

## REPORT ON ELECTRICAL EQUIPMENT.

(OTHER THAN FOR THE PROPULSION OF THE VESSEL)

18 OCT 1943

Received at London Office.

Date of writing Report 6th Dec. 1943 When handed in at Local Office 15 OCT 1943 Port of London

No. in Survey held at London Date, First Survey 17th May, Last Survey 7th Oct. 1943  
Reg. Book. (Number of Visits 3)21644 on the M.V. "CHINESE PRINCE" Tons {Gross 948.5  
Net 575.2

Built at London By whom built J. L. Thompson &amp; Sons Ltd. Yard No. 625 When built 1943

Owners. P. &amp; O. Line Ltd. Port belonging to London

Electrical Installation fitted by J. L. Thompson &amp; Sons Ltd. Contract No. 625 When fitted 1943

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

Have plans been submitted and approved No System of Distribution Two main systems Voltage of supply for Lighting 220

Heating 220 Power 220 Direct or Alternating Current, Lighting No Power No 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 No Are turbine emergency governors fitted with a

trip switch as per Rule No Generators, are they compound wound No, are they level compounded under working conditions No

if not compound wound state distance between generators No and from switchboard No Where more than one generator is fitted are they

arranged to run in parallel No, are shunt field regulators provided No 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 No Have certificates of

test for machines under 100 kw. been supplied No and the results found as per rule No Are the lubricating arrangements and the construction

of the generators as per rule No Position of Generators Engine room - one starboard, two

port side, is the ventilation in way of generators satisfactory No are they clear of inflammable material No, if situated

near unprotected combustible material state distance from same horizontally No and vertically No, are the generators protected from mechanical

injury and damage from water, steam and oil No, are the bedplates and frames earthed No and the prime movers and generators in metallic

contact No Switchboards, where are main switchboards placed Engine room forward bulkhead

on main platform

are they in accessible positions, free from inflammable gases and acid fumes No, are they protected from mechanical injury and damage from water, steam

and oil No, if situated near unprotected combustible material state distance from same horizontally No and vertically No, what insulation

material is used for the panels "Kynar Lincom" if of synthetic insulating material is it an Approved Type No, if of

semi-insulating material (slate or marble) are all conducting parts insulated therefrom as per Rule No Is the frame effectually earthed No

Is the construction as per Rule No, including accessibility of parts No, absence of fuses on the back of the board No, individual fuses

to pilot and earth lamps, voltmeters, etc. No locking of screws and nuts No, labelling of apparatus and fuses No, fuses on the "dead"

side of switches No Description of Main Switchgear for each generator and arrangement of equaliser switches Single pole circuit

breaker with inverse time limit overcurrent release on two poles

and reverse current trip, the third pole used for equaliser connection

and for each outgoing circuit Double pole circuit breakers with overcurrent release on

both poles or double pole quick break knife switch and double pole fuses

Are compartments containing switchboards composed of fire-resisting material or lined as per Rule No Instruments on main switchboard 2 in

ammeters 4 in voltmeters No synchronising devices. For compound machines in parallel is the ammeter connected on the pole opposite to the

equaliser connection No Earth Testing, state means provided Elamps connected to E through two fuses

Switches, Circuit Breakers and Fuses, are they as per Rule No, are the fuses an approved type No, are all fuses labelled as

per Rule No If circuit breakers are provided for the generators, at what overload current did they open when tested 1000 A, are the reversed current

protection devices connected on the pole opposite to the equaliser connection No, have they been tested under working conditions, and at what current

did they operate No 1100 A. Joint Boxes, Section Boards and Distribution Boards, is the construction and position as per Rule No

Cables, are they insulated and protected as per the appropriate Tables of the Rules No, if otherwise than as per Rule are they of an approved type No

state maximum fall of pressure between bus bars and any point under maximum load 28.8 lighting 0.01

square inch and above provided with soldering sockets No Are paper insulated and varnished cambric insulated cables sealed at the ends No



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. Are cables laid under machines or floorplates, if so, are they adequately protected. Are cables in machinery spaces, galleys, laundries, etc., lead covered or run in conduit. State how the cables are supported and protected. V.C.L.C. cables clipped to avoid plate with cover in 'turn-outs' and to tray in machinery spaces with protective cover where necessary. V.C.L.C. and W.E.L.C. cables clipped to surface or to wood grounds in access. Are all lead sheaths, armouring and conduits effectually bonded and earthed. Refrigerated chambers, are the cables and fittings as per Rule. Are all cables passing through decks and watertight bulkheads provided with deck tubes or watertight glands, where unarmoured cables pass through beams, etc., are the holes effectually bushed and with what material. Alternative Lighting, are the groups of lights in the engine and boiler rooms arranged as per Rule. Emergency Supply, state position and method of control. Navigation Lamps, are they separately wired controlled by separate double pole switches and fuses. Are the switches and fuses in a position accessible only to the officers on watch, is an automatic indicator fitted. Secondary Batteries, are they constructed and fitted as per Rule, are they adequately ventilated, what is the battery capacity in ampere hours.

