

REPORT ON ELECTRIC FITTINGS.

(OTHER THAN FOR THE PROPULSION OF THE VESSEL)

21 JUN 1930

Received at London Office

Date of writing Report

19

When handed in at Local Office

19

Port of

Belfast

No. in Survey held at

Belfast

Date, First Survey

1st May

Last Survey

11th June

1930

Reg. Book.

40783

on the

Ch. V "Pinnisfallen"

(Number of Visits.....7.....)

Tons

Gross

Net

Built at

Belfast

By whom built

Harland & Wolff Ltd

Yard No. 870

When built 1930

Owners

City of Cork Steam Packet Co.

Port belonging to

Cork.

Electric Light Installation fitted by Harland & Wolff Ltd

Contract No. 870

When fitted 1930.

System of Distribution Two wire direct current system

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

Auxiliary Motor Room, Ford of Chain Motor Room.

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 Auxiliary Motor Room on Platform above Generator.

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

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

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

Reverse Current Circuit Breaker with Time Limits and Interlocked Equalizer Switch

Instruments on main switchboard

4

ammeters

2

voltmeters

arranged

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.

connected to Bus - Bars with D.P. Switch & Fuses

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.



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W984-0018

Cables: Single, twin, concentric, or multicore *Yes* 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 *9.5 Volts*

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

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 *Hard Rubber Waterproof Cables clipped to Perforated Sheet Steel Plating & protected by Sheet Metal Covering in Hold*

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 *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 *All joints are made in properly constructed Junction Boxes*

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 *All Metal Portable Fittings fitted to Steelwork of Ships are earthed with Connector Equivalent to Working Conductor* are their connections made as per Rule *Yes*

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 *7.5 H.P. Generator driven by Paraffin Engine on Boat Deck & 160 Amp 220 Volt Storage Battery in Ford Tunnel, Controlled by Switch Board in Emergency Dynamo Room*

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 *Guard Hold*

Fittings, Placed Between Beams *Lead Served, Armoured & Braided Cables Clipped to Beams* are any fittings placed in spaces where inflammable or explosive dust or gases are liable to be present, if so, how are they protected *Grouped in Switch & Fuse Boxes, & situated outside the spaces* how are the cables led

Searchlight Lamps, No. of *1*, whether fixed or portable *Portable*, are their fittings as per Rule *Yes*

Arc Lamps, other than searchlight lamps, No. of *—*, 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 *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 *Yes* 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 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 *—*

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				DRIVEN BY	WHERE DRIVEN BY AN INTERNAL COMBUSTION ENGINE.		
		Kilowatts.	Volts.	Ampères.	Revs. per Min.		Fuel Used.	Flash Point of Fuel.	
MAIN	3	1-220	222	1000	215	Diesel Engine	Fuel Oil		
AUXILIARY	1	2-110	"	500	300	do.	"		
EMERGENCY	1	7.5	220	34	1100	Paraffin Engine	Paraffin		
ROTARY TRANSFORMER									

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 200 H.P.	4	0.4	61	0.093	1000	33	Rubber	Hard Rubber
	EQUALIZER CONNECTIONS	2	0.4	61	0.093		16 1/2	"	"
	AUXILIARY GENERATOR								
	EMERGENCY GENERATOR		0.225	7	0.064	35	40	"	"
	ROTARY TRANSFORMER								
	AUXILIARY SWITCHBOARDS								
	ENGINE ROOM Masterboard	2	0.3	37	0.103	400	210	"	"
	BOILER ROOM	"							
	ACCOMMODATION								
	MAIN GENERATORS 110 H.P.	2	0.4	61	0.093	500	45	"	"
	EQUALIZER CONNECTIONS	1	0.4	61	0.093		22 1/2	"	"
	MASTERBOARD "A"	1	0.4	61	0.093	410	120	"	"
	" "B"	2	0.3	37	0.103	500	60	"	"
	" "C"	2	0.4	61	0.093	670	150	"	"
	WIRELESS	2	0.007	7	0.036	15	150	"	"
	SEARCHLIGHT	2	0.002	3	0.029	4	20	"	"
	MASTHEAD LIGHT	2	0.002	3	0.029	0.18	320	"	"
	SIDE LIGHTS	2	0.002	3	0.029	0.18	65	"	"
	COMPASS LIGHTS	2	0.002	3	0.029	0.18	60	"	"
	POOP LIGHTS								
	CARGO LIGHTS	3	0.0048	110	0.0076	2.5	160	"	"
	ARC LAMPS								
	HEATERS	2	0.002	3	0.029	5	60	"	"

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	1	0.04	19	0.052	56	240	Rubber	Hard Rubber
	MAIN BILGE LINE PUMPS	1	0.01	7	0.044	28	220	"	"
	GENERAL SERVICE PUMP	2	0.002	3	0.029	6.8	140	"	"
	EMERGENCY BILGE PUMP	1	0.04	19	0.052	48	280	"	Lead Covered Hard Rubber
	SANITARY PUMP								
	CIRC. SEA WATER PUMPS	2	0.075	19	0.072	88	140	"	"
	CIRC. FRESH WATER PUMPS	1	0.0225	7	0.064	36	240	"	"
	AIR COMPRESSOR	2	0.5	61	0.103	380	110	"	"
	FRESH WATER PUMP	2	0.0045	7	0.029	16.5	120	"	"
	ENGINE TURNING GEAR	2	0.0225	7	0.064	40	170	"	"
	ENGINE REVERSING GEAR								
	LUBRICATING OIL PUMPS	2	0.10	19	0.083	107	160	"	"
	OIL FUEL TRANSFER PUMP	1	0.0045	7	0.029	17	210	"	"
	WINDLASS	1	0.400	61	0.093	243	40	"	"
	CRANE FORWARD	1	0.10	19	0.083	109	170	"	"
	CRANE AFT	1	0.10	19	0.083	109	200	"	"
	STEERING GEAR								
	(a) MOTOR-GENERATOR								
	(b) MAIN MOTOR	2	0.03	19	0.044	48	720	"	"
	WORKSHOP MOTOR	1	0.003	3	0.029	2.5	50	"	"
	VENTILATING FANS	4	0.10	19	0.083	100	120	"	"
		4	0.04	19	0.052	53	150	"	"
		2	0.0145	7	0.032	30.5	220	"	"
		2	0.0045	7	0.029	17	150	"	"
		2	0.0045	7	0.029	12	380	"	"
		1	0.0030	3	0.036	7	210	"	"
		1	0.002	3	0.029	3.4	160	"	"
		2	0.002	3	0.029	2.25	400	"	"

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.



Electrical Engineers.

Date 16 June 1930

COMPASSES.

Distance between electric generators or motors and standard compass 22 feet

Distance between electric generators or motors and steering compass 20 feet

The nearest cables to the compasses are as follows:—

A cable carrying 16 Ampères 12 feet from standard compass 8 feet from steering compass.

A cable carrying 6.5 Ampères 9 feet from standard compass 6 feet from steering compass.

A cable carrying 17 Ampères 22 feet from standard compass 20 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.



Builder's Signature.

Date

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 in accordance with the rules. It has been tried out under working conditions and the tests have proved satisfactory. In my opinion the vessel is now eligible for notation "Electric Light."

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

24/6/30.

Total Capacity of Generators 447 1/2 Kilowatts.

The amount of Fee ...
See attached letter

£ 42.13/9

When applied for,
17 June 1930.
When received,
14.8.30.

R. Lee Amess

Surveyor to Lloyd's Register of Shipping.

Travelling Expenses (if any) £

Committee's Minute

FRI. 4 JUL 1930

Assigned

Elec Light