

REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 1309

Port of Halifax N. S. Date of First Survey Nov. 30th 1920 Date of Last Survey Dec. 14th 1920 No. of Visits 9
 No. in Reg. Book on the ~~Iron~~ Steel Screw Steamer "Canadian Sapper" Port belonging to Montreal
 Built at New Glasgow N. S. By whom Nova Scotia Steel & Coal Co Ltd. When built 1920
 Owners Canadian Govt Merchant Marine Ltd. Owners' Address Montreal P. Q.
 Yard No. 8 Electric Light Installation fitted by Nova Scotia Steel & Coal Co Ltd When fitted 1920

DESCRIPTION OF DYNAMO, ENGINE, ETC.

Dynamo :- Four pole compound wound, 10 K.W. 110 volts. Goldie McCulloch G.
 Engine :- Single cylinder open type, direct connected to dynamo.
 Capacity of Dynamo 85 Amperes at 110 Volts, whether continuous or alternating current Continuous
 Where is Dynamo fixed Starbd. side of engine room Whether single or double wire system is used Double wire
 Position of Main Switch Board 4' abft of dynamo having switches to groups A, B, C, D, E. of lights, &c., as below
 Positions of auxiliary switch boards and numbers of switches on each Galley 3 switches, Stewards Pantry 3 switches, Crew's quarters (Poop) 2 switches, Fo'ble 1 switch, wheel house 4 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 3 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 No wire fuses used.
 Are all switches and fuses constructed of incombustible materials and fitted on incombustible bases Yes.
 Total number of lights provided for 158 arranged in the following groups :-

A	18	lights each of	25 Watts	candle power requiring a total current of	3.5	Amperes
B	18	lights each of	25 "	candle power requiring a total current of	3.5	Amperes
C	18	lights each of	25 "	candle power requiring a total current of	3.5	Amperes
D	36	lights each of	15 "	candle power requiring a total current of	5	Amperes
E	14	lights each of	25 "	candle power requiring a total current of	3.5	Amperes
	2	Mast head light with	2 lamps each of	60	candle power requiring a total current of	1
	2	Side light with	2 lamps each of	60	candle power requiring a total current of	1
	15	Cargo lights of	40	candle power, whether incandescent or arc lights	<u>Incandescent.</u>	

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

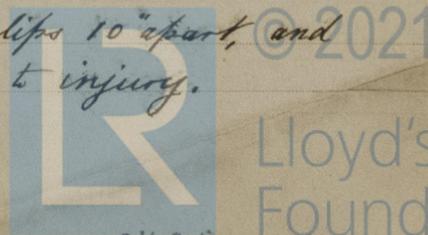
Where are the switches controlling the masthead and side lights placed In wheel house.

DESCRIPTION OF CABLES.

Main cable carrying	65	Amperes, comprised of	19	wires, each	14	B & S S.W.G. diameter, .0613 square inches total sectional area
Branch cables carrying	14	Amperes, comprised of	7	wires, each	18	B & S S.W.G. diameter, .00893 square inches total sectional area
Branch cables carrying	10	Amperes, comprised of	7	wires, each	18	B & S S.W.G. diameter, .00893 square inches total sectional area
Leads to lamps carrying	5	Amperes, comprised of	1	wires, each	14	B & S S.W.G. diameter, .0032 square inches total sectional area
Cargo light cables carrying	14	Amperes, comprised of	7	wires, each	16	B & S S.W.G. diameter, .0142 square inches total sectional area

DESCRIPTION OF INSULATION, PROTECTION, ETC.

All cables in engine room, tunnel, holds and other exposed spaces, are lead covered and armoured with wire braid, galvanized iron wire; lead covered wire in cabins.
 Joints in cables, how made, insulated, and protected Made in cast iron junction boxes, insulated with two plies rubber splicing tape, and two plies of black friction tape
 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 Clamped with double end clips 10" apart, and covered with wood, and iron tubing where exposed and liable to injury.



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 *All are lead covered and protected with iron tubing, and wood casing.*

What special protection has been provided for the cables near galleys or oil lamps or other sources of heat *Armoured cable*

What special protection has been provided for the cables near boiler casings *Armoured cable*

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

How are cables carried through beams *In lead bushings* through bulkheads, &c. *watertight glands*

How are cables carried through decks *Duck tubes 18" long, wood bushings.*

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

If so, how are they protected *Armoured cable & wood casing.*

Are any lamps fitted in coal bunkers or spaces which may at times be used for cargo, coals, or baggage *Yes*

If so, how are the lamp fittings and cable terminals specially protected *With wood casings*

Where are the main switches and fuses for these lights fitted *In engine room*

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 *Permanent* How fixed *Double end clips & wood casing*

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 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 *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.

Nova Scotia Steel & Coal Co. Limited

Electrical Engineers

Date *30/12/20*

COMPASSES:

Distance between dynamo or electric motors and standard compass *About eight feet*

Distance between dynamo or electric motors and steering compass *About seventy five feet*

The nearest cables to the compasses are as follows:—

A cable carrying	$\frac{1}{2}$	Amperes	1	feet from standard compass	1	feet from steering compass
A cable carrying	$\frac{1}{2}$	Amperes	1	feet from standard compass	5	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.

Nova Scotia Steel & Coal Co. Limited

Builder's Signature.

Date *30/12/20*

GENERAL REMARKS.

The electric light installation on the vessel has been efficiently fitted according to the rules and requirements. The dynamo engine is to be fitted on board in Halifax, and the installation tried out under working conditions. The engine has been fitted on board in Halifax N.S. & tried under working conditions with satisfactory results.

J. S. MacArthur and C. T. Jones

Surveyors to Lloyd's Register of Shipping.

Committee's Minute

FRI. 11 FEB. 1921

THE SURVEYORS ARE REQUESTED NOT TO WRITE ACROSS THIS MARGIN.

