Rpt. 13.

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REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 1421

Port of Shanghai Date of First Survey 14th July Date of Last Survey 20th Sept No. of Visits 5

No. in Reg. Book on the ~~Iron or~~ Steel Screw Steamer Jung-hing Port belonging to Tientsin

Built at Shanghai By whom Kiangnan Dk + Eng Works When built 1913-9

Owners Hai Ho Conservancy Commission Owners' Address Tientsin

Yard No. 163 Electric Light Installation fitted by Shanghai Electric Asbestos Co When fitted 1913-9

DESCRIPTION OF DYNAMO, ENGINE, ETC.

Four pole, compound wound. Engine, single cylinder direct coupled.

Capacity of Dynamo 35 Amperes at 100 Volts, whether continuous or alternating current Continuous

Where is Dynamo fixed Engine Room Whether single or double wire system is used double

Position of Main Switch Board Engine Room aft Bkt having switches to groups Eight of lights, &c., as below

Positions of auxiliary switch boards and numbers of switches on each None

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 none and at each position where a cable is branched or reduced in size none and to each lamp circuit

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

Are the cut outs of non-oxidizable metal Porcelain and constructed to fuse at an excess of 100 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

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

Total number of lights provided for forty six (46) arranged in the following groups :—

A	10	lights each of	16	candle power requiring a total current of	Amperes
B	8	lights each of	16	candle power requiring a total current of	Amperes
C	9	lights each of	16	candle power requiring a total current of	Amperes
D	8	lights each of	16	candle power requiring a total current of	Amperes
E	5	lights each of	16	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	Amperes
2	Side light with 1	lamps each of	16	candle power requiring a total current of	Amperes
1	Cargo lights of 3 of		16	candle power, whether incandescent or arc lights	

If arc lights, what protection is provided against fire, sparks, &c. 2 search lights (all enclosed)

Where are the switches controlling the masthead and side lights placed Wheelhouse.

DESCRIPTION OF CABLES.

Sufficient for 60 amperes

Main cable carrying 7/14 Amperes, comprised of 7 wires, each 14 S.W.G. L.S.G. diameter, .035 square inches total sectional area

Branch cables carrying none Amperes, comprised of wires, each L.S.G. diameter, square inches total sectional area

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

Leads to lamps carrying Amperes, comprised of wires, each L.S.G. diameter, 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.

All Lead Covered wiring

Joints in cables, how made, insulated, and protected no joints

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

How are the cables led through the ship, and how protected Lead covered wires in tubes in places

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 covering

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

What special protection has been provided for the cables near boiler casings Tubes

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

How are cables carried through beams Fibre tubing insulation *through bulkheads, &c.*

How are cables carried through decks 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* No

If so, how are they protected Tubes.

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 No

Where are the main switches and cut outs for these lights fitted No

If in the spaces, how are they specially protected No

Are any switches or cut outs fitted in bunkers No

Cargo light cables, whether portable or permanently fixed Yes *How fixed* Portable

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

The installation is Yes *supplied with a voltmeter and* Yes *an amperemeter, fixed* on switch boa

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 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 p*[illegible] *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 declar that it is at this date in good order and safe working condition.

Shanghai Electric & Automobile Co., Ltd.

W. Lewis Electrical Engineer. *Electrical Engineers* Date 20/9/13

COMPASSES.

Distance between dynamo or electric motors and standard compass

Distance between dynamo or electric motors and steering compass

The nearest cables to the compasses are as follows:—

A cable carrying	12	*Amperes*	10	*feet from standard compass*	only on when searchlight is used	*feet from steering compa*
A cable carrying	12	*Amperes*	10	*feet from standard compass*		*feet from steering compa*
A cable carrying	1/2	*Amperes*	6	*feet from standard compass*		*feet from steering compa*

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 non existant *degrees on* any *course in the case of th standard compass and* *degrees on* *course in the case of the steering compass.*

KIANGNAN DOCK & ENGINEERING WORKS.

R. B. Meacham Superintendent. *Builder's Signature.* Date 25th Septr. 1913

GENERAL REMARKS.

The installation has been fitted according to the Rules and was tried under working conditions on the 20th inst and found satisfactory

It is submitted that this vessel is eligible for THE RECORD. Elec light-9/13 5/8 17.10.13

H. L. Fletcher

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

Im.8.7.

Committee's Minute FRI. OCT. 24. 1913