

REPORT ON ELECTRICAL EQUIPMENT.

(OTHER THAN FOR THE PROPULSION OF THE VESSEL)

Received at London Office.....

Date of writing Report.....19..... When handed in at Local Office.....12. 11. 1941 Port of Belfast
 No. in Survey held at Belfast Date, First Survey 6-8-40 Last Survey 22-10-1941
 Reg. Book. (Number of Visits.....22.....)
 on the MV "EMARE HOPE" Tons { Gross 12688
 Net 7640
 Built at Belfast By whom built Harland & Wolff Ltd Yard No. 1050 When built 1941
 Owners Ministry of Shipping Port belonging to London
 Electrical Installation fitted by Harland & Wolff Ltd Contract No. 1050 When fitted 1941
 Is vessel fitted for carrying Petroleum in bulk no Is vessel equipped with D.F. Yes E.S.D. Yes Gy.C. no Sub.Sig. no

Have plans been submitted and approved Yes System of Distribution Two busie Voltage of supply for Lighting 220
 Heating 220 Power 220 Direct or Alternating Current, Lighting DC Power DC If Alternating Current state periodicity..... Prime Movers,
 has the governing been tested and found as per Rule when full 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 Yes, are shunt field regulators provided Yes Is the compound winding connected to the negative or positive pole
negative Have machines over 100 kw. been inspected by the Surveyors during manufacture and testing Yes 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 In engine room. Two on port side, one on starb. side
floor level 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 Aft end of Eng. Rm. upper deck level

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 Insulating, if of synthetic insulating material is it an Approved Type Yes, if of
 semi-insulating material (slate or marble) are all conducting parts insulated therefrom as per Rule..... 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 1500 amp 6 pole
Circuit breakers (Circuit pole equalisers) fitted with overload, reverse current & shunt trips
 and for each outgoing circuit D.P. Circuit breakers with overload trips & D.P. switch fuses.

Are compartments containing switchboards composed of fire-resisting material or lined as per Rule Yes Instruments on main switchboard 3
 ammeters 2 voltmeters..... synchronising devices. For compound machines in parallel is the ammeter connected on the pole opposite to the
 equaliser connection Yes Earth Testing, state means provided Earth lamps
 Switches, Circuit Breakers and Fuses, are they as per Rule Yes, are the fuses an approved type Yes, are all fuses labelled as
 per Rule Yes If circuit breakers are provided for the generators, at what overload current did they open when tested 1500 amp (normal rating) are the reversed current
 protection devices connected on the pole opposite to the equaliser connection Yes, have they been tested under working conditions, and at what current
 did they operate Yes 225 amp Joint Boxes, Section Boards and Distribution Boards, is the construction and position as per Rule Yes
 Cables, are they insulated and protected as per the appropriate Tables of the Rules Yes, if otherwise than as per Rule are they of an approved type.....
 state maximum fall of pressure between bus bars and any point under maximum load 5.14 Volt are the ends of all cables having a sectional area of 0.04
 square inch and above provided with soldering sockets Yes Are paper insulated and varnished cambric insulated cables sealed at the ends.....



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MAIN DISTRIBUTION CABLES.

DESCRIPTION.	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.	Rate.			
AUX. SWITCHBOARDS AND SECTION BOARDS AND ...							
MAIN SWITCH BOARD INTERCONNECTOR.	1	37/083	140	184 ✓	225	Rubber	H.R. Brackets
MASTERBOARDS. 'A' WINCHES	1	91/103	400	461 ✓	300	"	" "
'A' HEATING & COOKING	1	91/103	350	384 ✓	300	"	" "
'B' 'C' WINCHES WINDLASS & D.G.	1	91/103	444	461 ✓	600	"	" "
'D' WINCHES & D.G.	1	61/103	325	332 ✓	150	"	" "
'E' WINCHES & STEERING GEAR.	1	91/103	400	461 ✓	250	"	" "
'E' HEATING.	1	37/083	175	184 ✓	250	"	" "
'F' REFRIG. FANS ETC.	2	127/093	970	1024 ✓	150	"	" "

LIGHTING AND HEATING, ETC., CABLES.

