

Rpt. 13.

No. 76252

REPORT ON ELECTRICAL EQUIPMENT.

(OTHER THAN FOR THE PROPULSION OF THE VESSEL)

Date of writing Report 6th NOVEMBER 1950 When handed in at Local Office 14-11-1950 Received at London Office 15 DEC 1950

No. in Survey held at GLASGOW + PORT GLASGOW Date, First Survey 23rd JUNE Last Survey 26th OCTOBER 1950 Port of GLASGOW

Reg. Book. (No. of Visits 15)

95054 on the M.V. 'POWELL' Tons { Gross... Net... }

Built at PORT GLASGOW By whom built LITHGOWS LTD Yard No. 1046 When built 1950

Owners HECTOR TANKERS LTD Port belonging to LONDON

Installation fitted by MESSRS W. MUIR GOODFELLOW & CO LTD When fitted 1950

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

if not compound wound state distance between generators. YES and from switchboard. YES Are the generators 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

Position of Generators. PORT 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 FLAT OVER 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. SANDANYO, 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. TRIPLE POLE CIRCUIT BREAKER FITTED WITH REVERSE - CURRENT AND OVERLOAD TRIPS.

and the switch and fuse gear (or circuit breakers) for each outgoing circuit. 300 AMP. D.P. CIRCUIT-BREAKER FITTED WITH OVERLOAD TRIPS. OR D.P. KNIFE PATTERN SWITCHES WITH FUSES.

Are compartments containing switchboards composed of fire-resisting material or lined as per Rule. YES Instruments on main switchboard. THREE ammeters. Two voltmeters. synchronising devices. For compound machines in parallel are the ammeters and reversed current protection devices connected on the pole opposite to the equaliser connection. YES Earth Testing, state means provided. EARTH LAMPS

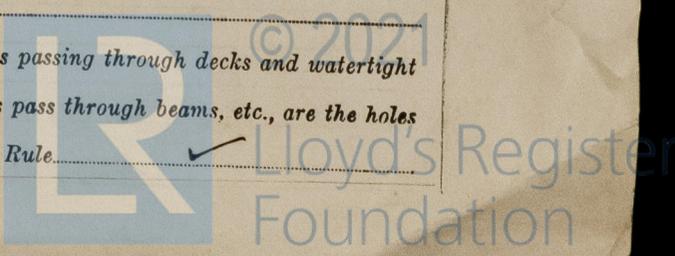
Switches, Circuit Breakers and Fuses, are they as per Rule. YES, are the fuses an Approved Type. YES make of fuses. SIEMENS 'Z' TYPE, are all fuses labelled. YES If circuit breakers are provided for the generators, at what overload do they operate. 150% FULL LOAD, and at what current do the reversed current protective devices operate. 10% - 15% F.L.

Joint Boxes, Section Boards and Distribution Boards, is the construction as per Rule. YES

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. 6.6 VOLTS, are the ends of all cables having a sectional area of 0.01 square inch and above provided with soldering sockets. YES Are all paper insulated and varnished cambric insulated cables sealed at the ends. 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 any cables laid under machines or floorplates. YES, if so, are they adequately protected. YES Are cables in machinery spaces, galleys, laundries, etc., lead covered. YES or run in conduit. YES or of the "HR" type. YES State how the cables are supported or protected. MAINS. L.C.A.B. CABLES CLIPPED TO STEELWORK. MACHINERY SPACE. L.C.A.B. OR 'PYROTENAX' CABLES CLIPPED TO TRAY OR STEELWORK. ACCOMMODATION. L.C. 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

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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 only to the officers on watch... YES... is an automatic indicator fitted... YES... Is an alternative supply provided... YES

Secondary Batteries, are they constructed and fitted as per Rule... YES... are they adequately ventilated... YES... state battery capacity in ampere hours... YES

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

Are any 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 CENTRECASTLE SPACE. PUMPROOM FITTINGS COMPLY WITH RULE REQUIREMENTS.

and where are the controlling switches fitted... IN ACCOMMODATION SPACE... Are all fittings suitably ventilated... YES

Searchlight Lamps, No. of... 1... whether fixed or portable... YES... are they of the carbon arc or of the filament type... YES

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

Control Gear and Resistances, are they constructed and fitted as per Rule... YES... Lightning Conductors, where required are they fitted as per Rule... YES... 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 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 the cables lead covered as per Rule... YES

E.S.D., if fitted state maker... MARCONI... location of transmitter... FRAME SPACE 47... and receiver... FRAME SPACE 47

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.	
			Kilowatts per Generator.	Volts.	Ampères.	Revs. per Min.	TYPE.	MAKER.
MAIN ...	2	ELECTRIC CONSTRUCTION COMPANY.	35	110	318	500	STEAM.	READER.
EMERGENCY ...	1	LAWRENCE SCOTT & ELECTROMOTORS.	60	110	546	600	DIESEL	PURTON & HORNSBY.
BOTARY TRANSFORMER								

GENERATOR CABLES.

