

REPORT ON ELECTRICAL EQUIPMENT.

(OTHER THAN FOR THE PROPULSION OF THE VESSEL)

13 SEP 1945

Received at London Office.....

Date of writing Report 1-9-45 1945 When handed in at Local Office 12th Sept 1945 Port of West Hartlepool

No. in Survey held at West Hartlepool Date, First Survey 19-6-45 Last Survey 31-8-1945
Reg. Book. (Number of Visits.....10..)

37421 on the S.S. "EMPIRE SOUTHWARK" Tons { Gross 3485.82
Net 2189.09

Built at West Hartlepool By whom built Wm Gray & Co Ltd Yard No. 1181 When built 1945

Owners The Ministry of War Transport. Port belonging to West Hartlepool

Electrical Installation fitted by Wm. Gray & Co Ltd Contract No. 1181 When fitted 1945

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

Have plans been submitted and approved Yes System of Distribution Two-Nix 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 raised platform aft of main engine

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 Stony "Kinsamite", 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 a 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 Amp of 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

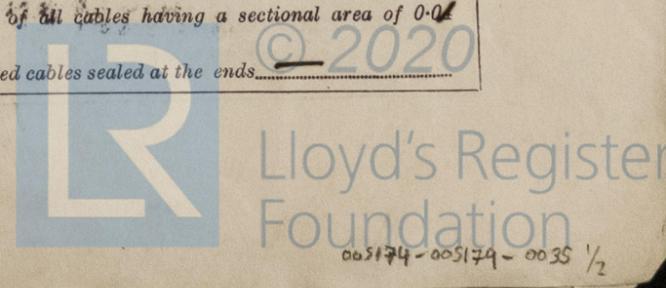
protection devices connected on the pole opposite to the equaliser connection -, have they been tested under working conditions, and at what current

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 26%, 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 -



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. 400, are cables laid under machines or floorplates No, if so, are they adequately protected. Are cables in machinery spaces, galleys, laundries, etc., lead covered or run in conduit 400. State how the cables are supported and protected in Machinery spaces along decks, forecabin etc. WE cables drawn into H.G.S. conduits fastened to the surface. In accommodation, L.C. cables clipped to the surface and protected as required by wood or metal guards.

Are all lead sheaths, armoring and conduits effectually bonded and earthed 400. Refrigerated chambers, are the cables and fittings as per Rule 400. Are all cables passing through decks and watertight bulkheads provided with deck tubes or watertight glands 400, where unarmoured cables pass through beams, etc., are the holes effectually bushed 400 and with what material Lead. Alternative Lighting, are the groups of lights in the engine and boiler rooms arranged as per Rule 400. Emergency Supply, state position and method of control 400.

Navigation Lamps, are they separately wired 400 controlled by separate double pole switches 400 and fuses 400. Are the switches and fuses in a position accessible only to the officers on watch 400, is an automatic indicator fitted 400. Secondary Batteries, are they constructed and fitted as per Rule 400, are they adequately ventilated 400 what is the battery capacity in ampere hours 400.

Fittings, are all fittings on weather decks, in stokeholds and engine rooms and wherever exposed to drip or condensed moisture, weatherproof 400. 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 400 and where are the controlling switches fitted 400, are all fittings suitably ventilated 400.

are all fittings and accessories constructed and installed as per Rule 400. Searchlight Lamps, No. of 400, whether fixed or portable 400, are their fittings as per Rule 400. Heating and Cooking, is the general construction as per Rule 400, are the frames effectually earthed 400, are heaters in the accommodation of the convection type 400. Motors, are all motors constructed and installed as per Rule 400 and placed in well-ventilated compartments in which inflammable gases cannot accumulate and free from damage from water, steam and oil 400, if situated near unprotected combustible material state minimum distance from same horizontally 400 and vertically 400. 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 400. Have motors of 100 BHP and over been inspected by the Surveyors during manufacture and testing 400. Have certificates of test for motors under 100 BHP intended for essential services been supplied and the results found as per Rule 400. Control Gear and Resistances, are they constructed and fitted as per Rule 400. Lightning Conductors, where required are they fitted as per Rule 400. 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 400, are all fuses of the cartridge type 400 are they of an approved type 400. Are the fittings for pump rooms, 'tween deck spaces, etc., in accordance with the special requirements for such ships 400. Are the cables lead covered as per Rule 400. Spare Gear, if the vessel is for open sea service have spares been provided as per Rule 400, are they suitably stored in dry situations 400. Insulation Tests, has the insulation resistance of all circuits and apparatus been tested and found satisfactory 400.

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	126.5	685	Single Cylinder Vertical		
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 GENERATOR	15	2	19/064	136.5	166	48	W.E.	H.G.S. Conduit
"	15	2	19/064	136.5	166	42	W.E.	H.G.S. Conduit
EMERGENCY GENERATOR								
ROTARY TRANSFORMER: MOTOR								
"								

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	2	7/082	50	74	60	W.E.	H.G.S. Conduit
Latin Peak aft. SB.							

LIGHTING AND HEATING, ETC., CABLES.

WIRELESS	1	7/064	10	46	540	W.E.	H.G.S. Conduit
NAVIGATION LIGHTS	1	7/036	8	24	540	"	"
LIGHTING AND HEATING	(Alternative supply through D.P.C.O. switch in galley)						
Salon Deck DB.	1	7/052	15	37	495	W.E.	H.G.S. Conduit
Upper Lighting DB.	1	7/052	7	37	21	"	L.C.
Lower	1	7/064	19	46	495	"	H.G.S. Conduit
Upper Deck Room aft. (off cabin table aft. SB)	1	7/064	26	46	50	"	"
Lower Deck aft. DB.	1	7/064	4	46	30	"	"
Forward DB.	1	7/052	26.8	37	69	"	"
Upper & Lower Deck aft. DB.	1	7/036	13	24	12	"	"

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.
			No. in Parallel Per Pole.	Sectional Area or No. and Dia. of Strands. Sq. ins. or sq. mm.	In the Circuit.	Rule.			
Refrigerating Motor	1	2 1/2	1	7/036	22	24	150	W.E.	H.G.S. Conduit
No. 1. Starboard	1	1/2	1	7/036	13.4	24	75	"	"
No. 2. Port	1	1/2	1	7/036	13.4	24	15	"	"

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.

WILLIAM GRAY & CO. LIMITED

Wm. S. Simpson

Electrical Engineers.

Date *8-9-45*

COMPASSES.

Minimum distance between electric generators or motors and standard compass *178'*

Minimum distance between electric generators or motors and steering compass *176'*

The nearest cables to the compasses are as follows:—

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

A cable carrying *.14* Ampères *on the* feet from 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 *every* course in the case of the

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

WILLIAM GRAY & CO. LIMITED
Wm. S. Simpson

Builder's Signature

Date *8-9-45*

Is this installation a duplicate of a previous case *yes* If so, state name of vessel *S/S "Empire Aldgate"*

Plans. Are approved plans forwarded herewith *No* If not, state date of approval *D. 20-2-45; S. 27-2-45*

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. On 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 classed vessel.

Noted
Plus 24.9.45

Total Capacity of Generators *(2x15) 30* Kilowatts.

The amount of Fee ...	£ <i>22 10-0</i>	When applied for, <i>12/9/1945</i>
<i>Specification</i>	<i>5 12-6</i>	
Travelling Expenses (if any) £	:	When received,19.....

S. D. Ward
 Surveyor to Lloyd's Register of Shipping.

Committee's Minute *FR. 28 SEP 1945*

Assigned *See F.E. machy. rpt.*

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.)

