

REPORT ON ELECTRIC FITTINGS.

(OTHER THAN FOR THE PROPULSION OF THE VESSEL)

Received at London Office 19 MAY 1925

Date of writing Report 12th May 1925 When handed in at Local Office 18th May 25 Port of Aberdeen

No. in Survey held at Aberdeen Date, First Survey 20. 10. 24 Last Survey 28. 4. 1925
Reg. Book. on the "S.S. CHRISTINA FRASER" (Number of Visits 19)

Built at Aberdeen By whom built J. Ruthe Perry S.B.C. Yard No. 465 When built 1925

Owners R.W. Miller Port belonging to Sydney N.S.W.

Electric Light Installation fitted by James Thomson Contract No. When fitted 1925

System of Distribution Double wire ✓
Pressure of supply for Lighting 100 ✓ volts, Heating - volts, Power - volts.

Direct or Alternating Current, Lighting Direct ✓ Power -

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 - is an adjustable regulating resistance fitted in series with each shunt field -

Are all terminals accessible and clearly marked yes, are they so spaced or shielded that they cannot be accidentally earthed, or short circuited

Position of Generators Engine Room Are the lubricating arrangements of the generators as per Rule yes

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 18" Horiz. 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 Engine Room

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 in same compartment

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 12" Horiz. and -

are they constructed wholly of durable, incombustible non-absorbent materials 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 connected to one pole insulated from the slab with mica or micaite and the slab similarly insulated from its framework yes

frame effectively earthed yes Are the following fittings as per Rule, viz.: - 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. Double pole main

Switch and double pole fuses on each outgoing circuit.

Instruments on main switchboard one ammeters one voltmeters - 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 lamp on each pole

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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Insulation of Cables, state type of cables, single or twin *single* *twinned* *insure* the cables insulated and protected as per Tables III or IV of the Rules *yes*.

Fall of Pressure, state maximum between bus bars and any point of the installation under maximum load *2 Volts*.

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 *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 *None*.

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*.

Support and Protection of Cables, state how the cables are supported and protected *Metal clips. Lead covered, and lead covered and armoured.*

If cables are run in wood casings, are the casings and caps secured by screws —, are the cap screws of brass —, are the cables run in separate grooves —. 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 *None*.

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

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 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 *vulcanized fibre*.

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 *None*.

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*.

are separate oil lanterns provided for the mast head lights and 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*.

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 *None*.

are any fittings placed in spaces where inflammable or explosive dust or gases are liable to be present, if so, how are they protected *2 W.T. Fittings in bunker fitted with strong brass guards.* how are the cables led *through holes in beams and W.T. Glands.*

where are the controlling switches situated *in Engine Room.*

Searchlight Lamps, No. of *None*, whether fixed or portable —, are their fittings as per Rule —.

Arc Lamps, other than searchlight lamps, No. of *None*, are their live parts insulated from the frame or case —, are their fittings as per Rule —.

Motors, are their working parts readily accessible *None*, are the coils self-contained and readily removable for replacement —.

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

are they protected from mechanical injury and damage from water, steam or oil —, are their axis of rotation fore and aft —.

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 —, if not of this type, state distance of the combustible material horizontally or vertically above the motors — and —.

Control Gear and Resistances, are the generator field and motor speed regulators, starters and controllers constructed as per Rule —.

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

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 ✓.

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	ONE	7.5	100	75	410	SINGLE CYLINDER STEAM ENGINE		
AUXILIARY	NONE							
EMERGENCY	NONE							
ROTARY TRANSFORMER	NONE							

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	2	.061	19	.064	47.4	8	V.I.R.	TAPED + BRAIDED
	AUXILIARY GENERATOR	NONE							
	EMERGENCY GENERATOR	NONE							
	ROTARY TRANSFORMER	NONE							
	AUXILIARY SWITCHBOARDS	NONE							
	ENGINE ROOM TO DISTRIBUTION BOARD	2	.003	3	.036	3.4	8	V.I.R.	
	BOILER ROOM 2 CIRCUITS EACH	2	.0015	1	.044	3.4	45	V.I.R.	LEAD COVERED + ARMURED
	TO DISTRIBUTION BOARD FOR AFTER ACCOMMODATION	2	.007	7	.036	6	8	V.I.R.	
	AFTER ACCOMMODATION 4 CIRCUITS	2	.0015	1	.044	6	40	V.I.R.	LEAD COVERED
	TO DISTRIBUTION BOARD FOR AMIDSHIPS ACCOMMODATION + FORECASTLE	2	.007	7	.036	8.4	120	V.I.R.	LEAD COVERED + ARMURED
	AMIDSHIPS ACCOMMODATION 3 CIRCUITS	2	.0015	1	.044	4.5	40	V.I.R.	LEAD COVERED
	FORECASTLE 2 CIRCUITS	2	.0015	1	.044	3.9	40	V.I.R.	LEAD COVERED + ARMURED
	WIRELESS	NONE							
	SEARCHLIGHT	NONE							
	MASTHEAD LIGHT	2	.0015	1	.044	2	120	V.I.R.	LEAD COVERED + ARMURED
	SIDE LIGHTS	2	.0015	1	.044	2	40	V.I.R.	" " "
	COMPASS LIGHTS	2	.0015	1	.044	.6	75	V.I.R.	LEAD COVERED
	POOP LIGHTS	2	.0015	1	.044	1	120	V.I.R.	LEAD COVERED + ARMURED
	TO DISTR. BOARD FOR CARGO LIGHTS	2	.007	7	.036	2.4	100	V.I.R.	LEAD COVERED + ARMURED
	CARGO LIGHTS & PAIRS PORTABLE	2	.007	7	.036	2.4	100	V.I.R.	LEAD COVERED + ARMURED
	ARC LAMPS	NONE							
	HEATERS	NONE							

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								
	WORKSHOP MOTOR								
	VENTILATING FANS								

WS80-0203 2/e



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.

James Thomson Electrical Engineers. Date *12th May 1925.*

COMPASSES.

Distance between electric generators or motors and standard compass *abt. 60 feet.*
 Distance between electric generators or motors and steering compass *abt. 60 feet.*
 The nearest cables to the compasses are as follows:—
 A cable carrying *6* Amperes *8* feet from standard compass *7* feet from steering compass.
 A cable carrying *3* Amperes *in* feet from standard compass *7* *in* 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*
 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 *—* course in the case of the standard compass, and *NIL* degrees on *—* course in the case of the steering compass.

John Duthie THE JOHN DUTHIE TORRY SHIPBUILDING COY. Builder's Signature. Date *14th May 1925*

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.)
This installation has been fitted on board the vessel in accordance with the Rules and in a satisfactory manner; the materials and workmanship are good. On completion the installation was tried under full working conditions with satisfactory results.

It is submitted that this vessel is eligible for THE RECORD. Elec. light.
JWD
20/5/25

Total Capacity of Generators *7.5* Kilowatts

The amount of Fee ... £ *7 : 10 0*
 Travelling Expenses (if any) £ : :
 When applied for, *14.5.1925*
 When received, *15/7/1925*

Jn C. E. Wilks Relf
H. B. Forster
 Surveyor to Lloyd's Register of Shipping.

Committee's Minute
 Assigned

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