

REPORT ON ELECTRICAL EQUIPMENT.

(OTHER THAN FOR THE PROPULSION OF THE VESSEL)

16 JUL 1941

Received at London Office.....

Date of writing Report... 27-6-1941 When handed in at Local Office.....19..... Port of... Liverpool

No. in Survey held at... Birkenhead Date, First Survey... 21/3/41 Last Survey... 14/6/1941
Reg. Book.87774 on the M.V. "DEWDALE" Tons { Gross 8265
Net 4860

Built at... Birkenhead By whom built... Cammell Laird & Co. Yard No. 1054 When built... 1941

Owners... The Admiralty Port belonging to... London

Electrical Installation fitted by... The Sunderland Forge & Eng. Co. Ltd. Contract No. 1054 When fitted... 1941

Is vessel fitted for carrying Petroleum in bulk... Yes Is vessel equipped with D.F. Yes E.S.D. Yes Gy.C. Yes Sub.Sig. —

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

Heating... Power 220 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... Yes Are turbine emergency governors fitted with a

trip switch as per Rule... Generators, are they compound wound... Yes, are they level compounded under working conditions... Yes

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... 110V - 60, 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... 110V, machines, and the results found as per rule... Yes Are the lubricating arrangements and the construction

of the generators as per rule... Yes Position of Generators... 220V, machines. On platform in Eng. Rm. 2nd Deck level Port side

is the ventilation in way of generators satisfactory... Yes are they clear of inflammable material... Yes, 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... Yes are the bedplates and frames earthed... Yes and the prime movers and generators in metallic

contact... Yes Switchboards, where are main switchboards placed... Adjacent to generators

are they in accessible positions, free from inflammable gases and acid fumes... Yes are they protected from mechanical injury and damage from water, steam

and oil... Yes, if situated near unprotected combustible material state distance from same horizontally... and vertically... what insulation

material is used for the panels... Suidango, 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 frame effectually earthed... Yes

Is the construction as per Rule... Yes, including accessibility of parts... Yes, absence of fuses on the back of the board... Yes, individual fuses

to pilot and earth lamps, voltmeters, etc... Yes locking of screws and nuts... Yes, labelling of apparatus and fuses... Yes, fuses on the "dead"

side of switches... Yes Description of Main Switchgear for each generator and arrangement of equaliser switches... 220V, machines -

D.P. circuit breakers with interlocked equalisers switch fitted with 1/2, 1/4 & 1/8 A.S.P.

for 110V, machines - D.P. switch & fuses, 220V, machines - D.P. switch & fuses, 110V, machines - D.P. switch & fuses

and for each outgoing circuit... 220V - 2 instruments on main switchboard 110V - 2

Are compartments containing switchboards composed of fire-resisting material or lined as per Rule... Yes Instruments on main switchboard 220V - 2

ammeters 110V - 2 voltmeters... synchronising devices. For compound machines in parallel is the ammeter 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, are all fuses labelled

per Rule... Yes If circuit breakers are provided for the generators, at what overload current did they open when tested... 10% O.C. are the reversed current

protection devices connected on the pole opposite to the equaliser connection... Yes have they been tested under working conditions, and at what current

did they operate... 10% R.C. Joint Boxes, Section Boards and Distribution Boards, is the construction and position as per Rule... Yes

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

state maximum fall of pressure between bus bars and any point under maximum load... 4.4 Vols are the ends of all cables having a sectional area of 0.04

square inch and above provided with soldering sockets... Yes Are paper insulated and varnished cambric insulated cables sealed at the ends... Yes

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. Yes, if so, are they adequately protected. Yes Are cables in machinery spaces, galleys, laundries, etc., lead covered. Yes or run in conduit. Yes State how the cables are supported and protected. Main cables L.C. or L.C.A. carried in conduit. Machinery spaces, L.C.A. clipped. Accumulation L.C. clipped. Then lead across a pump room L.C. in conduit.

Are all lead sheaths, armouring and conduits effectually bonded and earthed. Yes Refrigerated chambers, are the cables and fittings as per Rule. 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 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. Yes and method of control. Yes

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. Yes, are they adequately ventilated. Yes what is the battery capacity in ampere hours. 25 amp. hrs.

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. Yes of Pump Room - Steamport fitting. Then lead across W.T. fitting. Two large holes 7/4/41.

