

Rpt. 13.

No. 60190

REPORT ON ELECTRICAL EQUIPMENT.

(OTHER THAN FOR THE PROPULSION OF THE VESSEL)

SEP 21 1938

Date of writing Report 12. 9. 1938 when handed in at Local Office 19. 9. 1938 Port of Glasgow. Received at London Office

No. in Survey held at Glasgow. Date, First Survey 3. 12. 37 Last Survey 10. 9. 1938 Number of Visits 22

Reg. Book. 71676 on the T.S.S "CANTON"

Tons Gross 15784 Net 9255

Built at Glasgow By whom built A. Stephen & Sons Ltd Yard No. 557 When built 1938

Owners P.O. Steam Navigation Co Port belonging to London

Electric Light Installation fitted by A. Stephen & Sons Ltd Contract No. 557 When fitted 1938

Is the Vessel fitted for carrying Petroleum in bulk No.

System of Distribution Two wire ✓

Pressure of supply for Lighting 220 ✓ volts, Heating 220 ✓ volts, Power 220 ✓ volts.

Direct or Alternating Current, Lighting Diesel Power Diesel

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 In main engine room. 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 Top of main engine room in special recess.

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

Triple pole circuit breakers (one pole equalising) fitted with 2% to 3% traps for each generator, D.P. circuit breakers as D.P. switch fuses

for each outgoing circuit.

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 11 ammeters 2

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

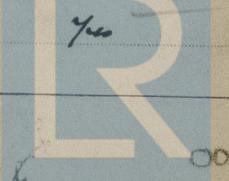
Yes Earth Testing, state what means are provided at the main switchboard for indicating the state of the insulation of the system

Earth Lamps.

do these comply with the requirements of the Rules Yes Are the fusible cutouts of an approved type Yes

have the reversed

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current protection devices been tested under working conditions	Yes.
construction, protection, insulation, material, and position of these as per rule	Yes.
Cables: Single, twin, concentric, or multicore. All types 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	—
Fall of Pressure, state maximum between bus bars and any point of the installation under maximum load	5.9 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 Cambrie Insulated Cables. If conductors are paper or varnished cambrie insulated, is the dielectric at the exposed ends of the conductor protected from moisture by being suitably sealed with insulating compound —, or waterproof insulating tape (Varnished) Is 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 couched or run in conduit	Yes.
Support and Protection of Cables, state how the cables are supported and protected Main L.C. & L.C.A.B. clamped. Machinery spaces L.C.A.B. Accommodation. L.C. Public rooms V.I.R in conduit.	—
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, are the cables and fittings in accordance with the special requirements	Yes.
Joints in Cables, state if any, and how made, insulated, and protected None	—
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 Cable sheathing & all apparatus bonded secured by means of clips & glands to take requirement	—
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	—
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	—
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 Kept protected by strong metal cased fittings & glass	Yes.
are any fittings placed in spaces where inflammable or explosive dust or gases are liable to be present, if so, how are they protected	—
how are the cables led	—
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	Yes.
are air heaters constructed and fitted as per Rule	Yes.
Searchlight Lamps, No. of One, whether fixed or portable	—
are their fittings as per Rule	Yes.
Arc Lamps, other than searchlight lamps, No. of —, 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 when possible 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 — and —	—
have machines of over 100 B.H.P been inspected by the Surveyor 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.