Fittings, are all fittings on weather decks, in stokeholds and engine rooms and wherever exposed to drip or condensed moisture, weatherproof. Are fittings installed where readily combustible materials or inflammable or explosive dust or gases are likely to be present, if so, how are they protected. and where are the controlling switches fitted. are all fittings suitably ventilated. are all fittings and accessories constructed and installed as per Rule. Searchlight Lamps, No. of, whether fixed or portable, are their fittings as per Rule. Heating and Cooking, is the general construction as per Rule. are the frames effectually earthed, are heaters in the accommodation of the convection type. Motors, are all motors constructed and installed as per Rule and placed in well-ventilated compartments in which inflammable gases cannot accumulate and free from damage from water, steam and oil, if situated near unprotected combustible material state minimum distance from same horizontally and vertically. Are motors coupled to oil fuel transfer unit pressure pump 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. Control Gear and Resistances, are they constructed and fitted as per Rule. Lighting 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, are all fuses of the cartridge type. are they of an approved type. Are the fittings for pump rooms, tween deck spaces, etc., in accordance with the special requirements for such ships. Are the cables lead covered as per Rule. Spare Gear, if the vessel is for open sea service have spares been provided as per Rule, are they suitably stored in dry situations. Insulation Tests, has the insulation resistance of all circuits and apparatus been tested and found satisfactory.

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	575	Steam engines	Dist. 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 Per Pole.	Sectional Area or No. and Dia. of Strands. Sq. ins. or sq. mm.				
MAIN GENERATORS	3 x 175	2	61/098	796	2 x 464	V.C.	L.C.
EQUALISER		1	61/098	—	464	—	—
M' Cris D.P. Generator	16.6	1	19/082	75	104	—	—
F' & Q' Cris D.P. Generator	12 x 6.8	1	7/044	32	42	—	—
R.D.F. Fuel		1	7/086	—	28	—	—
A.S. Fuel		1	7/064	—	75	—	—
EMERGENCY GENERATOR							
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.				
AUX. SWITCHBOARDS AND SECTION BOARDS						
2nd. Wrench H.B. (S.1.) Ring Main	2	19/082	228	2 x 191	4325	V.C. L.C.
3rd. Wrench H.B. (S.2.)	1	19/082	190	191	104	—
4th. Wrench H.B. (S.3.) Ring Main	2	19/082	228	2 x 191	3245	—
Bridge Deck Ltg. H.B. (S.4.)	1	7/044	20	42	180	—
Upper Deck Ltg. H.B. (S.5.)	1	19/082	48	104	124	—
Sailing Deck Ltg. H.B. (S.6.)	1	19/082	91	191	94	—
Crew Apt. H.B. (S.7.)	1	19/082	46	104	578	—
Engine Room Ltg. H.B. (S.8.)	1	7/044	33	42	40	—
Engine Room H.B. (S.9.)	1	7/064	73	75	140	—
Engine Room H.B. (S.10.)	1	19/064	100	135	340	—
Engine Room H.B. (S.11.)	1	7/082	41	57	300	—
Engine Room H.B. (S.12.)	1	19/082	100	104	180	—
Engine Room H.B. (S.13.)	1	7/082	40	57	60	—
Engine Room H.B. (S.14.)	1	7/082	20	57	50	—

LIGHTING AND HEATING, ETC., CABLES.

WIRELESS	1	19/064	85	135	850	V.C.	L.C.
NAVIGATION LIGHTS + Ltg. C. H.B.	1	7/064	30	75	380	—	—
LIGHTING AND HEATING 5/100 (off S.1.)	1	7/064	60	75	264	—	—
2nd. Comp. Ltg. H.B. (off S.1)	1	7/029	5	15	12	—	—
3rd. Comp. Ltg. H.B. (off S.2)	1	7/029	6 x 5	15	2 x 40	—	—
4th. Comp. Ltg. H.B. (off S.3)	1	7/029	6	15	20	—	—
5th. Comp. Ltg. H.B. (off S.4)	1	7/029	5 x 4	15	28	—	—
Upper Deck Ltg. (off S.5)	4 at	7/029	4 x 4	15	140	—	—
Acc. H.B. Ltg. (off S.6)	1	7/064	30	75	140	—	—
2nd. Ltg. H.B. (off S.6)	1	3/029	2	5	490	W.E.	—
Apt. Ltg. H.B. (off S.8)	1	7/029	5 x 5	15	6 x 60	V.C.	—
Water Boiler	1	7/026	24.6	28	160	—	—
2nd. Ltg. H.B. (off S.7)	1	7/044	23.7	42	160	—	—
Purifier	1	7/029	11.4	15	160	—	—
Sailing Range Deck H.B. (off S.7)	2	7/026	32	2 x 28	128	—	—
Water Boiler apt. (off S.8)	2 at	7/036	18	28	40, 50	—	—
Engine Room Ltg. H.B. (off S.9) 3 at	1	7/029	3 x 11	15	80, 120, 140	—	—

MOTOR CABLES.