WIRELESS	1	19/064	27.5	83	✓	250	Rubber	H.R.B. L.C.
NAVIGATION LIGHTS	1	7/064	20	46	✓	270	"	" "
LIGHTING AND HEATING								
MAST HEAD LIGHT	1	3/029	0.18	5	✓	500	"	" "
SIDE LIGHTS.	1	3/029	0.18	5	✓	80	"	L.C.
STERN LIGHT.	1	3/029	0.18	5	✓	800	"	H.R.B. L.C.
COMPASS LIGHTS.	1	3/029	0.10	5	✓	25	"	L.C.
CARGO LIGHTING FORWARD.	1	19/064	14	83	✓	300	"	H.R.B.
" " AFT.	1	19/064	17	83	✓	360	"	"
600 W. 750 W. 1000 W. HEATERS	1	3/029	2.72/4.55	5	}	VARIOUS	"	"
1500 W. 2000 W. HEATERS.	1	3/036	6.82/9.1	10		LENGTHS	"	"
2500 W. HEATERS.	1	7/029	11.36	15		"	"	"
10" SIGNALLING PROJECTOR.	1	7/029	10	15	✓	100	"	L.C.

MOTOR CABLES.

ALL IMPORTANT MOTORS TO BE ENUMERATED.	No.	B.H.P.							
AIR COMPRESSORS	2	100	1	9/1093	380	384 ✓	320	Rubber	H. R. Broadent.
LUB OIL PUMPS	3	86	1	6/1103	323	332 ✓	210	"	"
MAIN SW. PUMPS	3	36	1	37/072	137	152 ✓	320	"	"
MAIN. F.W. PUMPS	2	26	1	19/083	100	118 ✓	320	"	"
BALLAST PUMP	1	26	1	19/083	100	118 ✓	340	"	"
GENERAL SERVICE PUMP.	1	24	1	19/072	93	97 ✓	330	"	"
SANITARY PUMP	1	22	1	19/072	86	97 ✓	330	"	"
TURNING GEAR MOTORS.	2	15	1	19/052	58.5	64 ✓	210	"	"
BILGE PUMPS	2	13	1	19/052	51	64 ✓	270	"	"
F.O. TRANSFER PUMPS	2	12	1	19/044	47	53 ✓	270	"	"
REFRIG. SEAWATER PUMPS	2	18	1	19/064	72	83 ✓	400	"	"
MOTOR ROOM. VENT FANS	2	2	1	7/029	8	15 ✓	250	"	"
Do	3	1.75	1	7/029	765	15 ✓	250	"	"
VAPOUR EXTRACTION FANS	2	4.5	1	7/036	18	24 ✓	260	"	"
6 TON HOISTS. MOTOR ROOM	2	5.0	1	7/044	20	31 ✓	60	"	"
F.O. PURIFIERS	3	2.5	1	7/029	11	15 ✓	60	"	"
L.O. PURIFIERS	1	2.5	1	7/029	11	15 ✓	60	"	"
PURIFIED F.O. PUMP.	1	1.75	1	3/036	7.8	10 ✓	60	"	"
LATHE	1	2	1	3/036	8	10 ✓	40	"	"
GRINDER.	1	2	1	3/036	8	10 ✓	60	"	"
DRILLING M/C	1	2	1	3/036	8	10 ✓	60	"	"
AUX. S.W. PUMP	1	8	1	7/052	32.5	37 ✓	60	"	"
AUX F.W. PUMP	1	5	1	7/036	21	24 ✓	60	"	"
HALLMARK M/C	1	0.75	1	3/036	3.8	10 ✓	100	"	"
BOILER BLOWER.	1	2	1	3/036	8	10 ✓	66	"	"
CALLEY RANGE BLOWERS	2	0.3	1	3/029	1.3	5 ✓	60	"	"
DOMESTIC F.W. PUMP.	1	7.0	1	7/044	28	31 ✓	240	"	"
REFRIG BRINE PUMPS	4	18	1	19/064	72	83 ✓	150	"	"
Do PLUNGER BRINE PUMP	1	3.25	1	7/029	13	15 ✓	150	"	"

MAIN DISTRIBUTION CABLES.

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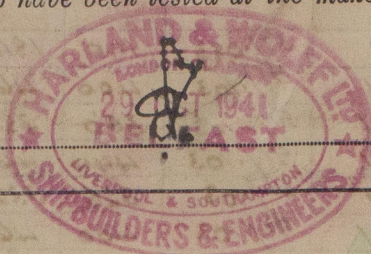
LIGHTING AND HEATING, ETC., CABLES.

WIRELESS	1	19/064	27.5	83	✓	280	Rubber	HRB. L.C.
NAVIGATION LIGHTS DB. No 1.	1	7/064	20	46	✓	270	"	" "
LIGHTING AND HEATING								
MAST HEAD LIGHT	1	3/029	0.18	5	✓	500	"	" "
SIDE LIGHTS.	1	3/029	0.18	5	✓	80	"	L.C.
STERN LIGHT.	1	3/029	0.18	5	✓	800	"	H.R.B. L.C.
COMPASS LIGHTS.	1	3/029	0.10	5	✓	25	"	L.C.
CARGO LIGHTING FORWARD.	1	19/064	14	83	✓	300	"	H.R.B.
" " AFT.	1	19/064	17	83	✓	360	"	"
00 W. 750 W. 1000 W. HEATERS	1	3/029	2.72/4.55	5	✓	VARIOUS	"	"
500 W. 2000 W. HEATERS.	1	3/036	6.82/9.1	10	✓	LENGTHS	"	"
2500 W. HEATERS.	1	7/029	11.36	15	✓		"	"
10" SIGNALLING PROJECTOR.	1	7/029	10	15	✓	100	"	L.C.

