

## REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 52309

Port of Newcastle-on-Tyne Date of First Survey Jan 20 Date of Last Survey Feb 9 '07 No. of Visits 6  
 No. in 5/5 on the Iron or Steel ARAWA Port belonging to Southampton  
 Reg. Book Wallyend By whom Messrs Swan Hunter & Wiggin Richardson Ltd When built 1907  
 Owners Shaw Savill & Albion Co Owners' Address Southampton  
 Yard No. 783 Electric Light Installation fitted by Messrs Swan Hunter & Wiggin Richardson Ltd When fitted 1907

DESCRIPTION OF DYNAMO, ENGINE, ETC. Two in number. Engines & dynamos manufactured by Messrs Allen & Beaford. Engines 8" cyl x 7" stroke x 300 Revs

Capacity of Dynamo each 200 Amperes at 100 Volts, whether continuous or alternating current Continuous  
 Where all Dynamos fitted Thrust Recess

Position of Main Switch Board Thrust Recess having switches to groups 11 of lights, &c., as below  
 Positions of auxiliary switch boards and numbers of switches on each none also 3 spare.

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 yes 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 526 arranged in the following groups:—

|    |    |                                      |    |  |              |         |
|----|----|--------------------------------------|----|--|--------------|---------|
| A  | 29 | lights each of                       | 16 | candle power requiring a total current of        | 16.2         | Amperes |
| B  | 56 | lights each of                       | 16 | candle power requiring a total current of        | 31.3         | Amperes |
| C  | 50 | lights each of                       | 16 | candle power requiring a total current of        | 28           | Amperes |
| D  | 48 | lights each of                       | 16 | candle power requiring a total current of        | 26.8         | Amperes |
| E  | 41 | lights each of                       | 16 | candle power requiring a total current of        | 24           | Amperes |
| *F | 70 | lights each of                       | 16 | candle power requiring a total current of        | 39.2         | Amperes |
|    | 2  | Mast head light with 2 lamps each of | 16 | candle power requiring a total current of        | 1.2          | Amperes |
|    | 2  | Side light with 2 lamps each of      | 16 | candle power requiring a total current of        | 1.2          | Amperes |
|    | 12 | Cargo lights of 6 lamps each         | 16 | candle power, whether incandescent or are lights | Incandescent |         |

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         | 200     | Amperes, comprised of | 37  | wires, each | 12 | L.S.G. diameter, | .310   | square inches total sectional area |
| Branch cables carrying      | 16      | Amperes, comprised of | 7   | wires, each | 17 | L.S.G. diameter, | .017   | square inches total sectional area |
| Branch cables carrying      | 31      | Amperes, comprised of | 7   | wires, each | 14 | L.S.G. diameter, | .0348  | square inches total sectional area |
| Branch cables carrying      | 24 & 28 | Amperes, comprised of | 7   | wires, each | 15 | L.S.G. diameter, | .028   | square inches total sectional area |
| Leads to lamps carrying     | 33 & 45 | Amperes, comprised of | 19  | wires, each | 17 | L.S.G. diameter, | .046   | square inches total sectional area |
| Cargo light cables carrying | .56     | Amperes, comprised of | 1   | wires, each | 18 | L.S.G. diameter, | .0018  | square inches total sectional area |
| Cargo light cables carrying | 3.12    | Amperes, comprised of | 108 | wires, each | 38 | L.S.G. diameter, | .00305 | square inches total sectional area |

## DESCRIPTION OF INSULATION, PROTECTION, ETC.

Pure rubber the vulcanized rubber, rubber coated tape - all vulcanized together - then lead covered & armoured as required. 2500 meg.

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

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

Are there any joints in or branches from the cable leading from dynamo to main switch board yes

How are the cables led through the ship, and how protected Open wiring - lead covered in cabins & lead covered & armoured where subject to injury i.e. Eng. Room &c.

\* G 78  
 H 30  
 J 60  
 K 64  
 L cable

16 CP  
 16 CP  
 16 CP  
 16 CP  
 2 H.P.

44.4 amperes  
 16.8  
 33.6  
 35.7



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 covering + armoring

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

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

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

How are cables carried through beams holes + female through bulkheads, &c. stuffing boxes

How are cables carried through decks through pipe

Are any cables run through coal bunkers — or cargo spaces — or spaces which may be used for carrying cargo, stores, or baggage yes

If so, how are they protected lead covered + armoured

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 no

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 Bron terminal + Bron bolt

How are the returns from the lamps connected to the hull Bron terminal washers + Bron screws

Are all the joints with the hull in accessible positions yes

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

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 2500 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.

SWAN, HUNTER, & WIGHAM RICHARDSON, LD.

Geo Vard Electrical Engineers

Date 15<sup>th</sup> Feb 1907

COMPASSES.

Distance between dynamo or electric motors and standard compass abt 160 ft

Distance between dynamo or electric motors and steering compass 160 ft

The nearest cables to the compasses are as follows:—

| A cable carrying | Amperes | feet from standard compass | feet from steering compass |
|------------------|---------|----------------------------|----------------------------|
| 1                | 1       | 1                          | 1                          |
| 1                | 1       | 1                          | 1                          |
| 1                | 1       | 1                          | 1                          |

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 degrees on course in the case of the standard compass and degrees on course in the case of the steering compass.

SWAN, HUNTER, & WIGHAM RICHARDSON, LD.

J. J. Cilly Secretary

Builder's Signature.

Date 15<sup>th</sup> Feb 1907

GENERAL REMARKS.

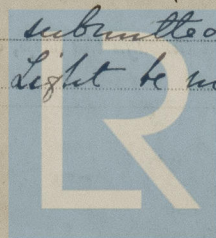
This installation has been fixed in accordance with the Rules & as could be seen found satisfactory

J. J. Cilly

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

Committee's Minute

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



Lloyd's Register Foundation

20.2.07

THE SURVEYORS ARE REQUESTED NOT TO WRITE ACROSS THIS MARGIN.

REPORT FORM No. 12.