DESCRIPTION	CONDUCTORS		COMP. OF STRANDS	TOTAL MAX. CURRENT (AMP.)	RULE	APPROX. LENGTH L.F.R. (FEET)	INSULATION	PROTECTION
	NO. AREA	AREA						
<u>AUX. SWITCHBOARD "A" CIRCUITS</u>								
SECTION BOX A.P.1. FANS	1	'06	19	.064	944	135	210	VARN. CAMB.
GYRO PILOT CONTROL PANEL	1	'01	7	.044	30	31	225	RUBBER
CONTROL & BATTERY PANEL	1	'01	7	.044	30	31	285	"
PASSENGER LIFT	1	'0225	7	.064	29.3	75	240	V. C.
SECTION BOX A.P.2. FANS	1	'0225	7	.064	447	75	195	"
" " A.P.3. "	1	'0225	7	.064	44.6	75	375	"
" " A.P.4. "	1	'0225	7	.064	59	75	240	"
NAVIGATION LIGHTS DB ALI.	1	'01	7	.044	13.75	31	270	RUBBER
PUBLIC RM LTG. SEC. BOX AL3	1	'0225	7	.064	22.9	75	90	V.C.
OFFICERS LTG. " AL2	1	'0045	7	.029	10.1	18.2	270	RUBBER
DINING ROOM " AL8	1	'0225	7	.064	25.8	75	165	V.C.
1st ACE. LTG FOR " AL4.	1	'04	19	.052	85.8	104	60	"
" " BERTH LTG " AL5	1	'007	7	.036	17.9	24	63	RUBBER
HOLD & CARGO LTG " AL6	1	'0225	7	.064	47.6	75	60	V.C.
COLD STORES ETC LTG " AL9.	1	'0045	7	.029	7.3	18.2	150	RUBBER
CRENS QRS. LTG. " AL7.	1	'0225	7	.064	28	75	336	V.C.
SECTION BOX A.H.1. HEATERS	1	'04	19	.052	86.3	104	310	"
" " A.H.2. "	1	'06	19	.064	99.8	135	150	"
" " A.H.3. "	1	'04	19	.052	68	104	135	"
" " A.H.4. "	1	'04	19	.052	73	104	375	"
" " A.H.5. "	1	'06	19	.064	119	135	60	"
" " A.H.6. "	1	'10	19	.083	132.4	191	375	"
" " A.H.7. "	1	'04	19	.052	79.5	104	210	"
" " A.H.8. "	1	'10	19	.083	149	191	180	"
<u>AUX. SWITCHBOARD "B" CIRCUITS</u>								
SECTION BOX B.P.1. FANS	1	'10	19	.083	130.7	191	300	"
" " B.P.2. "	1	'06	19	.064	90	135	290	"
" " B.P.3. CINEMA	1	'0225	7	.064	20	75	426	"
" " B.P.4. FANS	1	'04	19	.052	73	104	90	"
" " B.H.1. HEATERS	1	'0225	7	.064	54.6	75	198	"
" " B.H.2. "	1	'06	19	.064	95.2	135	180	"
" " B.H.3. "	1	'04	19	.052	81.7	104	120	"
" " B.H.4. "	1	'10	19	.083	140	191	60	"
" " B.H.5. "	1	'06	19	.064	116	135	60	"
" " B.H.6. "	1	'0225	7	.064	62.4	75	240	"
" " BL1. PUBLIC RM AND DECK LTG.	1	'0225	7	.064	18.7	75	180	"
" " BL2. DANCING SPACE LIGHTING	1	'0225	7	.064	35	75	150	"
" " BL3. ACC. DECK LTG	1	'0225	7	.064	38.2	75	60	"
" " BL4. ACC. BERTH LTG	1	'0045	7	.029	6.4	18.2	90	RUBBER
" " BL5. 1st ACC. LTG	1	'0225	7	.064	59.1	75	150	V.C.
" " BL6. 1st ACC. BERTH LTG	1	'0045	7	.029	13	18.2	150	RUBBER
" " BL7. ENGINEERS' CLO. LIGHTING	1	'0045	7	.029	14	18.2	60	"
" " BL8. GALLEY LIGHTING	1	'0225	7	.064	29.3	75	120	V.C.
" " BL9. DINING Rm LTG	1	'01	7	.044	26	31	90	RUBBER

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Port of Glasgow.

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Continuation of Report No. 6 dated 10 - 9 - 38 on the

T.S.S. "CANTON"

