

# REPORT ON ELECTRIC LIGHTING INSTALLATION. No.

Port of **NEWCASTLE-ON-TYNE** Date of First Survey **28/9/21** Date of Last Survey **6/12/21** No. of Visits **11**  
 No. in on the ~~Steel~~ **"BRITISH CHANCELLOR"** Port belonging to **London**  
 Reg. Book Suffix **36445** Built at **Sunderland** By whom **Messrs. Sir Jas. Laing & Sons** When built **1921**  
 Owners **British Tanker Co Ltd.** Owners' Address  
 Yard No. **681** Electric Light Installation fitted by **Sunderland Forge & Eng Co Ltd** When fitted **1921**

## DESCRIPTION OF DYNAMO, ENGINE, ETC. LIGHTING CIRCUITS.

One compound plant consisting of single cylinder vertical steam engine 90 lbs steam pressure, coupled to compound wound multi-pole dynamo, both by S.F.E. Co - also 1 motor generator 10 H.P. by F. & W. Turner

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

Where is Dynamo fixed **In Engine room on Refrigerator platform** Whether single or double wire system is used **double**

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

Positions of auxiliary switch boards and numbers of switches on each **in chart room with switches controlling Port, Starboard, Foremast, Mainmast, Compasses, Telegraphs, nose lamp & clear view screen lights also Stern Light.**

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 **"Led Type"**

Are all switches and fuses constructed of incombustible materials and fitted on incombustible bases **yes.**

Total number of lights provided for **203**  $2 \frac{16}{100}$  arranged in the following groups:—

Group	Description	Number of Lights	Candle Power	Current (Amperes)
A	Navigation Deck	118	16	66.08
B	Accommodation	46	"	25.76
C	Engine Room	30	"	16.80
D	Water Room	9	"	5.04
E	Chart Room	2	1	-
	Mast head lights with 1 lamp each	2	32	2.24
	Side lights with 1 lamp each	4	32	2.24
	Cargo lights of 6 - 16	2	16	Incidescant

If arc lights, what protection is provided against fire, sparks, &c. **None fitted**  
**A - 500 watt - 1/2 watt 4 3 - 100 watt - 1/2 lamps fitted**

Where are the switches controlling the masthead and side lights placed **In chart room.**

## DESCRIPTION OF CABLES.

Main cable carrying	91 Amperes, comprised of	19 wires, each .083 S.W.G. diameter,	.1 square inches total sectional area
Branch cables carrying	25.76 Amperes, comprised of	7 wires, each .044 S.W.G. diameter,	.01 square inches total sectional area
Branch cables carrying	16.08 Amperes, comprised of	7 wires, each .036 S.W.G. diameter,	.007 square inches total sectional area
Leads to lamps carrying	5.56 Amperes, comprised of	3 wires, each .029 S.W.G. diameter,	.002 square inches total sectional area
Cargo light cables carrying	3.36 Amperes, comprised of	3 wires, each .029 S.W.G. diameter,	.002 square inches total sectional area

## DESCRIPTION OF INSULATION, PROTECTION, ETC.

Trains: - **Pure Sule. S.R. Taped Vulcanized then Lead covered Armoured Braided**  
 Machinery Leads: - **" " " " then " " " "**  
 Accommodation: - **" " " " then 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 **None made.**

How are the cables led through the ship, and how protected **L.C. a & B in Iron Pipe**



**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 & Braided.

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

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 Notes bucked with fibre through bulkheads, &c. W/T. Glans.

How are cables carried through decks W/T. Deck Tubes.

Are any cables run through coal bunkers — or cargo spaces — or spaces which may be used for carrying cargo, stores, or baggage Yes.

If so, how are they protected Lead covered Armoured & Braided.

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

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 —

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 —

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 train bulkhead.

**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 yes

Are any switches, fuses, 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 gaslight fittings

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 2500 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.

p. pro. THE SUNDERLAND FORGE & ENGINEERING CO. LTD. Director. Electrical Engineers Date 30th Dec. 1921.

**COMPASSES.**

Distance between dynamo or electric motors and standard compass 297 feet

Distance between dynamo or electric motors and steering compass 293 feet

The nearest cables to the compasses are as follows:—

A cable carrying	<u>66.08</u>	Amperes	<u>10</u>	feet from standard compass	<u>7</u>	feet from steering compass
A cable carrying	<u>.56</u>	Amperes	<u>7</u>	feet from standard compass	<u>led into</u>	<u>feet from</u> steering compass
A cable carrying	<u>.56</u>	Amperes	<u>led into</u>	<u>feet from</u> standard compass	<u>7</u>	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 any course in the case of the standard compass and nil degrees on any course in the case of the steering compass.

W. T. Badger Builder's Signature. Date January 4, 1922

**GENERAL REMARKS.** The installation is in accordance with the Society's Rules. The vessel is eligible in my opinion for notation des light vessels.

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

Fee £ 36 = 11 = 0

Applied for - 6 JAN 1922

W. T. Badger & Co.  
Surveyor to Lloyd's Register of Shipping.

Committee's Minute

THE SURVEYORS ARE REQUESTED NOT TO WRITE ACROSS THIS MARGIN.

2a, 112b—Transfer.

