

THUR, 21 JAN 1897

Received at London Office

REPORT ON ELECTRIC LIGHTING INSTALLATION.

No. 34106

Port of **NEWCASTLE-ON-TYNE**

Date of First Survey

Date of Last Survey

17th Nov/96

No. of Visits

No. in
Reg. Book

on the Iron or Steel

S.S. "Cornwall"

Port belonging to

London

Built at

Newcastle

By whom

Messrs Hawthorn Leslie & Co

When built

1896

Owners

Federal S. N. Co. Ltd

Owners Address

London

Yard No.

Electric Light Installation fitted by

Messrs W & J Robinson & Co Ltd

When fitted

1896

DESCRIPTION OF DYNAMO, ENGINE, ETC.

14" Gramme Compound Dynamo coupled direct to
open type Auto Governor, High Class Engine at 280 revs.

Capacity of Dynamo

155

Amperes at

60

Volts, whether continuous or alternating current

Continuous

Where is Dynamo fixed

Engine room

Position of Main Switch Board

close to Dynamo

having switches to groups

of lights, &c., as below

Positions of auxiliary switch boards and numbers of switches on each

Saloon one, 3 Switches.

If cut outs are fitted on main switch board to the cables of main circuit

Yes

and on each auxiliary switch boards 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 cut outs fitted to both flow and return wires or cables of all circuits including lamp circuits

Yes

Are the cut outs of non-oxidizable metal

Yes

and constructed to fuse at an excess of

25

per cent over the normal current

Are all cut outs 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

within instructions

Are all switches and cut-outs constructed of incombustible materials and fitted on incombustible bases

Yes

porcelain

Total number of lights provided for

150

arranged in the following groups:—

A	69	lights each of	16 cp	candle power requiring a total current of	69	Amperes
B	50	lights each of	16 cp	candle power requiring a total current of	50	Amperes
C	30	lights each of	16 cp	candle power requiring a total current of	30	Amperes
D		lights each of		candle power requiring a total current of		Amperes
E		lights each of		candle power requiring a total current of		Amperes
1	Mast head light with	1 lamps each of	32 cp	candle power requiring a total current of	2	Amperes
2	Side light with	1 lamps each of	32 cp	candle power requiring a total current of	4	Amperes
5	Cargo lights of		200 cp	candle power, whether incandescent or arc lights	5 Incandescent	

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

Where are the switches controlling the masthead and side lights placed

in Lighthouses & Forecastle

DESCRIPTION OF CABLES.

Main cable carrying	capacity 250	Amperes, comprised of	37	wires, each	13	L.S.G. diameter,	.246	square inches total sectional area
Branch cables carrying	69	Amperes, comprised of	19	wires, each	16	L.S.G. diameter,	.061	square inches total sectional area
Branch cables carrying	50	Amperes, comprised of	7	wires, each	13	L.S.G. diameter,	.046	square inches total sectional area
Leads to lamps carrying	30	Amperes, comprised of	7	wires, each	14	L.S.G. diameter,	.035	square inches total sectional area
Cargo light cables carrying		Amperes, comprised of		wires, each		L.S.G. diameter,		square inches total sectional area

DESCRIPTION OF INSULATION, PROTECTION, ETC.

Pure rubber, vulcanized, taped and, Braided

Joints in cables, how made, insulated, and protected Well made running joints, well soldered covered with pure rubber tape, and solution, and rubber covered tape and solution outside

Are all the joints of cables thoroughly soldered, resin only having been used as a flux 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 Heavy wood casing.

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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 wire*

What special protection has been provided for the cables near galleys or oil lamps or other sources of heat *Iron pipe or lead covered wire*

What special protection has been provided for the cables near boiler casings *Iron pipe*

What special protection has been provided for the cables in engine room *Iron pipe where required*

How are cables carried through beams *in insulators* through bulkheads, &c. *Water tight glands*

How are cables carried through decks *Iron pipes and insulators*

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

If so, how are they protected *run in casing & protected by 2 1/2" Pine boards*

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 cut outs for these lights fitted

If in the spaces, how are they specially protected

Are any switches or cut outs fitted in bunkers *No*

Cargo light cables, whether portable or permanently fixed *Portable* How fixed *in Boxes upper deck*

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 *none made*

VESSELS BUILT FOR CARRYING PETROLEUM.

In vessels built for carrying petroleum, are all switches and cut-outs fitted in positions not liable to the accumulation of petroleum vapour or gas ☒

Are any switches, cut outs, 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 installation is supplied with a voltmeter *and* an amperemeter, fixed *near dynamo*

The copper used is guaranteed to have a conductivity of *98%* per cent. that of pure copper.

Insulation of cables is guaranteed to have a resistance of not less than *600* megohms per statute mile after 24 hours' immersion in seawater.

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.

W & J. Robinson & Co. Ltd Electrical Engineers Date *Dec 4th /96*

COMPASSES.

Distance between dynamo or electric motors and standard compass *20 yds*

Distance between dynamo or electric motors and steering compass *16 yds*

The nearest cables to the compasses are as follows:—

A cable carrying	Amperes	feet from standard compass	feet from steering compass
<i>one</i>		<i>6 ft</i>	<i>4 ft</i>
<i>none</i>		<i>near</i>	<i>—</i>
<i>none</i>		<i>near</i>	<i>—</i>

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 *4* course in the case of the standard compass and *—* degrees on *—* course in the case of the steering compass.

K. A. Macdonald Builder's Signature Date *15 Jan'y 1897*

GENERAL REMARKS.

The installation has been examined by us & found satisfactory.

John H. Heck & G. L. Hindmarsh
Surveyor to Lloyd's Register of British and Foreign Shipping

Committee's Minute

This installation appears to be in accordance with the Rules

J. H. M. 24/1/97

THE SURVEYORS ARE REQUESTED NOT TO WRITE ACROSS THE MARGIN