

16 JAN 1932

pt. 13.

No. 2419

REPORT ON ELECTRIC FITTINGS.

(OTHER THAN FOR THE PROPULSION OF THE VESSEL)

Received at London Office

16 JAN 1932

Date of writing Report 28th Sept 1931 When handed in at Local Office 28th Sept 1931 Port of Barrow in business

No. in Survey held at Barrow Date, First Survey 15th June 31 Last Survey 1st September 1931

Reg. Book.

(Number of Visits 18)

35213 on the T.S.S. Strathnaver

Tons { Gross 21500
Net

Built at Barrow By whom built Vickers Armstrong & Co. Yard No. 663 When built 1931

Owners R & O Steam Harb. Co.

Port belonging to Barrow

Electric Light Installation fitted by Vickers Armstrong & Co. Ltd.

Contract No. 663. 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 rating

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, clearly marked, and furnished with sockets

Yes

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

short circuited, or touched

Yes

Are the lubricating arrangements of the generators as per Rule

Yes

Position of Generators

In engine room "G" Deck

Frames 79-92.

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 axes 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

and

are they constructed wholly of durable, non-ignitable non-absorbent materials Enamelled Slate.

Yes

, is all insulation of high dielectric strength and of

permanently high insulation resistance

Yes

, if semi-insulating material is used, are all conducting parts insulated from the slab

with mica or micanite or other non-hygroscopic insulating material, and the slab similarly insulated from its framework

Yes

and is the frame effectively earthed

Yes

Are the fittings as per Rule regarding:— spacing or shielding of live parts

Yes

, 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 15.P. Breaker with O/L + time lag, 15.P. breaker with equalisers mechanically connected to lag referred to + operated with it 15.P. also operated breakers with N/V, O/L (time lag) + reverse current trips. 1 on + off push for operating the solenoid necessary meters etc. For each branch circuit. Circuits 300 & + above provided with 15.P. breakers having O/L + time lag. Circuits below 300 & provided with DPQB knife switches of fuses

Instruments on main switchboard 35 + 7 record ammeters

one

voltmeters

one

synchronising device for paralleling purposes (Votmeter)

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

Earth lamps

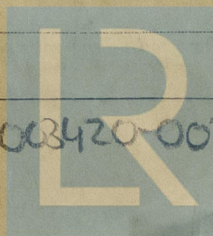
with fuses + switches coupled to earth.

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

Yes

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

Yes.



© 2020

003418-003420-00321

Lloyd's Register Foundation

16 JAN 1932

Cables: Single, twin, concentric, or multicore *both* are the cables insulated and protected as per Tables IV or V of the Rules. *Yes*
 Fall of Pressure, state maximum between bus bars and any point of the installation under maximum load *lighting 6V. Power 7V*
 Cable Sockets and other connections, are the ends of all cables having a sectional area of 0.04 square inch and above provided with soldering sockets *Yes*

Paper Insulated Cables. If cables are paper covered, is the dielectric at the exposed ends of the conductor protected from moisture by being suitably sealed with insulating compound *Cambic Insulated Cables suitably sealed at exposed ends*
 Cable Runs, are the cables fixed as far as possible in accessible positions not exposed to drip or accumulation of water or oil, or to high temperature from boilers, steam pipes, uptakes or other hot objects, or to avoidable risk of mechanical damage *Yes*
 Special heat resisting lead covered cables used over tops of boilers for lighting circuits *Yes*

Support and Protection of Cables, state how the cables are supported and protected *supported in wood casings, or by brass or galvanised iron clips. Protected by wood casing or lead sheathing or lead sheathing gal steel wire arm*
 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 VIII *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 *Yes*
 Bushes in Beams and Non-watertight Partitions, 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

Alternative Lighting, are the groups of lights in the propelling machinery space arranged as per Rule *Yes*, are their connections made as per Rule *Yes*
 Emergency Supply, state position and method of control of the emergency supply and how the generator is driven *Parsons. Petrol Paraffin 6 cylinder 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*

Secondary Batteries, are they constructed and fitted as per Rule *Yes*
 Fittings, are all fittings on weather decks, in stokeholds and engine rooms and wherever exposed to drip or condensed moisture, watertight *Yes*
 are any fittings placed in spaces in which goods are liable to be stacked in close proximity to them; if so, how are they protected *Yes*
Fittings in these rooms are of cast iron. Lamps removed when not required
 are any fittings placed in spaces where inflammable or explosive dust or gases are liable to be present, if so, how are they protected *none fitted*
 how are the cables led where are the controlling switches situated