DESCRIPTION	CONDUCTORS No. & AREA	COM. OF STRAND. No.	TOTAL MAX. CURRENT (AMPS)	CIRCUIT	ROPE LENGTH IN FEET	INSULATION	PROTECTION.
<u>AUX. SWITCHBOARD C. CIRCUITS.</u>							
CAPSTAN PANEL	1 '30 37	103	285	385	210	VARN. CAMBRA	L.C.
SECTION BOX C. PI. FANS	1 '0225 7	.064	58	75	120	"	"
" " CP2. CINEMA CONNECTION	1 '0225 7	.064	20	75	270	"	"
" " CPS. FANS	1 '10 19	.083	122	191	270	"	"
" " CP4. LAUNDRY MOTORS	1 '0225 7	.064	49.2	75	270	"	"
" " CH1. HEATERS	1 '04 19	.052	59	104	120	"	"
" " CH2 "	1 '0225 7	.064	39.4	75	270	"	"
" " CH3 "	1 '10 19	.064	118	185	160	"	"
" " CH4 "	1 '04 19	.052	70.5	104	195	"	"
" " CH5 "	1 '04 19	.052	67.7	104	228	"	"
" " CL1 SMOKE LG.	1 '007 7	.036	17.9	24	90	RUBBER	"
" " CL2 2nd CLASS	1 '01 7	.044	22	31	90	"	"
" " CL3 HOLO LG.	1 '0225 7	.064	144.9	75	60	V.C.	"
" " CL4 2nd CLASS LG	1 '0225 7	.064	58.8	75	60	"	"
" " CL5 2nd CLASS ACFT CREW	1 '01 7	.044	25.5	31	60	RUBBER	"
" " CL6 ACFT CREW	1 '007 7	.036	20.6	24	165	"	"
<u>AUX. SWITCHBOARD (D) CIRCUITS.</u>							
NATIVE GALLEY RANGE PANEL	1 '10 19	.064	109	135	690	V.C.	L.C.A.B.
GALLEY RANGE IN SALOON PANTRY	1 '15 37	.072	219	246	240	"	"
" " " " 1 '15 37	.072	244	246	240	"	"	"
" " " " 1 '10 19	.063	146	191	210	"	"	"
" " " " 1 '10 19	.063	146	191	210	"	"	"
ROASTER IN SALOON PANTRY	1 '01 7	.044	26	31	276	RUBBER	"
SECT. BOX D.P.S. REFRIG. MACHINES	1 '0225 7	.064	52	75	300	V.C.	"
" " DP4 GRIDDLE ETC.	1 '0225 7	.064	48.5	75	198	"	"
BAKERS OVEN	1 '06 19	.064	91	135	198	"	"
SECT. BOX D.P.3. DISH WASHERS	1 '01 7	.044	29.7	31	198	RUBBER	"
WHIPPING DRUM. PORT.	1 '01 7	.044	26	31	210	"	"
" " STAR. 1	1 '01 7	.044	26	31	210	"	"
SECT. BOX D.P.1. REFRIG. MACHINES	1 '0225 7	.064	47	75	144	V.C.	"
" " D.P.2 DISHWASHERS	1 '01 7	.044	24	31	210	RUBBER	"
GRILL IN SALOON PANTRY	1 '0225 7	.064	141.6	75	210	V.C.	"
<u>AUX. SWITCHBOARD E. POWER CIRCUITS.</u>							
STEERING GEAR PANEL	1 '15 37	.072	174	246	468	"	"
SECT. BOX EAI BOAT WINCHES	1 '06 19	.064	98.6	135	200	"	"
" " EP2. M/T DOORS	1 '0225 7	.064	40	75	600	"	"
SUPPLY EMERGENCY TO MAIN SW.	1 '30 37	.103	250	385	600	"	"
" MAIN SW. TO EM. BOTTEN	1 '30 37	.103	250	385	600	"	"
EMERGENCY SWITCHBOARD LIGHTING CIRCUITS							
EM. SUPPLY TO AUX. B. "A"	1 '0225 7	.064	26	75	360	"	"
" " " " B	1 '0225 7	.064	40	75	260	"	"
" " " " C	1 '0225 7	.064	13.2	75	580	"	"
SECT. BOX. E1.	1 '007 7	.036	6.6	24	336	RUBBER	"
" " E2	1 '0225 7	.064	21.8	75	336	V.C.	"
" " E3	1 '003 3	.036	2.7	12	60	RUBBER	"

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T.S.S. CANTON.

