

RETAIN

Rpt. 13.

No. 32840

REPORT ON ELECTRICAL EQUIPMENT.

(OTHER THAN FOR THE PROPULSION OF THE VESSEL)

Received at London Office

Date of writing Report 14 April 1940, When handed in at Local Office 9 APR 1940, Port of Sunderland

No. in Survey held at Sunderland Date, First Survey 13th Feb, Last Survey 14 April 1940

Reg. Book. Supp. 38561 on the S.S. 'CONFIELD' Tons Gross 4956 Net 2800

Built at Sunderland By whom built J. L. Thompson & Co. Ltd. Yard No. 597 When built 1940

Owners. Confield S.S. Co. Ltd. Port belonging to Newcastle

Electrical Installation fitted by The Sunderland Frigate Eng. Co. Ltd. Contract No. 597 When fitted 1940

Is vessel fitted for carrying Petroleum in bulk No Is vessel equipped with D.F. No E.S.D. No Gy.C. No Sub.Sig. No

Have plans been submitted and approved Yes System of Distribution Double wire Voltage of supply for Lighting 110

Heating Power 110 Direct or Alternating Current, Lighting Yes Power Yes If Alternating Current state frequency Prime Movers,

has the governing been tested and found efficient when the whole load is suddenly thrown on and off Yes Are turbine emergency governors fitted with a

trip switch as per Rule Generators, are they compound wound Yes, are they level compounded under working conditions Yes

if not compound wound state distance between generators and from switchboard Where more than one generator is fitted are they

arranged to run in parallel, are shunt field regulators provided Yes Is the compound winding connected to the negative or positive pole

Positive Have machines over 100 kw. been inspected by the Surveyors during manufacture and testing Have certificates of

test for machines under 100 kw. been supplied Yes and the results found as per rule Yes Are the lubricating arrangements and the construction

of the generators as per rule Yes Position of Generators Engine room starboard side aft

main side, is the ventilation in way of generators satisfactory Yes are they clear of inflammable material Yes, if situated

near unprotected combustible material state distance from same horizontally and vertically, are the generators protected from mechanical

injury and damage from water, steam and oil Yes, are the bedplates and frames earthed Yes and the prime movers and generators in metallic

contact Yes Switchboards, where are main switchboards placed Engine room starboard side

on aft bulkhead near generators are they in accessible positions, free from inflammable gases and acid fumes Yes, are they protected from mechanical injury and damage from water, steam

and oil Yes, if situated near unprotected combustible material state distance from same horizontally and vertically, what insulation

material is used for the panels Slate, if of synthetic insulating material is it an Approved Type, if of

semi-insulating material (slate or marble) are all conducting parts insulated therefrom as per Rule Yes Is the frame effectually earthed Yes

Is the construction as per Rule Yes, including accessibility of parts Yes, absence of fuses on the back of the board Yes, individual fuses

to pilot and earth lamps, voltmeters, etc. Yes locking of screws and nuts Yes, labelling of apparatus and fuses Yes, fuses on the "dead"

side of switches Yes Description of Main Switchgear for each generator and arrangement of equaliser switches Double pole

knife switch and double pole fuses

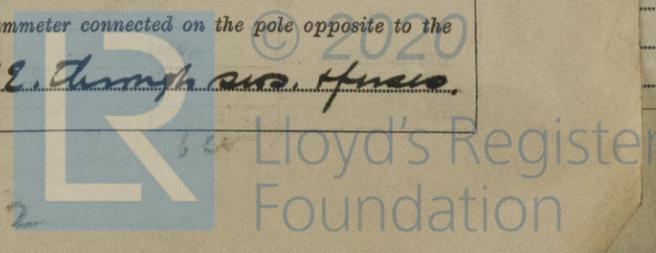
and for each outgoing circuit Single pole knife switch and double pole

fuses

Are compartments containing switchboards composed of fire-resisting material or lined as per Rule Yes Instruments on main switchboard One

ammeters One voltmeters synchronising devices. For compound machines in parallel is the ammeter connected on the pole opposite to the

equaliser connection Earth Testing, state means provided 2 lamps connected to E. through one fuse



