

REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 11

Port of *Bremerhaven* Date of First Survey *1 Novemb* Date of Last Survey *9th Nov. 05* No. of Visits *four*
 No. in Reg. Book *on the Iron or Steel* *J. S. Hessen* Port belonging to *Bremerhaven*
 Built at *Geesthüde* By whom *T. C. Tecklenborg A. G.* When built *1905*
 Owners *Norddeutscher Lloyd* Owners' Address *Bremen*
 Yard No. *207* Electric Light Installation fitted by *Allgemeine Elektricitäts Gesellschaft* When fitted *1905*

DESCRIPTION OF DYNAMO, ENGINE, ETC.

Direct current Generator Type M. P. M. 8 poles 13.2 H. W. - 300 r. p. m. 110 volts chunt wound.

Capacity of Dynamo *120* Amperes at *110* Volts, whether continuous or alternating current *continued.*

Where is Dynamo fixed *in the engine room.*

Position of Main Switch Board " " " having switches to groups *A* of lights, &c., as below

Positions of auxiliary switch boards and numbers of switches on each *1 Switch board with 3 switches under Forecastle*

1 Switch board in Deck house on Bridge deck with 7 switches
1 " " in Afterdeck house on " " " "
1 " " in Poop with 3 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

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 *Yes*

Total number of lights provided for *171* arranged in the following groups:—

A	<i>127</i>	lights each of	<i>16</i>	candle power requiring a total current of	<i>60</i>	Amperes
B		lights each of		candle power requiring a total current of		Amperes
		lights each of		candle power requiring a total current of		Amperes
D		lights each of		candle power requiring a total current of		Amperes
E		lights each of		candle power requiring a total current of		Amperes
	<i>2</i>	Mast head light with	<i>1</i>	lamps each of	<i>32</i>	candle power requiring a total current of <i>2</i> Amperes
	<i>2</i>	Side light with	<i>1</i>	lamps each of	<i>32</i>	candle power requiring a total current of <i>2</i> Amperes
	<i>40</i>	Cargo lights of		<i>25</i>	candle power, whether incandescent or arc lights	

If arc lights, what protection is provided against fire, sparks, &c.

1 projector

Where are the switches controlling the masthead and side lights placed *in lower bridge*

DESCRIPTION OF CABLES.

Main cable carrying	<i>20</i>	Amperes, comprised of	<i>19</i>	wires, each	<i>3.75</i>	L.S.G. diam	<i>30</i>	square inches total sectional area
Branch cables carrying	<i>16</i>	Amperes, comprised of	<i>1</i>	wires, each	<i>6.4</i>	L.S.G. diam	<i>87</i>	square inches total sectional area
Branch cables carrying	<i>4</i>	Amperes, comprised of	<i>7</i>	wires, each	<i>3.5</i>	L.S.G. diam	<i>57</i>	square inches total sectional area
Leads to lamps carrying	<i>4</i>	Amperes, comprised of	<i>7</i>	wires, each	<i>3.5</i>	L.S.G. diam	<i>23</i>	square inches total sectional area
Cargo light cables carrying	<i>3</i>	Amperes, comprised of	<i>96</i>	wires, each	<i>0.03</i>	L.S.G. diam		square inches total sectional area

DESCRIPTION OF INSULATION, PROTECTION, ETC.

For all the main lines as well as for the engines, bunkers, &c., iron armoured india rubber lead cables are used. For all the other cables, heavy insulated india rubber wires are used.

Joints in cables, how made, insulated, & protected *The joints of the armoured iron cables are only connected by means of screw couplings. The thin insulation material which are protected with insulating or similar material.*

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 *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 *fastened with iron clamps, or brass clamps respectively.*

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DESCRIPTION OF INSULATION, PROTECTION, ETC.—continued.

Are the cables 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 armoured india rubber lead cables*
What special protection has been provided for the cables near galleys or oil lamps or other sources of heat *as above*
What special protection has been provided for the cables near boiler casings
What special protection has been provided for the cables in engine room
How are cables carried through beams *through bulkheads, &c. water tight stuffing boxes*
How are cables carried through decks *water tight branches*
Are any cables run through coal bunkers *No* or cargo spaces *etc* or spaces which may be used for carrying cargo, stores, or baggage *etc*
If so, how are they protected *iron armoured india rubber lead cables*
Are any lamps fitted in coal bunkers or spaces which may at times be used for cargo, coals, or baggage *etc*
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 *portables* How fixed *on deck*
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 *by means of screw couplings*
Are all the joints with the hull in accessible positions *Yes*

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 *1* supplied with a voltmeter and *1* an amperemeter, fixed *Engine room*

The wire 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 *300 600* 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.

ALLGEMEINE ELEKTRICITÄTS-GESELLSCHAFT.

E. J. S. Electrical Engineers Date *15/11/05*

COMPASSES.

Distance between dynamo or electric motors and standard compass *113'-0" Compass placed on Chart house*
Distance between dynamo or electric motors and steering compass *110'-0" to Compass placed on Chart house and 156'-0" to Compass placed on Propeller*
The nearest cables to the compasses are as follows:
A cable carrying *10* Amperes *18'-0"* feet from standard compass *16'-0"* feet from steering compass on Chart house
A cable carrying *6* Amperes *60'* feet from standard compass *20'-0"* feet from steering compass on Propeller
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 *no* degrees on *any* course in the case of the standard compass and *no* degrees on *any* course in the case of the steering compass.

JOH. C. TECKLENBURG
Schiffswerft und Maschinenfabrik

Builder's Signature. *17/11. 1905.*

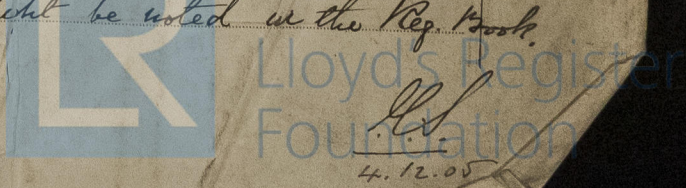
GENERAL REMARKS.

This electric installation has been found to work well on the trial trip and as all requirements of the rules have been complied with I am of opinion that the notation Electric Lighted should be added to the class of the vessel in the R.P.B.
F. J. J. J.

Surveyor to Lloyd's Register of British and Foreign Shipping

Committee's Minute

It is sub. that the Record Rec. Light be noted in the Reg. Book.



4. 12. 05

THE SURVEYORS ARE REQUESTED NOT TO WRITE ACROSS THIS MARGIN.