

REPORT ON ELECTRICAL EQUIPMENT.

(OTHER THAN FOR THE PROPULSION OF THE VESSEL)

Received at London Office

10 JUN 1953

Date of writing Report 27th May 1953. When handed in at Local Office 5/6/1953. Port of GLASGOW.No. in Survey held at GLASGOW. Date, First Survey 29th Dec. 52 Last Survey 12th May 1953. Reg. Book. (No. of Visits 8.)

91255 on the M.V. 'BLANDFORD' Tons { Gross 12,514.14 Net 7365.47

Built at GLASGOW By whom built MESSRS HARLAND & WOLFF LTD Yard No. 14546, When built 1953.

Owners. BLANDFORD SHIPPING CO. LTD Port belonging to LONDON.

Installation fitted by MESSRS HARLAND & WOLFF LTD When fitted 1953.

Is vessel equipped for carrying Petroleum in bulk YES Is vessel equipped with D.F. YES E.S.D. YES Gy.C. YES Sub.Sig. YES Radar YES.

Plans, have they been submitted and approved YES System of Distribution TWO WIRE Voltage of Lighting 110.

Heating 110 Power 110 D.C. or A.C., Lighting D.C. Power D.C. If A.C. state frequency.

Prime Movers, has the governing been found as per Rule when full load is thrown on and off YES Are turbine emergency governors fitted with a trip switch YES Generators, are they compound wound YES, and level compounded under working conditions YES.

Are the generators arranged to run in parallel YES Is the compound winding connected to the negative or positive pole NEGATIVE.

Have machines 100 kw. and over 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. Position of Generators STARBOARD SIDE OF

ENGINE ROOM.

is the ventilation in way of generators satisfactory YES are they clear of inflammable material and protected from mechanical injury and damage from water, steam and oil YES Switchboards, where are main switchboards placed ON PLATFORM ATTACHED,

TO FORWARD BULKHEAD OF ENGINE ROOM, ABOVE GENERATORS.

are they in accessible positions, free from inflammable gases and acid fumes and protected from mechanical injury and damage from water, steam and oil YES, what insulation is used for the panels SINDANYO, 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 construction as per Rule, including locking of screws and nuts YES Description of Main Switchgear for each generator and arrangement of equaliser switches 800 AMP. TRIPLE POLE CIRCUIT-BREAKER FITTED WITH OVERLOAD AND REVERSE CURRENT TRIPS.

and the switch and fuse gear (or circuit breakers) for each outgoing circuit DOUBLE POLE KNIFE PATTERN SWITCHBOARD

FUSES.

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

ammeters TWO voltmeters synchronising devices. For compound machines in parallel are the ammeters and reverse current protection devices connected on the pole opposite to the equaliser connection YES Earth Testing, state means provided.

EARTH LAMPS. Preference Tripping, state if provided No, and tested.

Switches, Circuit Breakers and Fuses, are they as per Rule YES, are the fuses an Approved Type YES.

make of fuses SIEMENS 'Z' TYPE, are all fuses labelled YES If circuit breakers are provided for the generators, at what overload do they operate 150% FULL LOAD CURRENT, and at what current do the reverse current protective devices operate 10% - 15% FULL LOAD CURRENT. Cables, are they insulated and protected as per Rule 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 FIVE volts. Are all paper insulated and varnished cambric insulated cables sealed at the ends.

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 any cables laid under machines or floorplates YES, if so, are they adequately protected YES State type of cables (if in conduit this should also be stated) in machinery spaces M.I.C.S. AND L.C.B., galleys L.C.B. and laundries L.C.B. State how the cables are supported or protected MAINS L.C.B. CABLES SUPPORTED BY WOOD SLEAT FROM STEEL PLATE WITH COVER FITTED MACHINERY SPACE M.I.C.S. AND L.C.B. CABLES CLIPPED TO PERFORATED TRAY ACCOMMODATION L.C.B. CABLE CLIPPED TO WOODWORK.

