

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 25th Sept 1931 When handed in at Local Office 28th Sept 1931 Port of Barrow in Lunenburg

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

Reg. Book. 35213 on the U.S.S. Strathnaver Tons { Gross 21500 Net

Built at Barrow By whom built Vickers Armstrongs Yard No. 663 When built 1931

Owners R+O Steam Harb. Co. Port belonging to Barrow

Electric Light Installation fitted by Vickers Armstrongs 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 ✓

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. ✓, 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. Breakers with 0/L + time lag, 15.P. breakers with equalisers mechanically connected to lag referred to + operated with it 15.P. also operated breakers with N/V, 0/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 0/L + time lag. Circuits below 300 & provided with DP&B knife switches of fuses

Instruments on main switchboard 35 + 4 record ammeters one voltmeters one synchronising device for paralleling purposes (Votmeter) Two wattmeters

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 ✓

003418-003420-00321

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 *Cambric 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 frame*
 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 *home 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 *Yes*

PARTICULARS OF GENERATING PLANT.

DESCRIPTION OF GENERATOR.	No. of	RATED AT			Revs. per Min.	DRIVEN BY	WHERE DRIVEN BY AN INTERNAL COMBUSTION ENGINE.	
		Kilowatts.	Volts.	Ampères.			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		
EMERGENCY	1	75	220	340	850	6 Cylinder oil engine		Petrol - paraffin
ROTARY TRANSFORMER		2250						
TRANSFORMER		2725						

LIGHTING AND HEATING CONDUCTORS.

Ref. No.	DESCRIPTION.	No. of Conductors.	Effective Area of each Conductor. Sq. Ins.	COMPOSITION OF STRAND.		Total Maximum Current. Ampères.	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								
	ACCOMODATION								
	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. Ampères.	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.

W. Budget

Electrical Engineers.

Date 20 Oct 31

COMPASSES.

Distance between 4 1/4 HP Thermotank fan and standard compass 64 feet.

Distance between 4 1/4 HP Thermotank fan 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.

Arthur 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
W. Budget
 21/11/32

Total Capacity of Generators 2725 Kilowatts.

The amount of Fee Included in Mchgy fee 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

Im. 228.—Transfer. (The Surveyors are requested not to write on or below the space for Committee's Minute.)



© 2020

Lloyd's Register Foundation