

TUE APR 2 1924

REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 9096

Port of Belfast Date of First Survey March 14th Date of Last Survey April 4th No. of Visits 10
 No. in Reg. Book on the Iron or Steel S.S. City of Venice Port belonging to Glasgow
 Built at Belfast By whom Workman Clark & Co. Ltd When built 1921
 Owners Ellerman Lines Ltd Owners' Address Liverpool
 Yard No. 164 Electric Light Installation fitted by Sunderland Forge & Engineering Co When fitted 1924

DESCRIPTION OF DYNAMO, ENGINE, ETC. 2-22 K.W. Open Type Compound wound multipolar dynamos direct coupled to Open Type Steam Engines with governors on crank shaft also 1-17 1/2 K.W. Protected Type Compound wound dynamo direct coupled to Oil Engine
 Emergency Dynamo 160 Capacity of Dynamo 200 Amperes at 110 Volts, whether continuous or alternating current Continuous
 Emergency Dynamo Promenade Deck Where is Dynamo fixed in Main Engine Room Whether single or double wire system is used Double
 Position of Main Switch Board In Main Engine Room having switches to groups 12 of lights, &c., as below
 Positions of auxiliary switch boards and numbers of switches on each Engine Room - 14 Switches
Upper Deck Aft - 6 Switches Upper Deck Fore - 7 & 6 Switches

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-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

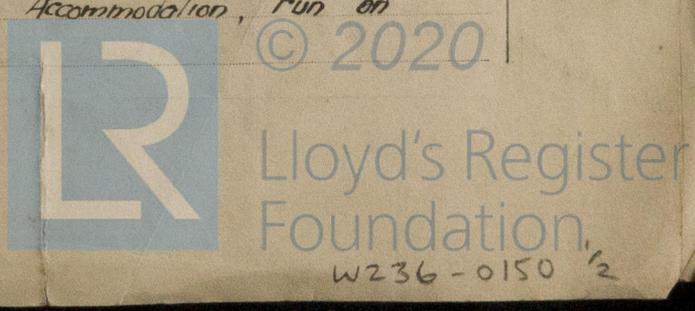
Total number of lights provided for 420 arranged in the following groups :-
 A lights each of _____ candle power requiring a total current of _____ Amperes
 B lights each of _____ candle power requiring a total current of _____ Amperes
 C lights each of See attached candle power requiring a total current of _____ Amperes
 D lights each of sheet candle power requiring a total current of _____ Amperes
 E lights each of _____ candle power requiring a total current of _____ Amperes
2 Mast head light with 2 lamps each of 32 candle power requiring a total current of each 1.2 Amperes
2 Side light with 2 lamps each of 32 candle power requiring a total current of each 1.2 Amperes
8 Cargo lights of 2 - 2000 cp 6 - 200 cp candle power, whether incandescent or arc lights Incandescent

If arc lights, what protection is provided against fire, sparks, &c. _____
 Where are the switches controlling the masthead and side lights placed Wheel House

DESCRIPTION OF CABLES.
 Main cable carrying 200 Amperes, comprised of 37 wires, each .093 S.W.G. diameter, .5 square inches total sectional area
 Branch cables carrying 52.1 Amperes, comprised of 19 wires, each .064 S.W.G. diameter, .06 square inches total sectional area
 Branch cables carrying 23.6 Amperes, comprised of 7 wires, each .064 S.W.G. diameter, .022 square inches total sectional area
 Leads to lamps carrying 1.2 Amperes, comprised of 3 wires, each .029 S.W.G. diameter, .002 square inches total sectional area
 Cargo light cables carrying 1 Amperes, comprised of 70 wires, each .0076 S.W.G. diameter, .0003 square inches total sectional area

DESCRIPTION OF INSULATION, PROTECTION, ETC.
Tinned copper conductors insulated with pure and vulcanized india rubber, taped & braided & the whole vulcanized together & finished. In Accommodation: Lead Covered & Braided. In Machinery Spaces: Lead Covered Armoured & Braided.
 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 _____
 How are the cables led through the ship, and how protected Lead Covered & Braided in Accommodation, run on wood grounds & supported by substantial brass saddles.



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

How are cables carried through beams Holes bushed with fibre through bulkheads, &c. Watertight Packing Glands

How are cables carried through decks Deck Tubes made Watertight

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

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 —

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 W.T. Connection 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, 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.

P. PRO THE SUNDERLAND YACHT & ENGINEERING CO. LTD.

J. Thompson Electrical Engineers Date 15 APR '24

COMPASSES.

Distance between dynamo or electric motor and standard compass 154 feet

Distance between dynamo or electric motor and steering compass 150 feet.

The nearest cables to the compasses are as follows:—

| | | | | | | |
|------------------|----------|---------|----------|----------------------------|----------|----------------------------|
| A cable carrying | <u>6</u> | Amperes | <u>8</u> | feet from standard compass | <u>8</u> | feet from steering compass |
| A cable carrying | <u>2</u> | Amperes | <u>2</u> | feet from standard compass | <u>2</u> | feet from steering compass |
| A cable carrying | <u>✓</u> | Amperes | <u>✓</u> | feet from standard compass | <u>✓</u> | 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 no degrees on all course in the case of the standard compass and no degrees on all course in the case of the steering compass.

P. PRO WORKMAN, CLARK & CO., LIMITED,
W. H. Stumble ASSISTANT SECRETARY

Builder's Signature. Date april 18th/24.

GENERAL REMARKS.

This installation is well fitted & in accordance with the Rules, & ran satisfactorily on trial under full load.

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

W. H. Stumble A.T. 23/4/24

William Bates Surveyor to Lloyd's Register of Shipping.

See charges on my Report.

Committee's Minute

Belfast

Continuation of Report No. 9096 dated

on the

S/S City of Venice

| | | | | | |
|---------------------|-----|-------------|-----|-----------------------------------|----------|
| Navigation officers | 23 | lights each | 16 | C.P. requiring a total current of | 12.4 |
| | 6 | | 32 | | |
| Engine + Bl. room | 25 | | 16 | | 6.0 amps |
| Gen. Accm. | 20 | | 16 | | 6.4 |
| P. Lamps | 2 | | 200 | | 23.6 |
| | 6 | | 200 | | |
| Class acc. Prom. R. | 19 | | 16 | | 19.4 |
| | 1 | | 200 | | |
| " Bridge " | 101 | | 16 | | 24.5 |
| " Upper " | 115 | | 16 | | 12.3 |
| new aft | 25 | | 16 | | 4.8 |
| | 1 | | 32 | | |
| Class accm | 115 | | 16 | | 12.3 |
| 1st 2nd class fans | | | | | 52.15 |

Emergency

| | | | | | |
|--------------------------------------|----|-------------|----|------|-----------|
| Navigation officers (Included above) | | | | | |
| 2nd class accm | 64 | lights each | 16 | C.P. | 14.5 amps |
| 1st class Post | 12 | | 32 | | 6.5 |
| 1st class | 12 | | 32 | | 6.5 |
| 1st class room | 9 | | 16 | | 2.4 |
| Wireless | | | | | 30.0 |
| Bridge P.P. | | | | | 123.0 |

William Bates



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