

REPORT ON ELECTRICAL EQUIPMENT.

(OTHER THAN FOR THE PROPULSION OF THE VESSEL)

Received at London Office.....

Date of writing Report... 22-1-1941 When handed in at Local Office... 19... Port of... Belfast
 No. in Survey held at... Belfast... Date, First Survey... 11 Jan 1940 Last Survey... 23 Jan 1941
 Reg. Book. (Number of Visits...)
 89566. on the M.V. "PAMPAS" Tons {Gross... 5415 Net... 3080
 Built at... Belfast By whom built... Harland & Wolff Ltd. Yard No. 1027 When built... 1940/1
 Owners... Royal Mail Lines Ltd. Port belonging to... London
 Electrical Installation fitted by... Harland & Wolff Ltd. Contract No. 1027 When fitted... 1940/1
 Is vessel fitted for carrying Petroleum in bulk... No Is vessel equipped with D.F. yes E.S.D. yes Gy.C. yes Sub.Sig. no

Have plans been submitted and approved... yes System of Distribution... 2 wire Voltage of supply for Lighting... 220

Heating... 220 Power... 220 Direct or Alternating Current, Lighting... Direct Power... Direct 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... yes, 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... 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... No. 1 & No. 2 Generators Motor Room Port No. 3 Generator Motor Room Starboard

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... Motor Room Aft at Lower 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... Sindanga, 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... 800 AMP D.P. circuit

Breaker with Equalizer switch of Load & Reverse current

and for each outgoing circuit... For circuits over 150 AMPS capacity D.P. circuit Breaker with Load & Reverse

For motor room auxiliaries D.P. switch & D.P. fuses

For lighting etc. circuits S.P. switch & D.P. fuses

Are compartments containing switchboards composed of fire-resisting material or lined as per Rule... yes Instruments on main switchboard... 11

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... 2 lamps connected to "Earth" with 2 S.P. switches & D.P. fuses



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, are the reversed current protection devices connected on the pole opposite to the equaliser connection yes, have they been tested

under working conditions yes. 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 —

5-2 Lighting
state maximum fall of pressure between bus bars and any point under maximum load 8.8 Bars 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 exposed ends —

with insulating compound — or waterproof insulating tape —. 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 yes, are cables laid under machines or floorplates —, if so, are they adequately

protected —. Are cables in machinery spaces, galleys, laundries, etc., lead covered TYPES or run in conduit —. State how the cables are

supported and protected Generally H.R. Type cables. Lead covered in vicinity of navigating

Bridge & Wireless Room. Cables run in pipe on Shelter Deck. H.R. Type

Are all lead sheaths, armouring and conduits effectually bonded and earthed yes. Refrigerated chambers, are the cables and fittings as per Rule yes

Are all cables passing through decks and watertight bulkheads provided with deck tubes or watertight glands yes, where unarmoured cables pass through

beams, etc., are the holes effectively bushed yes and with what material Lead. Alternative Lighting, are

the groups of lights in the engine and boiler rooms arranged as per Rule yes. Emergency Supply, state position —

— and method of control —

Navigation Lamps, are they separately wired yes controlled by separate

double pole switches yes and fuses yes. Are the switches and fuses in a position accessible only to the officers on watch yes, is an

automatic indicator fitted yes. Secondary Batteries, are they constructed and fitted as per Rule —, are they adequately ventilated —

Fittings, are all fittings on weather decks, in stokeholds and engine rooms and wherever exposed to drip or condensed moisture, weatherproof yes. Are fittings

installed where readily combustible materials or inflammable or explosive dust or gases are likely to be present yes, if so, how are they protected —

magazine Light wiring run in conduit

and where are the controlling switches fitted outside compartment, are all fittings suitably ventilated yes

are all fittings and accessories constructed and installed as per Rule yes. Searchlight Lamps, No. of —, whether fixed or portable —

—, are their fittings as per Rule —. Heating and Cooking, is the general construction as per Rule yes

are the frames effectually earthed yes, are heaters in the accommodation of the convection type yes. Motors, are all motors constructed and

installed as per Rule yes and placed in well-ventilated compartments in which inflammable gases cannot accumulate and free from damage from water,

steam and oil yes, if situated near unprotected combustible material state minimum distance from same horizontally — and vertically —

Have motors of 100 BHP and over been inspected by the Surveyors during manufacture and testing yes. Have certificates of test for motors under

