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JUL 1945

No. 69699

Rpt. 13.

REPORT ON ELECTRICAL EQUIPMENT.

4 JUL 1945

(OTHER THAN FOR THE PROPULSION OF THE VESSEL)

Received at London Office.....

Date of writing Report. 22. 6. 45. When handed in at Local Office. 30. 6. 45. Port of Glasgow.

No. in Survey held at Glasgow. Reg. Book. 88686 on the M.V. 'BRITISH MIGHT'

Built at Glasgow. By whom built Harland & Wolff Ltd. Yard No. 1196. When built 1945.

Owners British Tanker Co. Ltd. Port belonging to LONDON. Contract No. 1196. When fitted 1945.

Electrical Installation fitted by Harland & Wolff Ltd. Is vessel equipped with D.F. E.S.D. Gy.C. Sub.Sig.

Have plans been submitted and approved. System of Distribution two wire. Voltage of supply for Lighting 110.

Heating Power 110 Direct or Alternating Current, Lighting D.C. Power D.C. 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. Are turbine emergency governors fitted with a trip switch as per Rule. Generators, are they compound wound. Are they level compounded under working conditions.

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. Negative. are shunt field regulators provided. Is the compound winding connected to the negative or positive pole.

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. and the results found as per rule. Are the lubricating arrangements and the construction of the generators as per rule. Position of Generators. In engine room.

is the ventilation in way of generators satisfactory. are they clear of inflammable material. 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. are the bedplates and frames earthed. and the prime movers and generators in metallic contact. Switchboards, where are main switchboards placed. near generators.

are they in accessible positions, free from inflammable gases and acid fumes. are they protected from mechanical injury and damage from water, steam and oil. if situated near unprotected combustible material state distance from same horizontally. and vertically. what insulation material is used for the panels. Sindan fo. if of synthetic insulating material is it an Approved Type. if of semi-insulating material (slate or marble) are all conducting parts insulated therefrom as per Rule. Is the frame effectually earthed. if of Is the construction as per Rule. including accessibility of parts. absence of fuses on the back of the board. individual fuses to pilot and earth lamps, voltmeters, etc. locking of screws and nuts. labelling of apparatus and fuses. fuses on the "dead" side of switches.

Description of Main Switchgear for each generator and arrangement of equaliser switches. D.P. Switch and fuses.

and for each outgoing circuit. D.P. Switch and fuses.

Are compartments containing switchboards composed of fire-resisting material or lined as per Rule. Instruments on main switchboard 2.

ammeters 2 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. earth lamps.

Switches, Circuit Breakers and Fuses, are they as per Rule. are the fuses an approved type. are all fuses labelled as per Rule. 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.

Cables, are they insulated and protected as per the appropriate Tables of the Rules. if otherwise than as per Rule are they of an approved type. W.E.

state maximum fall of pressure between bus bars and any point under maximum load. block are the ends of all cables having a sectional area of 0.04 square inch and above provided with soldering sockets. Are paper insulated and varnished cambric insulated cables sealed at the ends.

with insulating compound or waterproof insulating tape Yes. 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. Mains along gangway and Machinery spaces. L.C.A.B clipped to steel tray and steelwork. Accommodation spaces L.C. clipped to steel and woodwork.

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. Flameproof fittings installed in accordance with Rules requirements and where are the controlling switches fitted outside the compartments, are all fittings suitably ventilated Yes.

