

# REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 41214

Port of GLASGOW Date of First Survey 10th March Date of Last Survey 28th May 1921 No. of Visits 9  
 No. in on the Iron or Steel S.S. "TIGER" Port belonging to \_\_\_\_\_  
 Reg. Book 82016 S. Built at GOVAN By whom THE FAIRFIELD SHIP & ENG. CO. LTD When built 1921  
 Owners A/S VESTLANDSKE PETROLEUM CO Owners' Address \_\_\_\_\_  
 Yard No. 602 Electric Light Installation fitted by THE FAIRFIELD SHIP & ENG. CO. LTD When fitted 1921

## DESCRIPTION OF DYNAMO, ENGINE, ETC.

TOTAL K.W. ON VESSEL = 17

1- W.H. ALLEN SON & CO LTD, 12 K.W. OPEN TYPE, COMP. DYNAMO, COUPLED TO A.W.H. ALLEN VERTICAL, SINGLE CYLINDER, DOUBLE ACTING, OPEN TYPE, RECIP. ENGINE  
 1- CROMPTON & CO 5KW. COMPOUND DYNAMO, COUPLED TO AN ASTER ENGINEERING CO LTD STANDARD, TWO CYLINDER, VERTICAL, PETROL, PARAFFIN ENGINE

Capacity of Dynamo { 1-120 / 1-50 } Amperes at 100 Volts, whether continuous or alternating current CONTINUOUS

Where <sup>ARE</sup> Dynamos fixed ENGINE ROOM FORW. END STARS. SIDE Whether single or double wire system is used DOUBLE

Position of Main Switch Board ENGINE ROOM FORW. END STARS. SIDE having switches to groups 6 of lights, &c., as below

Positions of auxiliary switch boards and numbers of switches on each NO AUXILIARY SWITCHBOARDS

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 \_\_\_\_\_ 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 NO

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

Total number of lights provided for 160 arranged in the following groups :-

<u>AFT</u> - <u>56</u> lights each of <u>30 WATT</u> candle power requiring a total current of <u>16.8</u> Amperes
<u>FORW.</u> - <u>7</u> <u>3-SL</u> Cluster lights each of <u>30</u> " candle power requiring a total current of <u>6.6</u> Amperes
<u>ENG. &amp; BOILER RM.</u> - <u>29</u> lights each of <u>30</u> " candle power requiring a total current of <u>8.7</u> Amperes
<u>MIDSHIPS</u> - <u>60</u> lights each of <u>59-30 WATT</u> candle power requiring a total current of <u>17.7</u> } <u>18.96</u> Amperes
<u>NAVIGATION</u> - <u>5</u> lights each of <u>32 DOUBLE FILAMENT</u> candle power requiring a total current of <u>5.6</u> Amperes
<u>2</u> Mast head light with <u>1</u> lamps each of <u>32 D.F.</u> candle power requiring a total current of <u>2.24</u> } <u>INCLUDED IN NAVIGATION CIRC.</u> Amperes
<u>2</u> Side light with <u>1</u> lamps each of <u>32 D.F.</u> candle power requiring a total current of <u>2.24</u> " " Amperes
<u>3-(5 LIGHT)</u> Cargo lights of <u>EACH OF 5-30 WATT</u> candle power, whether incandescent or arc lights <u>INCANDESCENT</u>

If arc lights, what protection is provided against fire, sparks, &c. NO ARC LIGHTS FITTED.

