

# REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 29488

Port of Hull Date of First Survey 1-8-16 Date of Last Survey 11-8-16 No. of Visits 6  
 No. in Reg. Book 924 on the Iron Steel screw steamer "Royals" Port belonging to Grimsby  
 Built at Beverly By whom Cook, Welton & Gemmell When built 1916-2  
 Owners G. F. Hight Owners' Address \_\_\_\_\_  
 Yard No. 334 Electric Light Installation fitted by Siemens Bros. When fitted 1916-2

### DESCRIPTION OF DYNAMO, ENGINE, ETC.

Inverted H. P. engine open type, coupled direct to Siemens multiple compound wound dynamo

Capacity of Dynamo 40 Amperes at 100 Volts, whether continuous or alternating current continuous

Where is Dynamo fixed Engine Room starboard side Whether single or double wire system is used double

Position of Main Switch Board " " near dynamo having switches to groups 3 of lights, &c., as below

Positions of auxiliary switch boards and numbers of switches on each distribution boxes in after cabin, engine room, & wheel house with control switches as required.

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

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

Are all 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 no

Are all switches and fuses constructed of incombustible materials and fitted on incombustible bases yes

Total number of lights provided for 67 arranged in the following groups:—

A	<u>27</u>	lights each of	<u>16</u>	candle power requiring a total current of	<u>16.2</u>	Amperes
B	<u>33</u>	lights each of	<u>32</u>	candle power requiring a total current of	<u>7.2</u>	Amperes
C	<u>32</u>	lights each of	<u>16</u>	candle power requiring a total current of	<u>19.2</u>	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
<u>3</u>	Mast head light with <u>1</u> lamps each of <u>32</u>	candle power requiring a total current of	<u>included in above</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>above</u>			Amperes
<u>4</u>	Cargo lights <u>two of 6, two of 3</u> <u>16</u> candle power, whether incandescent or arc lights <u>incandescent</u>					

If arc lights, what protection is provided against fire, sparks, &c. ✓

Where are the switches controlling the masthead and side lights placed Wheelhouse

### DESCRIPTION OF CABLES.

Main cable carrying 43.2 Amperes, comprised of 19 wires, each 17 S.W.G. diameter, .0460 square inches total sectional area

Branch cables carrying 19.2 Amperes, comprised of 7 wires, each 17 S.W.G. diameter, .0125 square inches total sectional area

Branch cables carrying 16.2 Amperes, comprised of 7 wires, each 18 S.W.G. diameter, .0125 square inches total sectional area

Leads to lamps carrying 7.2 Amperes, comprised of 7 wires, each 18 S.W.G. diameter, .0078 square inches total sectional area

Cargo light cables carrying 3.6 Amperes, comprised of 136 wires, each 40 S.W.G. diameter, .00246 square inches total sectional area

### DESCRIPTION OF INSULATION, PROTECTION, ETC.

V. I. R. lead covered & armoured.

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

Are all the joints of cables thoroughly soldered, and the flux used not containing acids or other corrosive substances ✓ 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 Through beams clipped to underside of deck & bulkheads with strong galvanized wrought-iron clips cables armoured.



**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 & armoured

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

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 Lead bushes where not armoured through bulkheads, &c. water-tight glands

How are cables carried through decks Iron 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

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 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 " " " "

Is the installation supplied with a voltmeter yes, and with an amperemeter yes, fixed main switch board

**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 ✓

Are any switches, fuses, 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 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 100 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.

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 SIEMENS BROTHERS DYNAMO WORKS LIMITED.**

MARINE DEPARTMENT

*W. Kennedy*

Electrical Engineers

Date 16<sup>th</sup> August 1916

**COMPASSES.**

Distance between dynamo or electric motors and standard compass about 40 ft

Distance between dynamo or electric motors and steering compass " " " "

The nearest cables to the compasses are as follows:—

A cable carrying	<u>16.2</u>	Ampères	<u>7</u>	feet from standard compass	<u>-</u>	feet from steering compass
A cable carrying		Ampères		feet from standard compass		feet from steering compass
A cable carrying		Ampères		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 any course in the case of the standard compass and nil degrees on any course in the case of the steering compass.

COOK, WELTON & GEMMELL, LTD.

*W. Patterson* DIRECTOR

Builder's Signature.

Date 18<sup>th</sup> Aug 1916

**GENERAL REMARKS.**

This vessel has been fitted with an electric light installation as above & the workmanship is good on completion it was tried under full working condition found satisfactory

It is submitted that this vessel is eligible for THE RECORD Elec. light.

*J. W. D.* 24/8/16. *Frank L. Stanger*

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

Committee's Minute

THE SURVEYORS ARE REQUESTED NOT TO WRITE ACROSS THIS MARGIN.