ALL IMPORTANT MOTORS TO BE ENUMERATED.		No.	H.P.						
Winches (off S.1)	6	30	1	19/064	120	135	20, 60, 130	V.C.	L.C.
Winches (off S.2)	2	30	1	19/064	120	135	110, 130, 150	—	—
Winches (off S.3)	7	30	1	19/064	120	135	110, 130, 150	—	—
Winches (off S.4)	1	53	1	37/072	205	246	220	—	—
Sailing Deck Ltg. H.B. (off S.5)	1	53	1	19/082	99.5	104	308	—	—
Acc. Compressor	2	67	1	37/082	217	296	240, 280	—	—
Forward Water Cooling Pump	2	25/49	1	37/072	104/192	246	62, 80	—	—
Sea Water Pumps	2	25/49	1	37/072	104/192	246	148, 174	—	—
Ballast Pump	1	25/49	1	37/072	104/192	246	172	—	—
Forward Ltg. Pumps (off S.11)	2	18.5	1	19/082	74	104	30, 30	—	—
S.D. Pump (off S.13)	1	12	1	7/082	49.5	57	30	—	—
Bridge Pump (off S.13)	1	12	1	7/082	49.5	57	40	—	—
Sanitary Pump (off S.13)	1	12	1	7/082	49.5	57	30	—	—
Running Machine (off S.12)	2	10	1	7/082	41	57	60, 100	—	—
O.P. Pumps (off S.10)	2	4	1	7/086	18.5	28	32, 32	—	—
Boiler Pans (off S.10)	1	6	1	7/086	25	28	120	—	—
Oil Pumps (off S.10)	4	3	1	7/086	12.7	28	32, 32	—	—
Purifying Pumps (off S.14)	2	1.5	1	7/029	6.7	15	100, 20	—	—
Forward Water Cooling Pumps (off S.10)	2	1.5	1	7/029	7.5	15	24, 24	—	—
Forward Water Pump	1	1.5	1	7/029	6.8	15	20	—	—
Star Water Pump	1	1.5	1	7/029	6.8	15	20	—	—
Standing Pump	1	1.5	1	7/029	6.8	15	20	—	—
Vent. Fans H.B. (off S.2)	1	1	1	19/064	48	135	4	—	—
Supply to Access. Pans	2	3.75	1	7/086	16	28	80, 320	—	—
S.D. Fans	2	1.6	1	3/086	8	10	120, 160	W.E.	—
Apt. Vent. Fans (off S.8)	1	3.75	1	7/086	16	28	80	V.C.	—
Rapid Ltg. (off S.2)	2	3.54	1	7/086	15	28	100	—	—
Workshop (off S.14)	1	6	1	7/086	27	28	100	—	—
S.D. Crane (off S.14)	1	3	1	7/086	14	28	140	—	—



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 of the electrical equipment installed on the vessel.

H. Wilson

Electrical Engineers.

Date 7/10/43

#### COMPASSES.

Minimum distance between electric generators or motors and standard compass 30 feet

Minimum distance between electric generators or motors and steering compass 25 feet

The nearest cables to the compasses are as follows:-

A cable carrying 14 Ampères on the feet from standard compass 7 feet from steering compass.

A cable carrying 14 Ampères 7 feet from standard compass on the 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

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

R. C. Thompson Builder's Signature.

Date 11/10/43.

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

equipment of this vessel has been installed under special survey. The materials used are of good quality and the workmanship is good. On completion the equipment was run under working conditions with satisfactory results, the protective devices of the circuit breakers were adjusted and operated and the insulation resistance of all circuits was measured and found good. This equipment is in my opinion suitable for a classed vessel.

Total Capacity of Generators 525 Kilowatts.

The amount of Fee £ 46 : 10 : 0 7 Oct 1943

Travelling Expenses (if any) £ 1 : 5 : 6 16 OCT 1943

G. Amerson

Surveyor to Lloyd's Register of Shipping.

Committee's Minute

Assigned

see minute on J.S. Rpt.



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