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Received at London Office SAT. OCT. 48. 1921

REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 74821

Port of NEWCASTLE ON TYNE Date of First Survey Aug 18th Date of Last Survey 20 Sept No. of Visits 4
 on the Steel El. Oso Port belonging to London
 Built at Newcastle By whom Sir W. G. Armstrong Whitworth & Co When built 1921
Lobitos Oil Fields Ltd Owners' Address
 No. 973 Electric Light Installation fitted by Sir W. G. Armstrong Whitworth & Co When fitted 1921

DESCRIPTION OF DYNAMO, ENGINE, ETC.

in no open type compound wound, coupled direct to 2 in ho single
 glinders vertical steam engines
 Capacity of Dynamos 120 Amperes at 100 Volts, whether continuous or alternating current Continuous
 Where no Dynamo fixed Dynamo flat, aft end of engine room Whether single or double wire system is used double
 Name of Main Switch Board dynamo flat aft end of engine room having switches to groups A, B + 5 way aux board lights, &c., as below
 Names of auxiliary switch boards and numbers of switches on each 5 way aux switchboard outside saloon, 4 way S. Box outside saloon,
10 B dynamo flat, 10 way B engine mess room, 10 way B in wheel house, 8 way B outside saloon, 8 way B in crew
room, 6 way B outside aft pump room entrance, 6 way B bridge deck, 3 way B outside fore pump room entrance
 Are fuses 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
 Are fuses fitted on the double wire system are fuses fitted to both flow and return wires or cables of all circuits including lamp circuits yes
 Are fuses of non-oxidizable metal yes and constructed to fuse at an excess of 50 per cent over the normal current
 Are 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 Cartridge fuses
 Are switches and fuses constructed of incombustible materials and fitted on incombustible bases yes

Number of lights provided for 198 lights + 27 fans arranged in the following groups:—

<u>45</u> lights each of <u>35-20W, 2-200W, 5-16</u> candle power requiring a total current of <u>15.8</u> Amperes
<u>11 fans + 38</u> lights each of <u>34-20W, 3-16cp, 1-32cp</u> candle power requiring a total current of <u>16.4</u> Amperes
<u>4 fans + 77</u> lights each of <u>57-20W, 11-16cp, 9-32cp, 14</u> candle power requiring a total current of <u>37.2</u> Amperes
<u>2 fans + 22</u> lights each of <u>3-20W, 2 fans, 6-8cp, 2-16cp, 5-32</u> candle power requiring a total current of <u>14.4</u> Amperes
<u>16</u> lights each of <u>6-20W, 8-32cp, 2-16</u> candle power requiring a total current of <u>12.0</u> Amperes
<u>Wireless</u> Mast head light with <u>1</u> lamps each of <u>32</u> candle power requiring a total current of <u>2.4</u> Amperes
<u>2</u> Side light with <u>1</u> lamps each of <u>32</u> candle power requiring a total current of <u>2.4</u> Amperes
<u>2</u> Cargo lights of <u>8-32</u> candle power, whether incandescent or arc lights <u>incandescent</u>

Lights, what protection is provided against fire, sparks, &c. no arc lights
 Where the switches controlling the masthead and side lights placed wheel house

SECTION OF CABLES. For remaining branch cables see attached list.

Cables carrying <u>120</u> Amperes, comprised of <u>37</u> wires, each <u>.064</u> S.W.G. diameter, <u>.12</u> square inches total sectional area
Cables carrying <u>88.6</u> Amperes, comprised of <u>37</u> wires, each <u>.083</u> S.W.G. diameter, <u>.2</u> square inches total sectional area
Cables carrying <u>37.2</u> Amperes, comprised of <u>19</u> wires, each <u>.052</u> S.W.G. diameter, <u>.04</u> square inches total sectional area
Lamps carrying <u>4.8</u> Amperes, comprised of <u>3</u> wires, each <u>.029</u> S.W.G. diameter, <u>.002</u> square inches total sectional area
Small cables carrying <u>9.6</u> Amperes, comprised of <u>3</u> wires, each <u>.036</u> S.W.G. diameter, <u>.003</u> square inches total sectional area

SECTION OF INSULATION, PROTECTION, ETC.
 Cables in engine + boiler rooms lead covered + armoured, cables running along fore + aft gangway lead covered
+ run in galvanised iron piping, cables in accommodation spaces lead covered. Cables exposed
 in way to damage run in galvanised iron piping
 Cables, how made, insulated, and protected none made

Are joints of cables thoroughly soldered, and the flux used not containing acids or other corrosive substances no Are all joints in accessible
 positions, none being made in trunks, cargo spaces, or spaces which may at any time be used for carrying cargo, stores, or baggage no
 Are 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 lead covered + armoured cables clipped to bulkheads with galvanised
lead covered cable clipped to bulkheads etc with brass clips, lead covered + taped cable run in galvanised
iron piping with expansion boxes, draw in boxes + one expansion gland the piping being clipped
to the raft gangway.



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 cable run in galvanised iron piping.

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

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 lined holes through bulkheads, &c. watertight glands

How are cables carried through decks watertight deck tubes

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 lead covered & taped cable + lead covered cable run in galvanised iron piping

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 from connection box How fixed secured 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 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 gaslight 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 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. C.M.A. grade of cable used.

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.

Electrical Engineers Date 5

COMPASSES.

Distance between dynamo or electric motors and standard compass 255 feet dynamo . 15 feet w/r gear

Distance between dynamo or electric motors and steering compass 250 feet dynamo 15 feet w/r gear.

The nearest cables to the compasses are as follows:—

A cable carrying	.6	Amperes	1	feet from standard compass	4	feet from steering compass
A cable carrying	.6	Amperes	6	feet from standard compass	1	feet from steering compass
A cable carrying	.6	Amperes	7	feet from standard compass	2	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.

SIR W. G. ARMSTRONG, WHITWORTH & CO., LTD. Builder's Signature. Date 26th September 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. Elec Light Bell

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

£19.10.0 applied for 9/10/21.

Committee's Minute THE 18 OCT 1921

THE SURVEYORS ARE REQUESTED NOT TO WRITE ACROSS THIS MARGIN.