Are all lead sheaths, armouring and conduits effectually bonded and earthed 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 effectively bushed YES Refrigerated chambers, are the cables and fittings as per Rule YES

Have refrigeration fan motors been constructed under survey and test certificates supplied

Are the motors accessible for maintenance at all times

Alternative Lighting, are the groups of lights in the engine and boiler rooms arranged as per Rule YES Emergency Supply, state position YES

Navigation Lamps, are they separately wired YES controlled by separate double pole switches and fuses YES Are the switches and fuses in a position accessible YES to the officers on watch YES, is an automatic indicator fitted YES Is an alternative supply provided YES

Secondary Batteries, are they constructed, fitted and adequately ventilated as per Rule YES, state battery capacity in ampere hours YES Where required to do so does it comply with 1948 International Convention YES

Lighting, is fluorescent lighting fitted YES If so, state nominal lamp voltage YES and compartments where lamps are fitted YES

Fittings, are all fittings on weather decks, in stokeholds and engine rooms and wherever exposed to drip or condensed moisture, weatherproof YES

Searchlights, No. of 1, whether fixed or portable PORTABLE, are they of the carbon arc or of the filament type FILAMENT TYPE

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 and placed in well-ventilated compartments in which inflammable gases cannot accumulate and protected from damage from water, steam and oil YES

Are motors coupled to oil fuel transfer and 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 sea services been supplied and the results found as per Rule YES

Lightning Conductors, where required are they fitted as per Rule YES

Ships carrying Oil having a Flash Point of less than 150° F. Have all the special requirements of the Rules for such ships been complied with YES, are all fuses of an Approved Cartridge Type YES, make of fuse SIEMENS Are the fittings for pump rooms, 'tween deck spaces, etc., in accordance with the special requirements for such ships YES Are all cables lead covered as per Rule YES

E.S.D., if fitted state make KELVIN HUGHES location of transmitter and receiver FRAME SPACE 48-49

Spare Gear, if the vessel is for open sea service have spares been provided as per Rule and 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	MAKER.	RATED AT				PRIME MOVER.	
			Kw. per Generator.	Volts.	Amps.	Revs. per Min.	TYPE.	MAKER.
MAIN	2	HARLAND & WOLFF	75	110	682	550	STEAM	HOWDEN.
	1	HARLAND & WOLFF	75	110	682	600	DIESEL	RUSTON & HORNSBY.
EMERGENCY								
ROTARY TRANSFORMER								

GENERATOR CABLES.

DESCRIPTION.	No. of	Kw.	CONDUCTORS.		MAXIMUM CURRENT IN AMPERES.		APPROX. LENGTH (lead plus return feet).	INSULATION.	PROTECTIVE COVERING.
			No. in Parallel per Core.	Sectional Area or No. and Dia. of Strands. Sq. ins. or sq. mm.	In the Circuit.	Rule.			
MAIN GENERATOR	3	75	2	9/1093	682	768	100	RUBBER	LCAB.
" " EQUALISER	1		1	9/1093	-	384	50	RUBBER	LCAB.
EMERGENCY GENERATOR									
ROTARY TRANSFORMER: MOTOR									
" " GENERATOR									

MAIN DISTRIBUTION CABLES (to Auxiliary Switchboards, etc.).

DESCRIPTION.	No. of	Kw.	No. in Parallel per Core.	Sectional Area or No. and Dia. of Strands. Sq. ins. or sq. mm.	In the Circuit.	Rule.	APPROX. LENGTH (lead plus return feet).	INSULATION.	PROTECTIVE COVERING.
MIDSHIP MASTERBOARD.	1		1	61/093	190	288	500	RUBBER	LCAB.
AFT LIGHTING BOARD.	1		1	37/083	109	184	140	RUBBER	LCAB.
ENGINE ROOM + BOILER ROOM L.T.	1		1	06	74	200	130	M.I.	C.S.
PANTRY + GALLEY EQUIPMENT.	1		1	19/083	57	118	120	RUBBER	LCAB.
GALLEY RANGE.	1		1	19/083	117	118	280	RUBBER	LCAB.
REFRIG. MACHINERY PANEL	1		1	19/052	48	64	320	RUBBER	LCAB.
LAUNDRY BOARD	1		1	19/052	47	64	460	RUBBER	LCAB.
ENGINE ROOM AUXILIARY BOARD	1		1	1	153	260	160	M.I.	C.S.
ENGINE ROOM VENTILATION BOARD.	1		1	1	116	260	170	M.I.	C.S.
WORKSHOP BOARD	1		1	0225	76	110	120	M.I.	C.S.
SHORE SUPPLY.	1		1	02	-	400	140	M.I.	C.S.

DISTRIBUTION CABLES (to Section-Boards and Distribution-Fuse-Boards, etc.).

