

# REPORT ON ELECTRICAL EQUIPMENT.

(OTHER THAN FOR THE PROPULSION OF THE VESSEL)

JAN 5 1938

Received at London Office

Date of writing Report \_\_\_\_\_ 19 \_\_\_\_\_ When handed in at Local Office 4/11 1938 Port of NEWCASTLE-ON-TYNE

No. in Survey held at Newcastle Date, First Survey 5 Oct Last Survey 22 Dec 1937  
 Reg. Book. Supp. (Number of Visits 7)

37387 on the S.S. "Bassano" Tons { Gross 4843  
 Net 2687

Built at Newcastle By whom built Swan Hunter & W.R. Co. Ltd. Yard No. 1560 When built 1937

Owners Ellerman's Wilson Line Ltd. Port belonging to Hull

Electric Light Installation fitted by S. H. & Wigham Richardson & Co. Ltd. Contract No. 1560 When fitted 1937

Is the Vessel fitted for carrying Petroleum in bulk No

**System of Distribution** Double wire

**Pressure of supply for Lighting** 110 volts, **Heating** \_\_\_\_\_ volts, **Power** 110 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 temperature rise 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 Have certificates of test results for machines under 100 kw. been submitted and approved Yes (2 in No) Have machines over 100 kw. been inspected by the Surveyors during manufacture and testing \_\_\_\_\_

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** Engine room starboard side, 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 Engine room starboard side

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, is it of an approved type 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 Yes, is the non-hygroscopic insulating material of an approved type Yes, 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, temperature rise of omnibus bars Yes, individual fuses to voltmeter, pilot or earth lamp Yes, are moving parts of switches alive in the "off" position No are all screws and nuts securing connections effectively locked Yes are any fuses fitted on the live side of switches No

**Main Switchgear**, description of switchgear for each generator and each outgoing circuit, and arrangement of equalizer switches D.P.S. & O.P. fuses on dynamos. S.P.S. & O.P. fuses on all outgoing circuits

Are turbine driven generators fitted with emergency trip switch as per rule \_\_\_\_\_ Are cupboards or compartments containing switchboards composed of fire-resisting material or lined with approved material \_\_\_\_\_ **Instruments** on main switchboard 2 ammeters 2 voltmeters \_\_\_\_\_ synchronising device for paralleling purposes. For compound machines is the ammeter connected on the opposite pole to equaliser connection \_\_\_\_\_

**Earth Testing**, state what means are provided at the main switchboard for indicating the state of the insulation of the system E lamps coupled to E through switches & fuses

do these comply with the requirements of the Rules Yes are the fusible cutouts of an approved type Yes have the reversed \_\_\_\_\_

current protection devices been tested under working conditions Yes **Joint Boxes, Section and Distribution Boards**, is the construction, protection, insulation, material, and position of these as per rule Yes

**Cables:** Single, twin, concentric, or multicore single Are the cables insulated and protected as per Tables IV, V, X or XI of the Rules Yes

If the cables are insulated otherwise than as per Rule, are they of an approved type Yes **Fall of Pressure**, state maximum between bus bars and any point of the installation under maximum load 4.95 volts

**Cable Sockets**, are the ends of all cables having a sectional area of 0.04 square inch and above provided with soldering sockets Yes

**Paper Insulated and Varnished Cambric Insulated Cables.** If conductors are paper or varnished cambric insulated, is the dielectric at the exposed ends of the conductor protected from moisture by being suitably sealed with insulating compound Yes, or waterproof insulating tape 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 Are cables in machinery spaces, galleys, laundries, bathrooms and lavatories lead covered or run in conduit Yes

**Support and Protection of Cables**, state how the cables are supported and protected L.C. A+B cables in machinery + cargo spaces. L.C. in acc<sup>t</sup> clipped to structure.

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 VIII Yes

**Refrigerated Chambers**, are the cables and fittings in accordance with the special requirements Yes

**Joints in Cables**, state if any, and how made, insulated, and protected home 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 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 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 **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 are any fittings placed in spaces where inflammable or explosive dust or gases are liable to be present, if so, how are they protected

where are the controlling switches situated are all fittings suitably ventilated Yes are all switches and lampholders constructed wholly of non-ignitable, non-absorbent materials Yes

**Heating and Cooking Appliances**, are they constructed and fitted as per Rule are air heaters constructed and fitted as per Rule

