

Rpt. 13.

No. 8/653.

REPORT ON ELECTRIC FITTINGS.

(OTHER THAN FOR THE PROPULSION OF THE VESSEL)

Date of writing Report

19

When handed in at Local Office

12 AUG 1927

Port of

Received at London Office

16 AUG 1927

NEWCASTLE-ON-TYNE

No. in Survey held at

Newcastle.

Date, First Survey

21 Apr 1927

Last Survey

27 July

1927

Reg. Book.

32223 on the

M. V. "Port Gisborne".

(Number of Visits. 18)

Tons

Gross 7850

Net

Built at

Newcastle.

By whom built

Swan Hunter & W. R. L.

Yard No. 1295

When built 1927

Owners

Commonwealth & Dominion Line Ltd.

Port belonging to

London

Electric Light Installation fitted by

Swan Hunter & W. Richardson Ltd.

Contract No. 1295

When fitted 1927

System of Distribution

Double wire 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 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

Engine room on port & starboard sides.

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

Forward end of engine room fixed to bulkhead & built on special platform

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, 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 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

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

3-pole circuit breakers

on generators, one pole acting as an equalizer switch, outgoing circuits having double pole breakers or double pole switch & fuses according to capacity of circuit.

Instruments on main switchboard

4

ammeters

3

volts

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

Switches & lamps

coupled through fuses 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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Foundation

W1137 - 01712

Insulation of Cables, state type of cables, single or twin *single* are 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 *4 volts on power, 4.5 volts on lighting*

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 *yes*

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 *Lead covered braided cables clipped to heavy tray plating & protected by perforated tray plating in tween decks. Lead covered, arm & braided cables in engine room*
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 *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 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 *rubber in cabins & lead for main cables*

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 *Fitted in dynamo room on lower deck forward of engine room, circuits controlled on board by double pole switches & fuses. Generator driven by Diesel engine*

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 *—*

are any fittings placed in spaces where inflammable or explosive dust or gases are liable to be present, if so, how are they protected *—*

—, how are the cables led *—*

where are the controlling switches situated *—*

Searchlight Lamps, No. of *Lamp not fitted*, whether fixed or portable *—*, are their fittings as per Rule *—*

Are 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 axis of rotation fore and aft *yes*
if situated near unprotected woodwork or other combustible material, are the motors of the totally enclosed, self-ventilated, forced draught, drip or flame proof type *yes*
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 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 *—*

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.	Amperes.			Fuel Used.	Flash Point of Fuel.
MAIN	3	265	220	1144		Diesel Oil engine		
AUXILIARY								
EMERGENCY	1	12	220	50	375	do		
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. Amperes.	Approximate Length. (Lead and Return.) Feet.	Insulated with	HOW PROTECTED.
				No.	Diameter.				
	2 cables in parallel								
	MAIN GENERATOR	4	1.0376	124	.103	1144	160	rubber	lead cov. arm. braided
	AUXILIARY GENERATOR	1	1.0376	124	.103	588	80	do	do
	EMERGENCY GENERATOR	2	.07592	19	.072	53	50	do	do
	ROTARY TRANSFORMER								
	AUXILIARY SWITCHBOARDS								
	ENGINE ROOM	2	.00455	7	.029	8	190	do	do
	BOILER ROOM								
	Lighting Ring Main	4	.07592	19	.072	95	2280	do	do
	3rd winch ring main	4	.4985	61	.103	1088	1260	paper	do
	Aft 50 50 50	4	.4985	61	.103	944	1380	paper	do
	Forward Heated	2	.1168	37	.064	116	300	rubber	do
	Aft Heated	2	.1009	19	.083	100	130	do	do
	Refrig machinery	4	.7435	91	.103	1112	450	do	do
	2 cables in parallel								
	Galley circuit	2	.0009	19	.083	116	80	do	do
	Galley gear	2	.01046	7	.0744	30	50	do	lead cov. braided
	WIRELESS	2	.01046	7	.0744	30	170	do	do
	SEARCHLIGHT cables only	2	.06	19	.064	55	480	do	Lead cov. arm. braided
	MASTHEAD LIGHT	2	.00194	3	.029	.5	380	do	Lead cov. braided
	SIDE LIGHTS	2	.00194	3	.029	.5	54	do	do
	COMPASS LIGHTS	2	.00194	3	.029	.25	40	do	do
	PORT LIGHTS	2	.00194	3	.029	.5	450	do	do
	CARGO LIGHTS	2	.00194	3	.029	2.5	60	do	do
	ARC LAMPS								
	HEATERS 600/1000 watts	2	.00194	3	.029	3.0	24	do	do
	above 1000 watts	2	.00299	3	.036	5.0	26	do	do

