

Rpt. 13.

No. 11524

REPORT ON ELECTRIC FITTINGS.

(OTHER THAN FOR THE PROPULSION OF THE VESSEL)

Received at London Office MAY 1935

Date of writing Report 19 When handed in at Local Office 16 May 1935 Port of BELFAST

No. in Survey held at BELFAST Date, First Survey 31st Jan Last Survey 11 May 1935
Reg. Book. (Number of Visits 7)

on the STEEL SINGLE SCREW VESSEL "ROTHESAY CASTLE"

Tons { Gross
Net

Built at BELFAST By whom built HARLAND & WOLFF LTD. Yard No. 944 When built 1935.

Owners UNION CASTLE MAIL STEAMSHIP CO. LTD. Port belonging to LONDON.

Electric Light Installation fitted by HARLAND & WOLFF LTD. Contract No. 944 When fitted 1935

Is the Vessel fitted for carrying Petroleum in bulk NO.

System of Distribution TWO-WIRE DIRECT CURRENT

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 rating 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, 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 IN MOTOR ROOM HOLD LEVEL (TWO PORT & ONE STARBOARD),

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 ON PLATFORM AT AFT. END OF MOTOR 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, non-ignitable 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 insulated from the slab

with mica or micanite or other non-hygroscopic insulating material, and the slab similarly insulated from its framework and is the frame effectually 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, 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 FOR EACH GENERATOR, ONE 1500 AMP D.P. CIRCUIT BREAKER % & REVERSE CURRENT TRIPS, WITH TIME LAG INTERLOCKED WITH 800AMP EQUALISER SWITCH. OUTGOING CIRCUITS TO MASTERBOARDS HAVE EACH ONE D.P. CIRCUIT BREAKER WITH % TRIP & TIME LAG, TO OTHER CIRCUITS. ONE D.P. CIRCUIT BREAKER WITH % TRIP & NO TIME LAG OR S.P. KNIFE SWITCH AND D.P. ZED TYPE FUSES.

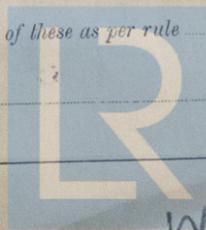
Instruments on main switchboard 3 ammeters 2 voltmeters ARRANGED for paralleling purposes.

Earth Testing, state what means are provided at the main switchboard for indicating the state of the insulation of the system. INDICATING LAMP ON

EACH POLE WITH D.P. SWITCH & FUSES.

Switches, Circuit Breakers and Fusible Cut-outs, do these comply with the requirements of the Rules YES

Joint Boxes Section and Distribution Boards, is the construction, protection, insulation, material, and position of these as per rule YES.



© 2020

Lloyd's Register

Foundation

W45046065

Cables: Single, twin, concentric, or multicore SINGLE are the cables insulated and protected as per Tables IV or V of the Rules YES

Fall of Pressure, state maximum between bus bars and any point of the installation under maximum load 8.5 VOLTS TUNNEL ESCAPE FAN

Cable Sockets and other connections, are the ends of all cables having a sectional area of 0.04 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 SECURED BY CLIPS TO PERFORATED METAL TRAYS COVERED WITH SHEET METAL WHERE NECESSARY, & IN STEEL CABLE TROUGHING ON OPEN DECK.

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 VIII 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 PROPERLY CONSTRUCTED & INSULATED JOINT BOXES.

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 SHEET LEAD.

Earthing Connections, state what earthing connections are fitted and their respective sectional areas METAL PORTABLE FITTINGS NOT ATTACHED TO SHIP'S STEELWORK, EARTHED WITH CONNECTIONS EQUIVALENT TO WORKING CONDUCTOR are their connections made as per Rule YES

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

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 _____

GUARDED STIRRUP PENDANT, IN PAINT ROOM. how are the cables led HARD RUBBER CABLE IN CONDUIT.

where are the controlling switches situated LOCALLY

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

Arc Lamps, other than searchlight lamps, No. of NONE, 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 EXCEPT WHERE VERTICAL

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 _____

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 _____

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				DRIVEN BY	WHERE DRIVEN BY AN INTERNAL COMBUSTION ENGINE.	
		Kilowatts.	Volts.	Ampères.	Revs. per Min.		Fuel Used.	Flash Point of Fuel.
MAIN	3	300	220	1364	270	DIESEL ENGINES		
AUXILIARY								
EMERGENCY								
ROTARY TRANSFORMER								

GENERATOR, LIGHTING AND HEATING CONDUCTORS.