CIRCUIT	DESCRIPTION	CONDUCTORS No. FOR CIRCUIT	AREA No.	COMB. OF STREAMS		TOTAL MAX. CURRENT CAPACITY	APPARENT LENGTH L" R (FEET)	INSULATION	PROTECTION
				DIA MM.	CIRCUIT				
012	AUXILIARY SWITCHBOARD F' CIRCUITS	1	'01	7	.044	25	31 ✓	125	RUBBER
021	SECTION BOX F.S.I. WORKSHOP	1	'0225	7	.064	56.8	75 ✓	60	V.C.
022	F.S.2 FANS	1	'04	19	.052	74.2	104 ✓	96	"
023	AUXILIARY BOARD G' CIRCUITS	1	'06	19	.064	99.3	135 ✓	160	"
024	SECTION BOX G.S.I. WORKSHOP ETC	1	'06	19	.064	98.8	135 ✓	160	"
025	G.S.2. F.W. PUMPS ETC	1	'06	37	.072	128	246 ✓	215	"
026	G.S.2 TURNING MACHINERY	1	'06	37	.072	175	191 ✓	230	"
027	MAIN SWITCHBOARD CIRCUITS	2	'10	37	.072	174	246 ✓	714	"
028	ER. FANS SECTION BOX MS.2.	1	'15	37	.072	174	246 ✓	837	"
029	BR. " " " MS.1.	1	'15	61	.103	-	1080 ✓	234	"
030	STEERING GEAR SUPPLY (PORT)	1	'15	37	.072	174	246 ✓	246	"
031	" " " (STAR)	1	'15	37	.072	174	246 ✓	246	"
032	SHORE CONNECTION	2	'10	37	.072	174	246 ✓	246	"
033	MOTOR CONDUCTORS	1	'10	19	.083	153	191 ✓	246	"
034	AUX CIRCULATING PUMP	1	'01	7	.044	27	31 ✓	246	RUBBER
035	DISTILLED WATER "	1	'0045	7	.029	12.7	18.2 ✓	120	"
036	OILY BILGE PUMP	1	'003	3	.036	6.45	12.0 ✓	200	"
037	OF. PRESSURE PUMP (HARBOUR)	1	'003	7	.064	19.2	76 ✓	300	V.C.
038	" " " (2) MAIN	1	'0025	7	.064	19.2	246 ✓	310	"
039	HARBOUR FEED PUMP	1	'15	37	.072	212	246 ✓	310	"
040	REFRIGERATING MACHINERY COMPRESSORS (2)	1	'30	37	.103	330	385 ✓	90	"
041	SEA WATER PUMP	1	'01	7	.044	30	31 ✓	80	RUBBER
042	BRINE PUMPS (3)	1	'0225	7	.064	35	75 ✓	110	V.C.
043	PROVISION BY BRINE PUMPS (2)	1	'002	3	.029	3.5	7.8 ✓	120	RUBBER
044	REFRIG. FANS 6.2 HP. (1)	1	'01	7	.044	29	31 ✓	96	"
045	" 6.2 HP. (1)	1	'007	7	.036	19	24 ✓	108	"
046	" 1 HP. (3)	1	'002	3	.029	5	7.8 ✓	220	"
047	" 2 HP (2)	1	'003	3	.036	6.5	12 ✓	120	"

