

16

No. 1958

No. in Reg. Book 08500 on the ~~Iron~~ ^{Iron or Steel} TSS "Antonia" Port belonging to Liverpool
Built at Barrow-in-Furness By whom Vickers Ltd When built 1922
Owners Cunard Steamships Co Ltd Owners' Address Liverpool
Yard No. 498 Electric Light Installation fitted by Vickers Ltd When fitted 1922

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DESCRIPTION OF DYNAMO, ENGINE, ETC.

Two English Electric Co's Turbo Generators, each 300 K.W. Shunt Wound.
One Parsons Motor Co Metropolitan Vickers & Cylt. Passaffin Engine, 32 K.W. Dynamo.

Main					
Capacity of Dynamo	each 1330	Amperes at	220	Volts,	whether continuous or alternating current Continuous
Emergency "	142	"	"	"	"

Where is Dynamo fixed Main Sets in E. R. Port + Starboard
Emergency set Boat Deck aft. Whether single or double wire system is used Three Wire

Position of Main Switch Board On platform in Eng. Room having switches to groups See Drawing attached of lights, &c., as below

Positions of auxiliary switch boards and numbers of switches on each In Switchboard Rooms Starboard Passage "C" Deck

See accompanying Drawing No 4987 for Diagrammatic Arrangement of Switchboards Mains etc.

If fuses are fitted on main switch-board to the cables of main circuit Circuit Breakers and on each auxiliary switch board to the cables of auxiliary circuits of Fuses 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 1895 arranged in the following groups:—

A	4	lights each of	(1000 W $\frac{1}{2}$ watt)	2000	candle power requiring a total current of	36.4	Amperes
B	6	" "	(300 W, $\frac{1}{2}$ watt)	600	" " " "	16.4	"
C	5	" "	(180 W)	165	candle power requiring a total current of	9.8	Amperes
D	1496	" "	(120 W)	110	" " " "	5.4	"
E	44	lights each of	(30 W)	25	candle power requiring a total current of	489.8	Amperes
	10	" "	(Strip light)	8	" " " "	22.4	Amperes
	24	lights each of	(Instruments)	2 $\frac{1}{2}$	candle power requiring a total current of	9	"
						2.4	Amperes
2		Mast head lights with	1 lamp each of	32	candle power requiring a total current of	2.0	Amperes
2		Side light with	1 lamp each of	32	candle power requiring a total current of	2.0	Amperes
14		Cargo lights of	each 96		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 *Inside Navigating Light Indicator fitted in Navigating House*

DESCRIPTION OF CABLES. See Accompanying Drawing No 4987.

DESCRIPTION OF CABLES.

See Accompanying Drawing No 498/7.

Main cable carrying	1365 Amperes, comprised of	91x4 wires, each	.093 S.W.G. diameter,	4-.60 square inches total sectional area
	A-146 "	37 "	.083 "	in parallel "
Branch cables carrying	B-94 Amperes, comprised of	37 wires, each	.083 S.W.G. diameter,	.2 square inches total sectional area
	C-152 "	37 "	.072 "	.15 square inches total sectional area
Branch cables carrying	D-91 Amperes, comprised of	19 wires, each	.083 S.W.G. diameter,	.2 square inches total sectional area
	E-135 "	37 "	.083 "	.1 square inches total sectional area
Leads to lamps carrying	F-160 Amperes, comprised of	37 wires, each	.083 S.W.G. diameter,	.2 square inches total sectional area
Cargo light cables carrying	Amperes, comprised of	wires, each	S.W.G. diameter,	square inches total sectional area

Cargo light cables carrying _____ Amperes, comprised of _____ wires, each _____ S.W.G. diameter, _____ square inches total sectional area
for particulars of branch cables from Auxiliary Boards see Drg. No. 4987.

DESCRIPTION OF INSULATION, PROTECTION, ETC.

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600 Megohm Association Grade V.I.R. Hemp Braided Cables
Where necessary the cables are protected by a lead covering, or wire
armouring 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 joints

How are the cables led through the ship, and how protected Small wires in wood casing, large cables in fast-
claim rack insulators, LC or Armoured cables clipped directly to structure, conduit
fitted where necessary.

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 Cables run in steel conduit or sheet steel casing.

What special protection has been provided for the cables near galleys or oil lamps or other sources of heat Lead covered cables in gal-
leys, other spaces avoided.

What special protection has been provided for the cables near boiler casings Boiler casings avoided

What special protection has been provided for the cables in engine room Lead covered + armoured. conduit + sheet steel
where necessary

How are cables carried through beams Bushed holes through bulkheads, &c. Glands or bushed holes.

How are cables carried through decks 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 Run in steel conduit

Are any lamps fitted in coal bunkers or spaces which may at times be used for cargo, coals, or baggage yes in spaces which may at
times be used for cargo, i.e.
portable 3rd class accommodation

If so, how are the lamp fittings and cable terminals specially protected Fittings + switches in cast iron cases.

Where are the main switches and fuses for these lights fitted On Aux² switchboards Star^d passage "C" deck.

If in the spaces, how are they specially protected Not in the spaces.

Are any switches or fuses fitted in bunkers No

Cargo light cables, whether portable or permanently fixed Portable How fixed Portable

In vessels fitted on the single wire system, how is the dynamo terminal fixed to the hull of vessel Not single wire system

How are the returns from the lamps connected to the hull Not single wire system.

Are all the joints with the hull in accessible positions Not single wire system.

Is the installation supplied with a voltmeter yes, and with an amperemeter yes, fixed Main 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 ✓

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 VICKERS LIMITED

John Perry Electrical Engineers

Date 16th June 1922

COMPASSES.

Distance between dynamo or electric motors and standard compass Dynamo 194 ft. Nearest Motor 36 feet

Distance between dynamo or electric motors and steering compass " 192 " " 31 "

" " after " " 157 " " 18 "

The nearest cables to the compasses are as follows:—

A cable carrying	Amperes	feet from standard compass	feet from steering compass
<u>15</u>	<u>14</u>	<u>13</u>	
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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

John Perry

Builder's Signature. Date 16th June 1922

GENERAL REMARKS.

This installation has been efficiently fitted on board, and on completion it was tried under full load & found satisfactory. Governing tests were carried out on each generator, & the governors were found to be sensitive & efficient when the load was cut out

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

Fee: £47-6-0. Applied for 17/6/22.

Pl 24/6/22 HWH

L. 21/6/22

Surveyor to Lloyd's Register of Shipping.

Committee's Minute

FRI 23 JUN 1922

FRI JUL 21 1922



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