

## REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 4180.

Port of *Newcastle on Tyne* Date of First Survey *28/1/21* Date of Last Survey *28/2/21* No. of Visits *5*  
 No. in *on the Iron or Steel* *Tusithney* *ex Lippe* Port belonging to *St Ines.*  
 Reg. Book *81998* Built at *Flensburg* By whom *Schiffst Geo Flensburg* When built *1914*  
 Owners *Hain S. S. Co Ltd* Owners' Address *St Ines.*  
 Yard No. *—* Electric Light Installation fitted by *—* When fitted *1914*

## DESCRIPTION OF DYNAMO, ENGINE, ETC.

Dynamo makers *Hamag. Bremen.* Multipolar, compound machine coupled direct to a compound steam engine.

Capacity of Dynamo *146* Amperes at *110* Volts, whether continuous or alternating current *continuous*

Where is Dynamo fixed *engine room, starboard side* Whether single or double wire system is used *single*

Position of Main Switch Board *engine room, starboard side* having switches to groups *seven (7)* of lights, &c., as below

Positions of auxiliary switch boards and numbers of switches on each *engine room 1-6 way 10B + 1-10 way dis box*  
*1-4 way dis box forward in alleyway, 1-8 way dis box in saloon passage, 1-6 way dis box in wheelhouse.*

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 arranged in the following groups:—

A Navigation	11	lights each of 5-32 CP, 5-8 CP, 1-16 CP	candle power requiring a total current of	6.872	Amperes
B Engine room	48	lights each of 20 watt	candle power requiring a total current of	8.736	Amperes
C Forward	47	lights each of 20-20 watt, 25-16 CP, 2-300	candle power requiring a total current of	19.09	Amperes
F Projector	—	cables run but no projector on board.			
D Wireless	—	lights each of	candle power requiring a total current of	15.0	Amperes
E Saloon	43	lights each of 20 watt + 5 table fan	candle power requiring a total current of	11.568	Amperes
G Engineers	25	48-20 watt, 25-16 CP, 5 table fan, 2-300 CP H.W.	" "	27.939	"
2 Mast head light with	1	lamps each of 32	candle power requiring a total current of	1.85	Amperes
2 Side light with	1	lamps each of 32	candle power requiring a total current of	1.85	Amperes

54 lights (144) Cargo lights of 4-300 HW lamps, 10-5 candle power, whether incandescent or are lights *incandescent*

If are lights, what protection is provided against fire, sparks, &c.

Where are the switches controlling the masthead and side lights placed *in wheelhouse. Navigation light indicator fitted*

## DESCRIPTION OF CABLES.

Main cable carrying	146	Amperes, comprised of	wires, each	S.W.G. diameter,	square inches total sectional area
Branch cables carrying	27.939	Amperes, comprised of	wires, each	S.W.G. diameter,	square inches total sectional area
Branch cables carrying	19.09	Amperes, comprised of	wires, each	S.W.G. diameter,	square inches total sectional area
Leads to lamps carrying	18	Amperes, comprised of	wires, each	S.W.G. diameter,	square inches total sectional area
Cargo light cables carrying	254	Amperes, comprised of	wires, each	S.W.G. diameter,	square inches total sectional area

## DESCRIPTION OF INSULATION, PROTECTION, ETC.

The whole of the cables are lead covered armoured & braided.

Joints in cables, how made, insulated, and protected *none made*

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 *no. a fuse is fitted with switch S.P. on switchboard*

How are the cables led through the ship, and how protected *clipped to bulkheads + run fore + aft on deck protected by steel channel bars.*



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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 *Lead covered armoured and braided*

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

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

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

How are cables carried through beams *bushed holes* through bulkheads, &c. *watertight glands*

How are cables carried through decks *deckpipes*

Are any cables run through coal bunkers *no* or cargo spaces *no* or spaces which may be used for carrying cargo, stores, or baggage *no*

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 *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

Cargo light cables, whether portable or permanently fixed *portable from watertight sockets* How fixed *clipped to bulkhead*

In vessels fitted on the single wire system, how is the dynamo terminal fixed to the hull of vessel *socket secured to cable secured by 1/2" bolt to hull*

How are the returns from the lamps connected to the hull *by means of 1/2" screw*

Are all the joints with the hull in accessible positions *yes*

Is the installation supplied with a voltmeter *yes* and with an amperemeter *yes* 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

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 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.

Electrical Engineer's

Date

COMPASSES.

Distance between dynamo or electric motors and standard compass *91 feet*

Distance between dynamo or electric motors and steering compass *97 feet*

The nearest cables to the compasses are as follows:—

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.

Builder's Signature

Date

GENERAL REMARKS. *The above installation is in accordance with the Society's Rules as far as could be ascertained.*

*W. T. Badger*

Surveyor to Lloyd's Register of Shipping.

Committee's Minute

THU. MAR. 24 1921

FRI. 15 JUL. 1921

FRI. 19 MAY. 1922

FRI. 5 AUG. 1921

FRI. 5 MAY. 1922



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