

Rpt. 13.

No. 106781

REPORT ON ELECTRICAL EQUIPMENT.

(OTHER THAN FOR THE PROPULSION OF THE VESSEL)

Received at London Office 26 FEB 6

Date of writing Report 19 When handed in at Local Office 15 FEB 1936 Port of LIVERPOOL

No. in Survey held at BIRKENHEAD Date, First Survey 4/11/35 Last Survey 6/21 1936
Reg. Book. (Number of Visits 15)

37772 on the T.S.M.V. "DUNEDIN STAR" Tons Gross 11168 Net 6855

Built at BIRKENHEAD By whom built CAMMELL LAIRD & CO. L.D. Yard No. 1009 When built 1936

Owners UNION COAL STORAGE CO. L.D. Port belonging to LONDON

Electric Light Installation fitted by THE SPUNDERLAND FORGE & ENG. CO. L.D. Contract No. 1009 When fitted 1936

Is the Vessel fitted for carrying Petroleum in bulk No. 25 31 340

System of Distribution Double Wire Pressure of supply for Lighting 220 volts, Heating 220 560 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 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 Yes, 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

Have machines over 100 kw. been inspected by the Surveyors during manufacture and testing 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 Engine Room 7 Port & 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 combustibles 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 Aft 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, 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 micaite 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

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

Main Switchgear, description of switchgear for each generator and each outgoing circuit, and arrangement of equalizer switches

FOR GEN'S: T.P., O.L., Reverse Current Trip C.B's. FOR OUTGOING CIRCUITS: 400V 200 AMP 12 DP, O.L., C.B. FOR CIRCUITS BELOW 200 AMP.

D.P. Quick Break Knife switches & D.P. fuses.

Are turbine driven generators fitted with emergency trip switch as per rule Yes

Are cupboards or compartments containing switchboards composed of fire-resisting material or lined with approved material Yes

Instruments on main switchboard 1 - TOTAL LOAD } ammeters 1 - LINE } 10 - OUTGOING } 1 - GEN }

For compound machines is the ammeter connected on the opposite pole to equaliser connection

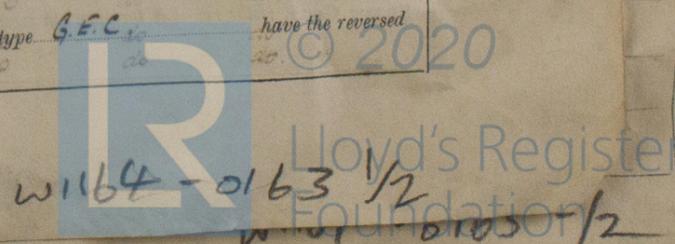
voltmeters synchronising device for paralleling purposes. For compound machines is the ammeter connected on the opposite pole to equaliser connection

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

Earth lamps

Switches, Circuit Breakers and Fusible Cut-outs, are the fusible cutouts of an approved type G.E.C. have the reversed

do these comply with the requirements of the Rules Yes



W1164-0163 1/2

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	340	220	1540	375	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 Nominal Area per Pole Sq. Ins.	No.	Diameter.	Circuit.	Rule.			
MAIN GENERATOR ...	3	.18	91	.093	1540	1683	137	V.C.	L.C.B.
EQUALISER CONNECTIONS ...	2	.8	61	.093	-	834	137	do	do
AUXILIARY GENERATOR ...									
EMERGENCY GENERATOR ...									
ROTARY TRANSFORMER MOTOR GENERATOR ...									
ENGINE ROOM ... No. 1	1	.01	7	.044	25	31	340	V.I.R.	L.C.B.
do Boiler Room ... No. 2	1	.01	7	.044	25	31	340	do	do
AUXILIARY SWITCHBOARDS ...									
FAN HEATERS M.A.B. 'A'	1	.06	19	.064	110	122	540	V.C.	L.C.B.
do 'B'	1	.06	19	.064	99	122	560	do	do
ACCOMMODATION ...									
LIGHTING M.A.B. 'A'	1	.0225	7	.064	46	68	520	V.C.	L.C.B.
do 'B'	1	.0225	7	.064	37	68	560	do	do
LIGHTING NAVIGY M.B.2	1	.0045	7	.029	8	18.2	190	V.I.R.	do
LOW POWER SW.B.D.	1	.0045	7	.029	6	18.2	162	do	do
WIRELESS ...	1	.01	7	.044	(20)	31	780	do	do
SEARCHLIGHT ...									
MASTHEAD LIGHT ...	1	.002	3	.029	18	78	410	V.I.R.	L.C.B.
SIDE LIGHTS ...	1	.002	3	.029	18	78	180	do	do
COMPASS LIGHTS ...	1	.002	3	.029	1	78	25	do	do
POOP LIGHTS ...	1	.002	3	.029	18	78	890	do	do
CARGO LIGHTS ...	1	.0225	7	.064	20	68	540	V.C.	do
ARC LAMPS ...	1	.0225	7	.064	20	68	1080	V.C.	do
HEATERS ...									

