

REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 21105

Port of *Sunderland* Date of First Survey *✓* Date of Last Survey *11.9.02* No. of Visits *✓*
 No. in Reg. Book on the ~~Iron~~ Steel *S.S. "Monmouthshire"* Port belonging to *London*
 Built at *Sunderland* By whom *Sunderland S.B. Co. Ltd.* When built *1902.*
 Owners *Jenkins & Co.* Owners Address *London. E. C.*
 Yard No. *214* Electric Light Installation fitted by *Sunderland. J & E. Co. Ltd.* When fitted *1902*

DESCRIPTION OF DYNAMO, ENGINE, ETC.

open type engine direct coupled to a compound wound 4 pole Dynamo
 Capacity of Dynamo *72* Amperes at *100* Volts, whether continuous or alternating current *continuous*
 Where is Dynamo fixed *In Engine Room*
 Position of Main Switch Board *near Dynamo* having switches to groups *three* of lights, &c., as below
 Positions of auxiliary switch boards and numbers of switches on each *—*

If cut outs are fitted on main switch board to the cables of main circuit *Yes* and on each auxiliary switch boards 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*

Total number of lights provided for *60* arranged in the following groups
 A *26* lights each of *16* candle power requiring a total current of *21.6* Amperes
 B *24* lights each of *16* candle power requiring a total current of *14.4* 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
 Mast head light with lamps each of candle power requiring total current of Amperes
 Side light with lamps each of candle power requiring a total current of Amperes
4 Cargo lights of *1000* candle power, whether incandescent or arc lights *arc lights*

If arc lights, what protection is provided against fire, sparks, &c. *Hexagonal Glass Lantern fitted in lamps*

Where are the switches controlling the masthead and side lights placed *—*

DESCRIPTION OF CABLES.

Main cable carrying *72* Amperes, comprised of *19* wires, each *14* L.S.G. diameter, *.1* square inches total sectional area
 Branch cables carrying *24* Amperes, comprised of *7* wires, each *16* L.S.G. diameter, *.024* square inches total sectional area
 Branch cables carrying *10* Amperes, comprised of *7* wires, each *18* L.S.G. diameter, *.013* square inches total sectional area
 Leads to lamps carrying *.6* Amperes, comprised of *1* wires, each *18* L.S.G. diameter, *.001* square inches total sectional area
 Cargo light cables carrying *10* Amperes, comprised of *7* wires, each *17* L.S.G. diameter, *.11* square inches total sectional area

DESCRIPTION OF INSULATION, PROTECTION, ETC.

Cables insulated with pure + vulcanized India Rubber taped and lead covered also armoured with galvanneal iron wire where necessary
 Joints in cables, how made, insulated, and protected *Wiring carried out on the Distribution System without joints*

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

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 and armoured cables lead under bridge deck*



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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 *L.C. & A. Wm used*

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

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 *Holes bored for L.C. Wms through bulkheads, &c.*

How are cables carried through decks *W.T. Deck Lulus used*

Are any cables run through coal bunkers *No* or cargo spaces *No* or spaces which may be used for carrying cargo, stores, or baggage *Yes*

If so, how are they protected *L.C. & A. Wm used*

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 *—*

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 *—*

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 installation is

supplied with a voltmeter and

an ammeter, fixed *in S*

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 *2000* 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.

Electrical Engineers

Date *30/9/02*

COMPASSES.

Distance between dynamo or electric motors and standard compass *150 feet*

Distance between dynamo or electric motors and steering compass *150 feet*

The nearest cables to the compasses are as follows:—

A cable carrying	<i>6</i>	Amperes	<i>6</i>	feet from standard compass	<i>4</i>	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

The maximum deviation due to electric currents, etc., was found to be

degrees on

course in the case of the

standard compass and

degrees on

course in the case of the steering compass

Builder's Signature

Date

6 Oct 8/02
Edwin R. Kirkley

GENERAL REMARKS.

This installation appears in my opinion to merit the favourable consideration of the Committee—

Leonard S. Halleross.

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

It is submitted that this installation appears to be satisfactory

Foundation

10.10.02

THE SURVEYORS ARE REQUESTED NOT TO WRITE ACROSS THIS MARGIN.