

April 4. 1917

TUE. 24 APR. 1917

REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 2476.

Port of SAN FRANCISCO, Date of First Survey Nov. 27th Date of Last Survey Mar. 9th No. of Visits four
 No. in on the ~~Iron~~ or Steel s/s "THORDIS", Port belonging to Grimstad, Norway.
 Reg. Book: Built at Oakland, California. By whom Moore & Scott Iron Works. When built 1917.
 Owners Atkieselskabet "Thelma" Owners' Address Grimstad, Norway.
 Yard No. 110 Electric Light Installation fitted by HERZOG ELEC. & ENGR. CO. When fitted 1917.

DESCRIPTION OF DYNAMO, ENGINE, ETC.

2 - 10 k.w. General Electric Co's Generators direct connected to 15 HP. DeLaval

Turbines.

each
 Capacity of Dynamo 80 ✓ Amperes at 125 ✓ Volts, whether continuous or alternating current continuous ✓
 Where is Dynamo fixed Starb. side Engine Room Whether single or double wire system is used double ✓
 Position of Main Switch Board near dynamos having switches to groups 12 and motors of lights &c., as below
 Positions of auxiliary switch boards and numbers of switches on each Engine Room 4-switches. Galley 4-switches. Pantry 4-switches. After Quarters 2-switches. Chart House 5-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

Are the fuses of non-oxidizable metal yes and constructed to fuse at an excess of 10 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 cartridge fuses used.

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

Total number of lights provided for 214 arranged in the following groups:—

| | | | | | | |
|---|--------------------------------------|----------------|---------------|---|--|---------------|
| A | 59 | lights each of | 25 | candle power requiring a total current of | 21 | Amperes |
| B | 13 | lights each of | 25 | candle power requiring a total current of | 4.7 | Amperes |
| C | 55 | lights each of | 25 | candle power requiring a total current of | 20 | Amperes |
| D | 22 | lights each of | 25 | candle power requiring a total current of | 8 | Amperes |
| E | 15 | lights each of | 25 | candle power requiring a total current of | 5.4 | Amperes |
| 1 | Mast head light with | 1 | lamps each of | 32 | candle power requiring a total current of | 1 |
| 1 | Range " " | 1 | " " " | 32 | " " " " " " | 1 |
| 2 | Side light with | 1 | lamps each of | 32 | " " " " " " | 1 |
| 1 | Stern " " | 1 | " " " | 32 | " " " " " " | 1 |
| 9 | Cargo lights of 5-16c.p. lamps each. | | | | 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 Chart House.

DESCRIPTION OF CABLES.

Main cable carrying 80 ✓ Amperes, comprised of 19 wires, each S.W.G. diameter, .060 ✓ square inches total sectional area
 Branch cables carrying 20 Amperes, comprised of 7 wires, each S.W.G. diameter, .012 ✓ square inches total sectional area
 Branch cables carrying 21 Amperes, comprised of solid wires, each S.W.G. diameter, .008 ✓ square inches total sectional area
 Leads to lamps carrying .36 Amperes, comprised of 1 wires, each S.W.G. diameter, .003 ✓ square inches total sectional area
 Cargo light cables carrying 2.5 Amperes, comprised of 7 wires, each S.W.G. diameter, .003 ✓ square inches total sectional area

DESCRIPTION OF INSULATION, PROTECTION, ETC.

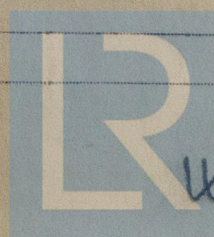
All wires rubber covered double braid in conduit.

Joints in cables, how made, insulated, and protected Soldered, rubber and friction taped and painted. All joints made in cast iron junction boxes or conduits.

Are all the joints of cables thoroughly soldered, and the flux used not containing acids or other corrosive substances yes 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

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 in iron conduit.



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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 iron conduit

What special protection has been provided for the cables near galleys or oil lamps or other sources of heat asbestos covered wire in conduit.

What special protection has been provided for the cables near boiler casings asbestos covered wire in conduit.

What special protection has been provided for the cables in engine room iron conduit

How are cables carried through beams iron conduit through bulkheads, &c. iron conduit ✓

How are cables carried through decks iron conduit ✓

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 iron conduit

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 attached to permanent plug boxes at hatches.

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 2-ammeters, fixed 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.

Hugh Elliott & Co. Electrical Engineers Date March 20th 1917.

COMPASSES.

wireless

Distance between dynamo or electric motors and standard compass 20 feet.

Distance between dynamo or electric motors and steering compass 12 feet.

The nearest cables to the compasses are as follows:—

| A cable carrying | Amperes | feet from standard compass | feet from steering compass |
|------------------|-----------|----------------------------|----------------------------|
| <u>7</u> | <u>20</u> | <u>12</u> | |
| <u>1/2</u> | <u>1</u> | <u>1</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 various courses in the case of the standard compass and nil degrees on various courses in the case of the steering compass.

Maore Scott Iron Works Builder's Signature. Date March 28th 1917.

GENERAL REMARKS. This installation has been fitted in accordance with the Rules, tested under running conditions and found in order, and the vessel is eligible in my opinion to have notation of ELECTRIC LIGHT in the Register Book.

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

J. B. Blackett Surveyor to Lloyd's Register of British and Foreign Shipping.

Committee's Minute

New York APR 5 1917



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