DESCRIPTION.	CONDUCTORS.		COMPOSITION OF STRAND.		TOTAL MAXIMUM CURRENT AMPERES.		Approximate Length (Lead and Return) Feet.	Insulated with	HOW PROTECTED.
	No. per Pole.	Total Effective Area per Pole Sq. Ins.	No.	Diameter.	In Circuit.	Rate.			
MAIN GENERATOR	3	2.25	91	.103	1364	1383	150	RUBBER	HARD RUBBER
EQUALISER CONNECTIONS	2	1.2	91	.093	-	768	75	DO.	DO.
AUXILIARY GENERATOR									
EMERGENCY GENERATOR									
ROTARY TRANSFORMER (MOTOR) GENERATOR									
MOTOR ROOM LIGHTING	1	.01	7	.044	13	31	90	RUBBER	HARD RUBBER
MOTOR ROOM DO.	1	.01	7	.044	25	31	160	DO.	DO.
AUXILIARY SWITCHBOARDS									
" " A & B. POWER	2	1.0	61	.103	677	844	600	DO.	DO.
" " C.	1	.6	91	.093	358	384	360	DO.	DO.
" " D.	1	.25	37	.093	200	214	450	DO.	DO.
" " E. (REFRIG.)	4	3.0	91	.103	1842	1844	75	DO.	DO.
" " WORK-	1	.06	19	.064	42	83	210	DO.	DO.

W450-0105 214

GENERATOR LIGHTING AND HEATING CONDUCTORS (CONT'D)

DESCRIPTION	CONDUCTORS		COMPOSITION OF STRAND		TOTAL MAX. CURRENT AMPS.		APPROXIMATE LENGTH LEAD AND RETURN FEET	INSULATED WITH	HOW PROTECTED
	NO PER POLE	TOTAL EFFECTIVE AREA PER POLE SQ. IN.	NO	DIA.	IN CIRCUIT	RATE			
AUXILIARY SWITCHBOARDS									
MOTOR RM. PORT.	1	.075	19	.072	76	97	120	RUBBER	HARD RUBBER
" " STABBB.	1	.060	19	.064	74	83	90	DO.	DO.
COOLER FAN BOARD FORD.	1	.250	37	.093	214	214	30	DO.	DO.
" " MID.	1	.250	37	.093	175	214	30	DO.	DO.
" " AFT.	1	.250	37	.093	198	214	30	DO.	DO.

FRESH WATER PUMP	1	.01	7	.044	28	31	280	DO.	DO.
ENGINE TURNING GEAR	1	.04	19	.052	60	64	40	DO.	DO.
ENGINE LIFTING GEAR	1	.007	7	.036	20	24	120	DO.	DO.
LUBRICATING OIL PUMPS	2	.5	61	.103	310	332	90	DO.	DO.
OIL FUEL TRANSFER PUMP	2	.01	7	.044	30	31	150	DO.	DO.
WINDLASS	1	.3	37	.103	270	283	150	DO.	DO.
WINCHES, FORWARD	4	.1	19	.083	120	142	90	DO.	DO.
" " MIDSHIP	2	.1	19	.083	120	142	120	DO.	DO.
WINCHES, AFT	4	.1	19	.083	120	142	90	DO.	DO.
WARPING WINCH	1	.2	37	.083	200	204	90	DO.	DO.
STEERING GEAR									
(a) _____									
(b) MAIN MOTOR	2	.12	37	.064	120	130	80	DO.	DO.
WORKSHOP MOTOR	4	.003	3	.036	6	12	120	DO.	DO.
VENTILATING FANS, MOTOR RM.	1	.003	3	.036	6	12	310	DO.	DO.
VENTILATING FANS TUNNEL	3	.85	127	.093	510	512	180	DO.	DO.
C. O ₂ COMPRESSOR	3	.03	19	.044	47.5	53	150	DO.	DO.
BRINE PUMP, 12 B.H.P.	2	.0225	7	.064	34	46	150	DO.	DO.
" " 8 1/2 "	2	.03	19	.044	51	53	200	DO.	DO.
REFRIG. CIRC. WATER PUMP	2	.003	3	.036	8	12	30	DO.	DO.
HALL MARK REFRIG. MOTOR	2	.010	7	.044	30	31	180	DO.	DO.
AUX. S.W. PUMP	2								

