

REPORT ON ELECTRICAL EQUIPMENT.

(OTHER THAN FOR THE PROPULSION OF THE VESSEL)

NEWCASTLE-ON-TYNE

Received at London Office.

18 FEB 1949

Date of writing Report 28.1.1949 When handed in at Local Office 2 FEB 1949 Port of Newcastle-on-Tyne

No. in Survey held at Newcastle-on-Tyne Date, First Survey 12-10-48 Last Survey 27.1.1949
Reg. Book. (No. of Visits 14)

on the M.V. "BRITISH ENDERVOUR"

Built at Newcastle-on-Tyne By whom built R. W. Hawthorn Leslie & Co Ltd Yard No. 696 When built 1949
Tons { Gross 8589.18
Net 4953.70

Owners British Tanker Company Port belonging to London

Installation fitted by R. W. Hawthorn Leslie & Co Ltd When fitted 1949

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. No Radar yes

Plans, have they been submitted and approved yes System of Distribution 2 wire ins. Voltage of Lighting 110

Heating 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 - Generators, are they compound wound yes, and level compounded under working conditions yes, if not compound wound state distance between generators - and from switchboard - 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 - Have certificates of test for machines under 100 kw. been supplied yes and the results found as per Rule yes

Position of Generators engine room, fwd of main engine

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 raised platform 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 Alloy "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 - 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 a triple pole (one pole for equaliser) air break circuit breaker fitted with 0.5, 1.0, 2.0 KV tripping devices with time lag.

and the switch and fuse gear (or circuit breakers) for each outgoing circuit a double pole quick break 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 2 ammeters 2 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 5 samples

Switches, Circuit Breakers and Fuses, are they as per Rule yes, are the fuses an Approved Type yes, make of fuses "ZED", are all fuses labelled yes If circuit breakers are provided for the generators, at what overload do they operate 5%, and at what current do the reversed current protective devices operate 15%

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 -, state maximum fall of pressure between bus bars and any point under maximum load 7.6%, 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 No, if so, are they adequately protected - Are cables in machinery spaces, galleys, laundries, etc., lead covered yes or run in conduit - or of the "HR" type - State how the cables are supported or protected main feeds on jcs & aft galleys in steel trough with lvs plate. In accommodation, surface wiring run protected where necessary by wood or metal guards.

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

Alternative Lighting, are the groups of lights in the engine and boiler rooms arranged as per Rule 444 Emergency Supply, state position Battery-fed lights for Machinery spaces

Navigation Lamps, are they separately wired 440 controlled by separate double pole switches and fuses 440 Are the switches and fuses in a position accessible only to the officers on watch 440 Is an automatic indicator fitted 440 Is an alternative supply provided 440

Secondary Batteries, are they constructed and fitted as per Rule 440, are they adequately ventilated 440 state battery capacity in ampere hours 45 A.H.

Fittings, are all fittings on weather decks, in stokeholds and engine rooms and wherever exposed to drip or condensed moisture, weatherproof 440 Are any fittings installed where readily combustible materials or inflammable or explosive dust or gases are likely to be present 440 if so, how are they protected "Wigan" flameproof lighting fittings as approved in certificate and where are the controlling switches fitted in Officers' quarters Are all fittings suitably ventilated 440

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

Heating and Cooking, is the general construction as per Rule 440, are the frames effectually earthed 440, are heaters in the accommodation of the convection type 440 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 440 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 440 Have motors of 100 BHP and over been inspected by the Surveyors during manufacture and testing 440

Have certificates of test for motors under 100 BHP intended for essential sea services been supplied and the results found as per Rule 440

Control Gear and Resistances, are they constructed and fitted as per Rule 440 Lightning Conductors, where required are they fitted as per Rule 440 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 440, are all fuses of an Approved Cartridge Type 440, make of fuse Siemens "ZED" Are the fittings for pump rooms, 'tween deck spaces, etc., in accordance with the special requirements for such ships 440 Are the cables lead covered as per Rule 440 E.S.D., if fitted state maker Marconi location of transmitter Engine Room and receiver Engine Room

Spare Gear, if the vessel is for open sea service have spares been provided as per Rule and suitably stored in dry situations 440

Insulation Tests, has the insulation resistance of all circuits and apparatus been tested and found satisfactory 440

PARTICULARS OF GENERATING PLANT.

DESCRIPTION OF GENERATOR.	No. of	MAKER.	RATED AT				PRIME MOVER.	
			Kilowatts per Generator.	Volts.	Amps.	Revs. per Min.	TYPE.	MAKER.
MAIN	2	Allen.	75	110	682	500	Steam	Allen.
EMERGENCY ROTARY 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	75	1	9/1.103	682	782	150	V.C.	L.C.A.B.
" " EQUALISER	75	1	6/1.093	492	782	75	"	"
" " <u>Eq.</u>	75	1	6/1.093	492	782	75	"	"
EMERGENCY GENERATOR								
ROTARY TRANSFORMER: MOTOR								
" " GENERATOR								

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

DESCRIPTION.	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.
Middle Deck Switchboard (Oct. 11/22)	1	37.072	140	260	510	V.C.	L.C.A.B.
do do (W/T + Radet)	1	37.072	70	260	510	"	"
Battery-Charging Section Bd 'M'	1	7.044	25	45	180	"	"
Engine Room " " 'L'	1	7.064	36	80	90	"	"
" " " " 'H'	1	7.064	78	80	60	"	"
Engine's Workshop " " 'J'	1	19.052	85	110	180	"	"
Upper Deck Port " " 'G'	1	19.052	74.5	110	195	"	"
" " " " 'K'	1	19.052	72.8	110	180	"	"