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Switches, Circuit Breakers and Fuses, are they as per Rule Y, are the fuses an approved type Y, are all fuses labelled as per Rule Y, are the reversed current protection devices connected on the pole opposite to the equaliser connection. Y, have they been tested under working conditions. Y Joint Boxes, Section Boards and Distribution Boards, is the construction and position as per Rule Y

Cables, are they insulated and protected as per the appropriate Tables of the Rules Y, if otherwise than as per Rule are they of an approved type. Y, state maximum fall of pressure between bus bars and any point under maximum load less than 3.5 lbs., are the ends of all cables having a sectional area of 0.04 square inch and above provided with soldering sockets. Y Are paper insulated and varnished cambric insulated cables sealed at the exposed ends. Y

with insulating compound. Y or waterproof insulating tape. Y Are all the cable runs in accessible positions, not exposed to drip or accumulation of water or oil, high temperatures or risk of mechanical damage. Y, are cables laid under machines or floorplates. Y, if so, are they adequately protected. Y Are cables in machinery spaces, galleys, laundries, etc., lead covered. Y or run in conduit. Y State how the cables are supported and protected. V.I.R. cables run in heavy galv. painted pipes in accommodation;

L.C.B. cables clipped on surfaces in machinery spaces; L.C. cables clipped to surfaces or on wood gimbals in accommodation.

Are all lead sheaths, armouring and conduits effectually bonded and earthed. Y Refrigerated chambers, are the cables and fittings as per Rule. Y Are all cables passing through decks and watertight bulkheads provided with deck tubes or watertight glands. Y, where unarmoured cables pass through beams, etc., are the holes effectively bushed. Y and with what material. Lead or fibre Alternative Lighting, are the groups of lights in the engine and boiler rooms arranged as per Rule. Y Emergency Supply, state position. Y

and method of control. Y Navigation Lamps, are they separately wired. Y controlled by separate Simple pole switches. Y and fuses. Y Are the switches and fuses in a position accessible only to the officers on watch. Y, is an automatic indicator fitted. Y Secondary Batteries, are they constructed and fitted as per Rule. Y, are they adequately ventilated. Y

Fittings, are all fittings on weather decks, in stokeholds and engine rooms and wherever exposed to drip or condensed moisture, weatherproof. Y Are fittings installed where readily combustible materials or inflammable or explosive dust or gases are likely to be present. no, if so, how are they protected. Y

and where are the controlling switches fitted. Y, are all fittings suitably ventilated. Y, are all fittings and accessories constructed and installed as per Rule. Y Searchlight Lamps, No. of. Y, whether fixed or portable. Y, are their fittings as per Rule. Y Heating and Cooking, is the general construction as per Rule. Y

are the frames effectually earthed. Y, are heaters in the accommodation of the convection type. Y Motors, are all motors constructed and installed as per Rule. Y and placed in well-ventilated compartments in which inflammable gases cannot accumulate and free from damage from water, steam and oil. Y, if situated near unprotected combustible material state minimum distance from same horizontally. Y and vertically. Y

Have motors of 100 BHP and over been inspected by the Surveyors during manufacture and testing. Y Have certificates of test for motors under 100 BHP intended for essential services been supplied and the results found as per Rule. Y Control Gear and Resistances, are they constructed and fitted as per Rule. Y Lightning Conductors, where required are they fitted as per Rule. Y Ships carrying Oil having a Flash Point less than 150° F. Have all the special requirements of the Rules for such ships been complied with. Y, are all fuses of the cartridge type. Y

are they of an approved type. Y If portable lamps for use in dangerous spaces are supplied, are they of a self-contained battery-fed flameproof type. Y Spare Gear, if the vessel is for open sea service have spares been provided as per Rule. Y, are they suitably stored in dry situations. Y Insulation Tests, has the insulation resistance of all circuits and apparatus been megger tested and found satisfactory. Y

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	One	15	110	136.5	550	Single cylinder steam engine		
EMERGENCY								
ROTARY TRANSFORMER								

GENERATOR CABLES.

DESCRIPTION.	KILOWATTS.	CONDUCTORS.		MAXIMUM CURRENT IN AMPERES.		APPROX. LENGTH (lead plus return, feet).	INSULATED WITH.	HOW PROTECTED.
		No. in Parallel Per Pole.	Sectional Area or No. and Dia. of Strands. Sq. ins. or sq. mm.	In the Circuit.	Rule.			
MAIN GENERATOR	15	1	19/072	136.5	150	26	V.I.R.	L.C.B.
" " EQUALISER								
EMERGENCY GENERATOR								
ROTARY TRANSFORMER: MOTOR								
" " GENERATOR								

MAIN DISTRIBUTION CABLES.