DESCRIPTION.	KILOWATTS.	CONDUCTORS.		MAXIMUM CURRENT IN AMPERES.		APPROX. LENGTH (lead plus return feet).	INSULATION.	PROTECTIVE COVERING.
		No. in Parallel per Pole.	Sectional Area or No. and Dia. of Strands. Sq. ins. or sq. mm.	In the Circuit.	Rule.			
MAIN GENERATOR ...	60	2	37.083	546	628	195	V.C.	LCAB.
" " EQUALISER ...		1	37.083	-	314	98	V.C.	LCAB.
MAIN GENERATOR.	35	1	37.103	318	408	50	V.C.	LCAB.
" " EQUALISER		1	37.083	-	314	25	V.C.	LCAB.
EMERGENCY GENERATOR ...								
ROTARY TRANSFORMER: MOTOR								
" " GENERATOR.								

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

DESCRIPTION.	No.	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 SECTION BOARD	1	37.103	140	408	600	V.C.	LCAB.
AFT LIGHTING SECTION BOARD	1	19.064	121	143	130	V.C.	LCAB.
ENGINE ROOM LIGHTING SECTION BOARD	1	7.064	56	80	15	V.C.	LCAB.
MECHANICAL VENTILATION SECTION BOARD	1	19.083	182	202	174	V.C.	LCAB.
SHORE CONNECTION.	1	37.083	-	314	90	V.C.	LCAB.

LIGHTING, HEATING, WIRELESS, NAVIGATION LIGHTS, ETC., CABLES.

DESCRIPTION.	CONDUCTORS.		MAXIMUM CURRENT IN AMPERES.		APPROX. LENGTH (lead plus return feet).	INSULATION.	PROTECTIVE COVERING.
	No. in Parallel per Pole.	Sectional Area or No. and Dia. of Strands. Sq. ins. or sq. mm.	In the Circuit.	Rule.			
WIRELESS.	1	7.064	10	80	120	V.C.	L.C.
NAVIGATION.	1	7.044	14	31	120	RUBBER	L.C.
LOWER BRIDGE DECK LIGHTING D.B.	1	7.036	21	24	60	RUBBER	L.C.
AFT LIGHTING UPPER DECK PORT	1	7.044	23	31	85	RUBBER	L.C.
AFT LIGHTING POOP DECK STBD.	1	7.052	36	37	15	RUBBER	L.C.
FORECASTLE LIGHTING D.B.	1	7.036	7	24	460	RUBBER	L.C.A.B.
ENGINE ROOM LIGHTING D.B. PORT	1	7.044	23	31	150	RUBBER	L.C.A.B.
ENGINE ROOM LIGHTING D.B. STBD	1	7.044	23	31	15	RUBBER	L.C.A.B.
SEARCHLIGHT (WIRING ONLY)	1	19.044	28	92	530	V.C.	L.C.A.B.
RADAR	1	7.052	30	37	120	RUBBER	L.C.
GYRO COMPASS	1	7.036	8	24	60	RUBBER	L.C.
GALLEY POWER	1	7.044	17	31	130	RUBBER	L.C.A.B.
OIL PURIFIER D.B.	1	19.044	90	92	100	V.C.	L.C.A.B.
HYDROFORE PUMP D.B.	1	19.064	126	143	200	V.C.	L.C.A.B.
REFRIG. MACHINERY PANEL	1	19.052	81	110	140	V.C.	L.C.A.B.
LAUNDRY	1	7.064	64	80	480	V.C.	L.C.A.B.

MOTOR CABLES.

ALL IMPORTANT MOTORS TO BE ENUMERATED.	No.	B.H.P.	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	2	35	37.083	270	314	310	V.C.	L.C.A.B.
AFT VENT FANS	3	3.3	7.044	27.5	31	108	RUBBER	L.C.
MIDSHIP VENT FANS	2	2.5	7.044	21	31	120	RUBBER	L.C.
TURNING GEAR	1	22	19.083	170	202	190	V.C.	LCAB.
DOMESTIC REFRIG.	1	8	7.064	64	80	40	V.C.	LCAB.
HYDROFORE PUMPS.	4	5.5	7.052	44	60	40	V.C.	LCAB.
WORKSHOP	1	5	7.052	41.5	60	60	V.C.	LCAB.
PURIFIERS	3	3.5	7.044	28.7	31	30	RUBBER	LCAB.
PRIMING PUMP	1	1.5	7.036	13.3	24	96	RUBBER	LCAB.
ENGINE ROOM VENT FANS	2	2.6	7.044	22	31	80	RUBBER	LCAB.

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 W. MUIR GOODFELLOW & COY LTD

W. Muir Goodfellow Electrical Contractors. Date *10/11/50*

COMPASSES.

Have the compasses been adjusted under working conditions *YES*

LITHGOWS LIMITED.

L. H. Cunningham Secretary Builder's Signature. Date *13/11/50*

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 *19th July 1950*

Certificates. Are certificates of test for motors engaged on essential sea 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 installation of this vessel has been fitted on board under Special Survey, tested under working conditions and found satisfactory. The quality of materials and workmanship is good.

? Hydrofor pump - Bulb etc.

Total Capacity of Generators *130* Kilowatts.

The amount of Fee ... £ *59 : 10* When applied for, *As per 10*

Travelling Expenses (if any) £ *- : 17* When received, *19*

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

Committee's Minute.

GLASGOW 29 NOV 1950

Assigned SEE ACCOMPANYING MACHINERY REPORT

2m.9.40.—Transfer. (MADE AND PRINTED IN ENGLAND.)
(The Surveyors are requested not to write on or below the space for Committee's Minute.)

