

REPORT ON ELECTRICAL EQUIPMENT

(OTHER THAN FOR THE PROPULSION OF THE VESSEL)

Received at London Office.....

Date of writing Report... 24-5-45 When handed in at Local Office... 2-6-45 Port of Middlesbrough

No. in Survey held at Harston Hill on Tues Date, First Survey 6-3-46 Last Survey 23-5-1945
Reg. Book. (Number of Visits..... 7)

92642 on the S.S. "WAVE REGENT" Tons { Gross... 8184
Net... 4554

Built at Harston Hill on Tues By whom built Furness Shipbuilding Co. Ltd Yard No. 363 When built 1945

Owners Admiralty Port belonging to London

Electrical Installation fitted by Furness Shipbuilding Co. Ltd Contract No. 363 When fitted 1945

Is vessel fitted for carrying Petroleum in bulk Yes 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 Two-Wire insulated Voltage of supply for Lighting 110

Heating - Power 110 Direct or Alternating Current, Lighting Yes Power Yes 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 on generator frame aft of L.P. Brakes

, 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 on angle framework adjacent to generators

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 thru "bindings", 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 double-pole, single

throw quick-break knife switch and double pole fuse:

and for each outgoing circuit a double-pole, double-throw, quick-break knife switch and double-

pole fuse.

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

ammeters Two 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 E lamps coupled to E through two 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 If circuit breakers are provided for the generators, at what overload current did they open when tested -, 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 > 6.7, 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 Yes



with insulating compound - plastic tape, "Duralite" sheathing 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. yes or run in conduit. State how the cables are supported and protected. In Machinery spaces, along deck runways etc V.L.C.A.B. cables clipped to steel framing or perforated metal tray fastened to the surface. In accommodation V.L.C. cables clipped to the surface and protected as required by wood or metal guards.

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 effectually 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. Battery - for emergency and method of control. switches on the fittings

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. yes

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. "Dispersive" flameproof lighting fittings as approved, installed in accessible and where are the controlling switches fitted. in officers quarters, are all fittings suitably ventilated. yes

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

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. yes Are all fuses of the cartridge type. yes 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. yes Are the cables lead covered as per Rule. yes 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.
MAIN	2	30	110	273	685	Single Cylinder Vertical Steam Engines	
EMERGENCY							
ROTARY TRANSFORMER							

GENERATOR CABLES.

DESCRIPTION.	KILOWATTS.	CONDUCTORS.		MAXIMUM CURRENT IN AMPERES.		APPROX. LENGTH (load 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	No. 1. 30	1	37/083	273	296	60	V.C.	L.C.A.B.
" " EQUALISER	No. 2. 30	1	37/083	273	296	80	V.C.	L.C.A.B.
EMERGENCY GENERATOR								
ROTARY TRANSFORMER: MOTOR								
" " GENERATOR								

MAIN DISTRIBUTION CABLES.

DESCRIPTION.	CONDUCTORS.		MAXIMUM CURRENT IN AMPERES.		APPROX. LENGTH (load 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 ...							
Engine Room Machinery SB.	1	7/0612	56	75	180	V.C.	L.C.A.B.
Main Deck aft SB.	1	7/0612	65	75	140	"	"
Ant. Bulkhead Midships - Main	1	37/083	105	296	400	"	"
" " - Emergency	1	37/083	105	296	720	"	"
Bridge Connection	1	19/053	-	191	260	"	"
Break Room SB. aft	1	4/052	32	57	150	"	"

LIGHTING AND HEATING, ETC., CABLES.