© 2020

Lloyd's Register Foundation

"	"	C	1	·6	91	·093	358	384	✓	360	DO.	DO.
"	"	D	1	·25	37	·093	200	214	✓	450	DO.	DO.
"	"	E. (REFRIG.)	4	3·0	91	·103	1842	1844	✓	75	DO.	DO.
"	"	WORK-	1	·06	19	·066	68	83	✓	210	DO.	DO.

W450-0105 314

MOTOR CONDUCTORS (CONT'D)

DESCRIPTION.	NO OF MOTORS	CONDUCTORS		COMPOSITION OF STRAND		TOTAL MAXIMUM CURRENT AMPS		APPROXIMATE LENGTH LEAD & RETURN FEET	INSULATED WITH	HOW PROTECTED	
		NO PER POLE	TOTAL EFFECT AREA PER POLE SQ. IN.	NO	DIA	IN CIRCUIT	RULE				
COOLER FANS . 35 IN.	7	1	·0225	7	·064	38	46	✓	150	RUBBER	HARD RUBBER.
" " . 30 IN.	7	1	·0145	7	·052	33	37	✓	120	Do.	Do.
" " . 25 IN.	5	1	·007	7	·036	18	24	✓	120	Do.	Do.
OIL VAPOUR FAN.	1	1	·007	7	·036	18	24	✓	180	Do.	Do.
WASTE HEAT BLOWER.	1	1	·003	3	·036	6	12	✓	300	Do.	Do.
GALLEY "	2	1	·002	3	·029	5	7·8	✓	40	Do.	Do.
CALORIER FAN.	4	1	·002	3	·029	3	7·8	✓	150	Do.	Do.
LUB. OIL PURIFIER	2	1	·0045	7	·029	10	18·2	✓	150	Do.	Do.
FUEL " "	2	1	·003	3	·036	6	12	✓	100	Do.	Do.
PURIFIED OIL PUMP	1	1	·0045	7	·029	10	18·2	✓	90	Do.	Do.
LATHE.	1	1	·003	3	·036	6	12	✓	70	Do.	Do.
DRILLING MACH.	1	1	·003	3	·036	8	12	✓	80	Do.	Do.
GRINDING "	1	1	·003	3	·036	8	12	✓	70	Do.	Do.



© 2020
Lloyd's Register
Foundation

FRESH WATER PUMP ...	1	1	·01	7	·044	28	31	✓	280	Do.	Do.
----------------------	---	---	-----	---	------	----	----	---	-----	-----	-----

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



Electrical Engineers.

Date 9th May 1935

COMPASSES.

Distance between electric generators or motors and standard compass 64 FEET FROM NEAREST MOTOR.

Distance between electric generators or motors and steering compass 60 FEET " " "

The nearest cables to the compasses are as follows:—

A cable carrying 0.09 Ampères ON feet from standard compass — feet from steering compass.

A cable carrying 0.09 Ampères — feet from standard compass ON feet from steering compass.

A cable carrying 0.7 Ampères 8 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

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.



Builder's Signature.

Date 13 May 1935

Is this installation a duplicate of a previous case? Similar to Yes If so, state name of vessel

Roslin Castle

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

The Electrical Installation is in accordance with the approved plans & the Rules. The generators were built under survey. Insulation tests have been made with satisfactory results. In our opinion the vessel is now eligible for the Society's Classification

W. H. L. J. 22/5/35.

Total Capacity of Generators 900 Kilowatts.

The amount of Fee ... £ 54 : - When applied for, 16 May 19 35

Travelling Expenses (if any) £ : : 30.5 19 35 31/5

R. Lee Amers + Charles Hunter Surveyor to Lloyd's Register of Shipping.

Committee's Minute FRI. 24 MAY 1935

Assigned

See minute on J.E. Rpt.

1m. 8. 80.—Transfer. (The Signatories are requested not to write on or behind the space for Committee's Minute.)



© 2020

Lloyd's Register Foundation