100 BHP intended for essential services been supplied and the results found as per Rule yes. Control Gear and Resistances, are they constructed and

fitted as per Rule yes. Lightning Conductors, where required are they fitted as per Rule yes. 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 —, are all fuses of the 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 flameproof

type —. Spare Gear, if the vessel is for open sea service have spares been provided as per Rule yes, are they suitably stored in dry

situations yes. Insulation Tests, has the insulation resistance of all circuits and apparatus been megger tested and found satisfactory yes

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	175	220	796	375	BRITISH POLAR DIESEL ENGINE	DIESEL OIL	ABOVE 150° F
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 For Pole.	Sectional Area or No. and Dia. of Strands. Sq. ins. or sq. mm.	In the Circuit.	Rule.			
MAIN GENERATOR	175	2	91/103	796	922	185	V.I.R.	HARD RUBBER
" " EQUALISER	—	—	91/103	—	461	—	V.I.R.	HARD RUBBER
EMERGENCY GENERATOR								
ROTARY TRANSFORMER: MOTOR								
" " GENERATOR								

MAIN DISTRIBUTION CABLES.

AUX. SWITCHBOARDS AND SECTION BOARDS	—	91/103	456	461	500	V.I.R.	HARD RUBBER
MASTERBOARD "A" WINCHES & WINDLASS	—	91/103	384	384	180	V.I.R.	HARD RUBBER
MASTERBOARD "B" HEATING	—	61/102	300	332	160	V.I.R.	HARD RUBBER
MASTERBOARD "B" DOMESTIC	—	19/064	72	83	160	V.I.R.	HARD RUBBER
MASTERBOARD "B" LIGHTING	—	61/103	360	332	365	V.I.R.	HARD RUBBER
MASTERBOARD "C" WINCHES & WARPING WINCH	—	91/103	488	461	135	V.I.R.	HARD RUBBER
S & F PANEL NO. 27 MOTOR ROOM AUXILIARIES	—	7/064	50	46	280	V.I.R.	HARD RUBBER & LEAD COVERED
NAVIGATION S & F PANEL NO. 1	—	19/064	50	52	475	V.I.R.	HARD RUBBER
CARGO LIGHTING FORWARD S & F BOXES	—	7/064	30	46	350	V.I.R.	HARD RUBBER
REFRIG. MACHINERY (DOMESTIC) PANEL	—	7/064	30	31	120	V.I.R.	HARD RUBBER
MOTOR ROOM VENT FANS PANEL	—	19/052	60	64	125	V.I.R.	HARD RUBBER
WORKSHOP MOTORS PANEL	—	7/036	20	24	220	V.I.R.	HARD RUBBER
MOTOR ROOM LIGHTING S & F BOXES	—	37/072	150	152	240	V.I.R.	HARD RUBBER
LUB OIL HEATER 30 K.W.	—	19/052	60	64	150	V.I.R.	HARD RUBBER
SMALL MOTORS S & F BOX	—	7/036	20	24	175	V.I.R.	HARD RUBBER
MOTOR ROOM LIGHTING AFT S & F BOX	—						

LIGHTING AND HEATING, ETC., CABLES.

WIRELESS	7/044	27.5	31	275	V.I.R.	HARD RUBBER & LEAD COVERED
NAVIGATION LIGHTS	3/029	18	7.8	—	V.I.R.	HARD RUBBER & LEAD COVERED
BOW MAST & STERN LIGHTS						
LIGHTING AND HEATING	3/029	—	7.8	—	V.I.R.	HARD RUBBER & LEAD COVERED
LIGHTING CIRCUITS						
HEATERS :-						
3 K.W. HEATER	7/029	13.7	18.2	—	V.I.R.	LEAD COVERED
2.5 K.W. HEATER	3/036	11.4	12.0	—	V.I.R.	HARD RUBBER & LEAD COVERED
2 K.W. HEATER	3/036	9.1	12.0	—	V.I.R.	HARD RUBBER & LEAD COVERED
1.5 K.W. HEATER	3/029	6.8	7.8	—	V.I.R.	HARD RUBBER & LEAD COVERED
1 K.W. HEATER	3/029	4.5	7.8	—	V.I.R.	HARD RUBBER & LEAD COVERED
.75 K.W. HEATER	3/029	3.4	7.8	—	V.I.R.	HARD RUBBER & LEAD COVERED
.5 K.W. HEATER	3/029	2.3	7.8	—	V.I.R.	HARD RUBBER & LEAD COVERED

MOTOR CABLES.