AUX. SWITCHBOARDS AND SECTION BOARDS	No.	Sectional Area or No. and Dia. of Strands. Sq. ins. or sq. mm.	In the Circuit.	Rule.	APPROX. LENGTH (lead plus return, feet).	INSULATED WITH.	HOW PROTECTED.
Accom. Lig. etc. feed:-	1	19/012	29.3	64	150	V.I.R.	In galv. pipe
Supply - Accom. Lig. etc.	1	7/044	16.7	31	168	V.I.R.	In galv. pipe
Accom. Lig. etc.	1	7/044	9.2	31	270	V.I.R.	In galv. pipe
Supply - Accom. Lig. etc.	1	7/044	13.4	31	20	V.I.R.	L.C.
Cargo Lig. etc. feed:-	1	19/012	24.2	64	150	V.I.R.	In galv. pipe
Supply - Machinery + 7' mach etc.	1	7/044	6+10	31	168	V.I.R.	In galv. pipe
Machinery etc.	1	7/044	8.2	31	148	V.I.R.	In galv. pipe

LIGHTING AND HEATING, ETC., CABLES.

DESCRIPTION.	No.	Sectional Area or No. and Dia. of Strands. Sq. ins. or sq. mm.	In the Circuit.	Rule.	APPROX. LENGTH (lead plus return, feet).	INSULATED WITH.	HOW PROTECTED.
WIRELESS	1	7/044	15	31	260	V.I.R.	In pipe & L.C.
NAVIGATION LIGHTS	1	7/044	6	31	280	V.I.R.	In pipe & L.C.
LIGHTING AND HEATING							
Engine + Boiler Room Lig. etc.	1	7/044	15.3	31	30	V.I.R.	In galv. pipe

MOTOR CABLES.

ALL IMPORTANT MOTORS TO BE ENUMERATED.	No.	B.H.P.	Sectional Area or No. and Dia. of Strands. Sq. ins. or sq. mm.	In the Circuit.	Rule.	APPROX. LENGTH (lead plus return, feet).	INSULATED WITH.	HOW PROTECTED.
Refrig. etc.	1	3	7/044	26	31	220	V.I.R.	In galv. pipe

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The Electrical Equipment is installed in accordance with the approved plans and the requirements of the Rules.

All Insulated Conductors are guaranteed to have been tested at the maker's works as specified in the Rules.

The foregoing is a correct description.

M<sup>essrs</sup> Sunderland Forge & Eng Co Ltd.  
A. S. Curry

Electrical Engineers.

Date 3. 4. 1940

COMPASSES.

Minimum distance between electric generators or motors and standard compass 118 feet

Minimum distance between electric generators or motors and steering compass 112 feet

The nearest cables to the compasses are as follows:—

A cable carrying 1/4 Ampères on the feet from standard compass 7 feet from steering compass.

A cable carrying 1/4 Ampères 7 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

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 Every course in the case of the

standard compass, and Nil degrees on Every course in the case of the steering compass.

JOSEPH R. C. Rousler Builder's Signature. Date 5/4/40.

Managing Director,

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

General Remarks (State quality of workmanship, whether insulation tests, etc., have been made, opinions as to class, etc.) The electrical equipment of this vessel has been installed under strict supervision. The materials used are of good quality and the workmanship is good. On completion the equipment was run under working conditions with satisfactory results, the governing, regulation, and compensating of the operating set were tested, the insulation resistance of all circuits was measured and the space open was examined. This equipment is in my opinion, suitable for a classed vessel.

Noted  
L.H.  
11/4/40.

Total Capacity of Generators 15 Kilowatts.

The amount of Fee ... £ 15 : - : When applied for, 8 APR 1940

Travelling Expenses (if any) £ : : When received, 12.4. 1940

Gantson  
Surveyor to Lloyd's Register of Shipping.

FRI 12 APR 1940

Committee's Minute

Assigned See Old. J.E. 32840

2m.10.38.—Transfer. (MADE IN ENGLAND.) (The Surveyors are requested not to write on or below the space for Committee's Minute.)

