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REPORT ON ELECTRICAL EQUIPMENT.

(OTHER THAN FOR THE PROPULSION OF THE VESSEL)

21 MAY 1958

Received at London Office

Date of writing Report 28. 2. 19 58 When handed in at Local Office 19... Port of Liverpool.

No. in Survey held at Birkenhead Date, First Survey 14/1/58 Last Survey 12/2/58
Reg. Book. (No. of Visits 3) 193

43262 on the Tug. "HEATH COCK" Tons { Gross 193 Net

Built at Birkenhead By whom built Cammell Laird & Co. Yard No. 1296 When built 1958
(S.B. & E) Ltd.

Owners North-West Tugs Ltd Port belonging to Liverpool

Installation fitted by Cammell Laird & Co. (Shipbuilders & Engineers) Ltd. When fitted 1958

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

Plans, have they been submitted and approved. Yes System of Distribution 2 Wire D.C Voltage of Lighting 220

Heating 220 Power 220 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 - 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. Yes Position of Generators In 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 In engine room near 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. Interohm, 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 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 (one pole equaliser) with no-volt, overload and reverse current trips.

and the switch and fuse gear (or circuit breakers) for each outgoing circuit. Double pole switch and fuses.

Are compartments containing switchboards composed of fire-resisting material or lined as per Rule. Yes Instruments on main switchboard 3 ammeters. 3 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. G.B.C., are all fuses labelled. Yes. If circuit breakers are provided for the generators, at what overload do they operate. 50% overload, and at what current do the reverse current protective devices operate. 10% reverse current Cables, are they insulated and protected as per Rule. 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 3.8 volts. Are all ~~paper insulated~~ 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. - are any cables laid under machines or floorplates. No, if so, are they adequately protected. - State type of cables (if in conduit this should also be stated) in machinery spaces. L.C.B., galleys. L.C.B.

and laundries. - State how the cables are supported or protected. All cables supported on steel plates or trays or clipped direct to structure.

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. -

Have refrigeration fan motors been constructed under survey. - and test certificates supplied. - Are the motors accessible for maintenance at all times. -



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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

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, fitted and adequately ventilated as per Rule..... **Yes**....., state battery capacity in ampere hours **3x12 volt, 58 A.H each in parallel**..... Where required to do so does it comply with 1948 International Convention..... **-**

Lighting, is fluorescent lighting fitted..... **No**..... If so, state nominal lamp voltage..... **-**..... and compartments where lamps are fitted..... **-**

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 **2**....., whether fixed or portable..... **fixed**....., are they of the carbon arc or of the filament type..... **Filament**

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..... **-**

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..... **-**

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..... **-**....., are all fuses of an Approved Cartridge Type..... **-**....., make of fuse..... **-**..... Are the fittings for pump rooms, 'tween deck spaces, etc., in accordance with the special requirements for such ships..... **-**..... Are all cables lead covered as per Rule..... **-**

E.S.D., if fitted state maker..... **-**..... location of transmitter and receiver..... **-**

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.	Ampères.	Revs. per Min.	TYPE.	MAKER.
MAIN	2	Mawdsley Ltd	30	220	136	850	Oil Engine	Ruston & Hornsby Ltd.
	1	"	10	220	45.5	1000	"	"
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 Pole.	Sectional Area or No. and Dia. of Strands. Sq. ins. or sq. mm.	In the Circuit.	Rule.			
MAIN GENERATOR	2	30	1	19/.064	136 ✓	143	100	V.C.	L.C.B.
" " EQUALISER			1	7/.064	- ✓	80	50	V.C.	L.C.B.
Auxiliary Generator	1	10	1	7/.064	45 ✓	80	40	V.C.	L.C.B.
" " Equaliser			1	7/.064	- ✓	80	20	V.C.	L.C.B.
EMERGENCY GENERATOR									
ROTARY TRANSFORMER: MOTOR									
" " GENERATOR									

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

DESCRIPTION.	No. of	Kw.	No. in Parallel per Pole.	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.
Navigation, Distribution Board D1	1		1	7/.029	2 ✓	15	120	V.I.R.	L.C.B.
Accommodation Lighting Dist. Bd. D2	1		1	7/.044	11 ✓	31	80	"	"
Accommodation Heating " " D3	1		1	7/.064	36.5 ✓	80	80	V.C.	"
Engine Room Lighting " " D4	1		1	7/.044	25 ✓	31	30	V.I.R.	"
Battery Charging Board	1		1	7/.029	9 ✓	15	30	"	"
Engine Auxiliaries Section Board S1	1		1	7/.064	49 ✓	80	30	V.C.	"
Galley Cooker	1		1	7/.064	34.5 ✓	80	70	V.C.	"
Galley Boiler	1		1	7/.044	9 ✓	31	70	V.I.R.	"
Engine Water Jacket Heaters (3)	1		1	7/.029	13.5 ✓	15	15	V.I.R.	"



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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.



Electrical Contractors. Date _____

COMPASSES.

Have the compasses been adjusted under working conditions. Yes _____

FOR AND ON BEHALF OF
CAMMELL LAIRD & COMPANY
(Shipbuilders & Engineers) LIMITED.

Builder's Signature. Date 14th March 1958

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 26.11.57

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 on this vessel has been installed under Special Survey and tested under working conditions and found to be satisfactory.

The materials used and the workmanship are good.

3001251 - Transfer. (MADE AND PRINTED IN ENGLAND.)
(The Surveyors are requested not to write on or below the space for Committee's Minute.)

Total Capacity of Generators 70 Kilowatts.

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23.5.58

The amount of Fee ... £ 52 : 10 : 0 When applied for, 11/4/1958

Travelling Expenses (if any) £ : : When received, 3/5/1958 RDM

H. Jaeger
Surveyor to Lloyd's Register of Shipping.

Committee's Minute LIVERPOOL 20 MAY 1958

Assigned See J.E. Mach?