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	1	.1478	37	.072	154	80	rubber	Lead cov. arm. braided
	MAIN BILGE LINE PUMPS	1	.06	19	.064	73	104	do	do
	GENERAL SERVICE PUMP	1	.07592	19	.072	93	95	do	do
	EMERGENCY BILGE PUMP								
	SANITARY PUMP	1	.07592	19	.072	91	96	do	do
	CIRC. SEA WATER PUMPS	1	.1478	37	.072	154	88	do	do
	CIRC. FRESH WATER PUMPS	2	.1478	37	.072	164	120	do	do
	AIR COMPRESSOR (port. pole)	2	.1478	37	.072	305	150	do	do
	FRESH WATER PUMP	1	.02214	7	.064	39	220	do	do
	ENGINE TURNING GEAR	2	.06	19	.064	73	140	do	do
	ENGINE REVERSING GEAR								
	LUBRICATING OIL PUMPS	2	.07592	19	.072	93	54	do	do
	OIL FUEL TRANSFER PUMP	2	.01046	7	.0744	25	60	do	do
	WINDLASS	1	.2465	37	.093	210	35	do	do
	WINCHES, FORWARD	8	.2465	37	.093	212	70	do	do
	WINCHES, AFT	6	.2465	37	.093	212	70	do	do
	STEERING GEAR	2	.1478	37	.072	135	650	do	do
	WORKSHOP MOTOR	1	.01046	7	.0744	14.5	136	do	do
	VENTILATING FANS	5	.00485	7	.029	11.5	81	do	do
	Exhausts	2	.1964	37	.083	154	40	do	do
	Refrig motor	2	.7435	91	.103	443	75	do	Lead cov. braided
	Borne pumps	3	.0396	19	.052	64	130	do	do
	Cooler fans	3	.01046	7	.0744	20.5	460	do	do
	Refrig. air pump	1	.1964	37	.083	164	290	do	Lead cov. arm. braided
	Oil purifier	3	.00299	3	.036	11.5	180	do	do
	Brake	1	.01046	7	.0744	26	40	do	do
	Oil fuel blower	1	.00299	3	.036	8	130	do	do
	Anchor fuel pump	1	.1009	19	.083	97	45	do	do
	Workshop Motor	1	.00455	7	.029	21	80	do	do
	Refrig Vent fan	1	.00299	3	.036	2	50	do	Lead cov. braided

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
SWAN, HUNTER, & WIGHAM RICHARDSON, LTD. Electrical Engineers.

Date 5th August 1927.

COMPASSES.

Distance between electric generators or motors and standard compass 120 feet.

Distance between electric generators or motors and steering compass 115 feet.

The nearest cables to the compasses are as follows:—

A cable carrying .25 Ampères on the ~~left~~ standard compass 10 feet from steering compass.

A cable carrying .25 Ampères 10 feet from standard compass on the ~~left~~ steering compass.

A cable carrying .5 Ampères 15 feet from standard compass 8 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 _____ degrees on _____ course in the case of the standard compass, and _____ degrees on _____ course in the case of the steering compass.

FOR
SWAN, HUNTER, & WIGHAM RICHARDSON, LTD.

T. Cunningham

Builder's Signature.

Date 5th Aug 1927.

Is this installation a duplicate of a previous case. Yes. If so, state name of vessel Port Annon.

General Remarks (State quality of workmanship, opinions as to class, &c.)

The above installation is in accordance with the Society's Rules.

The vessel is eligible in my opinion for notation elec light wireless

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

W.T. Badger

18/8/27

Total Capacity of Generators 80% Kilowatts

The amount of Fee ... £ 51 : 13 : 490 Aug 1927

Travelling Expenses (if any) £ : 12 Aug 1927

Committee's Minute

Assigned

Elec. Light

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



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