

REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 10368

Port of Hamburg Date of First Survey 15th June Date of Last Survey 8th July No. of Visits 7
 No. in on the Steel S.S. "Niagara" Port belonging to Hamburg
 Reg. Book 32 Built at Hamburg By whom Hamburgische Schiffbau A.G. When built 1908
 Owners Austrian-American Petroleum Co. Owners' Address Hamburg
 Yard No. 377 Electric Light Installation fitted by the Builders When fitted 1908

DESCRIPTION OF DYNAMO, ENGINE, ETC.

2 sets of compound engines coupled direct 2 Siemens-Schuckert dynamos
running at about 850 revolutions per minute.

Capacity of Dynamos each 180 Amperes at 110 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 having switches to groups A, B, C, D, & E of lights, &c., as below

Positions of auxiliary switch boards and numbers of switches on each 4 in Passageway forward with 4 switches, 6 in Passageway forward with 12 switches, 6 in Passageway aft with 8 switches, 4 in Steering Engine Space aft with 4 switches, 6 in Submarine of 6 in Storehouse with 4 switches

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 20 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 yes

Total number of lights provided for 286 arranged in the following groups:—

A Eng. Rm. 41 lights each of 16 candle power requiring a total current of 25 Amperes

B Fore Ship 50 lights each of 16 candle power requiring a total current of 30 Amperes

C Midship 79 lights each of 16 candle power requiring a total current of 50 Amperes

D 5th aft 74 lights each of 16 candle power requiring a total current of 45 Amperes

E Aft Ship 42 lights each of 16 candle power requiring a total current of 25 Amperes

2 Mast head light with 2 lamps each of 25 candle power requiring a total current of 2 Amperes

2 Side light with 2 lamps each of 25 + 25 candle power requiring a total current of 2.5 Amperes

4 Cargo lights of each 6 x 16 candle power, whether incandescent or arc lights incandescent

If are lights, what protection is provided against fire, sparks, &c. No arc lights fitted. 14 portable hand-lamps with single light of 16 candle power are included in A, B, C, D, & E.

Where are the switches controlling the masthead and side lights placed in Storehouse

DESCRIPTION OF CABLES.

Main cable carrying 180 Amperes, comprised of 37 wires, each 3.25 L.S.G. diameter, 180 square inches total sectional area

Branch cables carrying 50 Amperes, comprised of 7 wires, each 2.2 L.S.G. diameter, 16 square inches total sectional area

Branch cables carrying 25 Amperes, comprised of 7 wires, each 1.5 L.S.G. diameter, 10.5 square inches total sectional area

Leads to lamps carrying 6 Amperes, comprised of 1 wires, each 1.5 L.S.G. diameter, 1.5 square inches total sectional area

Cargo light cables carrying 25 Amperes, comprised of 16 wires, each 0.54 L.S.G. diameter, 2.4 square inches total sectional area

DESCRIPTION OF INSULATION, PROTECTION, ETC.

Main and branch cables: copper, twisted, coated with Para conthane, covered with impregnated jute tape, lead covered, spun with impregnated jute band, double iron bound and jute spun. Leads of lamps and lamp leads: copper twisted, coated with conthane and jute.
 Joints in cables, how made, insulated, and protected Soldered and covered with conthane and tape for lamp circuits and leads; metal cover joints, contained in watertight boxes on incombustible base for main and branch cables.

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 Main and branch cables carried open except where exposed to heat and moisture, where they are carried in iron pipes. Lamp leads protected by metal bellows.

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 Iron bound, lead covered cables, protected by iron pipes where exposed to weather or moisture.

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

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

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

How are cables carried through beams hard wood bunks through bulkheads, &c. secured brass bunks

How are cables carried through decks Iron, galvanized steel pipes 10" high filled with non-conducting asphalt.

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

If so, how are they protected yes

Are any lamps fitted in coal bunkers or spaces which may at times be used for cargo, coals, or baggage yes

If so, how are the lamp fittings and cable terminals specially protected yes

Where are the main switches and cut outs for these lights fitted yes

If in the spaces, how are they specially protected yes

Are any switches or cut outs fitted in bunkers no

Cargo light cables, whether portable or permanently fixed portable How fixed yes

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

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

Are all the joints with the hull in accessible positions yes

The installation is yes supplied with 2 voltmeters and yes 2 amperemeters fixed on main switch board.

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 yes

Are any switches, cut outs, or joints of cables fitted in the pump room or companion no

How are the lamps specially protected in places liable to the accumulation of vapour or gas all fittings covered vapour tight

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 50 millions Siemens units 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.

The Builders are the Electrical Engineers Date yes

COMPASSES.

Distance between dynamo or electric motors and standard compass 128 ft.

Distance between dynamo or electric motors and steering compass 128 ft.

The nearest cables to the compasses are as follows:—

A cable carrying 6 Amperes close to feet from standard compass 4 feet from steering compass

A cable carrying yes Amperes yes feet from standard compass yes feet from steering compass

A cable carrying yes Amperes yes feet from standard compass yes 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 yes course in the case of the standard compass and nil degrees on yes course in the case of the steering compass.

Flensburger Schiffsbau-Gesellschaft.

Builder's Signature. Date 7th July 1908

GENERAL REMARKS.

The Electric Light Installation on board of this vessel is in my opinion fitted in conformity with the Society's Rules and eligible to be recorded "Elec. Light" in the Society's Register Book.

M. R. R. R.

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

Committee's Minute