

## REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 13426

Port of NEWCASTLE-ON-TYNE Date of First Survey \_\_\_\_\_ Date of Last Survey \_\_\_\_\_ No. of Visits \_\_\_\_\_  
 No. in on the Iron or Steel S.S. Southern Empress. Port belonging to Stanley J. J.  
 Reg. Book 84567. Built at Sunderland. By whom W. Doxford & Sons Ltd. When built 1914  
 Owners Southern Whaling & Sealing Co. Ltd. Owners' Address \_\_\_\_\_  
 Yard No. \_\_\_\_\_ Electric Light Installation fitted by R. Pickersgill & Sons Ltd. When fitted 1928

## DESCRIPTION OF DYNAMO, ENGINE, ETC.

3 - Compound dynamos (2 - 26 1/4 KW. 1 - 36 1/4 KW) driven by enclosed steam engines  
an additional 75 KW Self (Steam) fitted 8-33

Capacity of Dynamo 350 Amperes at 110 Volts, whether continuous or alternating current direct  
 " " 250 " " 110 " " " "

Where is Dynamo fixed After platform in engine room Whether single or double wire system is used double

Position of Main Switch Board 60 having switches to groups 3 way change over of lights, &c., as below

Positions of auxiliary switch boards and numbers of switches on each Dynamos arranged to run in parallel having  
14 - 3 way change switches. 3. Double pole switches fitted for paralleling

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 403 arranged in the following groups :-

A Factory 94.	lights each of	30 watts	candle power requiring a total current of	28.2	Amperes
B Midships 56.	lights each of	20 watts	candle power requiring a total current of	11.2	Amperes
C Crew 86.	lights each of	20 watts	candle power requiring a total current of	17.2	Amperes
D Eng. aft. 132.	lights each of	20 watts	candle power requiring a total current of	25.0	Amperes
E Engine room 35	lights each of	30 watt	candle power requiring a total current of	9.5	Amperes
2 Mast head light with	1 lamps each of	60 watt	candle power requiring a total current of	.6	Amperes
2 Side light with	1 lamps each of	60 watt	candle power requiring a total current of	.6	Amperes
—	Cargo lights of	—	candle power, whether incandescent or arc lights	—	—

If arc lights, what protection is provided against fire, sparks, &c. none fitted

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

## DESCRIPTION OF CABLES.

Main cable carrying	350 Amperes, comprised of	91 wires, each	.093 S.W.G. diameter,	.6062 square inches total sectional area
" " "	250 " " " "	91 " " "	.093 " " "	.6062 " " " "
Branch cables carrying	160 Amperes, comprised of	37 wires, each	.083 S.W.G. diameter,	.1964 square inches total sectional area
Branch cables carrying	Amperes, comprised of	wires, each	S.W.G. diameter,	square inches total sectional area
Leads to lamps carrying	3.0 Amperes, comprised of	1 wires, each	.044 S.W.G. diameter,	.00152 square inches total sectional area
Cargo light cables carrying	Amperes, comprised of	wires, each	S.W.G. diameter,	square inches total sectional area

## DESCRIPTION OF INSULATION, PROTECTION, ETC.

Cables from dynamos to main board V.I.R run on steel plates cased over  
with steel casings. All new main cables lead covered & armoured

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 —

How are the cables led through the ship, and how protected Lead covered & armoured



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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.*

What special protection has been provided for the cables near galleys or oil lamps or other sources of heat *50*

What special protection has been provided for the cables near boiler casings *50*

What special protection has been provided for the cables in engine room *50*

How are cables carried through beams *lead lashed holes.* through bulkheads, &c. *water-tight glands*

How are cables carried through decks *W. T. deck pipes*

Are any cables run through coal bunkers *no* or cargo spaces *no* 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 *—* 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 *one*, and with an amperemeter *three*, fixed *on main b.*

**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 certify that it is at this date in good order and safe working condition.

**RICHARD PICKERSEILL & SONS, LTD.**

Electrical Engineers

Date *Dec 30/28*

**COMPASSES.**

Distance between dynamo or electric motors and standard compass *250 feet.*

Distance between dynamo or electric motors and steering compass *—*

The nearest cables to the compasses are as follows:—

A cable carrying	Amperes	feet from standard compass	feet from steering compass
<i>20 watts</i>	<i>12.</i>	<i>8.</i>	<i>8.</i>
A cable carrying	Amperes	feet from standard compass	feet from steering compass
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 *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.

*J. W. Cairns, Secy. Trust*  
For **SMITH'S DOCK COMPANY, LTD.**

Builder's Signature.

Date *3<sup>rd</sup> Dec 1928*

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

*This report is forwarded in connection with Hull. Rpt No. 13426.*

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

*26/10/28.*

*M. McAuliffe, W.T. Badger*  
Surveyor to Lloyd's Register of Shipping.

Committee's Minute

*Elec. Light*



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