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

DESCRIPTION.	No. in Parallel per Pole.	Sectional Area or No. and Dia. of Strands. Sq. ins. or sq. mm.	MAXIMUM CURRENT IN AMPERES.		APPROX. LENGTH (lead plus return feet).	INSULATION.	PROTECTIVE COVERING.
			In the Circuit.	Rule.			
6. R. 11g. Port DB 'H-1' - off SB 'H'	1	7.044	11	45	180	V.C.	L.C.A.B.
" " " 'H-3' "	1	7.044	16	45	60	"	"
" Star " 'H-2' "	1	7.044	17	45	180	"	"
" " " 'H-4' "	1	7.044	34	45	60	"	"
Prop Deck Port DB 'G-1' - off SB 'G'	1	7.044	17	45	66	"	L.C.B.
" " Star " 'G-2' "	1	7.064	16	80	255	"	"
Upper " " 'G-3' "	1	7.044	18	45	30	"	"
" " Star " 'G-4' "	1	7.064	22	80	240	"	"
Battery-Charging 'B.C.B-1' off SB 'M'	1	7.044	27	45	30	"	L.C.A.B.
" " " 'B.C.B-2' "	1	7.036	7	30	30	"	"
" " " 'B.C.B-3' " SB 'G'	1	7.036	2	30	150	"	L.C.B.
Apartment DB 'B' - off Ant. Switchboard	1	7.044	27	45	150	"	"
Bridge Deck Port DB 'C'	1	7.044	20	45	60	"	"
Upper Deck Port DB 'D'	1	7.052	39	60	90	"	"
Bridge Deck Port DB 'E'	1	7.052	30	60	90	"	"
" " " DB 'F'	1	7.044	17	45	60	"	"
" " " DB 'G'	1	7.044	27	45	60	"	"
Navigation Supply - from DB 'R'	1	3.036	2	10	60	V.I.R.	"
Alternative " " DB 'C'	1	3.036	-	10	150	"	"
W/T " " Ant. Switchboard	1	7.064	30	80	150	V.C.	"
Radet " " "	1	7.064	40	80	40	"	"
Refr. Unit " " "	1	3.036	3	10	120	V.I.R.	"
Ship's Cable Propeller Supply	1	19.064	30	143	710	V.C.	L.C.B. & L.C.A.B.

MOTOR CABLES.

ALL IMPORTANT MOTORS TO BE ENUMERATED.	No.	B.H.P.	MAXIMUM CURRENT IN AMPERES.		APPROX. LENGTH (lead plus return feet).	INSULATION.	PROTECTIVE COVERING.		
			In the Circuit.	Rule.					
Lat. Oil Pump/ies - off SB 'L'	2	2	1	7.036	18	30	2/30	V.C.	L.C.A.B.
Training Pump " SB 'T'	1	1 1/2	1	7.036	15	30	30	"	"
Scrubber Motor " "	1	2	1	7.036	18	30	30	"	"
Crane " " "	1	3	1	7.044	26	45	30	"	"
Workshop " " "	1	3	1	7.044	26	45	30	"	"
Off Deck Vent Fan - Port & Star	2	2 1/4	1	7.044	24	45	90	"	L.C.B.
" " " " Port	1	2 1/4	1	7.044	24	45	90	"	"
Engine Room " " "	1	1 1/2	1	7.036	15	30	150	"	"
Galley Vent Fan, Port	1	2	1	3.036	3	10	45	"	"
" " Star	1	2	1	3.036	3	10	60	"	"
Galley Exhaust	1	2	1	3.036	3	10	60	"	"
Vent Fan for Refrig. Machinery	1	25	1	26.7.9.039	3.2	10	45	"	"
Main Refrig. Compressor	2	4	1	7.064	35	60	2/30	V.C.	L.C.A.B.
Refrig. Cond. Pump	1	1	1	7.029	10	15	30	"	"
Refr. Cooling Fan	1	1/8	1	3.029	2	5	60	V.I.R.	"
Boat Winch Motor - Port	1	7	1	7.064	61	80	222	V.C.	"
" " Star	1	7	1	7.064	61	80	246	"	"
" " " " Port	1	7	1	7.064	61	80	165	"	L.C.B.
" " " " Star	1	7	1	7.064	61	80	105	"	"
Domestic Refrig. Plant	1	2	1	3.036	3	10	60	V.I.R.	"
Air Conditioning Motor	1	1 1/2	1	7.029	13	15	30	V.C.	"
Landing Beams Motor	1	2	1	3.036	3	10	191	V.I.R.	"
Leak Detector Motor	1	2	1	3.036	5	10	150	"	"
Mudship All. Vent Fan	2	2	1	7.044	18	45	2/120	V.C.	"

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 R. & W. HAWTHORN, LESLIE & CO. LIMITED.

Stephenson

Electrical Contractors.

Date *31/1/49*

COMPASSES.

Have the compasses been adjusted under working conditions. *yes.*

FOR R. & W. HAWTHORN, LESLIE & CO. LIMITED.

Stephenson

Builder's Signature.

Date *31/1/49*

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. *yes.* If not, state date of approval. *-*

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

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 in accordance with the approved plans and the "Rules for Electrical Equipment". The materials and workmanship are good: on completion satisfactory tests of the equipment were witnessed and the insulation resistance of all circuits was found good. This equipment is in my opinion suitable for a closed vessel.*

Notes sent 7/3/49.

Total Capacity of Generators *(2x75) 150* Kilowatts.

The amount of Fee ... *£62. 10. 0.* When applied for,

17 FEB 1949

Travelling Expenses (if any) £ : : When received, *10*

A. D. Grant
Surveyor to Lloyd's Register of Shipping.

SUNDERLAND

FRI. 11 MAR 1949

Committee's Minute.....

Assigned *For units see J.E. Rpt*

2m. 9. 46.—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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