

REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 3413.

Port of Dublin Date of First Survey 31st Aug Date of Last Survey 23 Sept No. of Visits 5.
 No. in Reg. Book on the Iron or Steel S.S. "J. Duncan" Port belonging to Cardiff
 Built at Dublin By whom Dublin Dockyard Coy. Ltd When built 1914
 Owners mess J. Duncan sloop Owners' Address James St. Cardiff
 Yard No. 85 Electric Light Installation fitted by Troups Curtis sloop When fitted 1914

DESCRIPTION OF DYNAMO, ENGINE, ETC.

One 11 Kilowatt high speed totally enclosed single cylinder double acting engine direct coupled to one 11 Kilowatt compound wound multipolar Dynamo
 Capacity of Dynamo 100 Amperes at 110 Volts, whether continuous or alternating current Continuous
 Where is Dynamo fixed Star side of Engine Room Whether single or double wire system is used double
 Position of Main Switch Board adjoining dynamo on stowage partition having switches to groups 4 main Circuits of lights, &c., as below
 Positions of auxiliary switch boards and numbers of switches on each One 8 way in Chart Room, two 4 way in Officers Mess Room, one 3 way in Engineers Mess Room, one 4 way & one 5 way in Engine Room and one 3 way in Forecastle, local switches & fuses for Cargo Boxes local switches for each light excepting Chart Room & Engine Room.
 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.
 Are the fuses of non-oxidizable metal yes and constructed to fuse at an excess of 100 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 yes
 Are all switches and fuses constructed of incombustible materials and fitted on incombustible bases yes
 Total number of lights provided for 140 arranged in the following groups:—
 A Navigation of 24 lights each of 16 candle power requiring a total current of 14 Amperes
 B Officers Mess Room 41 lights each of 16 candle power requiring a total current of 22 Amperes
 C Engine Room 37 lights each of 16 candle power requiring a total current of 17.5 Amperes
 D Cargo Holders 32 lights each of 16 candle power requiring a total current of 16 Amperes
 E lights each of candle power requiring a total current of Amperes
2 Mast head light with 2 lamps each of 32 candle power requiring a total current of 2 Amperes
2 Side light with 2 lamps each of 32 candle power requiring a total current of 2 Amperes
4 Cargo lights of 128 (each) candle power, whether incandescent or arc lights Incandescent
 If arc lights, what protection is provided against fire, sparks, &c. no arc lamps installed

Where are the switches controlling the masthead and side lights placed Chart Room

DESCRIPTION OF CABLES.

Main cable carrying 70 Amperes, comprised of 37 wires, each 16 S.W.G. diameter, .1168 square inches total sectional area
 Branch cables carrying 12 to 22 Amperes, comprised of 7 wires, each 16 S.W.G. diameter, .02214 square inches total sectional area
 Branch cables carrying 7 Amperes, comprised of 7 wires, each 20 S.W.G. diameter, .00701 square inches total sectional area
 Leads to lamps carrying 56 to 5 Amperes, comprised of 3 wires, each 22 S.W.G. diameter, .00181 square inches total sectional area
 Cargo light cables carrying 4 Amperes, comprised of 60 wires, each 30 S.W.G. diameter, .00503 square inches total sectional area

DESCRIPTION OF INSULATION, PROTECTION, ETC.

Main & Sub Main, Engine Room & Storehold & other exposed places: Insulated with pure & vulcanized india rubber, taped & vulcanized together, and protected with lead covering. Then taped & compounded and further protected with galvanized wire armouring. Interior accommodation: lead covered only.
 Joints in cables, how made, insulated, and protected

no joints except by means of watertight junction boxes and looping cables in fittings.

Are all the joints of cables thoroughly soldered, and the flux used not containing acids or other corrosive substances no joints 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 none

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 Secured to plates & lead through beams in hold with galvanized clips & brass whit. screws & where liable to injury protected, in addition to the armouring on the cables, with galvanized pipe work & treated with bituminous paint.

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 + armoured with gal. wires + treated with bitumastic paint

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

What special protection has been provided for the cables near boiler casings no cables near boiler casings

What special protection has been provided for the cables in engine room lead covered and armoured

How are cables carried through beams through holes lashed with lead through bulkheads, &c. watertight fittings where necessary

How are cables carried through decks galvanized deck pipes + treated with bitumastic paint

Are any cables run through coal bunkers no 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 + treated with bitumastic paint

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 none fitted

Where are the main switches and fuses for these lights fitted —

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 Portable How fixed Watertight Plugs + sockets fitted with D.P. fuses + W.T. switches

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 main switchboard

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. Hamley's make

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 Thos Curtis & Co. Ltd. Electrical Engineers Date 19. 9. 1914

COMPASSES.

Distance between dynamo or electric motors and standard compass 52.6 feet

Distance between dynamo or electric motors and steering compass ditto

The nearest cables to the compasses are as follows:—

A cable carrying	Amperes	feet from standard compass	feet from steering compass
5	8	8	8
13	9	9	9
8	9	9	9

Have the compasses been adjusted with and without the electric installation at work at full power Yes. by Messrs Whyte & Thomson Glasgow.

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.

THE DUBLIN DOCKLAND & CO. LTD.

John Smellie Builder's Signature. Date 6th Oct 1914

GENERAL REMARKS.

JOINT MANAGING DIRECTOR.

The above Electric lighting satisfactorily fitted on this vessel. Eligible in my opinion for the entry of "Electric Light" in the Register Book.

It is submitted that this vessel is eligible for THE RECORD. Elec. light.

Sur. A.R. Macmillan 9/10/14

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

Committee's Minute

THE SURVEYORS ARE REQUESTED NOT TO WRITE ACROSS THIS MARGIN.