

# REPORT ON ELECTRIC FITTINGS.

(OTHER THAN FOR THE PROPULSION OF THE VESSEL)

Date of writing Report 19... When handed in at Local Office 24/3/10 24 Port of NEWCASTLE-ON-TYNE Received at London Office FRI. APR. 4 1924

No. in Survey held at Newcastle Date, First Survey 25 Jan 1924 Last Survey 14 March 1924  
Reg. Book. 32412 on the San Salvador (Number of Visits 10)

Built at Newcastle. By whom built Armstrong Whitworth & Co. Ltd. Yard No. 992 When built 1923  
Tons { Gross 5650  
Net

Owners Eagle Oil Transport Co. Ltd. Port belonging to

Electric Light Installation fitted by Armstrong Whitworth & Co. Ltd. Contract No. 992 When fitted 1924

System of Distribution Double wire system of distribution

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 No, 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

Position of Generators Platform at after end of 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 — 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 platform at after end 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 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 Double pole switch

fuses on dynamo main + on each outgoing circuit

Instruments on main switchboard 2 ammeters 2 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 fuses + switches

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 3.7

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

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 cable clipped to beams etc with galvanised iron clips. Lead covered cables clipped up with brass clips. Special twin cable fitted in hangers to underside of gangway.

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

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

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

"tough" fittings in gas tight piping, how are the cables led

where are the controlling switches situated at the distribution box in bridge space port

Searchlight Lamps, No. of 2, whether fixed or portable portable, are their fittings as per Rule

Arc Lamps, other than searchlight lamps, No. of 0, are their live parts insulated from the frame or case yes, 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, 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 0 and 0

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 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				DRIVEN BY.	WHERE DRIVEN BY AN INTERNAL COMBUSTION ENGINE.	
		Kilowatts.	Volts.	Ampères.	Revs. per Min.		Fuel Used.	Flash Point of Fuel.
MAIN	2	12	100	120	320	Double acting open type		
AUXILIARY						Single cylinders		
EMERGENCY						Steam engine		
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	2	.1168	37	.064	120	40460	V.I.R.	Lead cov & arm
	AUXILIARY GENERATOR								
	EMERGENCY GENERATOR								
	ROTARY TRANSFORMER								
	AUXILIARY SWITCHBOARDS	2	.3824	37	.08	92.2	140ft	"	" Special twin.
	ENGINE ROOM	2	.01462	7	.052	8.8	1.0	"	Lead cov & arm
	BOILER ROOM	2	.01046	7	.044	3.2	180	"	"
	Section box for above	2	.01462	7	.052	12.0	20	"	"
	Bo Engg	2	.0396	19	.052	31.0	14.0	"	"
	Bo Room Engg	2	.02214	7	.064	15.6	10	"	Lead covered
	" " St	2	.02214	7	.064	15.4	80	"	Lead cov & arm
	Section for office	2	.07592	19	.072	54.4	10	"	Lead covered
	Bo for " " St	2	.02214	7	.064	19.6	60	"	"
	" " " " St	2	.02214	7	.064	17.0	10	"	"
	hangar	2	.02214	7	.064	11.6	130	"	"
	Bo for pump room	2	.01046	7	.044	1.2	80	"	Lead cov & arm
	Bo Engg	2	.07592	19	.072	17.8	15	"	Lead cov
	Bo Engg	2	.07592	19	.072	17.8	360	"	Lead cov & arm (Special twin)
	Bo Engg	2	.01462	7	.052	10.2	10	"	Lead cov & arm
	WIRELESS	2	.02214	7	.064	28.0	70	"	Lead cov
	SEARCHLIGHT	2	.00299	3	.036	1.12	280	"	"
	MASTHEAD LIGHT MAIN	2	.00299	3	.026	1.12	250	"	Lead cov & arm (Special twin)
	SIDE LIGHTS	2	.00194	3	.029	1.12	80	"	Lead covered
	COMPASS LIGHTS	2	.00194	3	.029	.28	150	"	Lead cov & head cov & arm
	STEER LIGHTS	2	.00194	3	.029	1.12	170	"	Lead cov & arm
	CARGO LIGHTS	2	.00455	7	.029	3.6	128	"	Bo
	ARC LAMPS								
	HEATERS								

### 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								
	WORKSHOP MOTOR	1	.01046	7	.044	10	120	V.I.R.	Lead cov & arm
	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.

*Sir W. G. Armstrong Whitworth & Co. Ltd.*

Electrical Engineers.

Date *24. 3. 24.*

**COMPASSES.**

Distance between electric generators or motors and standard compass *215 feet*  
 Distance between electric generators or motors and steering compass *212 feet.*

The nearest cables to the compasses are as follows:—

A cable carrying *.6* Amperes *1* feet from standard compass *4* feet from steering compass.  
 A cable carrying *.6* Amperes *4* feet from standard compass *1* feet from steering compass.  
 A cable carrying *.8* Amperes *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 *24. 3. 24.*

**GENERAL MANAGER,**

Is this installation a duplicate of a previous case *Yes* If so, state name of vessel *S.S. "San Quirino"*

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 RECORD. Elec. light.**

*W. T. Budget*  
*4/4/24.*

Total Capacity of Generators *24* Kilowatts

The amount of Fee ... £ *19 10/-* When applied for, *19 APR 1924*

Travelling Expenses (if any) £ : : When received, *See entry book.*

*W. T. Budget*  
 Surveyor to Lloyd's Register of Shipping.

Committee's Minute *TUE. 8 APR. 1924*

Assigned

Im. 3. 22.—Transfer.  
 (The Surveyors are requested not to write on or below the space for Committee's Minute.)



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 Foundation