Searchlight Lamps, No. of *one*, whether fixed or portable *portable*, are their fittings as per Rule *Yes*
 Arc Lamps, other than searchlight lamps, No. of *none*, are their live parts insulated from the frame or case *Yes*, are their fittings as per Rule *Yes*
 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 *Yes*, are the motors placed in well-ventilated compartments in which inflammable gases cannot accumulate and clear of all inflammable material *Yes*
 are they protected from mechanical injury and damage from water, steam or oil *Yes*, are their axes of rotation fore and aft *Yes*
 if situated near unprotected woodwork or other combustible material, are the motors of the totally enclosed, pipe ventilated, forced draught, drip or flame proof type *Totally enclosed*
 if not of this type, state distance of the combustible material horizontally or vertically above the motors *Steel tanks (none required)*

Control Gear and Resistances, are the generator field and motor speed regulators, starters and controllers constructed and fitted as per Rule *Yes*
 Lightning Conductors, where lightning conductors are required, are these fitted as per Rule *Yes*
 Ships carrying Oil having a Flash Point less than 150° F. Have the special requirements of the Rules been complied with regarding switches, joint boxes, section and distribution boards, protection of cables, method of distribution, lead of cables, lights and fittings *Yes*
 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.	Amperes.	Revs. per Min.		Fuel Used.	Flash Point of Fuel.
MAIN	3	750	220	3410	670	Geared steam turbine 6000 RPM		
EMERGENCY	1	400	220	1870	1000	4500 RPM		
ROTARY TRANSFORMER	1	75	220	340	850	6 Cylinder oil engine	Petrol - paraffin	

LIGHTING AND HEATING CONDUCTORS.

Ref. No.	DESCRIPTION.	No. of Conductors.	Effective Area of each Conductor. Sq. Ins.	COMPOSITION OF STRAND.		Total Maximum Current. Amperes.	Approximate Length. (Lead and Return.) Feet.	Insulated with	HOW PROTECTED.
				No.	Diameter.				
	MAIN GENERATOR...								
	EQUALISER CONNECTIONS...								
	AUXILIARY GENERATOR...								
	EMERGENCY GENERATOR...								
	ROTARY TRANSFORMER...								
	AUXILIARY SWITCHBOARDS...								
	ENGINE ROOM...								
	BOILER ROOM...								
	ACCOMMODATION...								
	WIRELESS...								
	SEARCHLIGHT...								
	MASTHEAD LIGHT...								
	SIDE LIGHTS...								
	COMPASS LIGHTS...								
	POOP LIGHTS...								
	CARGO LIGHTS...								
	ARC LAMPS...								
	HEATERS...								

See book of diagrams enclosed herewith

MOTOR CONDUCTORS.

Ref. No.	DESCRIPTION.	No. of Motors.	Effective Area of each Conductor. Sq. Ins.	COMPOSITION OF STRAND.		Total Maximum Current. Amperes.	Approximate Length. (Lead and Return.) Feet.	Insulated with	HOW PROTECTED.
				No.	Diameter.				
	BALLAST PUMP...								
	MAIN BILGE LINE PUMPS...								
	GENERAL SERVICE PUMP...								
	EMERGENCY BILGE PUMP...								
	SANITARY PUMP...								
	CIRC. SEA WATER PUMPS...								
	CIRC. FRESH WATER PUMPS...								
	AIR COMPRESSOR...								
	FRESH WATER PUMP...								
	ENGINE TURNING GEAR...								
	ENGINE REVERSING GEAR...								
	LUBRICATING OIL PUMPS...								
	OIL FUEL TRANSFER PUMP...								
	WINDLASS...								
	WINCHES, FORWARD...								
	WINCHES, AFT...								
	STEERING GEAR...								
	(a) MOTOR GENERATOR...								
	(b) MAIN MOTOR...								
	WORKSHOP MOTOR...								
	VENTILATING FANS...								

See book of diagrams enclosed herewith

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.

FOR VICKERS-ARMSTRONGS LIMITED.

Electrical Engineers.

Date 20 Oct 31

COMPASSES.

Distance between ^{4 1/4 HP Thermotank fan} ~~generator and motor~~ and standard compass 64 feet.

Distance between ^{4 1/4 HP Thermotank fan} ~~generator and motor~~ and steering compass 56 feet.

The nearest cables to the compasses are as follows:—

A cable carrying one Ampères 12 feet from standard compass 4 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 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.

FOR VICKERS-ARMSTRONGS LIMITED.

Hubert Thompson
DIRECTOR.

Builder's Signature.

Date 20 Oct 31

Is this installation a duplicate of a previous case no If so, state name of vessel —

General Remarks (State quality of workmanship, opinions as to class, &c.) The above installation has been installed in accordance with the requirements of the Rules. It has been tested & found satisfactory & the vessel is eligible in my opinion for notation dec light. wireless

It is submitted that
this vessel is eligible for
THE RECORD

Elec. Light

C. W. J.
21/1/32

Total Capacity of Generators 2725 Kilowatts.

The amount of Fee Included in Invoice for When applied for. SEPT 11 1931

Travelling Expenses (if any) £ : : When received, SEPT 22 1931

W. I. Budget
Surveyor to Lloyd's Register of Shipping.

Committee's Minute

Assigned

Elec. Light