are all fittings and accessories constructed and installed as per Rule Yes. Searchlight Lamps, No. of 1, whether fixed or portable portable, are their fittings as per Rule Yes. 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, 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 Yes. 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 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. 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	30	110	273	550	Steam engine.		
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	Nº1 30	1	0.4	273	288	40	Rubber.	L.C.A.B
" EQUALISER								
MAIN GENERATOR	Nº2 30	1	0.4	273	288	50	Rubber.	L.C.A.B.
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							
MIDSHIP MASTERBOARD (MAIN FEEDERS)	1	37/072	100	246	570	vc.	L.C.A.B
" (ALT. FEEDERS)	1	37/072	150	246	600	vc.	L.C.A.B.
ENGINE ROOM MOTORS (DB M)	1	19/072	50	97	60	Rubber	L.C.A.B.
POOP A/C M. 17.25 SBI.	1	7/064	50	78	110	vc.	L.C.A.B.
ENGINE ROOM M. SB2	1	7/064	30	78	90	vc.	L.C.A.B.
BOAT WINCHES. AFT DB M2	1	7/052	35	57	110	vc.	L.C.A.B.
VENTILATION AFT DB F1	1	7/064	40	78	150	vc.	L.C.A.B.
SHORE CONNECTION	1	37/103	-	240	120	Rubber.	L.C.A.B

LIGHTING AND HEATING, ETC., CABLES.

WIRELESS	1	7/064	25	46	100	Rubber.	L.C.
NAVIGATION LIGHTS							
LIGHTING AND HEATING MASTERBOARD CABLES							
DB1 & NAV. INDICATOR (MAIN)	1	7/064	30	46	100	Rubber	L.C.
DB2. UPPER BRIDGE DECK.	1	7/029	9	10	40	-	-
DB4. FORECASTLE	1	7/062	11	57	230	vc.	L.C.A.B.
DB5. CENTRECASTLE & PUMP ROOM EX.	1	7/029	11	15	10	Rubber.	L.C.
DB6. CARGO CONNECTIONS. MID.	1	7/029	2	15	10	-	-
DB3 BRIDGE DECK.	1	7/044	26	31	10	-	-
DB1 & NAV. INDICATOR (ALTERNATIVE)	1	7/064	30	46	100	-	-
VENT. FAN. MID.	1	7/062	33	57	150	vc.	-
BOAT WINCHES. MID PORT	1	7/044	16.7	31	150	Rubber	-
" " " STARB	1	7/044	16.7	31	110	-	-
SUEZ CANAL PROJECTOR	1	7/064	30	46	400	-	L.C.A.B

MOTOR CABLES.

ALL IMPORTANT MOTORS TO BE ENUMERATED.	No.	B.H.P.							
FUEL OIL PURIFIER	1	3	1	7/044	26	42	170	vc.	L.C.A.B.
LUB OIL PURIFIER	1	3	1	7/044	26	42	60	vc.	L.C.A.B.
ENGINE RM VENT FAN.	1	1 1/2	1	7/029	12.4	16	120	RUBBER	L.C.A.B

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 HARLAND AND WOLFF, LIMITED

R. J. Allen
 Govan Secretary

Electrical Engineers.

Date 29. 6. 45

COMPASSES.

Minimum distance between electric generators or motors and standard compass 15 feet from W/T. MOTOR GENERATOR

Minimum distance between electric generators or motors and steering compass 12 feet " " "

The nearest cables to the compasses are as follows:—

A cable carrying 136 Ampères led into feet from standard compass led into feet from steering compass.

A cable carrying 25 Ampères 6 feet from standard compass 5 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 *h*

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

The maximum deviation due to electric currents was found to be *nis* degrees on *anf.* course in the case of the

standard compass, and *nis* degrees on *anf.* course in the case of the steering compass.

For HARLAND AND WOLFF, LIMITED

R. J. Allen
 Govan Secretary

Builder's Signature.

Date 29. 6. 45

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 6. 2. 45

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

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 fitted on board under special survey, tested under working conditions and found satisfactory. The materials and workmanship are good.

noted

HRM 9.7.45

Total Capacity of Generators 60 Kilowatts

The amount of Fee £ 28 : 10 : When applied for, 19/6/45

Travelling Expenses (if any) £ : : When received, 19.....

S. G. Fridayay
 Surveyor to Lloyd's Register of Shipping.

Committee's Minute GLASGOW 3 JUL 1945 *S.G.*

Assigned Transmitt to Wokingham

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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