

## REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 30,147

Port of Hull Date of First Survey 20-8-17 Date of Last Survey 7-9-17 No. of Visits 6  
 No. in Reg. Book 286 on the ~~Iron~~ Steel S. Hawke Remindo Port belonging to Grimsby  
 Built at Beverly By whom Book Weller & Gemmell When built 1917-9  
 Owners G. F. Hight Owners' Address Grimsby  
 Yard No. 361 Electric Light Installation fitted by Lieners Bros & Co Ltd When fitted 1917-9

## DESCRIPTION OF DYNAMO, ENGINE, ETC.

Inverted H.P. single engine open type coupled direct to Lieners multipole compound wound dynamo.  
 Capacity of Dynamo 45 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 three of lights, &c., as below  
 Positions of ~~auxiliary~~ distribution boxes switch boards and numbers of switches on each one in after cabin one in engine room  
two in wheelhouse, one in forward accommodation with switches to suit

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-oxidisable 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 yes

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

Total number of lights provided for 69 arranged in the following groups:—

A	<u>57</u>	lights each of <u>16</u>	candle power requiring a total current of <u>7.8</u>	Amperes
B	<u>34</u>	lights each of <u>16</u>	candle power requiring a total current of <u>20.4</u>	Amperes
C	<u>27</u>	lights each of <u>16</u>	candle power requiring a total current of <u>16.2</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</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>207 64 203 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 45 Amperes, comprised of 19 wires, each 17 S.W.G. diameter, 0.46 square inches total sectional area  
 Branch cables carrying 20.4 Amperes, comprised of 7 wires, each 12 S.W.G. diameter, 0.125 square inches total sectional area  
 Branch cables carrying 7.8 Amperes, comprised of 3 wires, each 12 S.W.G. diameter, 0.053 square inches total sectional area  
 Leads to lamps carrying 3.6 Amperes, comprised of 1 wires, each 12 S.W.G. diameter, 0.012 square inches total sectional area  
 Cargo light cables carrying Amperes, comprised of wires, each S.W.G. diameter, square inches total sectional area

## DESCRIPTION OF INSULATION, PROTECTION, ETC.

V.P.R. lead covered & armoured main cables & in engine room. V.P.R. in accommodation.

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 decks  
its bulkheads with strong galvanised clips.

**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 covered & varnished*

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 *Fibre bushes when not varnished* through bulkheads, &c. *Bess to T. Glands* ✓

How are cables carried through decks *proper iron deck pipes made watertight as ducts* ✓

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

If so, how are they protected *Lead covered & varnished*

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 control panel*

**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 *600* 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.

Electrical Engineers

Date *26<sup>th</sup> Sept., 1917.*

**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 *20.4* Amperes *8* feet from standard compass feet from steering compass

A cable carrying *7.8* Amperes *8* 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 *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.

Builder's Signature.

Date

*Oct 5<sup>th</sup> 1917*

**GENERAL REMARKS.**

DIRECTOR.

*This vessel has been fitted with an electric light installation as above the workmanship is good, on completion it was tested under full working conditions found satisfactory*

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

*AWD 9/10/17.*

*Frank L. Sturgeon*

Surveyor to Lloyd's Register of Shipping.

Committee's Minute

THE SURVEYORS ARE REQUESTED NOT TO WRITE ACROSS THIS MARGIN.