

# REPORT ON ELECTRIC FITTINGS.

(OTHER THAN FOR THE PROPULSION OF THE VESSEL)

Received at London Office

12 SEP 1925

Date of writing Report 19 When handed in at Local Office 10/9/1925 Port of NEWCASTLE-ON-TYNE

No. in Survey held at Newcastle. Date, First Survey 15 Jan. Last Survey 27 May 1925.  
Reg. Book. (Number of Visits 19)

22581 on the "Humber Arm" Tons { Gross 5758  
Net 3504

Built at Newcastle By whom built Armstrong Whitworth & Co. Ltd No. 1000 When built 1925

Owners Newfoundland Export & Shipping Co. Port belonging to St. John's Newfoundland

Electric Light Installation fitted by S.W. Armstrong Whitworth & Co. Ltd Contract No. 1000 When fitted 1925

System of Distribution Double wire ✓  
Pressure of supply for Lighting 100 volts, Heating — volts, Power 100 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 —, 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 yes

Position of Generators On dynamo flat at starboard side of engine room after end, 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

— 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 On dynamo flat starboard side of 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 —

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 —, 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 Double pole switches

fuses fitted to each generator, double pole switches + fuses on each outgoing circuit

Instruments on main switchboard 2 ammeters 1 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 lamps

Connected to earth through switches + fuses

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



**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 4.77 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 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 & armoured clipped to structure with galvanised iron clips, lead covered secured with brass clips

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 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 lead

**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 fitted

**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 None

how are the cables led None

where are the controlling switches situated None

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

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

**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, pipe ventilated, forced draught, drip or flame proof type None, if not of this type, state distance of the combustible material horizontally or vertically above the motors None and None

**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 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 None

If portable lamps for use in dangerous spaces are supplied, are they of a type approved by the Home Office None

PARTICULARS OF GENERATING PLANT.

DESCRIPTION OF GENERATOR.	No. of	RATED AT				DRIVEN BY.	WHERE DRIVEN BY AN INTERNAL COMBUSTION ENGINE.	
		Kilowatts.	Volts.	Amps.	Revs. per Min.		Fuel Used.	Flash Point of Fuel.
MAIN	2	12	100	120	350	Single cylinder steam engine		
AUXILIARY								
EMERGENCY								
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.				
	MAIN GENERATORS	2	.1168	37	.064	120	60	V.I.R	Lead cov'd & arm'd
	AUXILIARY GENERATOR								
	EMERGENCY GENERATOR								
	ROTARY TRANSFORMER								
	AUXILIARY SWITCHBOARDS								
	ENGINE ROOM	2	.00701	7	.036	17.1	30	bo	bo
	BOILER ROOM								
	Navigation bio box	2	.02214	7	.064	13.7	450	bo	bo
	Aft Sec (Sec Box)	2	.02214	7	.064	40.6	150	bo	bo
	Port bio box	2	.00701	7	.036	11.4	90	bo	bo
	Stbd bio box	2	.00299	3	.036	9.6	10	bo	head covered
	Aft dis box	2	.02214	7	.064	19.6	300	bo	Lead cov'd & arm'd
	Forward acc. sec box	2	.06	19	.064	31.5	300	bo	bo
	Port bio Box	2	.00701	7	.036	16.0	90	bo	head covered
	Stbd bio Box	2	.00701	7	.036	20.4	10	bo	bo
	Forward bio Box	2	.02214	7	.064	15.1	390	bo	Lead cov'd & arm'd
	WIRELESS	2	.02214	7	.064	25	480	bo	bo
	MASTHEAD LIGHT	2	.00299	3	.036	1.0	270	bo	bo
	SIDE LIGHTS	2	.00455	7	.029	1.0	520	bo	bo
	COMPASS LIGHTS	2	.00194	3	.029	1.0	140	bo	lead covered.
	STEERING LIGHTS	2	.00194	3	.029	1.0	65	bo	bo
	CARGO LIGHTS	2	.00455	7	.029	1.0	730	bo	bo & armoured.
	ARC LAMPS	2	.00299	3	.036	3.6	100	bo	bo
	HEATERS								

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	1	.00701	7	.036	34	70	V.I.R	Lead cov'd & arm'd
	VENTILATING FANS								

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.

*S. W. L. A. W. & Co. Ltd*

Electrical Engineers.

Date *6/9/25*

COMPASSES.

Distance between electric generators or motors and standard compass

*120 feet*

Distance between electric generators or motors and steering compass

*110 feet*

The nearest cables to the compasses are as follows:—

A cable carrying *.5* Ampères *1* feet from standard compass *4* feet from steering compass.

A cable carrying *.5* Ampères *8* feet from standard compass *1* feet from steering compass.

A cable carrying *.5* Ampères *4* feet from standard compass *4* 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.

SIR W. G. ARMSTRONG, WHITWORTH & CO. LTD.

*H. G. Williams*

Builder's Signature.

Date *9. 9. 25*

GENERAL MANAGER

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 is in accordance with the Society's Rules. The vessel is eligible in my opinion for notation elec lights, wireless*

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

*W. T. Badger*

*18/9/25*

Total Capacity of Generators *24* Kilowatts

The amount of Fee ... £ *19 : 10/-* When applied for, *5/8/19.25*

Travelling Expenses (if any) £ : : *25/8/19.25* *W. T. Badger*

*W. T. Badger*

Surveyor to Lloyd's Register of Shipping.

Committee's Minute

Assigned

1m. 9. 21. - Transfer. (The Surveyors are requested not to write on or below the space for Committee's Minute.)



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