

# REPORT ON ELECTRICAL EQUIPMENT.

(OTHER THAN FOR THE PROPULSION OF THE VESSEL)

Received at London Office.....

Date of writing Report..... 19.5.60 ..... 19.60 When handed in at Local Office..... 19.5.60 ..... 60 Port of..... LONDON

No. in Survey held at..... Dartford ..... Date, First Survey..... 3.4.59 ..... Last Survey..... 28.4.19.60  
Reg. Book. (Number of Visits..... 10.....)

..... on the..... M.V. "CHARMO" ..... Tons {Gross.....  
Net.....

Built at..... Dartford Kent. By whom built..... Charrington Gardner Locket (London) Ltd. Yard No..... NG. 148 When built..... 1959

Owners..... Charrington Gardner Locket (London) Ltd. Port belonging to.....

Electrical Installation fitted by..... Jarvis Rowell & Co. Ltd. Contract No..... 12012 When fitted..... 1959

Is vessel fitted for carrying Petroleum in bulk..... Yes Is vessel equipped with D.F..... No E.S.D..... No Gy.C..... Yes Sub.Sig..... No

Have plans been submitted and approved..... Yes System of Distribution..... Direct Current Voltage of supply for Lighting..... 110DC

Heating..... Power..... 110DC 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..... No, 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..... 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..... Main-Vee belt to Stbd. Eng. :- Aux. Direct coupled to

Aux. Eng. (Stbd. side), is the ventilation in way of generators satisfactory..... Yes, are they clear of inflammable material....., 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..... Engine Room After Starboard Side.

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..... Sheet steel Panel (with standard insulated components), if of synthetic insulating material is it an Approved Type....., if of

semi-insulating material (slate or marble) are all conducting parts insulated therefrom as per Rule..... N/A 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..... No, 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..... 100 Amp "Air Break"

D. Pole. D.C. Breaker on each of three supplies i.e. :- Main & Aux. Generators & Shore Supply.

and for each outgoing circuit..... Double Pole Switches and fuses for each circuit.

Are compartments containing switchboards composed of fire-resisting material or lined as per Rule..... Yes Instruments on main switchboard..... 3

ammeters..... 3 voltmeters..... synchronising devices. For compound machines in parallel is the ammeter connected on the pole opposite to the

equaliser connection..... Earth Testing, state means provided..... Two Lamps in series with mid point earthed switch &

Fuse on each pole 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..... 110 Amps are the reversed current

protection devices connected on the pole opposite to the equaliser connection....., have they been tested under working conditions, and at what current

did they operate..... 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..... 1% Max, are the ends of all cables having a sectional area of 0.04

square inch and above provided with soldering sockets..... Are paper insulated and varnished cambric insulated cables sealed at the 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. No, if so, are they adequately protected. Are cables in machinery spaces, galleys, laundries, etc., lead covered (M.I.) or run in conduit. State how the cables are supported and protected.

All cables run on suitable tray and protected from Mechanical Damage by Mild Steel Plate where necessary.

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 boxes or watertight glands. Yes, where unarmoured cables pass through beams, etc., are the holes effectually bushed. Yes and with what material. Watertight Glands. Alternative Lighting, are the groups of lights in the engine and boiler rooms arranged as per Rule. Yes. Emergency Supply, state position. Engine room rear of Main Electrical Panel and method of control. Solondia Automatic

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. Yes, are they adequately ventilated. Yes.

what is the battery capacity in ampere hours. 52 A.H. (Chloride No. LAK5D).

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. No, if so, how are they protected.

and where are the controlling switches fitted. Conveniently Adjacent, are all fittings suitably ventilated. Yes

are all fittings and accessories constructed and installed as per Rule. Yes. Searchlight Lamps, No. of. 2, whether fixed or portable. Portable

, are their fittings as per Rule. Yes. 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. -. 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. -. Are motors coupled to oil fuel transfer and unit pressure pumps capable of being stopped from a position accessible in the event of fire in the pump compartment.

