

# REPORT ON ELECTRICAL EQUIPMENT.

(OTHER THAN FOR THE PROPULSION OF THE VESSEL)

Received at London Office 9 OCT 1941

No. 64350

Date of writing Report 1<sup>st</sup> SEPT. 41 When handed in at Local Office 6.10.41 Port of GLASSGOW.

No. in Survey held at GLASSGOW. Date, First Survey 10. 6. 41 Last Survey 4 9. 19 41  
 Reg. Book. 87773 on the M. V. "DINGLEDALE" Tons { Gross 8100  
 Net 4755

Built at GOVAN. GLASSGOW. By whom built HARLAND & WOLFF LTD. Yard No. 1044 When built 1941

Owners THE ADMIRALTY Port belonging to LONDON.

Electrical Installation fitted by HARLAND & WOLFF LTD. Contract No. — 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. — Sub.Sig. —

Have plans been submitted and approved YES System of Distribution TWO WIRE DC Voltage of supply for Lighting 110

Heating — Power 110 Direct or Alternating Current, Lighting DC. Power D.C. If Alternating Current state frequency — Prime Movers, —

has the governing been tested and found efficient when the whole 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 No, are shunt field regulators provided YES Is the compound winding connected to the negative or positive pole POSITIVE 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 Are the lubricating arrangements and the construction of the generators 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 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 NEAR GENERATOR

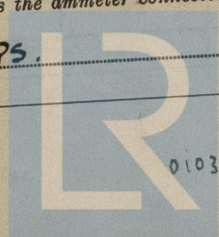
—, are they in accessible positions, free from inflammable gases and acid fumes YES, are they protected from mechanical injury and damage from water, steam and oil YES, if situated near unprotected combustible material state distance from same horizontally — and vertically —, what insulation material is used for the panels 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 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 200 AMPERE DOUBLE POLE CIRCUIT BREAKER FITTED WITH OVERLOAD RELEASE.

and for each outgoing circuit DOUBLE POLE CHANGEOVER SWITCH.

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 is the ammeter connected on the pole opposite to the equaliser connection — Earth Testing, state means provided EARTH LAMPS.



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Switches, Circuit Breakers and Fuses, are they as per Rule... YES, are the fuses an approved type... YES, are all fuses labelled as per Rule... YES, are the reversed current protection devices connected on the pole opposite to the equaliser connection... —, have they been tested under working conditions... —. 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... —, state maximum fall of pressure between bus bars and any point under maximum load... 5 Volts, 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 exposed ends... — with insulating compound... — or waterproof insulating tape... —. 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... No, if so, are they adequately protected... —. Are cables in machinery spaces, galleys, laundries, etc., lead covered... YES or run in conduit... —. State how the cables are supported and protected... LEAD COVERED ARMOURD AND BRAIDED ON MAIN DISTRIBUTION CABLES AND LEAD COVERED ON SUB DISTRIBUTION CABLES ALL CLIPPED TO PERFORATED STEEL TRAYS. IN EXPOSED POSITIONS CABLES ARE RUN IN GALVANISED IRON PIPES. Are all lead sheaths, armouring and conduits effectually bonded and earthed... YES. Refrigerated chambers, are the cables and fittings as per Rule... —. 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 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... — and method of control... —. 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... —, are they adequately ventilated... —. 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... BY SPECIAL GASTIGHT PUMPROOM FITTINGS WIRED WHOLLY FROM OUTSIDE SPACES IN GASTIGHT TUBING. and where are the controlling switches fitted... AT DISTRIBUTION BOXES REMOTE FROM PUMPROOM, 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... —. 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... —. 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. If portable lamps for use in dangerous spaces are supplied, are they of a self-contained battery-fed flameproof type... 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 megger 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.	Ampères.	Revs. per Min.		Fuel Used.	Flash Point of Fuel.
MAIN ...	2	20	110	182	650	STEAM ENGINES.		
EMERGENCY ...								
ROTARY TRANSFORMER								

GENERATOR CABLES.

