

# REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 75363

Port of *CASTLE ON TYNE* Date of First Survey *24/2/22* Date of Last Survey *14/2/22* No. of Visits *4*.  
 No. in *on the Iron or Steel* *SS. KAULO (labeled as Kado)* Port belonging to *Bilbao*  
 Reg. Book *Blyth* Built at *Blyth* By whom *Blyth S B & Co. Ltd* When built *1922*  
 Owners *Compania Naviera Bachy* Owners' Address *Managers, Dijo de Astigarraga*  
 Yard No. *221* Electric Light Installation fitted by *Clarke Chapman & Co Ltd* When fitted *1922*.

## DESCRIPTION OF DYNAMO, ENGINE, ETC.

*Dynamo multipolar compound wound open type coupled direct to a single cylinder steam engine*

Capacity of Dynamo *91* Amperes at *110* Volts, whether continuous or alternating current *continuous*

Where is Dynamo fixed *engine room off side* Whether single or double wire system is used *double*.

Position of Main Switch Board *engine room off side* having switches to groups *14* of lights, &c., as below

Positions of auxiliary switch boards and numbers of switches on each *4 way S.B. in steering engine room, 8 way S.B. in engine room on engo store, 4 way S.B., 6 way S.B. in saloon passage, 8 way S.B. in chathouse, 4 way S.B. in engine room passage*

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 *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 *118* arranged in the following groups:—

A Saloon	49	lights each of	16	candle power requiring a total current of	27.4	Amperes
B Eng room	26	lights each of	16	candle power requiring a total current of	14.5	Amperes
C Eng passage	43	lights each of	16	candle power requiring a total current of	24.1	Amperes
D Winches	-	lights each of	-	candle power requiring a total current of	25	Amperes
E Spare	-	lights each of	-	candle power requiring a total current of	-	Amperes
2 Mast head light with	1	lamps each of	32	candle power requiring a total current of	2.24	Amperes
2 Side light with	1	lamps each of	32	candle power requiring a total current of	2.24	Amperes
5-6 light Cargo lights of	16			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 chathouse*.

## DESCRIPTION OF CABLES.

Main cable carrying *91* Amperes, comprised of *37* wires, each *16* S.W.G. diameter, *.117* square inches total sectional area  
 Branch cables carrying *27.4* Amperes, comprised of *7* wires, each *17* S.W.G. diameter, *.017* square inches total sectional area  
 Branch cables carrying *14.5* Amperes, comprised of *7* wires, each *18* S.W.G. diameter, *.0128* square inches total sectional area  
 Leads to lamps carrying *36* Amperes, comprised of *1* wires, each *18* S.W.G. diameter, *.0018* square inches total sectional area  
 Cargo light cables carrying *36* Amperes, comprised of *168* wires, each *38* S.W.G. diameter, *.0050* square inches total sectional area

## DESCRIPTION OF INSULATION, PROTECTION, ETC.

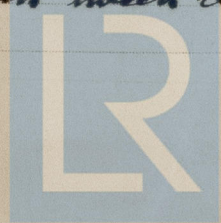
*Main cables are lead covered & demounted, cables in engine room, stokehold & tunnel. Wiring in accommodation, bridge lead covered.*

Joints in cables, how made, insulated, and protected *None made.*

Are all the joints of cables thoroughly soldered, and the flux used not containing acids or other corrosive substances — 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 *through lashed holes in tween decks through beams clipped up to underside of deck.*



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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 & armoured cables*

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

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

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

How are cables carried through beams *bushed holes* through bulkheads, &c. *watertight glands*

How are cables carried through decks *deck pipes*

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 & armoured*

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

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 *flexible from watertight sockets* how fixed *clipped to bulkhead*

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 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.

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 Clarke, Chapman & Co. Ltd.*

Electrical Engineers

Date *March 16<sup>th</sup> 1922*

COMPASSES.

Distance between dynamo or electric motors and standard compass *88 ft*

Distance between dynamo or electric motors and steering compass *82 "*

The nearest cables to the compasses are as follows:—

A cable carrying	Amperes	feet from standard compass	feet from steering compass
<i>1.1</i>	<i>12</i>	<i>6</i>	<i>6</i>
<i>1.1</i>	<i>6</i>	<i>12</i>	<i>12</i>
<i>—</i>	<i>—</i>	<i>—</i>	<i>—</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 *nil* degrees on *all* course in the case of the standard compass and *nil* degrees on *all* course in the case of the steering compass.

BLUTH SHIPBUILDING & DRY DOCKS  
GENERAL REMARKS.

Builder's Signature.

Date *March 23/22*

GENERAL REMARKS.

*The above installation is in accordance with the Society's Rules. The vessel is eligible in my opinion for notation electric light, wireless*

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

*W.T. Badger.*

Surveyor to Lloyd's Register of Shipping.

Committee's Minute

THE SURVEYORS ARE REQUESTED NOT TO WRITE ACROSS THIS MARGIN.



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