiliary fuse switch boards and numbers of ~~switches~~ ways on each on after bulkhead of engine room starbd side 1-8 way distribution box

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 For 3-10 Amps 200% over 10 — 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 16 arranged in the following groups :—

A	16	lights each of	5-32cp, 11-30cp	candle power requiring a total current of	28.307	Amperes
B		lights each of		candle power requiring a total current of		Amperes
C		lights each of		candle power requiring a total current of		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
1	Mast head light with 1	lamps ~~each~~ of	32	candle power requiring a total current of	3.6	Amperes
2	Side lights with 1	lamps each of	32	candle power requiring a total current of	7.2.	Amperes
—	Cargo lights of	—		candle power, whether incandescent or arc lights	—	

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

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

DESCRIPTION OF CABLES.

Main cable carrying	28.307	Amperes, comprised of	7	wires, each	16	S.W.G. diameter, .0225	square inches total sectional area
Branch cables carrying	3.6	Amperes, comprised of	3	wires, each	18	S.W.G. diameter, .0053	square inches total sectional area
Branch cables carrying	3.6	Amperes, comprised of	3	wires, each	18	S.W.G. diameter, .0053	square inches total sectional area
Leads to lamps carrying	3.6	Amperes, comprised of	3	wires, each	22	S.W.G. diameter, .002	square inches total sectional area
" " " "	.937	"	3	" "	22	" " .002	" " " "
Cargo light cables carrying		Amperes, comprised of		wires, each	—	S.W.G. diameter, —	square inches total sectional area

DESCRIPTION OF INSULATION, PROTECTION, ETC.

The cables running between battery & distribution fuse board are lead covered armoured and braided, from distribution fuse board lead covered & armoured cables throughout except in accommodation, these being lead covered & protectively sheathed iron guards where necessary

Joints in cables, how made, insulated, and protected porcelain looping in boxes used.

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 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 secured to underside of deck by galvanised iron clips & pulled through beams.

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 Cables run in galvanised iron pipe —

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 do

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

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

How are cables carried through decks 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 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 No, *and with an ampere meter* Yes, *fixed* on 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 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.

Palmers' Shipbuilding & Iron Co., Ltd.
W. Mallinson

Electrical Engineers *Date* July 29 1921

COMPASSES.

Distance between dynamo or electric motors and standard compass

Distance between dynamo ~~or electric motors~~ and steering compass 24 feet

The nearest cables to the compasses are as follows:—

A cable carrying .937 *Amperes* 15" ~~feet from standard compass~~ ~~feet~~ *feet from steering compass*

A cable carrying *Amperes* *feet from standard compass* *feet from steering compass*

A cable carrying *Amperes* *feet from standard compass* *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* ~~courses in the case of the steering compass~~

PALMERS SHIPBUILDING & IRON Co., Ltd. *Builder's Signature.* *Date* July 30th 1921.

GENERAL REMARKS. Thos. S. Simpson

SHIPYARD MANAGER

The above installation is in accordance with the Societys Rules the vessel is eligible in my opinion for notation elec light

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

Rec'd L.S.O.O applied for 11/7/21. Roll 18/8/21

W.T. Badger.

Surveyor to Lloyd's Register of Shipping.

Committee's Minute

20.11.20.—Transfer.

THE SURVEYORS ARE REQUESTED NOT TO WRITE ACROSS THIS MARGIN.