

# REPORT ON ELECTRIC LIGHTING INSTALLATION. No.

Port of Barrow-in-Furness Date of First Survey 2<sup>nd</sup> March Date of Last Survey 11<sup>th</sup> May 1920 No. of Visits 24

No. in Reg. Book 33130 on the ~~Iron~~ or Steel M.V. "NARRAGANSETT" Port belonging to Barrow  
 Built at Barrow-in-Furness By whom Vickers Ltd. When built 1920

Owners Anglo-American Oil Co. Ltd. Owners' Address 36-38 Queen Anne's Gate, Westminster, London

Yard No. 570 Electric Light Installation fitted by Vickers Ltd. When fitted 1920

## DESCRIPTION OF DYNAMO, ENGINE, ETC.

(1) Open type, Compound wound Vickers dynamo - Vickers Petter heavy oil engine.  
 (2) " " " " " " " " - Mathew Paul reciprocating steam engine.

Capacity of Dynamos each 234 Amperes at 110 Volts, whether continuous or alternating current - Continuous

Where is Dynamo fixed on platform in Engine Room. Whether single or double wire system is used - Double.

Position of Main Switch Board on platform in Engine Rm. having switches to groups 11 in number. of lights, &c., as below

Positions of auxiliary switch boards and numbers of switches on each none fitted.

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 None fitted 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 100 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 232 arranged in the following groups :-

<u>X</u>	<u>10</u>	lights each of	<u>2 1/2.</u>	candle power requiring a total current of	<u>1.0</u>	Amperes
<u>B</u>	<u>3</u>	lights each of	<u>32</u>	candle power requiring a total current of	<u>3.0</u>	Amperes
<u>C</u>	<u>145</u>	lights each of	<u>30 watt</u>	<del>watt</del> power requiring a total current of	<u>40.0</u>	Amperes
	<u>24</u>	lights each of	<u>40 watt</u>	power requiring a total current of	<u>11.0</u>	Amperes
<u>D</u>	<u>39</u>	lights each of	<u>60 watt</u>	<del>watt</del> power requiring a total current of	<u>22.0</u>	Amperes
<u>E</u>	<u>7</u>	lights each of	<u>300 watt</u>	<del>watt</del> power requiring a total current of	<u>11.0</u>	Amperes
<u>2</u>	Mast head lights with	<u>1</u> lamp each of	<u>32</u>	candle power requiring a total current of	<u>2.0</u>	Amperes
<u>2</u>	Side lights with	<u>1</u> lamp each of	<u>32.</u>	candle power requiring a total current of	<u>2.0</u>	Amperes
<u>5.</u>	Cargo lights of	<u>360 watt</u>		<del>watt</del> power, whether incandescent or arc lights	<u>Incandescent.</u>	

If arc lights, what protection is provided against fire, sparks, &c. None fitted.

Where are the switches controlling the masthead and side lights placed - in Wheel House.

## DESCRIPTION OF CABLES.

Main cable carrying	<u>234</u> Amperes, comprised of	<u>34</u> wires, each	<u>1 1/2.</u> S.W.G. diameter,	<u>.35</u> square inches total sectional area
Branch cables carrying	<u>116</u> Amperes, comprised of	<u>34</u> wires each	<u>14.</u> S.W.G. diameter	<u>.182</u> square inches total sectional area.
Branch cables carrying	<u>35</u> Amperes, comprised of	<u>19</u> wires, each	<u>14</u> S.W.G. diameter,	<u>.094</u> square inches total sectional area
Branch cables carrying	$\left\{ \begin{array}{l} 20 \\ 20 \\ 25 \\ 30 \end{array} \right\}$ Amperes, comprised of	<u>19</u> wires, each	<u>14</u> S.W.G. diameter,	<u>.06</u> square inches total sectional area
Leads to lamps carrying	<u>1.2</u> Amperes, comprised of	<u>1</u> wires, each	<u>14</u> S.W.G. diameter,	<u>.0025</u> square inches total sectional area
Cargo light cables carrying	<u>3.3</u> Amperes, comprised of	<u>72</u> wires, each	<u>36</u> S.W.G. diameter,	<u>.00324</u> square inches total sectional area

## DESCRIPTION OF INSULATION, PROTECTION, ETC.

2500 megohm Association Grade V.I.R. insulated and lead covered. On weather decks and in Machinery spaces the lead covered cables are further protected by steel wire armouring and braiding, or by steel conduit as convenient.

Joints in cables, how made, insulated, and protected No joints

Are all the joints of cables thoroughly soldered, and the flux used not containing acids or other corrosive substances No joints 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 No joints

Are there any joints in or branches from the cable leading from dynamo to main switch board No joint

How are the cables led through the ship, and how protected Clipped to decks and bulkheads. Main cables armoured. Where subject to mechanical injury lead cased cables run in conduit.

**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 Steel wire armouring and braiding or fitted in conduit as convenient.

What special protection has been provided for the cables near galleys or oil lamps or other sources of heat These places avoided.

What special protection has been provided for the cables near boiler casings None so fitted.

What special protection has been provided for the cables in engine room Armoured or run in conduit as necessary.

How are cables carried through beams — in lead bushed holes through bulkheads, &c. — in packed glands or bushed holes.

How are cables carried through decks — in watertight 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 Yes.

If so, how are they protected Lead covered and run in deck girders.

Are any lamps fitted in coal bunkers or spaces which may at times be used for cargo, coals, or baggage Yes.

If so, how are the lamp fittings and cable terminals specially protected No switches or fuses in room; lamp fittings watertight

Where are the main switches and fuses for these lights fitted Above hatchway.

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 Double wire system.

How are the returns from the lamps connected to the hull Double wire system.

Are all the joints with the hull in accessible positions No joints

Is the installation supplied with a voltmeter Two; each 90-150 v. and with an amperemeter Two; each 0-300 a. 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 No

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 2500 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 VICKERS LIMITED,**

Electrical Engineers

Date 10th May 1920

**COMPASSES.**

Distance between dynamo or electric motors and standard compass 232 feet

Distance between dynamo or electric motors and steering compass 238 feet

The nearest cables to the compasses are as follows:—

A cable carrying	Amperes	feet from standard compass	feet from steering compass
<u>0.3</u>	<u>15</u>	<u>5</u>	<u>5</u>
<u>5.0</u>	<u>10</u>	<u>7</u>	<u>7</u>
<u>    </u>	<u>    </u>	<u>    </u>	<u>    </u>

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 VICKERS LIMITED,**

Builder's Signature.

Date 10th May 1920.

**GENERAL REMARKS.**

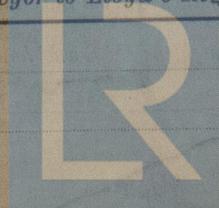
This installation has been efficiently fitted on board and on completion the Engines & Dynamos were tried under full load & found satisfactory.

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

JWD 20/5/20

John Houston.  
Surveyor to Lloyd's Register of Shipping.

Committee's Minute



Lloyd's Register Foundation

THE SURVEYORS ARE REQUESTED NOT TO WRITE ACROSS THIS MARGIN.