CIRCUIT	DESCRIPTION	CONDUCTORS No. FOR CIRCUIT	AREA No.	COMB. OF STREAMS		TOTAL MAX. CURRENT CAPACITY	APPARENT LENGTH L" R (FEET)	INSULATION	PROTECTION
				DIA MM.	CIRCUIT				
048	AUXILIARY SWITCHBOARD F' CIRCUITS	1	'01	7	.044	25	31 ✓	125	RUBBER
049	SECTION BOX F.S.I. WORKSHOP	1	'0225	7	.064	56.8	75 ✓	60	V.C.
050	F.S.2 FANS	1	'04	19	.052	74.2	104 ✓	96	"
051	AUXILIARY BOARD G' CIRCUITS	1	'06	19	.064	99.3	135 ✓	160	"
052	SECTION BOX G.S.I. WORKSHOP ETC	1	'06	19	.064	98.8	135 ✓	160	"
053	G.S.2. F.W. PUMPS ETC	1	'06	37	.072	128	246 ✓	215	"
054	G.S.2 TURNING MACHINERY	1	'06	37	.072	175	191 ✓	230	"
055	MAIN SWITCHBOARD CIRCUITS	2	'10	37	.072	174	246 ✓	714	"
056	ER. FANS SECTION BOX MS.2.	1	'15	37	.072	174	246 ✓	837	"
057	BR. " " " MS.1.	1	'15	61	.103	-	1080 ✓	234	"
058	STEERING GEAR SUPPLY (PORT)	1	'15	37	.072	174	246 ✓	246	"
059	" " " (STAR)	1	'15	37	.072	174	246 ✓	246	"
060	SHORE CONNECTION	2	'10	61	.103	-	1080 ✓	234	"
061	MOTOR CONDUCTORS	1	'10	19	.083	153	191 ✓	246	"
062	AUX CIRCULATING PUMP	1	'01	7	.044	27	31 ✓	246	"
063	DISTILLED WATER "	1	'0045	7	.029	12.7	18.2 ✓	120	"
064	OILY BILGE PUMP	1	'003	3	.036	6.45	12.0 ✓	200	"
065	OF. PRESSURE PUMP (HARBOUR)	1	'003	7	.064	19.2	76 ✓	300	V.C.
066	" " " (2) MAIN	1	'0025	7	.064	19.2	246 ✓	310	"
067	HARBOUR FEED PUMP	1	'15	37	.072	212	246 ✓	310	"
068	REFRIGERATING MACHINERY COMPRESSORS (2)	1	'30	37	.103	330	385 ✓	90	"
069	SEA WATER PUMP	1	'01	7	.044	30	31 ✓	80	RUBBER
070	BRINE PUMPS (3)	1	'0225	7	.064	35	75 ✓	110	V.C.
071	PROVISION BY BRINE PUMPS (2)	1	'002	3	.029	3.5	7.8 ✓	120	RUBBER
072	REFRIG. FANS 6.2 HP. (1)	1	'01	7	.044	29	31 ✓	96	"
073	" 6.2 HP. (1)	1	'007	7	.036	19	24 ✓	108	"
074	" 1 HP. (3)	1	'002	3	.029	5	7.8 ✓	220	"
075	" 2 HP (2)	1	'003	3	.036	6.5	12 ✓	120	"



