

## REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 23304

Port of Sunderland Date of First Survey ✓ Date of Last Survey 23rd May 07 No. of Visits ✓  
 No. in Reg. Book 67 Sup on the Iron or Steel "Principe di Piemonte" Port belonging to Genoa  
 Built at Sunderland By whom Messrs. Sir James Laing & Co. When built 1904  
 Owners Clyde & Sabauds Soc Anon di Nav. Owners' Address Genoa  
 Yard No. 623 Electric Light Installation fitted by Sunderland Forge Co. Ltd. When fitted 1904

## DESCRIPTION OF DYNAMO, ENGINE, ETC.

Two Multipolar Compound wound dynamos by The Sunderland Forge & Engineering Co. Ltd. direct coupled to two inverted open type compound engines also by S.F.E. Co. Ltd.

Capacity of Dynamos each 300 Amperes at 100 Volts, whether continuous or alternating current continuous

Where is Dynamo fixed Dynamo room on Middle Platform Whether single or double wire system is used Double

Position of Main Switch Board Near dynamos having switches to groups ten of lights, &c., as below

Positions of auxiliary switch boards and numbers of switches on each One in each hold - Main deck - two for fans do  
Six for Emigrant light and fans in Upper town deck, one in Wharehouse for  
side and Westhead lights. Telegraphs &c.

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 100 per cent over the normal current

Are all cut outs fitted in easily accessible positions Yes Are the fuses of standard dimensions Yes except on Main switch board 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 on Main switch board

Are all switches and cut-outs constructed of incombustible materials and fitted on incombustible bases Yes

Total number of lights provided for 360 arranged in the following groups:—

A 45 of 25 & 12 lights each of 16 candle power requiring a total current of 45.45 Amperes

B 56 of 25 & 12 lights each of 16 candle power requiring a total current of 54.8 Amperes

C 30 lights each of 25 candle power requiring a total current of 25.5 Amperes

D 20 lights each of 25 candle power requiring a total current of 14.0 Amperes

E 36 lights each of 25 candle power requiring a total current of 30.6 Amperes

Two Mast head light with 1 lamps each of 32 CP. P.F. candle power requiring a total current of 2.4 Amperes

Two Side light with 1 lamps each of " candle power requiring a total current of 2.4 Amperes

Five Cargo lights of 5 of 25 candle power, whether incandescent or arc lights Incandescent

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

Where are the switches controlling the masthead and side lights placed In Wharehouse

## DESCRIPTION OF CABLES.

Main cable carrying 300 Amperes, comprised of 34 wires, each 17 L.S.G. diameter, .314 square inches total sectional area

Branch cables carrying 54.8 Amperes, comprised of 19 wires, each 16 L.S.G. diameter, .0617 square inches total sectional area

Branch cables carrying 25.5 Amperes, comprised of 4 wires, each 15 L.S.G. diameter, .0785 square inches total sectional area

Leads to lamps carrying 1.4 Amperes, comprised of 1 wires, each 18 L.S.G. diameter, .00781 square inches total sectional area

Cargo light cables carrying 4.25 Amperes, comprised of 4 wires, each 2 1/2 L.S.G. diameter, .0050 square inches total sectional area

## DESCRIPTION OF INSULATION, PROTECTION, ETC.

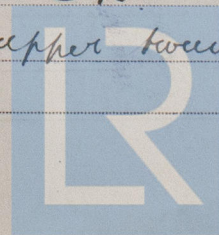
Pure rubber, vulcanized rubber taped and braided in berths and passenger accommodation. In engine room, stokehold, &c. armoured over braiding and braided overall.

Joints in cables, how made, insulated, and protected There are none

Are all the joints of cables thoroughly soldered, resin only having been used as a flux — 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 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 Main cables led through upper town deck in strong wood casing



Lloyd's Register  
Foundation

W893-0083

F 1-1-25: 16-15: 5-32;  
 G 24-25  
 H 63-25: 12-16  
 I 4-11-12-16  
 J 4-11-12-16  
 K 4-11-12-16  
 L 4-11-12-16  
 M 4-11-12-16  
 N 4-11-12-16  
 O 4-11-12-16  
 P 4-11-12-16  
 Q 4-11-12-16  
 R 4-11-12-16  
 S 4-11-12-16  
 T 4-11-12-16  
 U 4-11-12-16  
 V 4-11-12-16  
 W 4-11-12-16  
 X 4-11-12-16  
 Y 4-11-12-16  
 Z 4-11-12-16



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

Iron pipes and

special strong casings

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

Strong casings used

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

Armoured wires used

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

Armoured wires used

How are cables carried through beams

Holes bushed with fibre

through bulkheads, &c.

Watertight glands used

How are cables carried through decks

Strong iron deck tubes used

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

Iron pipes in bunkers, remainder strong wood casing

Are any lamps fitted in coal bunkers or spaces which may at times be used for cargo, coals, or baggage

In two decks only - not in bunkers

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

Special caps supplied to go over fittings when carrying cargo

Where are the main switches and cut outs for these lights fitted

In special 6. I boxes in two decks

If in the spaces, how are they specially protected

By heavy cast iron boxes

Are any switches or cut outs 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

The installation is

Yes

supplied with 2 voltmeters and

two

ampere meters fixed on main hatchboard

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

98

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.

THE SUNDERLAND FORGE & ENGINEERING CO., LTD.

J. D. Wright

Electrical Engineers

Date 31 May 1907

COMPASSES.

Distance between dynamo or electric motors and standard compass

Approx. 200 feet

Distance between dynamo or electric motors and steering compass

" " 210 feet

The nearest cables to the compasses are as follows:—

A cable carrying

6

Amperes

10

feet from standard compass

runs into

feet from steering compass

A cable carrying

8.5

Amperes

12

feet from standard compass

is

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

710

degrees on

any

course in the case of the

standard compass and

710

degrees on

any

course in the case of the steering compass.

A. W. Board

FOR SIR JAMES LAING & SONS LIMITED.

J. W. Board

5 JUN 1907

Naval Architect.

Builder's Signature.

Date

GENERAL REMARKS.

The above installation appears to have been fitted in accordance with the rules was found satisfactory under working conditions & is eligible in my opinion for classification with second

E. J. Stoddart

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

Committee's Minute

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

Lloyd's Register Foundation

20.6.07

THE SURVEYORS ARE REQUESTED NOT TO WRITE ACROSS THIS MARGIN.

REPORT FORM No. 13.-3m34.