

# REPORT ON ELECTRIC FITTINGS.

(OTHER THAN FOR THE PROPULSION OF THE VESSEL)

Received at London Office.....

Date of writing Report

10

When handed in at Local Office

10

Port of

Barrow.

No. in Survey held at

Barrow.

Date, First Survey

15. 4. 31

Last Survey

13. 12. 1931.

Reg. Book.

on the

Venn's Ld.

"Strathaird"

(Number of Visits.....31.....)

Tons

Gross 22284

Net 13435

Built at

Barrow

By whom built

Lickers - Armstrongs Ltd Yard No. 664

When built

1931

Owners

P &amp; O Steam Navigation Co. Ltd.

Port belonging to

Barrow.

Electric Light Installation fitted by

Lickers - Armstrongs Ltd.

Contract No. 664

When fitted 1931.

## System of Distribution

Two wire

Pressure of supply for Lighting

220

volts, Heating

220

volts, Power

220

volts.

Direct or Alternating Current, Lighting

Direct

Power

Direct

If alternating current system, state frequency of periods per second

Has the Automatic Governor been tested and found efficient when the whole load is suddenly thrown on or off

Yes

Generators, do they comply with the requirements regarding overload

Yes

, are they compound wound

Yes

are they over compounded 5 per cent.

Yes

, if not compound wound state distance between each generator

-

Where more than one generator is fitted are they arranged to run in parallel

Yes

, is an adjustable regulating resistance fitted in

series with each shunt field

Yes

Are all terminals accessible and clearly marked

Yes

, are they so spaced or shielded that they cannot be accidentally earthed,

or short circuited

Yes

Are the lubricating arrangements of the generators as per Rule

Yes

## Position of Generators

In Engine room. "G" Deck Trans. 49-92

is the ventilation in way of the generators satisfactory

Yes

, are they clear of all inflammable material

Yes

if situated near unprotected woodwork or other combustible material, state distance of same horizontally from or vertically above the generators

and

, are the generators protected from mechanical injury and damage from water, steam or oil

Yes

are their axis of rotation fore and aft

Yes

Earthing, are the bedplates and frames of the generating plant efficiently earthed

Yes

are the prime movers and

their respective generators in metallic contact

Yes

## Main Switch Boards, where placed

In Engine room "G" Deck

If the generators and main switchboard are not placed in the same compartment, is each generator provided with

a fuse on each insulated pole as near as possible to the terminals of the generator, additional to that provided on the main switchboard

Switchboards, are they placed in accessible positions, free from inflammable gases and acid fumes

Yes

are they protected from mechanical injury and damage from water, steam or oil

Yes

, if situated near unprotected

woodwork or other combustible material, state distance of same horizontally from or vertically above the switchboards

-

are they constructed wholly of durable, incombustible non-absorbent materials

Enamelled Slate

, is all insulation of high dielectric strength and of

permanently high insulation resistance

Yes

, if semi-insulating material is used, are all conducting parts connected to one pole

insulated from the slab with mica or micanite and the slab similarly insulated from its framework

Yes

, and is the

frame effectively earthed

Yes

Are the following fittings as per Rule, viz.:— spacing or shielding of live parts

, accessibility of all parts

Yes

, absence of fuses on back of board

Yes

, proportion of omnibus

bars

Yes

, individual fuses to voltmeter, pilot or earth lamp

Yes

, connections of switches

Yes

Main Switchgear, description of switchgear for each generator and each outgoing circuit, and arrangement of equalizer switches

For each generator, 1 SP. Breaker with 0/1 + time lag, 1 SP. breaker with equalizer mechanically connected to lag operated to + operated with 1 SP. electrically operated breaker with 4/5 of (time lag) + reverse current trips. 1 on + off, push button for operating the solenoid. necessary meters etc. In each branch circuit:- circuit 300 A. alone provided with DP breakers having 0/1 + time lag. Current below 300 A. provided with DP QB. trip switches + fuses.

Instruments on main switchboard

35 + 7 units

ammeters

one

voltmeters

one

synchronising device for paralleling purposes.

Earth Testing, state what means are provided at the main switchboard for indicating the state of the insulation of the system

Earth lamps with

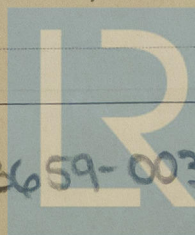
fuses + switches coupled to earth.

Switches, Circuit Breakers and Fusible Cut-outs, do these comply with the requirements of the Rules

Yes

Section and Distribution Boards, is the construction, protection, insulation, material, and position of these as per rule

Yes



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**Cable Sockets and other connections,** are the ends of all cables having a sectional area of 0.007 square inch and above provided with soldering sockets

insulating compound      Cambric Insulated Cable suitably sealed at exposed ends. ✓

steam pipes, uptakes or other hot objects, or to avoidable risk of mechanical damage *Yes* ✓

Special kind, consisting lead covered cable is used over top of poles for lightning conductors.

iron clips Protected by wood casing or lead sheathing or lead sheathing + galvanized steel wire armour

If cables are run in wood casings, are the casings and caps secured by screws Yes, are the cap screws of brass Yes, are the cables run in separate grooves Yes. If armoured and lead covered cables are secured by metal clips, are the clips spaced as per Table VI Yes

Refrigerated Chambers, if lights are fitted, are the cables and fittings in accordance with the special requirements *Yes*

