

REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 51609

Port of Newcastle-on-Tyne. Date of First Survey Aug. 1. Date of Last Survey Sep. 12. No. of Visits 6
 No. in on the Iron or Steel 5/8 "Sakharah" Port belonging to Hamburg.
 Reg. Book Built at Low Walker By whom Messrs. Sir W. G. Armstrong & Co. Ltd. built 1906.
 Owners Deutsche Dampfschiffahrts Gesellschaft Owners' Address Hamburg.
 Yard No. 779. Electric Light Installation fitted by Messrs. Clarke Chapman & Co. Ltd. When fitted 1906.

DESCRIPTION OF DYNAMO, ENGINE, ETC.

One single cylinder double acting engine direct coupled to a continuous current compound wound dynamo.

Capacity of Dynamo 110 Amperes at 100 Volts, whether continuous or alternating current continuous

Where is Dynamo fixed Engine-room bottom flat. star Whether single or double wire system is used double

Position of Main Switch Board near dynamo. having switches to groups A.B.C.D.E. of lights, &c., as below

Positions of auxiliary switch boards and numbers of switches on each Each light or group of lights fitted with switches as required.

If cut outs 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 cut outs fitted to both flow and return wires or cables of all circuits including lamp circuits yes.

Are the cut outs of non-oxidizable metal yes. and constructed to fuse at an excess of 50 per cent over the normal current

Are all cut outs 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 cut-outs constructed of incombustible materials and fitted on incombustible bases yes. slate & Ambrin.

Total number of lights provided for 191 arranged in the following groups:—

A	<u>29</u>	lights each of	<u>16</u>	candle power requiring a total current of	<u>17.4</u>	Amperes
B	<u>46</u>	lights each of	<u>16</u>	candle power requiring a total current of	<u>27.6</u>	Amperes
C	<u>30</u>	lights each of	<u>16</u>	candle power requiring a total current of	<u>18</u>	Amperes
D	<u>34</u>	lights each of	<u>16</u>	candle power requiring a total current of	<u>20.4</u>	Amperes
E	<u>32</u>	lights each of	<u>16</u>	candle power requiring a total current of	<u>19.2</u>	Amperes
<u>2</u>	Mast head light with <u>1</u> lamp 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> lamp each of	<u>32</u>	candle power requiring a total current of	<u>2.4</u>	Amperes	

16 Cargo lights of 4 - 16 candle power, whether incandescent or arc lights incandescent.

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

Where are the switches controlling the masthead and side lights placed In wheelhouse.

DESCRIPTION OF CABLES.

Main cable carrying 110 Amperes, comprised of 37 wires, each 14 L.S.G. diameter, .1835 square inches total sectional area

Branch cables carrying 17.4 Amperes, comprised of 7 wires, each 16 L.S.G. diameter, .02227 square inches total sectional area

Branch cables carrying 7 Amperes, comprised of 7 wires, each 20 L.S.G. diameter, .00705 square inches total sectional area

Leads to lamps carrying .6 Amperes, comprised of 1 wires, each 18 L.S.G. diameter, .00181 square inches total sectional area

Cargo light cables carrying 2.4 Amperes, comprised of 176 wires, each 38 L.S.G. diameter, .00507 square inches total sectional area

DESCRIPTION OF INSULATION, PROTECTION, ETC.

Vulcanized rubber taped & braided and lead covered overall.
Where exposed steel armoured over the lead covering.

Joints in cables, how made, insulated, and protected no joints except mechanical ones.

Are all the joints of cables thoroughly soldered, resin only having been used as a flux yes. 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. no.

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 Lead covered & steel armoured secured by brass & W.I. clips close up to the deck.

DESCRIPTION OF INSULATION, PROTECTION, ETC.—continued.

Are they in places always accessible

No.

What special protection has been provided for the cables in open alleyways or where exposed to weather or moisture

Lead covered and steel armoured.

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

" " "

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

" " "

How are cables carried through beams

in lead bushes.

through bulkheads, &c.

in watertight glands.

How are cables carried through decks

in galvanized iron 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 & armoured fixed close up to the decks.

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 cut outs for these lights fitted

—

If in the spaces, how are they specially protected

—

Are any switches or cut outs fitted in bunkers

no.

Cargo light cables, whether portable or permanently fixed

portable.

How fixed

in watertight C.I. boxes.

In vessels fitted on the single wire system, how is the dynamo terminal fixed to the hull of vessel

double wire system

How are the returns from the lamps connected to the hull

—

Are all the joints with the hull in accessible positions

—

The installation is

now

supplied with a voltmeter and

also

an amperemeter, fixed

on main switch.

VESSELS BUILT FOR CARRYING PETROLEUM.

In vessels built for carrying petroleum, are all switches and cut-outs fitted in positions not liable to the accumulation of petroleum vapour or gas

Are any switches, cut outs, 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

100

per cent. that of pure copper.

Insulation of cables is guaranteed to have a resistance of not less than

600

megohms per

statute mile after 24 hours' immersion in seawater.

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 CLARKE CHAPMAN & CO. LTD.
Robert Scope

Electrical Engineers

Date Sept 18th 1906.

COMPASSES.

Director.

Distance between dynamo or electric motors and standard compass

120 ft.

Distance between dynamo or electric motors and steering compass

110 "

The nearest cables to the compasses are as follows:—

A cable carrying 6 Amperes 3 feet from standard compass 6 feet from steering compass

A cable carrying 6 Amperes 6 feet from standard compass 3 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

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 & CO. LTD. BUILDERS OF LONDON

J. J. Saxton White

Builder's Signature.

Date

20/9/06

GENERAL REMARKS.

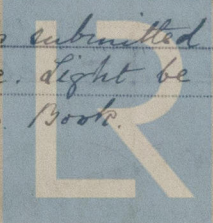
This installation has been examined and found satisfactory.

J. J. Findlay

Surveyor to Lloyd's Register of British and Foreign Shipping.

Committee's Minute

It is submitted that the Record Plac. Light be noted in the Reg. Book.



Lloyd's Register Foundation

25.9.06

THE SURVEYORS ARE REQUESTED NOT TO WRITE ACROSS THIS MARGIN.