**Searchlight Lamps**, No. of whether fixed or portable are their fittings as per Rule 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 if not of this type, state distance of the combustible material horizontally or vertically above the motors and have machines of over 100 BHP been inspected by the Surveyors during manufacture and testing **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 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 are all fuses of the filled cartridge type are they of an approved type If portable lamps for use in dangerous spaces are supplied, are they of a self-contained, battery-fed type approved by the Home Office **Spare Gear**, if the vessel is for open sea service have spares been supplied as per Rule 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	22	110	200	500	Steam Engines		
AUXILIARY								
EMERGENCY								
ROTARY TRANSFORMER								

  

DESCRIPTION.	CONDUCTORS.		COMPOSITION OF STRAND.		TOTAL MAXIMUM CURRENT. AMPERES.		Approximate Length (Lead and Return) Feet.	Insulated with	HOW PROTECTED.
	No. per Pole.	Total Nominal Area per Pole Sq. Ins.	No.	Diameter.	Circuit.	Rule.			
MAIN GENERATOR	1	.25	27	.073	200	214	40	V.I.R	L.C.A+B.
EQUALISER CONNECTIONS									
AUXILIARY GENERATOR									
EMERGENCY GENERATOR									
ROTARY TRANSFORMER									
ENGINE ROOM									
BOILER ROOM	1	.01	7	.044	13	31	15	50	L.C.A.
AUXILIARY SWITCHBOARDS									
Refrig (Cargo)	1	.0225	7	.064	35	46	260	50	50
ACCOMMODATION									
hidships	1	.0225	7	.064	38	46	80	50	L.C.A+B.
aft	1	.0045	7	.029	6	18.2	350	50	50
WIRELESS	1	.0025	7	.064	15	46	280	50	50
SEARCHLIGHT									
MASTHEAD LIGHT	1	.002	3	.029	.36	7.8	340	50	50
SIDE LIGHTS	1	.002	3	.029	.36	7.8	60	50	L.C.
COMPASS LIGHTS	1	.002	3	.029	.09	7.8	40	50	50
Deck LIGHTS	1	.002	3	.029	.36	7.8	600	50	L.C.A+B.
CARGO LIGHTS	1	.0225	7	.064	30	46	80	50	50
ARC LAMPS									
HEATERS									

  

DESCRIPTION.	No. of Motors.	CONDUCTORS.		COMPOSITION OF STRAND.		TOTAL MAXIMUM CURRENT. AMPERES.		Approximate Length (Lead and Return) Feet.	Insulated with	HOW PROTECTED.
		No. Per Pole.	Total Nominal Area per Pole Sq. Ins.	No.	Diameter.	In Circuit.	Rule.			
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—										
(a) MOTOR GENERATOR										
(b) MAIN MOTOR										
WORKSHOP MOTOR										
VENTILATING FANS	8	1	.002	3	.029	1	7.8	180	V.I.R	L.C.A+B
Refrig Compressor	1	1	.01	7	.044	24	31	30	50	50
" Water Pump	1	1	.0045	7	.029	8	18.2	210	50	50
" San	1	1	.002	3	.029	2.7	7.8	30	50	50
" Oil Loading Pump	1	1	.04	19	.052	27	6.4	80	50	50

Connection only for

All Conductors are of annealed copper conforming to British Standard Specification No. 7 (or International Electro-technical Commission Publication No. 28).

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 22<sup>nd</sup> Dec 1937

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 .09 Ampères on the feet from standard compass 10 feet from steering compass.

A cable carrying .09 Ampères 10 feet from standard compass on the feet from steering compass.

A cable carrying Ampères 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. The following to be completed after adjustment of compasses.

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.

SWAN, HUNTER, & WIGHAM RICHARDSON, LTD.

G.F. Stuey

DIRECTOR

Builder's Signature.

Date 23 December 1937

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

General Remarks (State quality of workmanship, opinions as to class, &c. The above instn has been fitted out under special survey. The workmanship + materials used are good. The instn has been tested under working conditions + found satisfactory. The insulation resistance is good. This vessel is eligible in my opinion for notation DF + E.S.D.

noted
Ans 6/1/38

Total Capacity of Generators 44. Kilowatts.

The amount of Fee ... £ 26 : -

When applied for. 4 JAN 1938

Travelling Expenses (if any) £ :

When received. 11/1 1938

W.T. Badger

Surveyor to Lloyd's Register of Shipping.

Committee's Minute

FRI 14 JAN 1938

Assigned

See Nuv. 76 95792

2m 5.94.—Transfer. The Surveyors are requested not to write on or below the space for Committee's Minute



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