**Joints in Cables, state if any, and how made, insulated, and protected** *none made.* ✓

**Watertight Glands and Deck Tubes,** *are all cables passing through decks and watertight bulkheads provided with deck tubes or watertight glands*

*Bushes in Beams and Non-watertight Positions, where unarmoured cables pass through beams and non-watertight partitions, are the holes efficiently bushed* *Yes* *state the material of which the bushes are made* *Lead*

**Earthing Connections**, state what earthing connections are fitted and their respective sectional areas .....

are their connections made as per Rule

**Alternative Lighting**, are the groups of lights in the propelling machinery space arranged as per Rule. *Yes* ✓

**Emergency Supply**, state position and method of control of the emergency supply and how the generator is driven *Person. Diesel paraffin & auxiliary*

Engine in Emergency Dynamo room on E. deck port side ✓

Navigation Lamps, are these separately wired *Yes* ✓, controlled by separate switch and separate fuses *Yes* ✓  
are the fuses double pole *Yes* ✓, are the switches and fuses grouped in a position accessible only to the officers on watch *Yes* ✓

has each navigation lamp an automatic indicator as per Rule Yes ✓, are separate screens provided for the use of oil and electric side lights Yes ✓

**Fittings,** are all fittings on weather decks, in stokeholds and engine rooms and wherever exposed to drip or condensed moisture, watertight Yes ✓

Sittings in these rooms are of cast iron lamps removed when not required.

are any fillings placed in spaces where inflammable or explosive dust or gases are liable to be present, if so, how are they protected none found

Searchlight Lamps, No. of One ✓, whether fixed or portable portable ✓, are their fittings as per Rule yes ✓

Are Lamps, other than searchlight lamps, No. of 12, are their live parts insulated from the frame or case ☒, are their fittings as per Rule ☒

Motors, are their working parts readily accessible Yes, are the coils self-contained and readily removable for replacement Yes ☒

are the brushes, brush holders, terminals and lubricating arrangements as per Rule 10, are the motors placed in well-ventilated compartments in which inflammable gases cannot accumulate and clear of all inflammable material.

*totally enclosed* - if not of this type, state distance of the combustible material horizontally or vertically above the motors ✓ and ✓

**Lightning Conductors**, where lightning conductors are required, are these fitted as per Rule *Steel mesh. None required.* ✓

*Ships carrying Oil having a Flash Point less than 150° F. Have the special requirements of the Rules been complied with regarding switches, joint box section and distribution boards, protection of cables, method of distribution, lead of cables, lights and fittings*

If portable lamps for use in dangerous spaces are supplied, are they of a type approved by the Home Office

PARTICULARS OF GENERATING PLANT.								
DESCRIPTION OF GENERATOR.	No of	RATED AT				DRIVEN BY.	WHERE DRIVEN BY AN INTERNAL COMBUSTION ENGINE.	
		Kilowatts.	Volts.	Ampères.	Revs. per Min.		Fuel Used.	Flash Point of Fuel.
MAIN ...	3	750	220	3410	670	Rec'd Steam Engine 6000 RPM		
<del>ANALYST</del>	1	400	220	1820	1050	8. 4500 RPM		
EMERGENCY ...	1	75.	220	340	850	6 Cylinder Oil Engine Petrol-Magnifi.		
ROTARY TRANSFORMER		5750						

[illegible][illegible]

All Conductors are of annealed copper conforming to British Standard Specification No. 7.  
The Insulated Conductors are guaranteed to withstand the immersion and resistance tests specified in the Rules.  
The foregoing is a correct description.

*J. Asquith*

Electrical Engineers.

Date **26 JUN 1936**

COMPASSES.

Distance between <sup>4 1/4 HP Thermotank Fan</sup> ~~elect. generators or motors~~ and standard compass *64 ft.*

Distance between <sup>4 1/4 HP Thermotank Fan</sup> ~~elect. generators or motors~~ and steering compass *56 ft.*

The nearest cables to the compasses are as follows:—

A cable carrying *60* Ampères *12* feet from standard compass *44* feet from steering compass.

A cable carrying *16* Ampères *30* feet from standard compass *22* feet from steering compass.

A cable carrying *✓* Ampères *✓* 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*

Has the effect of switching on and off circuits, motors and other electro-magnetic apparatus within the vicinity of the compasses been noted. *Yes*

The maximum deviation due to electric currents was found to be *3 1/2* degrees on *all* course in the case of the standard compass, and *3 1/2* degrees on *all* course in the case of the steering compass.

FOR WICKES & ARMYSTRONGS LIMITED

*Robert Thompson*

Builder's Signature.

Date **26 JUNE 1936**

COMMERCIAL MANAGER  
BARRON WORKS

Is this installation a duplicate of a previous case *Yes*. If so, state name of vessel *"Strathnaver" (Barron Yacht No 2419)*

General Remarks (State quality of workmanship, opinions as to class, &c. *This electric light & power installation has been efficiently fitted on board, tried under working conditions & found satisfactory.*

*Notes*  
*YR*

Total Capacity of Generators *2725* Kilowatts

The amount of Fee ... £ : : { When applied for, 19  
Travelling Expenses (if any) £ : : { When received, 19

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

Committee's Minute

Assigned

1m. 9. 1. — Transfer.  
(The Surveyors are requested not to write on or below the space for Committee's Minute.)



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