

29 JUN 1955

Rpt. 13.

Dundee No. 9974

# REPORT ON ELECTRICAL EQUIPMENT.

(OTHER THAN FOR THE PROPULSION OF THE VESSEL)

Received at London Office

Date of writing Report 20<sup>th</sup> JUNE 1955 When handed in at Local Office 24.6.1955 Port of GLASGOWNo. in Survey held at DUNDEE Date, First Survey 1<sup>st</sup> MARCH Last Survey 3<sup>rd</sup> JUNE 1955  
Reg. Book. (No. of Visits 7)96156 on the M.V. WOOLWICH Tons Gross 7669  
Net 4145Built at DUNDEE By whom built CALEDON S.B. & E. CO. LTD Yard No. 491 When built 1955Owners BRITAIN S.S. CO. LTD Port belonging to LONDONInstallation fitted by SUNDERLAND FORGE & ENGINEERING CO. LTD When fitted 1955Is vessel equipped for carrying Petroleum in bulk No Is vessel equipped with D.F. YES E.S.D. YES Gy.C. YES Sub.Sig. ✓ Radar YESPlans, have they been submitted and approved YES System of Distribution TWO WIRE Voltage of Lighting 220Heating 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 fittedwith a trip switch ✓ Generators, are they compound wound YES, and level compounded under working conditions YESAre the generators arranged to run in parallel YES Is the compound winding connected to the negative or positive pole NEGATIVEHave machines 100 kw. and over been inspected by the Surveyors during manufacture and testing YES Have certificates of test for machinesunder 100 kw. been supplied and the results found as per Rule ✓ Position of Generators STARBOARD SIDE OF

## ENGINE ROOM.

is the ventilation in way of generators satisfactory YES are they clear of inflammable material and protected from mechanical injury anddamage from water, steam and oil YES Switchboards, where are main switchboards placed ON FLAT 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 SINDANYO, if of synthetic insulatingmaterial is it an Approved Type YES, if of semi-insulating material (slate or marble) are all conducting parts insulated therefrom asper Rule ✓ Is the construction as per Rule, including locking of screws and nuts YES Description of Main Switchgearfor each generator and arrangement of equaliser switches 500 AMP TRIPLE POLE CIRCUIT BREAKER, FITTED WITH OVERLOAD

## AND REVERSE CURRENT TRIPS.

and the switch and fuse gear (or circuit breakers) for each outgoing circuit DOUBLE POLE KNIFE PATTERN SWITCHES AND

## FUSES.

Are compartments containing switchboards composed of fire-resisting material or lined as per Rule YES Instruments on main switchboard THREEammeters THREE voltmeters ✓ synchronising devices. For compound machines in parallel are the ammeters and reverse currentprotection 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 YESmake of fuses G.E.C., are all fuses labelled YES If circuit breakers are provided for the generators, at whatoverload do they operate 150% FULL LOAD CURRENT, and at what current do the reverse current protectivedevices operate 10% - 15% FULL LOAD CURRENT Cables, are they insulated and protected as per Rule YESif otherwise than as per Rule are they of an Approved Type ✓, state maximum fall of pressure between bus bars and any pointunder maximum load FIVE volts. Are all paper insulated and varnished cambric insulated cables sealed at the ends YES

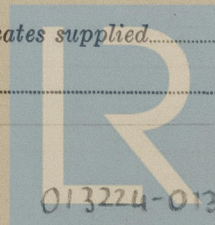
Are all the cable runs in accessible positions not exposed to drip or accumulation of water or oil, high temperatures or risk of mechanical

damage YES, are any cables laid under machines or floorplates No, if so, are they adequately protected ✓ Statetype of cables (if in conduit this should also be stated) in machinery spaces L.C.B., galleys L.C.B.and laundries L.C.B. State how the cables are supported or protected MAINS - L.C. CABLES CLIPPED TO

## STEEL PLATE WITH COVERPLATE FITTED.

MACHINERY SPACE. L.C.B. CABLES CLIPPED TO PERFORATED

## STEEL TRAY OR STEELWORK. ACCOMMODATION. HRB TYPE OR L.C.B. CABLES CLIPPED TO WOODWORK

Are all lead sheaths, armouring and conduits effectually bonded and earthed YES Are all cables passing through decks and watertightbulkheads provided with deck tubes or watertight glands YES, where unarmoured cables pass through beams, etc., are the holeseffectively 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 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 YES 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 YES Where required to do so does it comply with 1948 International Convention. YES

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

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 ONE, whether fixed or portable. PORTABLE, are they of the carbon arc or of the filament type. CARBON ARC

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

Lightning Conductors, where required are they fitted as per Rule. YES

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

E.S.D., if fitted state maker. KELVIN HUGHES location of transmitter and receiver. FRAME SPACE 145/6

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.	Amps.	Revs. per Min.	TYPE.	MAKER.
MAIN	3	SUNDERLAND FORGE & ENG CO LTD	100	220	454	450	DIESEL	RUSTON & HORNSBY.
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	3	100	2	37/072	454	520	50	V.C.	LCB.
" " EQUALISER	1		1	37/072	-	260	25	V.C.	LCB.
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.
WIRELESS GYRO ETC. S.B.	1	19/064	50	143	330	V.C.	LCB.		
LIGHTING SECTION BOARD.	1	19/083	155	202	280	V.C.	LCB.		
VENT. FAN SECTION BOARD.	1	19/064	76	143	200	V.C.	LCB.		
GALLEY AND PANTRY GEAR BOARD.	1	19/083	143	202	250	V.C.	LCB.		
ENGINE ROOM AUXILIARY BOARD N°1	1	19/064	65	143	50	V.C.	LCB.		
ENGINE ROOM AUXILIARY BOARD N°2	1	19/064	63	143	130	V.C.	LCB.		
ENGINE ROOM AUXILIARY BOARD N°3	1	19/064	113.6	143	242	V.C.	LCB.		
ENGINE ROOM AUXILIARY BOARD N°4	1	7/064	44	80	104	V.C.	LCB.		
AIR CONDITIONING BOARD.	1	19/064	97	143	200	V.C.	LCB.		
DOMESTIC REFRIGERATOR BOARD.	1	7/064	56.4	80	190	V.C.	LCB.		