and where are the controlling switches fitted. Outside spaces. are all fittings suitably ventilated. Yes are all fittings and accessories constructed and installed as per Rule. Yes Searchlight Lamps, No. of —, whether fixed or portable. —

are their fittings as per Rule. — 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. Yes, 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. 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 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. Yes, 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.	Amperes.		Fuel Used.	Flash Point of Fuel.
MAIN 110 Volt	2	20	110	182	600	Steam Engines	—
220 Volt	2	75	225	335	1000	Steam Engines	—
EMERGENCY	1	11	110	225	600	(Supplied by Admiralty)	—
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 S	110 Volt	20	1	182	191	40	V.C.	L.C.A.
" " EQUALISER	220 Volt	75	1	335	461	60	Rubber	L.C. (AP6181A)
" " EQUALISER	—	—	1	—	214	30	"	" (AP6185A)
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	—	—	—	—	—	—	—
SHORE CONNECTION	1	10	181	191	90	V.C.	L.C.A.
AFT. SECT. BOARD	1	10	105	191	90	"	"
ENG. RM. LIGHTING SECT. BOARD	1	0225	60	75	30	"	"
ENG. RM. AUXILIARIES SECT. BOARD	1	0225	64	75	30	"	"
LOWER MIDSHIP SECTION BOARD	1	10	50	191	600	"	L.C.A. in Conduit
MIDSHIP SECTION BOARD. (IN DUPLICATE)	1	10	50	191	600	"	"
GANTRY TERMINAL BOX FEEDS - 4 L. No. FROM MAIN SWITCHBOARD. (2 FOR 0. 2 AFT.)	1	15	150	152	2-320	Rubber	L.C.A. in Conduit

LIGHTING AND HEATING, ETC., CABLES.

WIRELESS	1	0225	30	75	120	V.C.	L.C.
NAVIGATION LIGHTS	1	007	2.7	24	132	Rubber	"
LIGHTING AND HEATING AFT. Ltg. Aft. Passage. D.B. 1	1	007	2.2	24	96	"	"
AFT. Ltg. Port Passage Aft. D.B. 13	1	007	9.6	24	60	"	"
CARGO Ltg. Aft. D.B. 14	1	007	4.5	24	30	"	"
AFT. Ltg. STAR. PASSAGE D.B. 15	1	007	20.8	24	72	"	"
" " " " (AFT) D.B. 16	1	007	9.8	24	60	"	"
ENGINE RM. Ltg. D.B. Nos 17, 18, 19, 20 (each)	1	007	12.5	24	60	"	L.C.A.
UPPER BRIDGE. D.B. 2	1	007	21	24	90	"	L.C.
BRIDGE DECK Ltg. STAR. D.B. 3	1	007	21.3	24	90	"	"
" " " " (AFT) D.B. 5	1	007	15.2	24	60	"	"
DECK Ltg. D.B. 6	1	007	13	24	60	"	"
LOWER MIDSHIP ACCOMMODATION Ltg. D.B. 7	1	007	8	24	60	"	L.C. in Conduit
" " " " D.B. 8	1	007	8	24	60	"	"
CARGO Ltg. D.B. 4	1	0225	27	75	75	V.C.	L.C.
FORECASTLE Ltg. D.B. 9	1	01	5.4	31	320	Rubber	L.C. in Conduit
ROOF Ltg. Forward D.B. 10	1	007	19.8	24	90	"	L.C.
" " " " (AFT) D.B. 11	1	007	6.0	24	135	"	L.C.

MOTOR CABLES.

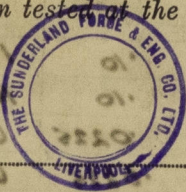
ALL IMPORTANT MOTORS TO BE ENUMERATED.	No.	B.H.P.					
LUBRICATING OIL PURIFIERS	2	2	1	007	17.8	24	90 Rubber L.C.A.
WORKSHOP MOTOR	1	3	1	0225	26	75	150 V.C.
TURNING MOTOR	1	10	1	10	90	191	120 " "
Acc. VENT. FANS AFT	1	3	1	0225	25	46	105 Rubber L.C.A. R.
" " " MIDSHIP	1	3	1	0225	25	75	72 V.C. L.C.
GANTRY CRANE MOTORS	8	440	1	CABLE SUPPLIED BY ADMIRALTY			
				DETAILS NOT AVAILABLE.			

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.

Richardson



Electrical Engineers.

Date *27.6.41*

COMPASSES.

Minimum distance between electric generators or motors and standard compass *65 ft*

Minimum distance between electric generators or motors and steering compass *60 ft*

The nearest cables to the compasses are as follows:—

A cable carrying *30* Ampères *led into* feet from standard compass *led into* feet from steering compass.

A cable carrying *18* Ampères *14* feet from standard compass *6* feet from steering compass.

A cable carrying *9.8* Ampères *20* feet from standard compass *10* feet from steering compass.

Have the compasses been adjusted with and without the electric installation at work at full power *yes*

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

The maximum deviation due to electric currents was found to be *1/2* degrees on *any* course in the case of the standard compass, and *1/2* degrees on *any* course in the case of the steering compass.

Builder's Signature.

Date *23 JUL 1941*

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 services and generators forwarded herewith *yes - except 220V Generator which was supplied by Admiralty & tested by them - Cables not available.*

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 & in accordance with the approved plans and Secretary's letter. The installation has been tested under full working conditions & found satisfactory. The materials & workmanship are good.

Noted
LP
18/7/41

Total Capacity of Generators *190* Kilowatts.

The amount of Fee ... £ *41 : 10 : 0* When applied for, *30.6.19.41*

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

Committee's Minute

Assigned *See Minute on Liverpool I.E. Machinery Report.*

L. Haffner + *C. Reed*
Surveyors to Lloyd's Register of Shipping.



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