DESCRIPTION.	KILOWATTS.	CONDUCTORS.		MAXIMUM CURRENT IN AMPERES.		APPROX. LENGTH (lead plus return feet).	INSULATED WITH.	HOW PROTECTED.
		No. in Parallel For Pole.	Sectional Area or No. and Dia. of Strands. Sq. ins. or sq. mm.	In the Circuit.	Rule.			
MAIN GENERATOR NO1 (UNDERBOARD)	20	1	37/083	182	184	60	RUBBER	L.C.A. + B.
" " EQUALISER								
MAIN GENERATOR NO2 (OUTBOARD)	20	1	37/083	182	184	35	"	" "
EMERGENCY GENERATOR								
ROTARY TRANSFORMER: MOTOR								
" " GENERATOR								

MAIN DISTRIBUTION CABLES.

AUX. SWITCHBOARDS AND SECTION BOARDS ...							
MIDSHIP SUB SWITCHBOARD	1	37/064	80	130	600	RUBBER	L.C.A. + B.
SECTION BOX NO3 ENG. ROOM LATS	1	7/064	43.3	46	60	"	" "
" " NO2 AFT. ACCOM.	1	19/052	62	64	126	"	" "
DISTRIBUTION BOXES M1-ENG ROOM MOTORS AND M2-WORKSHOP MOTORS	1	19/083	110.0	118	120	"	" "
D/G. INSTALLATION	1	19/083	110.8	118	18	"	" "

LIGHTING AND HEATING, ETC., CABLES.

WIRELESS	1	7/064	30	46	600	RUBBER	L.C.A.B.
NAVIGATION LIGHTS	1	7/064	15.0	24	102	"	L.C.A.B.
LIGHTING AND HEATING							
SECTION BOX NO1 LIGHTING MIDSHIPS	1	7/064	43.0	46	15	"	L.C.
DISTRIBUTION BOX NO6 CARGO LIGHTS	1	7/036	16.4	24	18	"	"
" " NO7 FLOOD LIGHTS	1	7/036	11.0	24	18	"	"
" " NO14 FORECASTLE LAT.	1	7/052	4.0	37	450	"	L.C.A.B.
" " NO8 PUMP ROOMS	1	7/029	4.4	18.2	18	"	L.C.
10" SIGNALLING PROTECTOR	1	7/044	18.75	31	120	"	"

MOTOR CABLES.

ALL IMPORTANT MOTORS TO BE ENUMERATED.	No.	B.H.P.						
TURNING GEAR	1	10	1	19/064	80	83	120	RUBBER
ACCOM. VENT. FAN. MIDSHIP.	1	3	1	7/044	25	31	75	"
STANDBY F.O. PUMP	1	1 1/4	1	7/029	11.77	18.2	60	"
LUB. OIL PURIFIER	1	2 1/2	1	7/036	21.3	24	20	"
FUEL OIL PURIFIER	1	3	1	7/044	25.1	31	50	"
ACCOMMODATION VENT FAN AFT	1	3	1	7/044	25.0	31	140	"
WORKSHOP MOTOR	1	3	1	7/044	27.0	31	65	"
DECONTAMINATION ROOM FAN 7 1/2 EXHAUST	1	0.5	1	3/036	4.6	12	140	"



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 WOLFE LIMITED

Electrical Engineers.

Date 15<sup>th</sup> OCTOBER 1941

Govan Secretary.

#### COMPASSES.

Minimum distance between electric generators or motors and standard compass 35 feet from midship Vent Fan (14 feet from Wireless m/a).  
Minimum distance between electric generators or motors and steering compass 34 feet from midship Vent Fan (12 feet from Wireless m/a).

The nearest cables to the compasses are as follows:—

A cable carrying 0.1 Ampères 10 feet from standard compass led into feet from steering compass.

A cable carrying 0.1 Ampères led into feet from standard compass 6 feet from steering compass.

A cable carrying 15.0 Ampères 6 feet from standard compass 6 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 NIL degrees on ANY course in the case of the standard compass, and NIL degrees on ANY course in the case of the steering compass.

Builder's Signature.

Date 15<sup>th</sup> OCTOBER 1941

Is this installation a duplicate of a previous case. No If so, state name of vessel

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 FULL WORKING CONDITIONS AND FOUND SATISFACTORY.

THE MATERIALS AND WORKMANSHIP ARE GOOD.

6/10/41

Total Capacity of Generators 40 Kilowatts.

The amount of Fee ... £ 25 : 0 :  
Travelling Expenses (if any) £ - : - :  
When applied for, 14-9-1941  
When received, 19-9-1941

Surveyor to Lloyd's Register of Shipping.

Committee's Minute GLASGOW 7 OCT 1941

Assigned See First Entry Report



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