#### DISTRIBUTION CABLES (to Section-Boards and Distribution-Fuse-Boards, etc.).

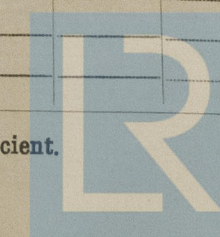
DESCRIPTION.	CONDUCTORS.		MAXIMUM CURRENT IN AMPERES.		APPROX. LENGTH (lead plus return feet).	INSULATION.	PROTECTIVE COVERING.
	No. in Parallel per Pole.	Sectional Area or No. and Dia. of Strands. Sq. ins. or sq. mm.	In the Circuit.	Rule.			
WIRELESS	1	7/044	15	31	40	RUBBER	LCB.
NAVIGATION	1	7/044	12	31	12	RUBBER	LCB.
UPPER + LOWER BRIDGE DECK LT'S PORT DB.	1	7/064	18	80	60	V.C.	LCB.
SHELTER + UPPER DECK LT'S DB. PORT.	1	7/044	22	31	110	RUBBER	LCB.
SHELTER + UPPER DECK LT'S D.B. STBD.	1	7/044	18.2	31	100	RUBBER	LCB.
SHELTER DECK LT'S D.B. FWD.	1	7/044	15	31	140	RUBBER	LCB.
HEAT CARGO LT'S D.B.	1	7/044	21.6	31	100	RUBBER	LCB.
FORWARD CARGO LT'S D.B.	1	7/044	22.2	31	150	RUBBER	LCB.
ENGINE ROOM LT'S D.B. PORT	1	7/044	16	31	300	RUBBER	LCB.
ENGINE ROOM LT'S D.B. STBD.	1	7/044	8	31	70	RUBBER	LCB.
GALLEY AND PANTRY D.B.	1	7/064	26.2	80	42	V.C.	LCB.
RADAR	1	7/044	20	31	35	RUBBER	LCB.
Gyro	1	7/029	5	15	60	RUBBER	LCB.
SEARCHLIGHT	1	7/064	80	80	480	V.C.	LC.

#### ALL IMPORTANT MOTORS TO BE ENUMERATED.

#### MOTOR CABLES.

	No.	B.H.P.	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.
AIR CONDITIONING COMPRESSORS	2	10	1	7/064	40	80	30	V.C.	LCB.
AIR COND. COMP. CIRC. PUMP.	1	4	1	7/044	17	31	200	RUBBER	LCB.
FUEL OIL PURIFIERS	3	7.5	1	7/064	30.6	80	60	V.C.	LCB.
LUB. OIL PURIFIER	1	3.5	1	7/044	14.5	31	56	RUBBER	LCB.
DOM. FW. + S.W. PUMPS.	3	5.5	1	7/044	21.8	31	90	RUBBER	LCB.
HUX. BOILER FANS.	2	3.5	1	7/044	15.4	31	208	RUBBER	LCB.
PRIMING PUMP.	1	1.5	1	7/029	6.5	15	72	RUBBER	LCB.
OIL BOOSTER PUMP	1	2	1	7/029	9	15	85	RUBBER	LCB.
ENGINE ROOM VENT. FANS.	2	4.3	1	7/044	17.6	31	140	RUBBER	LCB.
DOMESTIC REFRIG. COMPS.	2	5	1	7/044	21	31	32	RUBBER	LCB.
DOMESTIC REFRIG. PUMPS.	2	6.5	1	3/036	2.65	10	60	RUBBER	LCB.

NOTE.—Use Rpt. 13 Continuation Sheet if the above space is insufficient.



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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.

per pro. THE SUNDERLAND FORGE & ENGRG. CO. LTD., Electrical Contractors. Date 21.6.55.

*J. B. Shank*  
Director.

COMPASSES.

FOR AND ON BEHALF OF THE CALTON SHIPBUILDING & ENGINEERING CO. LTD.  
Have the compasses been adjusted under working conditions. *YES*

*[Signature]*  
Builder's Signature.

Date 23<sup>rd</sup> June 1955

Have the foregoing descriptions and schedules been verified and found correct. *YES*

Is this installation a duplicate of a previous case. *✓* If so, state name of vessel. *✓*

Plans. Are approved plans forwarded herewith. *No* If not, state date of approval 6<sup>th</sup> March 1952, 5<sup>th</sup> May 1953.

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 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.

Total Capacity of Generators 300 Kilowatts.

The amount of Fee ... £ 87 : 0 : When applied for,

1/5 FEE TO SUNDERLAND £ 17-8-0

1/5 FEE TO GLASGOW. £ 69-12-0

When received,

Travelling Expenses (if any) £ : - : 10

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

Committee's Minute

GLASGOW

28 JUN 1955

Assigned

SEE ACCOMPANYING MACHINERY REPORT



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