Where are the switches controlling the masthead and side lights placed CHART HOUSE

## DESCRIPTION OF CABLES.

DESCRIPTION	AMPERES	COMPRISED OF	WIRES, EACH	S.W.G. DIAMETER	SQUARE INCHES TOTAL SECTIONAL AREA
Main cable carrying <u>120</u>		<u>37</u> wires, each	<u>.064</u>	<u>.1200</u>	<u>.0600</u>
Main cable carrying <u>50</u>		<u>19</u> wires, each	<u>.064</u>	<u>.0600</u>	<u>.0600</u>
Branch cables carrying <u>16.8</u>		<u>7</u> wires, each	<u>.18</u> TWIN	<u>.0125</u>	<u>.0125</u>
Branch cables carrying <u>6.6</u>		<u>7</u> wires, each	<u>.18</u> "	<u>.0125</u>	<u>.0125</u>
Branch cables carrying <u>8.7</u>		<u>7</u> wires, each	<u>.16</u> "	<u>.0221</u>	<u>.0221</u>
Branch cables carrying <u>18.96</u>		<u>7</u> wires, each	<u>.18</u> "	<u>.0125</u>	<u>.0125</u>
Branch cables carrying <u>5.6</u>		<u>7</u> wires, each	<u>.18</u> "	<u>.0125</u>	<u>.0125</u>
Leads to lamps carrying <u>.3</u>		<u>3</u> wires, each	<u>.22</u>	<u>.0018</u>	<u>.0018</u>
Cargo light cables carrying <u>1.5</u>		<u>3</u> wires, each	<u>.22</u>	<u>.0018</u>	<u>.0018</u>

## DESCRIPTION OF INSULATION, PROTECTION, ETC.

LEAD COVERED; LEAD COVERED, ARMOURD, & BRAIDED; AND LEAD COVERED RUN IN TUBING.

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 NONE

How are the cables led through the ship, and how protected MAIN CABLES LED FROM SWITCHBOARD UP ENGINE ROOM CASING TO UPPER DECK AND ALONG GANGWAY AT CENTRE OF SHIP. LEAD COVERED, ARMOURD & BRAIDED.

**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, ARMOURED & BRAIDED

What special protection has been provided for the cables near galleys or oil lamps or other sources of heat LEAD COVERED, ARMOURED & BRAIDED

What special protection has been provided for the cables near boiler casings LEAD COVERED, ARMOURED & BRAIDED

What special protection has been provided for the cables in engine room LEAD COVERED ARMOURED & BRAIDED AND LEAD COVERED RUN IN TUBING

How are cables carried through beams IN LEAD BUSHES through bulkheads, &c. W.T. GLANDS

How are cables carried through decks W.T. DECK TUBES

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

If so, how are they protected \_\_\_\_\_

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 SCOTT'S CARGO CLUSTER BOXES

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 (2), fixed ON SWITCHBOARD.

**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 YES

Are any switches, fuses, or joints of cables fitted in the pump room or companion IN COMPANION

How are the lamps specially protected in places liable to the accumulation of vapour or gas GAS TIGHT FITTINGS

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.

**THE FAIRFIELD SHIPBUILDING AND ENGINEERING CO., LIMITED.**

Electrical Engineers Date \_\_\_\_\_

**COMPASSES.**

Distance between dynamo or electric motors and standard compass 145 FEET

Distance between dynamo or electric motors and steering compass 155 "

The nearest cables to the compasses are as follows:—

A cable carrying	Amperes	IN	feet from standard compass	feet from steering compass
<u>.3</u>	Amperes	<u>IN</u>	<u>feet from standard compass</u>	<u>feet from steering compass</u>
<u>.3</u>	Amperes	<u>IN</u>	<u>feet from standard compass</u>	<u>feet from steering compass</u>
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.

For **THE FAIRFIELD SHIPBUILDING AND ENGINEERING CO., LIMITED.** Builder's Signature. Date 30th June 1921

**GENERAL REMARKS.**

*This installation has been fitted on board under special survey. Tested under full working conditions & found satisfactory.*

*FEE. £16.0.0. of 12/7/21*  
*GLASGOW. 12 JUL 1921*  
*Elec. Light.*

*J.S. Rankin.*  
 Surveyor to Lloyd's Register of Shipping.

THE SURVEYORS ARE REQUESTED NOT TO WRITE ACROSS THIS MARGIN.