Have motors of 100 BHP and over been inspected by the Surveyors during manufacture and testing. -. 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. -. 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. N/A, are all fuses of the cartridge type. N/A

are they of an approved type. Yes. Are the fittings for pump rooms, 'tween deck spaces, etc., in accordance with the special requirements for such ships. N/A. Are the cables lead covered as per Rule. N/A. 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 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	One	10	110	91	600/1200	Starboard Engine.		
EMERGENCY	One	10	110	91		Lister Blackstone	Diesel.	
ROTARY TRANSFORMER								

GENERATOR CABLES.

DESCRIPTION.	KILOWATTS.	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.	Rule.			
MAIN GENERATOR	10	One	.03sq. in	91	130	180	M.I.	Copper sheath
" " EQUALISER								
EMERGENCY GENERATOR	10	One	.03sq. in	91	130	110	M.I.	Copper sheath.
ROTARY TRANSFORMER: MOTOR								
" " GENERATOR								

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.	Rule.			
AUX. SWITCHBOARDS AND SECTION BOARDS							
Fuse board 'A'	One	.003	12	15	36ft.	M.I.	Copper sheath
Fuseboard 'B'	One	.007	31	55	86ft.	M.I.	Copper sheath.

LIGHTING AND HEATING, ETC., CABLES.

DESCRIPTION.	CONDUCTORS.	MAXIMUM CURRENT IN AMPERES.	APPROX. LENGTH (lead plus return feet).	INSULATED WITH.	HOW PROTECTED.
WIRELESS					
NAVIGATION LIGHTS Up Masts only.	One	3/.036	2	10	50
LIGHTING AND HEATING					
All Lighting Cables in General.	"	.002	5	10	M.I. Copper sheath
Cargo Heater (0.85 KW)	"	.002	8	10	M.I. " "
Crews Quarters Boiler (1.25 KW)	"	.003	11.3	15	M.I. " "

MOTOR CABLES.

ALL IMPORTANT MOTORS TO BE ENUMERATED.	No.	B.H.P.	CONDUCTORS.	MAXIMUM CURRENT IN AMPERES.	APPROX. LENGTH (lead plus return feet).	INSULATED WITH.	HOW PROTECTED.
Steering Motor.	1	4.5	1 .007sq. in.	40	55	4	M.I. Copper sheath.

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.

JARVIS ROWELL & CO. LTD.  
ELECTRICAL CONTRACTORS,  
BURNHAM ROAD,  
DARTFORD.

*H. L. Jarvis*

Electrical Engineers.

Date 30/4/60

TELE: 4129

COMPASSES.

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

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

The nearest cables to the compasses are as follows:—

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

A cable carrying ..... Ampères ..... feet from standard compass ..... 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 .....

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

CHARLES ROY & CO. (LONDON) LTD.

*Photoquerry*

Builder's Signature.

Date 30/4/60

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

Plans. Are approved plans forwarded herewith..... Yes ..... If not, state date of approval.....

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 installation has been constructed and installed under Special Survey and satisfactorily tested on completion.

PLANS ATTACHED.

1. Electrical Arrangement ((Diagrammatic) Plan No.290.

2. Main Panel Wiring (Diagrammatic) Plan No.220.

Total Capacity of Generators 20 Kilowatts.

The amount of Fee ... £ 20 : 0 :  
Travelling Expenses (if any) £ 2 : 0 :

When applied for,

ED MAY 1960

When received.

.....19.....

*A. G. Kirby*  
Surveyor to Lloyd's Register of Shipping.

Committee's Minute FRIDAY 17 JUN 1960

Assigned See Rpt. 1

*H. R. S.*  
*20.5.60*

5m.4.39—Transfer. (MADE AND PRINTED IN ENGLAND.)  
(The Surveyors are requested not to write on or below the space for Committee's Minute.)



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