

RI. NOV. 10 1922

## REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 12589

Port of Rotterdam Date of First Survey 1-6-22 Date of Last Survey 19-10-22 No. of Visits 9  
 No. in Reg. Book 5 on the Iron or Steel "GAASTERDÜK" Port belonging to Rotterdam  
 Built at Schiedam By whom New Waterway Ship Co When built 1922  
 Owners Holland Amerika Lijn. Owners' Address Rotterdam  
 Yard No. 163 Electric Light Installation fitted by Pretschoten & Bouwens When fitted 1922

## DESCRIPTION OF DYNAMO, ENGINE, ETC.

Also steam engine's, consisting of double acting steam engines, direct coupled to compound wound dynamo's

Capacity of Dynamo each 136 Amperes at 110 Volts, whether continuous or alternating current continuous

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

Position of Main Switch Board in engine room, near dynamo having switches to groups 9 of lights, &c., as below

Positions of auxiliary switch boards and numbers of switches on each 11 auxiliary switch boards at different places, with 2, 3, 2, 1, 1, 10, 17, 10, 13, 9 and 5 switches, total numbers of switches 83

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 yes

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 no 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 459 arranged in the following groups:—

A	28	lights each of	32	candle power requiring a total current of	9	Amperes		
B	43	lights each of	32	candle power requiring a total current of	14	Amperes		
C	30	lights each of	32	candle power requiring a total current of	10	Amperes		
D	40	lights each of	32	candle power requiring a total current of	13	Amperes		
E	73	lights each of	32	candle power requiring a total current of	39	Amperes		
F	36+4	lights each of	1000	candle power requiring a total current of	52	Amperes		
G	94	lights each of	1200	candle power requiring a total current of	27	Amperes		
H	81	lights each of	32	candle power requiring a total current of	9	Amperes		
I	2	Mast head light with	1	lamps each of	32	candle power requiring a total current of	9.6	Amperes
J	2	Side light with	1	lamps each of	32	candle power requiring a total current of	9.6	Amperes

6 Cargo lights of 6 lamps each of 32 candle power, whether incandescent or arc lights incandescent

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

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

## DESCRIPTION OF CABLES.

Main cable carrying	52 Amperes, comprised of	7 wires, each	1.70 m.k.	S.W.G. diameter,	16 square inches	total sectional area
Branch cables carrying	29 Amperes, comprised of	7 wires, each	1.70 m.k.	S.W.G. diameter,	16 square inches	total sectional area
Branch cables carrying	3 Amperes, comprised of	3 wires, each	1.3 m.k.	S.W.G. diameter,	4 square inches	total sectional area
Leads to lamps carrying	2.3 Amperes, comprised of	1 wires, each	1.13 m.k.	S.W.G. diameter,	1.5 square inches	total sectional area
Cargo light cables carrying	2 Amperes, comprised of	24 wires, each	0.45 m.k.	S.W.G. diameter,	4 square inches	total sectional area

## DESCRIPTION OF INSULATION, PROTECTION, ETC.

Tinned copper wire insulated with pure LR, which vulcanized LR, black vulcanized LR, LR coated tape, lead covered and armoured. Leads to lamps lead covered not armoured.

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

Are all the joints of cables thoroughly soldered, and the flux used not containing acids or other corrosive substances 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 armoured lead covered cables



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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 and armoured* ✓  
 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 *lead covered and armoured* ✓  
 How are cables carried through beams *submarine cables through lead or* through bulkheads, &c. *water tight* ✓  
 How are cables carried through decks *brass casings or galv iron 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 and armoured* ✓  
 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 *by heavy iron grating* ✓  
 Where are the main switches and fuses for these lights fitted *outside spaces in top of engine room* ✓  
 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  
 In vessels fitted on the single wire system, how is the dynamo terminal fixed to the hull of vessel *with brass connecting sheet and*  
 How are the returns from the lamps connected to the hull *with brass screws* ✓  
 Are all the joints with the hull in accessible positions *yes*  
 Is the installation supplied with a voltmeter *yes* and with an amperemeter *yes* ✓, fixed on main *board*

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 2000 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.

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.

*Er.* **N. V. Van Rietschoten & Houwens** Electrical Engineers Date  
 Technisch - Industriële Mij.

COMPASSES.

Distance between dynamo or electric motors and standard compass *27, 50 ft*  
 Distance between dynamo or electric motors and steering compass *46, 50*  
 The nearest cables to the compasses are as follows:—

A cable carrying	Ampères	feet from standard compass	feet from steering compass
<i>0, 1</i>	<i>1</i>	<i>5</i>	
<i>0, 1</i>	<i>3</i>	<i>1</i>	
<i>A cable carrying</i>	<i>Ampères</i>	<i>feet from standard compass</i>	<i>feet from steering compass</i>

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 *nihil* degrees on *every* course in the case of the standard compass and *nihil* degrees on *every* course in the case of the steering compass.

NEW WATERWAY SHIPBUILDING Co.

*St. Helton*

Builder's Signature. Date

GENERAL REMARKS.

*This installation has been fitted in accordance with the Rules and was found in a good working condition when tried, and same merits in my opinion the Committee's approval.*

*It is submitted that this vessel is eligible for*

FEE.....*£170.00*

THE RECORD.

*Dec Light 4.4.1900*  
*Surveyor to Lloyd's Register of Shipping.*

Committee's Minute

THE SURVEYORS ARE REQUESTED NOT TO WRITE ACROSS THIS MARGIN.