WIRELESS (Off Main Bulkhead)	1	7/0612	50	75	160	V.C.	L.C.
NAVIGATION LIGHTS Main	1	7/0444	22	42	140	"	"
LIGHTING AND HEATING Emergency	1	7/0444	-	42	140	"	" (C.S. in Deck Room)
Engine Room Ltg. DB. "E"	1	7/0444	25	42	200	"	L.C.A.B.
" " " " "F"	1	7/0444	22	42	40	"	"
aft Engine Ltg. DB. "G"	1	7/029	2	15	120	"	"
aft Engine Ltg. DB. "H"	1	7/052	33	57	140	"	"
" " " " "B"	1	7/052	32	57	120	"	"
Midship Ltg. DB. "I" (Off Main Bulkhead)	1	7/0444	10	42	100	"	L.C.
Midship " " " " "J"	1	7/0444	5	42	320	"	L.C.A.B.
Pump Room Ltg. " "							
Midship " " " " " "							
Headlights							
Upper Midship Ltg. " "							
Deck Forward Ltg. " "	1	7/036	10	28	150	V.C.	L.C.
Radar " " "	1	7/044	27	42	180	"	"
Hydro. Compass " " "	1	7/044	15	42	60	"	"

MOTOR CABLES.

ALL IMPORTANT MOTORS TO BE ENUMERATED.	No.	B.H.P.						
Electric Power P. (Off Main Bulkhead)	1	3	1	7/0444	20	42	310	V.C. L.C.A.B.
" " " " " "	1	3	1	7/0444	20	42	310	" "
Oil Purifier P.M. " " "	1	0.5	1	1/0612	5	10	85	" "
" " " " " " Off	1	0.5	1	1/0612	5	10	85	" "
Turning Gear	1	8	1	7/0612	61	75	330	" "
Oil Fuel Transfer (Off Main Bulkhead)	1	3 1/2	1	7/0444	27	42	210	" L.C.
" " " " " " Off	1	4.9	1	7/0444	36	42	130	" "
Eng. Room Pump (Off Main Bulkhead)	1	1	1	7/029	7	15	145	" L.C.A.B.
Midship Ltg. V. Fan (Off Main Bulkhead)	1	4.9	1	7/0444	35	42	200	" L.C.
Midship Water	1	3	1	7/0444	21	42	20	" L.C.A.B.
Break Room P. Fan.	1	2	1	7/036	16	28	160	" L.C.
" " " " " " "	1	2	1	7/036	16	28	160	" "
" " " " " " Off	1	2	1	7/036	16	28	160	" "
" " " " " " "	1	2	1	7/036	16	28	160	" "
Eng. Room Vent. Fan.	1	5	1	7/029	4	15	180	" "

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.

FURNESS SHIPBUILDING Co. LIMITED

Whaley

Electrical Engineer

Date 8-6-45

COMPASSES.

Minimum distance between electric generators or motors and standard compass 15'

Minimum distance between electric generators or motors and steering compass 13'

The nearest cables to the compasses are as follows:—

A cable carrying .15 Ampères 7 feet from standard compass on the steering compass.

A cable carrying .15 Ampères on the standard compass 7 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 nil degrees on Heavy course in the case of the standard compass, and nil degrees on Heavy course in the case of the steering compass.

FURNESS SHIPBUILDING Co. LIMITED

Builder's Signature.

Date 8-6-45

Jas. M. Robertson
Secretary.

Is this installation a duplicate of a previous case Yes If so, state name of vessel S.S. "Wave Emperor"

Plans. Are approved plans forwarded herewith No If not, state date of approval 28-7-44

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 in accordance with the approved plans and the Ministry of Shipping Specification and amendments thereto: The materials used are of good quality and design and the workmanship is good: Upon completion the equipment was operated on load with satisfactory results and the insulation resistance of each circuit was measured and found good: This equipment is in my opinion suitable for a vessel bearing the Society's class "for Government Service"

Total Capacity of Generators (2x30) 60 Kilowatts.

The amount of Fee ... £28. 10. 0 When applied for, 25-6-19.45
Specification 7. 2. 0
Travelling Expenses (if any) £ : : When received, 19.45

S. D. Brand

Surveyor to Lloyd's Register of Shipping.

Committee's Minute FRI. 13 JUL 1945

Assigned Lee M. de Jemachy 27.1.1986



MADE AND PRINTED IN ENGLAND.
The Surveyors are requested not to write on or below the space for Committee's Minute.