MOTOR CABLES.

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MAIN SW. PUMPS	3	36	1	37/072	137	152	✓	320	"	"
MAIN. F.W. PUMPS	2	26	1	19/083	100	118	✓	320	"	"
BALLAST PUMP	1	26	1	19/083	100	118	✓	340	"	"
GENERAL SERVICE PUMP.	1	24	1	19/072	93	97	✓	330	"	"
SANITARY PUMP	1	22	1	19/072	86	97	✓	330	"	"
TURNING GEAR MOTORS.	2	15	1	19/052	58.5	64	✓	210	"	"
BILGE PUMPS	2	13	1	19/052	51	64	✓	270	"	"
F.O. TRANSFER PUMPS	2	12	1	19/044	47	53	✓	270	"	"
REFRIG. SEAWATER PUMPS	2	18	1	19/064	72	83	✓	400	"	"
MOTOR ROOM. VENT FANS	2	2	1	7/029	8	15	✓	250	"	"
Do.	3	1.75	1	7/029	7.65	15	✓	250	"	"
VAPOUR EXTRACTION FANS	2	4.5	1	7/036	18	24	✓	260	"	"
TON HOISTS. MOTOR ROOM	2	5.0	1	7/044	20	31	✓	60	"	"
F.O. PURIFIERS	3	2.5	1	7/029	11	15	✓	60	"	"
F.O. PURIFIERS	1	2.5	1	7/029	11	15	✓	60	"	"
PURIFIED F.O. PUMP.	1	1.75	1	3/036	7.8	10	✓	60	"	"
ATHE	1	2	1	3/036	8	10	✓	40	"	"
GRINDER.	1	2	1	3/036	8	10	✓	60	"	"
MILLING M/C	1	2	1	3/036	8	10	✓	60	"	"
IX. S.W. PUMP	1	8	1	7/052	32.5	37	✓	60	"	"
IX. F.W. PUMP	1	5	1	7/036	21	24	✓	60	"	"
MALLMARK M/C	1	0.75	1	3/036	3.8	10	✓	100	"	"
BOILER BLOWER.	1	2	1	3/036	8	10	✓	66	"	"
VALLEY RANGE BLOWERS	2	0.3	1	3/029	1.3	5	✓	60	"	"
DOMESTIC F.W. PUMP.	1	7.0	1	7/044	28	31	✓	240	"	"
REFRIG BRINE PUMPS	4	18	1	19/064	72	83	✓	150	"	"
Do. PLUNGER BRINE PUMP	1	3.25	1	7/029	13	15	✓	150	"	"

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.



Electrical Engineers.

Date 29/10/41.

COMPASSES.

Minimum distance between electric generators or motors and standard compass 25 ft

Minimum distance between electric generators or motors and steering compass 22 ft

The nearest cables to the compasses are as follows:—

A cable carrying 0.25 Ampères 4 feet from standard compass 8 feet from steering compass.

A cable carrying 0.10 Ampères 8 feet from standard compass 4 feet from steering compass.

A cable carrying 13 Ampères 4 feet from standard compass 6 feet from steering compass.

Have the compasses been adjusted with and without the electric installation at work at full power 29 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 1/2 degrees on any course in the case of the

standard compass, and 1/2 degrees on any course in the case of the steering compass.



Builder's Signature.

Date 29/10/41.

Is this installation a duplicate of a previous case? No If so, state name of vessel

Plans. Are approved plans forwarded herewith? No If not, state date of approval 15/5/40, 22/5/40, 2/7/40, 6/8/40, 10/3/41

Certificates. Are certificates of test for motors engaged on essential services and generators forwarded herewith? Yes

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 special survey tested under full working conditions and found and found satisfactory the materials and workmanship are good.

Noted
LH
18/11/44

Total Capacity of Generators 1015 Kilowatts.

The amount of Fee... £ 70 : 2 : 6
Credit to Belfast 35.1.3
Credit to Liverpool 35.1.3
Travelling Expenses (if any) £ 17 : 10 : 6
Specification 25%
When applied for, 1/11/1941
When received, 1941

L. Haffner & R. Shaw
Surveyors to Lloyd's Register of Shipping.

Committee's Minute

Assigned See Bel J.C. 13091



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