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.	In Circuit.		Fuel Used.	Flash Point of Fuel.
MAIN	3	450	220	2045	1000	191	Steam Turbine		
AUXILIARY									
EMERGENCY	1	55	220	250	60	191	Diesel Engine	Diesel Oil	Above 150° F
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.					
MAIN GENERATOR	3	2.65	127	.093	2045	2445	160	Varn. Cubic	L.C.A.B
EQUALISER CONNECTIONS	2	1.80	91	.093	-	1248	80	"	"
AUXILIARY GENERATOR	1	.30	37	.103	250	385	78	"	"
EMERGENCY GENERATOR									
ROTARY MOTOR									
TRANSFORMER									
ENGINE ROOM	1	.04	19	.052	61	104	90	"	L.C.A.B
BOILER ROOM									
AUXILIARY SWITCHBOARDS A	2	1.5	91	.103	1075	1476	330	"	L.C
" " A1	1	.75	91	.103	660	788	400	"	"
" " B	1	1.0	127	.103	976	932	260	"	"
" " C	1	1.0	127	.103	623	932	490	"	"
" " D	2	1.5	91	.103	960	1476	270	"	"
" " E	1	.30	37	.103	240	385	620	"	"
ACCOMMODATION	F	1	1.0	127	.103	550	932	380	L.C.A.B
" " G	1	1.0	127	.103	900	932	270	"	"
WIRELESS								Rubber	L.C.
SEARCHLIGHT								V.C.	"
MASTHEAD LIGHT								Rubber	"
SIDE LIGHTS								"	"
COMPASS LIGHTS								"	"
POOP LIGHTS									
CARGO LIGHTS									
ARC LAMPS									
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.					
BALLAST PUMP	1	1	.10	19	.082	155	191	130	V.C.	L.C.A.B.
MAIN BILGE LINE PUMPS	1	1	.10	19	.082	155	191	100	"	"
AUX CIRCULATING PUMP	1	1	.10	19	.082	153	191	246	"	"
GENERAL SERVICE PUMP	1	1	.10	19	.082	145	191	310	"	"
EMERGENCY BILGE PUMP										
SANITARY PUMP	2	1	.10	19	.083	155	191	160	"	"
INDUCED DRAUGHT FANS	4	1	.04	19	.052	89	104	500	"	"
LAUNDRY MOTOR	1	1	.01	7	.044	31.8	31	120	Rubber	"
GEN. FRESH WATER PUMPS	1	1	.01	7	.044	44	75	300	V.C.	"
AIR COMPRESSOR	1	1	.0225	7	.064	27	31	130	Rubber	"
FRESH WATER PUMP	3	1	.01	7	.044	30	75	110	V.C.	"
ENGINE TURNING GEAR	2	1	.0225	7	.064	24	24	110	Rubber	L.C.
TUNNEL VENT. FAN	1	1	.007	7	.036	18.5	24	110	"	"
ENGINE PUMPING GEAR										
LUBRICATING OIL PUMPS	2	1	.04	19	.052	92	104	160	V.C.	"
OIL FUEL TRANSFER PUMP	2	1	.0225	7	.064	47	75	290	"	L.C.A.B.
CAPTAINS AFT	2	1	.20	37	.083	238	296	120	"	"
WINDLASS	2	1	.30	37	.103	170	385	60	"	L.C.
WINCHES, FORWARD	8	1	.06	37	.064	120	184	240	"	"
" MIDSHIP	2	1	.15	37	.073	184	246	180	"	"
WINCHES, AFT	4	1	.06	19	.064	120	185	190	"	"
BOAT FORCED DRAUGHT FANS	6	1	.0225	7	.064	49.3	75	190	"	"
STEERING GEAR	4	1	.04	19	.052	79	104	400	"	L.C.A.B.
(a) MOTOR GENERATOR										
(b) MAIN MOTOR	2	1	.15	37	.072	174	246	760	"	"
WORKSHOP MOTOR	1	1	.01	7	.044	22	31	160	Rubber	"
VENTILATING FANS	4	1	.0225	7	.064	32	75	330	V.C.	"
LUB. OR PURIFIERS	2	1	.003	3	.036	10.5	12	120	Rubber	"
SEWAGE PUMPS	2	1	.0225	7	.064	30.6	75	110	V.C.	"
FIRE SPRINKLER PUMP	1	1	.15	37	.072	211	246	228	"	"
AUX. BILGE PUMP	1	1	.01	7	.044	27	31	180	Rubber	"
MAIN EXTRACTION PUMPS	2	1	.0225	7	.064	64	75	220	V.C.	"
AUX. " "	3	1	.01	7	.044	26	31	186	Rubber	"
BATH HEATER PUMP	1	1	.0225	7	.064	41	75	120	V.C.	"

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
ALEXANDER STEPHEN & SONS LIMITED

Electrical Engineers.

Date 15/9/38

A. W. Stephen

Director

COMPASSES.

Distance between electric generators or motors and standard compass

14 ft

Distance between electric generators or motors and steering compass

20 ft

The nearest cables to the compasses are as follows :—

A cable carrying .09 Ampères inside feet from standard compass inside feet from steering compass.

A cable carrying 1.3 Ampères 14 feet from standard compass 20 feet from steering compass.

A cable carrying 13.7 Ampères 45 feet from standard compass 30 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 2° degrees on Any course in the case of the standard compass, and 2° degrees on Any course in the case of the steering compass.

FOR
ALEXANDER STEPHEN & SONS LIMITED

Builder's Signature.

Date 15/9/38

A. W. Stephen Director

Is this installation a duplicate of a previous case

6

If so, state name of vessel

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

The electrical equipment of this vessel has been fitted on board under special survey, tested under full working conditions & found satisfactory. The materials and workmanship are good.

Noticed
L.S.
22/9/38.

AB
19/9/38

Total Capacity of Generators 1405 Kilowatts.

The amount of Fee £ 80 : 2 : 6 When applied for,
($\frac{4}{5}$ due Glasgow £ 64 : 2 : 0) 20/9/38.
 $\frac{1}{5}$ due London 16 : 0 : 0 When received.

Travelling Expenses (if any) £ 4 : 9 : 6 19/11/38

A. Stephen R. J. Murchison
Surveyors to Lloyd's Register of Shipping.