

RECEIVED
14 DEC
No. _____

Bel 4019

REPORT ON ELECTRIC LIGHTING INSTALLATION.

Port of Belfast

Received at London Office 23 DEC 01

No. 4023*

No. in 1 Name of Ship Steel Liner S.S. Pindari Built at Belfast (Harland & Wolff Ltd) When built 1891

Reg. Book. _____ Electric Light Installation fitted by W. R. Allen & Co. London when fitted 1891

DESCRIPTION OF DYNAMO AND ENGINE.—

2 series driven sets Engine vertical inverted single cylinder double acting 2 1/2 h.p. dynamo
2 40 amperes 62 volts ring armature & compound wound magnet of single inverted horseshoe type.
Capacity of Dynamo 40 Amperes at 62 Volts, whether continuous or alternating current continuous
Where ^{are} Dynamos fixed aft of starting platform, between thrust blocks.

LAMPS.—

Is vessel wired on single or double wire system single wire Total number of lights 139 arranged in the following groups:—

A	<u>31</u>	lights each of	<u>16</u>	candle power requiring a total current of	<u>16</u>	Amperes
B	<u>34</u>	lights each of	<u>16</u>	candle power requiring a total current of	<u>34</u>	Amperes
C	<u>38</u>	lights ^(35 - - 16) _(3 - - 32) of		candle power requiring a total current of	<u>41</u>	Amperes
D	<u>36</u>	lights each of	<u>16</u>	candle power requiring a total current of	<u>36</u>	Amperes
E		lights each of		candle power requiring a total current of		Amperes
1	<u>1</u>	Must head light with	<u>1</u> lamps each of	<u>32</u>	candle power requiring a total current of	<u>2</u> Amperes
2	<u>2</u>	Side lights with	<u>1</u> lamps each of	<u>32</u>	candle power requiring a total current of	<u>4</u> Amperes
	<u>6</u>	Cargo lights of	<u>128</u>	candle power, whether incandescent or arc lights	<u>incandescent</u>	

If arc lights, what protection is provided against fire, sparks, &c. Thick glass globe & guard.

SWITCHES AND CUT-OUTS—

Position of Main Switch Board On bulkhead aft of dynamo having switches to groups A-B, C, D & (Projector) of lights as above

Positions of other switch boards and numbers of switches on each none

If cut outs are fitted to main circuit yes and to each auxiliary circuit yes
and at each position where cable is branched or reduced in size where sufficiently reduced to require them

If vessel is wired on the double wire system are cut outs fitted on each wire _____

Are the cut outs of non-oxidizable metal pure tin and constructed to fuse at an excess of about 50 per cent over the normal current

Are all cut outs fitted in easily accessible positions yes

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 _____

How are the lamps specially protected in places liable to the accumulation of vapour or gas _____

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

DESCRIPTION OF CABLES.—

Main cable carrying	<u>40</u>	Amperes, comprised of	<u>34</u>	wires, each	<u>16</u>	legal standard wire gauge diameter
Branch cables carrying	<u>24</u>	Amperes, comprised of		wires, each		legal standard wire gauge diameter
Branch cables carrying	<u>31</u>	Amperes, comprised of	<u>7</u>	wires, each	<u>14</u>	legal standard wire gauge diameter
	<u>34</u>				<u>14</u>	
Leads to lamps	<u>41</u>	Amperes, comprised of	<u>4</u>	wires, each	<u>14</u>	legal standard wire gauge diameter
	<u>36</u>				<u>14</u>	
Cargo light cables carrying	<u>8</u>	Amperes, comprised of	<u>225</u>	wires, each	<u>40</u>	legal standard wire gauge diameter

The copper used has a conductivity of 98 7/8 per cent. that of pure copper.

Insulation of cables is guaranteed to have a resistance of not less than 2000 main
7 as branches megohms per statute mile after 24 hours' immersion in seawater

DESCRIPTION OF INSULATION, PROTECTION, &c.—

Tinned copper strand covered with vulcanized rubber 1st quality taped braided & compounded.

Joints in cables, how made, insulated, and protected *Copper twisted with copper, cleaned after soldering covered with felt, rubber, & rubber solution, rubber solution, the prepared or Gohierit tape & finally varnished.*

Are all the joints of cables thoroughly soldered, resin only having been used as a flux *yes.*

How are cables led throughout the ship *by strong wood casing wood covers except in engine boiler spaces where armoured cables are clipped in bulkheads.*

What special protection has been provided for the cables in open alleyways *strong casing*

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

What special protection has been provided for the cables near boiler casings *armoured with galv. iron wire.*

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

How are cables carried through decks *galvanized deck tubes drilled and through bulkheads fibre dowl.*

Are any cables run through coal bunkers *no* or cargo spaces *yes* If so, how are they protected *strong wood covers*

Are any lamps fitted in coal bunkers or spaces which may be used for cargo *yes*

If so, how are they specially protected *strong iron covers.*

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 *through iron of engine dynamo.*

How are the returns from the lamps connected to the hull *soldered to 3/8" brass headed white with seven*

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

TESTING, &c.—

Has the installation been thoroughly tested to its full capacity during a trial of *6* hours' duration *yes.*

The insulation resistance of the whole installation was not less than *—* ohms

The installation is *yes* supplied with a voltmeter and *—* an amperemeter, fixed

General Remarks.—

about 50 feet

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.

M. J. Allen & S Electrical Engineers

Date *Dec. 17/91*

COMPASSES.—

Distance between dynamo and standard compass *about 50 feet*

Distance between dynamo and steering compass

The nearest cables to the compasses are as follows:—

A cable carrying <i>4</i>	Amperes <i>11"</i>	feet from standard compass <i>11</i>	feet from steering compass
A cable carrying <i>25</i>	Amperes <i>15"</i>	feet from standard compass <i>36</i>	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 *yes*

The maximum deviation due to electric currents, etc., was found to be *0* degrees on *any* course in the case of the standard compass and *0* degrees on *any* course in the case of the steering compass.

Walter H. Wright Builder's Signature Date *18 Dec. 1891*

A. L. Jones Surveyor's Signature Date *21 Dec 1891*

