Rpt. 13. 80913

Received at London Office 18

REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 42242

Port of Newcastle Date of First Survey July 29th 01. Date of Last Survey July 14th No. of Visits 6.

No. in Reg. Book — on the Iron or Steel S/S "SWAZI" Port belonging to London

Built at Newcastle By whom Armstrong Whitworth & Co When built 1901-8

Owners Messrs Bucknall Bros Owners' Address London

Yard No. 708 Electric Light Installation fitted by Messrs Clarke Chapman & Co When fitted 1901

DESCRIPTION OF DYNAMO, ENGINE, ETC.

One double cylinder double acting engine of the compound tandem type coupled direct to a continuous current dynamo. compound wound.

Capacity of Dynamo 100 Amperes at 100 Volts, whether continuous or alternating current continuous

Where is Dynamo fixed on platform at starboard side of main engine room.

Position of Main Switch Board on ships passing near dynamo wing switches to groups A. B. C. D. of lights, &c., as below

Positions of auxiliary switch boards and numbers of switches on each each light is provided with its own switch fitted near to the light.

If cut outs 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 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 50 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 yes

Are all switches and cut-outs constructed of incombustible materials and fitted on incombustible bases slate & ambroin,

Total number of lights provided for 123 - 16 C.P. arranged in the following groups :—

A	46	lights each of	16.	candle power requiring a total current of	27.6.	Amperes
B	30	lights each of	16.	candle power requiring a total current of	18.0	Amperes
C	24	lights each of	16	candle power requiring a total current of	14.4.	Amperes
D	23.	lights each of	16.	candle power requiring a total current of	13.8.	Amperes
E	—	lights each of	—	candle power requiring a total current of	—	Amperes
1.	Mast head light with 2	lamps each of	16.	candle power requiring a total current of	1.2.	Amperes
2	Side light with 4	lamps each of	16.	candle power requiring a total current of	2.4.	Amperes
Five	Cargo lights of 8-16			candle power, whether incandescent or arc lights	incandescent	

If arc lights, what protection is provided against fire, sparks, &c. no arc lamps in this vessel.

Where are the switches controlling the masthead and side lights placed in the chart house

DESCRIPTION OF CABLES.

Main cable carrying 100 Amperes, comprised of 61 wires, each 18. L.S.G. diameter, .113. square inches total sectional area

Branch cables carrying 27.6 Amperes, comprised of 7 wires, each 15 L.S.G. diameter, .029. square inches total sectional area

Branch cables carrying 4.8 Amperes, comprised of 1 wires, each 14 L.S.G. diameter, .005 square inches total sectional area

Leads to lamps carrying .6 Amperes, comprised of 1 wires, each 18. L.S.G. diameter, .0018. square inches total sectional area

Cargo light cables carrying 4.8 Amperes, comprised of 7 wires, each 20 L.S.G. diameter, .0072 square inches total sectional area

DESCRIPTION OF INSULATION, PROTECTION, ETC.

Vulcanised rubber tapes & braided then lead covered, where exposed armoured over the lead covering.

Joints in cables, how made, insulated, and protected no joints in this vessel except mechanical ones

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, no.

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 lead covered and armoured cables fixed close up to deck & secured by brass clips.

DESCRIPTION OF INSULATION, PROTECTION, ETC.—continued.

Are they in places always accessible except in upper tween deck bunkers. yes.

What special protection has been provided for the cables in open alleyways or where exposed to weather or moisture lead covered and armoured secured by brass clips

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

What special protection has been provided for the cables near boiler casings lead covered and armoured.

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

How are cables carried through beams in lead bunkes *through bulkheads, &c.* in watertight glands

How are cables carried through decks ~~in watertight~~ galvanised iron deck tubes.

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 lead covered & armoured fixed close up to deck.

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 cast iron watertight boxes

In vessels fitted on the single wire system, how is the dynamo terminal fixed to the hull of vessel this vessel double wire system.

How are the returns from the lamps connected to the hull —

Are all the joints with the hull in accessible positions —

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 now *supplied with a voltmeter and* also *an amperemeter, fixed on main switchboard*

The copper used is guaranteed to have a conductivity of 100. *per cent. that of pure copper.*

Insulation of cables is guaranteed to have a resistance of not less than 1000. *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.

For CLARKE, CHAPMAN & Co. LTD.

Director.

W Walker *Electrical Engineers* *Date* 20th August 1901

COMPASSES.

Distance between dynamo or electric motors and standard compass 96.

Distance between dynamo or electric motors and steering compass 90.

The nearest cables to the compasses are as follows:—

A cable carrying 4·8. *Amperes* 10 *feet from standard compass* 8. *feet from steering compass*

A cable carrying 6. *Amperes* 6 *feet from standard compass* Lifted up. *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 nil *degrees on* N & Easterly *course in the case of the standard compass and* nil *degrees on* ditto *course in the case of the steering compass.*

SIR W. G. ARMSTRONG WHITWORTH & Co. LIMITED.

Arthur Gulston *Builder's Signature.* *Date* 31st August 1901

GENERAL REMARKS. This installation has been fitted in accordance with the Rules & found satisfactory

Robert Haig.

Surveyor to Lloyd's Register of British and Foreign Shipping.

Committee's Minute It is submitted that this installation appears to meet the requirements of the Rules.

5-9-01

REPORT FORM No. 15.

THE SURVEYORS ARE REQUESTED NOT TO WRITE ACROSS THIS MARGIN.