

REPORT ON ELECTRICAL EQUIPMENT.

(OTHER THAN FOR THE PROPULSION OF THE VESSEL)

3 SEP 1942

Received at London Office.....

Date of writing Report 31st Aug 42 When handed in at Local Office 1 SEP 1942 Port of Sunderland

No. in Survey held at Sunderland and Wallsend Date, First Survey 1st June Last Survey 26th Aug 1942
Reg. Book. 73464 on the S.S. "EMPIRE THACKERAY" Tons { Gross... 2865
Net... 1690

Built at Sunderland By whom built Wm J. King & Co. Ltd. Yard No. 744 When built 1942
Owners Ministry of War Transport Port belonging to Sunderland

Electrical Installation fitted by The Sunderland Eng. Co. Ltd. Contract No. 744 When fitted 1942

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. Yes

Have plans been submitted and approved Yes System of Distribution Two wires immersed Voltage of supply for Lighting 110

Heating Power 110 Direction 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 Yes Generators, are they compound wound Yes, are they level compounded under working conditions Yes

if not compound wound state distance between generators Yes and from switchboard Yes Where more than one generator is fitted are they arranged to run in parallel Yes, 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 Yes 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

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 Yes and vertically Yes, 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

near generating 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 Yes and vertically Yes, what insulation material is used for the panels 'Evoony' laminated, 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 Yes Is the frame effectually earthed Yes

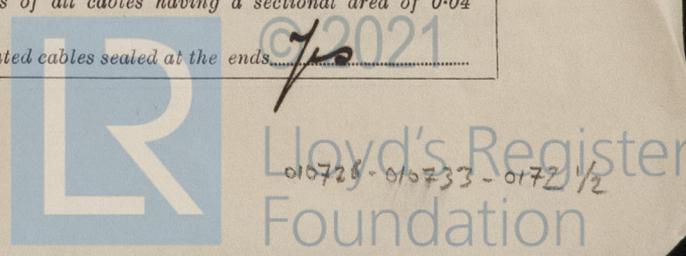
Is the construction as per Rule Yes, including accessibility of parts Yes, absence of fuses on the back of the board Yes, individual fuses to pilot and earth lamps, voltmeters, etc. Yes locking of screws and nuts Yes, labelling of apparatus and fuses Yes, fuses on the "dead" side of switches Yes Description of Main Switchgear for each generator and arrangement of equaliser switches Double pole knife 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 Yes Instruments on main switchboard Two ammeters Two voltmeters Two synchronising devices. For compound machines in parallel is the ammeter connected on the pole opposite to the equaliser connection Yes Earth Testing, state means provided 2 lamps connected to E through RWS, 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 Yes, are the reversed current protection devices connected on the pole opposite to the equaliser connection Yes, have they been tested under working conditions, and at what current did they operate Yes 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 Yes state maximum fall of pressure between bus bars and any point under maximum load 4.44, 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 _____ or waterproof insulating tape 7/2. 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. 7/2, are cables laid under machines or floorplates. 7/2, if so, are they adequately protected. 7/2. Are cables in machinery spaces, galleys, laundries, etc., lead covered. 7/2 or run in conduit. 7/2. State how the cables are supported and protected. V.L.R. cables run in heavy gauge screwed pipe through holds and bunkers and in machinery spaces; L.C. cables clipped to wood grounds or to surface in accommodation.

Are all lead sheaths, armouring and conduits effectually bonded and earthed. 7/2. 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. 7/2, where unarmoured cables pass through beams, etc., are the holes effectively bushed. 7/2 and with what material. Lead or fibre. Alternative Lighting, are the groups of lights in the engine and boiler rooms arranged as per Rule. 7/2. Emergency Supply, state position. _____ and method of control. _____

Navigation Lamps, are they separately wired. 7/2 controlled by separate double pole switches. 7/2 and fuses. 7/2. Are the switches and fuses in a position accessible only to the officers on watch. 7/2, is an automatic indicator fitted. 7/2. 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. 7/2. 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. _____, are all fittings suitably ventilated. 7/2

are all fittings and accessories constructed and installed as per Rule. 7/2. 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. 7/2 and placed in well-ventilated compartments in which inflammable gases cannot accumulate and free from damage from water, steam and oil. 7/2, 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. 7/2. 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. 7/2, are they suitably stored in dry situations. 7/2 Insulation Tests, has the insulation resistance of all circuits and apparatus been tested and found satisfactory. 7/2

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	12.5	110	113.5	850	Single cylinder 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	2 x 12.5	1	19.064	113.5	135	40+70	V.C.	L.C. In pipe
" " EQUALISER								
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 ...							
Forward A.B.	1	19.064	27	64	130	V.L.R.	In pipe
Engin' A.B.	1	7.064	33	46	90	no	no

LIGHTING AND HEATING, ETC., CABLES.

WIRELESS	1	19.064	15	64	160	V.L.R.	In pipe & L.C.
NAVIGATION LIGHTS A.B. (off main A.B.)	1	11.064	6	10	60	no	L.C.
LIGHTING AND HEATING							
All. Trans. Feed.	1	11.064	6	10	60	no	no
Basin. Hoist. Hoist. A.B.	1	7.029	8	15	40	no	no
Prod. Hoist. A.B.	1	7.064	9	31	160	no	In pipe
Basin. Hoist. Lantion	1	11.064	5	10	60	no	L.C.
L.C. Batt. Charging	1	11.064	5	10	60	no	no
Alarm Batt. Charging	1	11.064	5	10	60	no	no
Offic' Hoist. A.B.	1	7.064	15	31	24	no	no
Thermal Lantion	1	11.064	5	10	140	no	In pipe
Refrig. Fan	1	11.064	3	10	100	no	no
Refrig. Hoist. Charging	1	7.029	10	15	100	no	L.C.
Art. Hoist. A.B.	1	7.064	12	46	320	no	In pipe
Engine Room Hoist. A.B.	1	7.064	10	31	60	no	L.C. A.B.

MOTOR CABLES.

ALL IMPORTANT MOTORS TO BE ENUMERATED.	No.	B.H.P.						
Refrig. Hoist.	2	1/2	1	7.064	14+76	31	120	V.L.R. In pipe

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.

Sunderland Forge & Eng Co Ltd.
W. Gurney

Electrical Engineers.

Date *31-8-1942*

COMPASSES.

Minimum distance between electric generators or motors and standard compass *64 feet*

Minimum distance between electric generators or motors and steering compass *60 feet*

The nearest cables to the compasses are as follows:—

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

A cable carrying *.14* Ampères *7* feet from standard compass *on the ~~cut~~ 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 *Yps*

Has the effect of switching on and off circuits, motors and other electro-magnetic apparatus within the vicinity of the compasses been noted *Yps*

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 *for Every* of course in the case of the steering compass.

SIR JAMES LANGE & SONS LIMITED

Builder's Signature.

Date *1st Sept/42*

W. Gurney
 Managing Director.

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 *11/5/42*

Certificates. Are certificates of test for ~~motors engaged on essential services~~ and generators forwarded herewith *Yps*

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 and is 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 resistances of all circuits was measured and found good. This equipment is in my opinion suitable for a stressed vessel.

Noted
4/9/42

Total Capacity of Generators *25* Kilowatts.

The amount of Fee ... £ *25* : - : When applied for, *SEP. 1942*
incl. expenses.
 Travelling Expenses (if any) £ : : When received,19.....

Garrison

Surveyor to Lloyd's Register of Shipping.

FRI. 18 SEP 1942

Committee's Minute _____

Assigned *See Ald. J.C. 33477*

5m. 4.30.—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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