

REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 4682.

Port of Göteborg Date of First Survey 4th Aug Date of Last Survey 9th Oct No. of Visits 7
 No. in on the ~~Iron~~ or Steel S.S. KNÄPPINGSBORG Port belonging to Norrköping
 Reg. Book 79993 Built at Göteborg By whom Aktieb. Lindholmen Metall When built 1920
 Owners H. Unis Aktiebolag. Owners' Address Norrköping
 Yard No. 445 Electric Light Installation fitted by Aktieb. Elektromarin, Gt. When fitted Oct. 1920

DESCRIPTION OF DYNAMO, ENGINE, ETC.

10 H.P. steam turbine generator
An additional turbine driven set (4.5 Kw) fitted 12.37

Capacity of Dynamo 55 Amperes at 110 Volts, whether continuous or alternating current Continuous
 Where is Dynamo fixed In engine room Whether single or double wire system is used Double
 Position of Main Switch Board In engine room having switches to groups 6 of lights, &c., as below
 Positions of auxiliary switch boards and numbers of switches on each One 3 groups in fore-castle, one 5 groups in accommodation gangway, one 3 groups in gangway midship starboard side, one 3 groups in gangway midship port side, one 3 groups in accommodation aft all without switches and one 5 groups in chart-house with 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 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
 Are all switches and fuses constructed of incombustible materials and fitted on incombustible bases yes
 Total number of lights provided for 165 arranged in the following groups:—
 A in engine room 22 lights each of 25 candle power requiring a total current of 5.1 Amperes
 B " accommodation 31 lights each of 25 candle power requiring a total current of 7.2 Amperes
 C " portside gangway 17 lights each of 25 candle power requiring a total current of 4.0 Amperes
 D " starboard " 16 lights each of 25 candle power requiring a total current of 3.7 Amperes
 " fore-castle 12 lights each of 25 candle power requiring a total current of 2.8 Amperes
 E " accom. aft 14 lights each of 25 candle power requiring a total current of 3.3 Amperes
 2 Mast head light with 1 lamp each of 25 candle power requiring a total current of 1.5 Amperes
 2 Side light with 1 lamp each of 25 candle power requiring a total current of 1.5 Amperes
 Cargo lights of 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 In the chart room.

DESCRIPTION OF CABLES.

Main cable carrying 55 Amperes, comprised of wires, each S.W.G. diameter, 16 ³/₁₆ square inches total sectional area
 Branch cables carrying 10 Amperes, comprised of wires, each S.W.G. diameter, 4 square inches total sectional area
 Branch cables carrying 3.75 Amperes, comprised of wires, each S.W.G. diameter, 2.5 square inches total sectional area
 Leads to lamps carrying 2 Amperes, comprised of wires, each S.W.G. diameter, 1.5 square inches total sectional area
 Cargo light cables carrying 2 Amperes, comprised of wires, each S.W.G. diameter, 1.5 square inches total sectional area

DESCRIPTION OF INSULATION, PROTECTION, ETC.

The cables are insulated by pure vulcanized rubber, lead armoured and protected by steel tubes where required.

Joints in cables, how made, insulated, and protected By porcelain boxes and where required protected by metal boxes.

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 yes

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 As armoured cables.

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 *Armoured cables and steel tubes where required.*

What special protection has been provided for the cables near galleys or oil lamps or other sources of heat *No do*

What special protection has been provided for the cables near boiler casings *No do*

What special protection has been provided for the cables in engine room *No do*

How are cables carried through beams *Lead covered* through bulkheads, &c. *Watertight glands.*

How are cables carried through decks *In steel tubes with watertight glands.*

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 *Armoured cables and steel tubes where required.*

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 *✓*

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 *on main switch board.*

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 *1000* 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.

NYA LÜTH & ROSÉNS ELEKTRISKA AKTIEBOLAG

Electrical Engineers

Date *Nov 18-1920*

COMPASSES. *Conny Egelin*
Bron Christenson

Distance between dynamo or electric motors and standard compass

Distance between dynamo or electric motors and steering compass

The nearest cables to the compasses are as follows:—

A cable carrying	Amperes	feet from standard compass	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

The maximum deviation due to electric currents, etc., was found to be _____ degrees on _____ course in the case of the standard compass and _____ degrees on _____ course in the case of the steering compass.

AKTIEBOLAGET LINDHOLMEN-MOTALA

W. BOK

Builder's Signature. Date *Nov 22-1920*

GENERAL REMARKS.

This electric lighting installation has been fitted on board under our inspection and has been tested and found satisfactory. All rule requirements have been complied with.

It is submitted that

Fee N. 100.00 Applied for 13 Oct. 1920

this vessel is eligible for THE RECORD. Elec Light

V. Paulow

Recd 30/11/20

Surveyor to Lloyd's Register of Shipping.

Committee's Minute

THE SURVEYORS ARE REQUESTED NOT TO WRITE ACROSS THIS MARGIN.



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