ALL IMPORTANT MOTORS TO BE ENUMERATED.	No.	B.H.P.						
LUB OIL PUMP No 1 & 2	2	50/85	—	61/103	320	332	100	V.I.R. HARD RUBBER
AIR COMPRESSOR No 1 & 2	2	42	—	37/083	160	184	210	V.I.R. HARD RUBBER
F.O. TRANSFER	1	4/6	—	7/044	27	31	180	V.I.R. HARD RUBBER
TURNING BEAR	1	15	—	19/052	60	64	90	V.I.R. HARD RUBBER
EDIBLE CARGO OIL No 1 & 2	2	21	—	19/072	84	97	240	V.I.R. HARD RUBBER
STEERING GEAR	2	30	—	19/083	115	142	580	V.I.R. HARD RUBBER
VAPOUR EXTRACTION FAN	1	4.5	—	7/036	21	24	165	V.I.R. HARD RUBBER
S.W. CIRCULATING PUMPS	2	18/33	—	37/064	128	130	210	V.I.R. HARD RUBBER
F.W. CIRCULATING PUMP	1	18/25	—	19/083	97	118	145	V.I.R. HARD RUBBER
BILGE PUMP	1	9/12	—	19/044	47	53	200	V.I.R. HARD RUBBER
BOILER BLOWER	1	1.5	—	3/036	7	12	140	V.I.R. HARD RUBBER
BALLAST & GENERAL SERVICE	1	18/33	—	37/064	128	130	105	V.I.R. HARD RUBBER
F.W. PUMP (DOMESTIC)	1	3/5	—	7/036	20	24	165	V.I.R. HARD RUBBER
AUX S.W. CIRCULATING	1	4/6	—	7/044	26	31	150	V.I.R. HARD RUBBER
AUX F.W. CIRCULATING	1	3/4	—	7/036	16.5	24	155	V.I.R. HARD RUBBER
WINDLASS	1	48	—	37/083	185	284 (1 HOUR)	385	V.I.R. HARD RUBBER
WARPING WINCH	1	68	—	37/103	260	283 (1 HOUR)	225	V.I.R. HARD RUBBER
3 TON WINCHES	8	34	—	19/083	128	142 (1/2 HOUR)	125	V.I.R. HARD RUBBER
5 TON WINCHES	4	55	—	37/083	207	245 (1/2 HOUR)	65	V.I.R. HARD RUBBER
DRILL	1	2	—	3/036	8	12	30	V.I.R. HARD RUBBER
LATHE	1	2	—	3/036	8	12	45	V.I.R. HARD RUBBER
GRINDING MACHINE	1	2	—	3/036	8	12	40	V.I.R. HARD RUBBER
GENERATOR SUMP PUMP	1	0.5	—	3/029	2	7.8	90	V.I.R. HARD RUBBER
PURIFIED F.O. PUMPS	1	4.5	—	7/036	19	24	60	V.I.R. HARD RUBBER
F.O. SERVICE PUMP	1	2.5	—	3/036	11	12	75	V.I.R. HARD RUBBER
LUB. OIL PURIFIER	1	2	—	3/036	8.6	12	65	V.I.R. HARD RUBBER
F.O. PURIFIERS	2	2	—	3/036	8.6	12	60	V.I.R. HARD RUBBER
COMPRESSOR (DOMESTIC REFRIG)	1	4	—	7/036	18	24	60	V.I.R. HARD RUBBER
D/G INSTALLED	ALSO CORRECTION COILS INSTALLED FOR COMPASSES							
BROWN CYRO COMPASS TYPE B				7/064		46		V.I.R. LEAD COVERED

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 *Jan 27th 1941*

COMPASSES.

Minimum distance between electric generators or motors and standard compass.....

80 ft.

Minimum distance between electric generators or motors and steering compass.....

75 ft.

The nearest cables to the compasses are as follows:—

A cable carrying *0.18* Ampères *20* feet from standard compass *15* feet from steering compass.

A cable carrying *25* Ampères *20* feet from standard compass *15* 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*

✓ Calibrated with the *D/G.* on & off

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 degrees on *any* course in the case of the

standard compass, and degrees on *any* course in the case of the steering compass.

Builder's Signature.

Date *29-1-41.*

Is this installation a duplicate of a previous case *yes*

If so, state name of vessel

MV. POTARO *Yard No 1026.*

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 satisfactory. The materials and workmanship are good.

Noted

L.H.

6/2/41.

Total Capacity of Generators *525* Kilowatts.

The amount of Fee ... £ *58-2-6*

one Belfast 29-1-3.

one Liverpool 29-1-3.

Travelling Expenses (if any) £ :

When applied for,

1-2-1941

When received.

.....19.....

H. Haffner

Surveyor to Lloyd's Register of Shipping.

Committee's Minute

JAN 11 1941

Assigned

See Bel 12869