DESCRIPTION.	CONDUCTORS.		MAXIMUM CURRENT IN AMPERES.		APPROX. LENGTH (lead plus return feet).	INSULATION.	PROTECTIVE COVERING.
	No. in Parallel per Core.	Sectional Area or No. and Dia. of Strands. Sq. ins. or sq. mm.	In the Circuit.	Rule.			
WIRELESS	1	19/072	20	97	550	RUBBER	LCAB.
NAVIGATION	1	7/036	18	24	550	RUBBER	LCAB.
MIDSHIP PANTRY D.B.	1	19/052	37	64	110	RUBBER	LCB.
BRIDGE DECK L.T. D.B.	1	7/064	31	46	30	RUBBER	LCB.
MAST FLOODLIGHTING D.B.	1	7/044	30	31	150	RUBBER	LCB.
FORECASTLE L.T. D.B.	1	7/064	14	46	460	RUBBER	LCAB.
ACCOMMODATION L.T. POOP DECK.	1	7/044	12	31	160	RUBBER	LCB.
ACCOMMODATION L.T. AFT UPPER DECK.	1	7/064	30	46	20	RUBBER	LCB.
ENGINE ROOM L.T. PORT	1	0225	35	110	140	M.I.	C.S.
ENGINE ROOM L.T. STARBOARD	1	0225	34	110	60	M.I.	C.S.
GALLEY D.B.	1	7/064	24	46	200	RUBBER	LCB.
BOAT WINCH CONNECTIONS	1	19/044	35	53	160	RUBBER	LCAB.
RADAR	1	7/052	18	37	550	RUBBER	LCAB.
GYRO COMPASS	1	7/044	31	31	500	RUBBER	LCAB.
SUEZ CANAL PROJECTOR	1	19/064	30	83	500	RUBBER	LCAB.

MOTOR CABLES.

ALL IMPORTANT MOTORS TO BE ENUMERATED.	No.	B.H.P.	No. in Parallel per Core.	Sectional Area or No. and Dia. of Strands. Sq. ins. or sq. mm.	In the Circuit.	Rule.	APPROX. LENGTH (lead plus return feet).	INSULATION.	PROTECTIVE COVERING.
STEERING GEAR	1	15	1	37/083	123	184	200	RUBBER	LCAB.
DOMESTIC REFRIG.	1	5	1	7/064	40	46	60	RUBBER	LCAB.
MID. ACCOM. VENT. FAN.	1	4	1	7/064	32	46	100	RUBBER	LCB.
AFT. ACCOM. VENT. FAN.	2	4	1	0225	32	110	200	M.I.	C.S.
TURNING GEAR.	1	25	1	1	192	260	260	M.I.	C.S.
PURIFIERS.	3	7.5	1	0225	60.5	110	200	M.I.	C.S.
VAPOUR EXTRACTION FAN.	1	4.5	1	0225	37	110	130	M.I.	C.S.
EMERGENCY AIR COMPRESSOR	1	4	1	0225	34	110	120	M.I.	C.S.
ENG. RM. + BOILER RM. VENT. FANS.	4	3	1	7/064	24	46	250	RUBBER	LCAB.
FUEL VALVE COOL. PUMPS.	2	2	1	007	18	45	120	M.I.	C.S.
F.W. + SANITARY PUMPS.	3	1.5	1	007	132	45	150	M.I.	C.S.

NOTE.—Use Rpt. 13 Continuation Sheet if the above space is insufficient.

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. Green
Govan Secretary.

Electrical Contractors.

Date 1st June 1953

COMPASSES.

Have the compasses been adjusted under working conditions.

YES

For HARLAND AND WOLFF, LIMITED,

R. J. Green
Govan Secretary.

Builder's Signature.

Date 1st June 1953.

Have the foregoing descriptions and schedules been verified and found correct.

YES

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. 28th APRIL 1953.

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

General Remarks. (State quality of workmanship and materials, opinions as to class, etc.)

The electrical installation of this vessel has been fitted on board under Special Survey tested under working conditions and found to be satisfactory. The quality of materials and workmanship is good.

Total Capacity of Generators 225 Kilowatts.

The amount of Fee ... £ 75 : 15 : When applied for, 9 JUN 1953

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

J. M. Gardiner
Surveyor to Lloyd's Register of Shipping.

Committee's Minute GLASGOW 9 JUN 1953

Assigned SEE ACCOMPANYING MACHINERY REPORT