MOTOR CONDUCTORS.

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 ...	1	1	.04	19	.052	93	94	145	V.C.	L.C.B.
MAIN BILGE LINE PUMPS ...	1	1	.0225	7	.064	49	68	270	do	do
GENERAL SERVICE PUMP ...	1	1	.04	19	.052	93	94	127	do	do
EMERGENCY BILGE PUMP ...										
SANITARY PUMP ...	1	1	.04	19	.052	93	94	127	do	do
CIRC. SEA WATER PUMPS ...	3	1	.1	19	.083	162	172	284	do	do
CIRC. FRESH WATER PUMPS ...	2	1	.1	19	.083	170	172	284	do	do
AIR COMPRESSOR ...	2	1	.4	61	.093	395	417	240	do	do
Domestic FRESH WATER PUMP ...	1	1	.01	7	.044	23.5	31	310	V.I.R.	do
ENGINE TURNING GEAR ...	2	1	.0225	7	.064	58.5	68	300	V.C.	do
Aux. F.O.S.W. Circ Pump	1	1	.04	19	.052	97	94	180	do	do
ENGINE REVERSING GEAR ...	3	1	.04	19	.052	97	94	57	do	do
LUBRICATING OIL PUMPS ...	2	1	.0225	7	.064	56	64	140	do	do
OIL FUEL TRANSFER PUMP ...	1	1	.2	37	.083	300	338	405	do	do
WINDLASS ...	2	1	.1	19	.083	200	203	144	do	do
WINCHES, FORWARD ...	5	1	.075	19	.072	150	162	211	do	do
do do	6	1	.075	19	.072	150	162	246	do	do
do do	5	1	.075	19	.072	150	162	111	do	do
do do	4	1	.075	19	.072	150	162	208	do	do
STEERING GEAR WARPING WINCH	1	1	.1	19	.083	200	203	450	do	do
STEERING MOTOR GENERATOR	1	1	.15	37	.072	270	222	540	do	do
GEN. (b) MAIN MOTOR ...	2	1	.15	37	.072	270	222	580	do	do
WORKSHOP MOTOR ...	2	1	.003	3	.036	12	12	270	V.I.R.	do
VENTILATING FANS ...	5	1	.0045	7	.029	14	18.2	220	do	do
MOTOR M. SW.B.D. ESSENTIAL	-	1	.0225	7	.064	50	68	350	V.C.	do
do NON ESSENTIAL	-	1	.04	19	.052	70	94	515	do	do
OIL PURIFIERS ...	2	1	.003	3	.036	12	12	270	V.I.R.	do
do	2	1	.003	3	.036	8	12	270	do	do
F.D. FANS ...	1	1	.003	3	.036	10	12	250	do	do
FUEL OIL PUMP ...	1	1	.003	3	.036	10	12	100	do	do
AUX. ENG. F.V. PUMP ...	1	1	.003	3	.036	5	12	320	do	do



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.

J. Williams

Electrical Engineers.



P. PRO THE SUNDERLAND FORGE & ENGINEERING CO. LTD.

COMPASSES.

Distance between electric generators or motors and standard compass 45 ft approx

Distance between electric generators or motors and steering compass 37 ft approx

The nearest cables to the compasses are as follows:—

A cable carrying .1 Ampères 7 feet from standard compass 8 feet from steering compass.

A cable carrying .1 Ampères 8 feet from standard compass 7 feet from steering compass.

A cable carrying 8 Ampères 7 feet from standard compass 5 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 10 W degrees on all courses S E by S to S W by S course in the case of the standard compass, and 10 E degrees on all courses N E by N - N E by E course in the case of the steering compass.

CAMMELL LAIRD & Co. LIMITED

J. Cammell

Builder's Signature.

Date 13 FEB 1936

SECRETARY

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, etc. This installation has been fitted on)

board under special survey and in accordance with the approved plans and has been tried under full working conditions and found to be in order. The materials and workmanship have been found to be good & sound.

Noted

J. M. J.
2.3.36

Total Capacity of Generators 1020 Kilowatts.

The amount of Fee ... £ 70 : 10 : -
Lamin a/c. 7 : 7 : -
Travelling Expenses (if any) £ 3 : 18 : -
Lamin a/c. 18-3 19 36 1913

When applied for, 22 FEB 1936

When received, 18-3 19 36 1913

R. C. Clayton
Surveyor to Lloyd's Register of Shipping.

Committee's Minute LIVERPOOL 25 FEB 1936

Assigned Electric Light

The Surveys are requested not to write on or below the space for Committee's Minute



© 2020

Lloyd's Register Foundation