

REPORT ON ELECTRICAL EQUIPMENT.

(OTHER THAN FOR THE 'PROPULSION OF THE VESSEL)

24 MAY 1943

Received at London Office

Date of writing Report 15th May 43, When handed in at Local Office 30/5/43 1943 Port of West Hartlepool

No. in Survey held at West Hartlepool Date, First Survey 25th May, Last Survey 13th May, 1943
Reg. Book. Suppt. (Number of Visits.....)

86407 on the S.S. "EMPIRE STALWART" Tons { Gross... 10,446.60
Net... 10,345.47

Built at West Hartlepool By whom built Wm Gray & Co., Ltd. Yard No. 1147 When built 1942

Owners Ministry of War Transport Port belonging to West Hartlepool

Electrical Installation fitted by Wm Gray & Co., Ltd. Contract No. 1147 When fitted 1943

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 wire immersed 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 Engine room starboard side aft

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 Engine room starboard side aft

on main platform above gunning sets.

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 "Economy Lincomps", 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 Double pole

switch and double pole fuse

and for each outgoing circuit Double pole double throw knife switch and

double pole fuse.

Are compartments containing switchboards composed of fire-resisting material or lined as per Rule _____ 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 connected to E through amp. 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 44.44, are the ends of all cables having a sectional area of 0.01

square inch and above provided with soldering sockets Yes 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 Yes, if so, are they adequately protected _____ Are cables in machinery spaces, galleys, laundries, etc., lead covered Yes or run in conduit Yes State how the cables are supported and protected V.I.R. cables run in heavy gauge conduit in foredecks and in machinery spaces. L.C. cables capped to wood grounds on top surface in accommodation spaces.

Are all lead sheaths, armouring and conduits effectually bonded and earthed Yes 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 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 _____ 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 _____ 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 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 _____ and where are the controlling switches fitted _____, 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 _____

are the frames effectually earthed _____, 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 _____ 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 _____, 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 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	2	15	110	136	550 Single expansion steam engines			
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.	In the Circuit.	Rule.			
MAIN GENERATORS	2x15	2	19/0.064	136	2x83	20	V.I.R.	In conduit
" " EQUALISER								
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.	In the Circuit.	Rule.			
AUX. SWITCHBOARDS AND SECTION BOARDS							

LIGHTING AND HEATING, ETC., CABLES.

WIRELESS + Emergency Wireless	1	7/0.064	13	46	384	V.I.R.	In conduit + L.C.
NAVIGATION LIGHTS	1	7/0.064	10	46	440	V.I.R.	In conduit + L.C.
LIGHTING AND HEATING	all fixed to trans. 25g. 48. fitted from Capt's 25g. 48.						
Saloon + Capt's 25g. 48.	1	7/0.064	12x5	46	380x30	V.I.R.	In conduit + L.C.
Engineers' Accom. 25g. 48.	1	7/0.064	18	46	80	V.I.R.	In conduit
Aft Accom. 25g. 48.	1	7/0.064	15	46	340	V.I.R.	In conduit
Capt's 25g. 48.	1	7/0.064	23	46	80	V.I.R.	In conduit
Engine Room 25g. 48.	1	7/0.064	18	31	36	V.I.R.	In conduit

MOTOR CABLES.

ALL IMPORTANT MOTORS TO BE ENUMERATED.	No.	B.H.P.					
Refrig. type.	1	2.5	1	7/0.044	22	31	320 V.I.R. In conduit

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.

FOR WILLIAM GRAY & CO. LIMITED

J. S. Simpson GENERAL MANAGER

Electrical Engineers.

Date 18th May, 1943.

COMPASSES.

Minimum distance between electric generators or motors and standard compass 142 feet

Minimum distance between electric generators or motors and steering compass 139 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 Nil degrees on every course in the case of the standard compass, and Nil degrees on every course in the case of the steering compass.

FOR WILLIAM GRAY & CO. LIMITED.

J. S. Simpson

Builder's Signature.

Date 18th May, 1943.

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 17.12.42

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 with the specification. The materials used are of good quality and the workmanship is good. On completion the equipment was run under working conditions with satisfactory results and the insulation resistance of all circuits was measured and found good. This equipment is in our opinion suitable for a steam vessel.

Noted
27/5/43

Total Capacity of Generators 30 Kilowatts.

The amount of Fee £ 28 : 2/6 : When applied for, 22.5.1943
(incl. Specifn.)
Travelling Expenses (if any) £ : : When received, 19

D. J. Simpson for self and S. O. Brand
Surveyor to Lloyd's Register of Shipping.

FRI. 28 MAY 1943

Committee's Minute

Assigned See fe machy rpt

5m.4.30.—Transfer. (MADE AND PRINTED IN ENGLAND.)
(The Surveyors are requested not to write on or below the space for Committee's Minutes.)

