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19

REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 1904.

Port of Barrow-in-Furness Date of First Survey 2nd Feb 1921 Date of Last Survey 12th May 1921 No. of Visits 30
 No. in on the Iron or Steel M.V. "Seminole" Port belonging to Barrow
 Reg. Book 81674 Built at Barrow-in-Furness By whom Vickers Ltd When built 1921
 Owners Anglo-American Oil Co. Ltd Owners' Address 36-38 Queen Anne's Gate London SW1
 Yard No. 579 Electric Light Installation fitted by Vickers Ltd When fitted 1921

DESCRIPTION OF DYNAMO, ENGINE, ETC.

Two Metropolitan Vickers dynamos, each 25 H.P., one driven by Matthew Paul enclosed forced lubrication compound steam engine, & the other by Vickers Potter Oil Engine.

Capacity of Dynamos each 224 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 wire

Position of Main Switch Board On dynamo platform in E.R. having switches to groups ten 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 arranged in the following groups:—

A Forward	34 lights each of	30 watts	candle power requiring a total current of	9.3	Amperes
B Midship	{ 49 lights each of	30 "	} candle power requiring a total current of	14.2	Amperes
	{ 4 " " " 60 "				
C Aft	{ 90 lights each of	30 "	} candle power requiring a total current of	51.8	Amperes
	{ 6 " " " 500 "				
D	lights each of		candle power requiring a total current of		Amperes

E lights each of candle power requiring a total current of Amperes

2 Mast head lights with 1 lamp each of 32 candle power requiring a total current of 2.2 Amperes

2 Side lights with 1 lamp each of 32 candle power requiring a total current of 2.2 Amperes

5 Cargo lights of 360 watt candle power, whether incandescent or arc lights Incandescent

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 Navigation Indicator in Wheel House

DESCRIPTION OF CABLES.

Main cable carrying	225 Amperes, comprised of	61 wires, each	.093 " S.W.G. diameter,	.4 square inches total sectional area
Branch cables "	118 " " " "	19 " " "	.083 " " "	.1 " " " " "
Branch cables carrying	31 Amperes, comprised of	19 wires, each	.064 S.W.G. diameter,	.06 square inches total sectional area
" "	60 " " " "	19 " " "	.052 " " "	.04 " " " " "
Branch cables carrying	35 Amperes, comprised of	7 wires, each	.064 S.W.G. diameter,	.0225 square inches total sectional area
" "	30 " " " "	7 " " "	.044 " " "	.01 " " " " "
Leads to lamps carrying	2 Amperes, comprised of	3 wires, each	.029 S.W.G. diameter,	.002 square inches total sectional area
Cargo light cables carrying	3.3 Amperes, comprised of	72 wires, each	No 36 S.W.G. diameter,	.003 square inches total sectional area

DESCRIPTION OF INSULATION, PROTECTION, ETC.

All cables tubular insulated 600 megohm grade. In machinery spaces and on Fore & Aft Gangways lead covered & armoured; in other spaces lead covered.

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

How are the cables led through the ship, and how protected Clipped to bulkheads & decks; protected generally by lead covering, & where necessary are armoured in addition.

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 *Hemp & bitumen served over armour* ✓
 What special protection has been provided for the cables near galleys or oil lamps or other sources of heat *None fitted in these spaces* ✓
 What special protection has been provided for the cables near boiler casings *None fitted in these positions* ✓
 What special protection has been provided for the cables in engine room *Steel wire armour* ✓
 How are cables carried through beams *Through lead lashed holes* ✓ through bulkheads, &c. *Through watertight glands* ✓
 How are cables carried through decks *Through watertight deck tubes* ✓
 Are any cables run through coal bunkers *No* ✓ or cargo spaces *Yes* ✓ or spaces which may be used for carrying cargo, stores, or baggage *Yes* ✓
 If so, how are they protected *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 *Lamp fittings of heavy guarded pattern* ✓
 Where are the main switches and fuses for these lights fitted *Above cargo hatch* ✓
 If in the spaces, how are they specially protected *Not in cargo space* ✓
 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 *Double wire system* ✓
 Is the installation supplied with a voltmeter *Two fitted* ✓, and with an amperemeter *Two fitted* ✓, 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 *Special gastight 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.

FOR VICKERS LIMITED,

John Barr

Electrical Engineers

Date *8th June 1921*

COMPASSES.

Distance between ~~dynamo~~ or electric motors and standard compass *24 ft.*

Distance between ~~dynamo~~ or electric motors and steering compass *22 ft.*

The nearest cables to the compasses are as follows:—

A cable carrying <i>22</i> Amperes <i>7</i> feet from standard compass <i>8</i> feet from steering compass
A cable carrying _____ Amperes _____ 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 *Zero* degrees on *any* course in the case of the standard compass and *Zero* degrees on *any* course in the case of the steering compass.

FOR VICKERS LIMITED,

John Barr

Builder's Signature.

Date *8th June 1921*

GENERAL REMARKS. *This installation has been efficiently fitted on board, & on completion it was tried under full load & found satisfactory, special attention being given to the generators as instructed in the Secretary's letter dated 30th December 1920. Governing tests were carried out on both sets, & the governors were found to be very efficient.*

Fee: £27-10-0

Applied for *11/6/21*

THE RECORD.

John Houston

Surveyor to Lloyd's Register of Shipping.

Committee's Minute