

RETAIN

No. 67107

Rpt. 13.

# REPORT ON ELECTRICAL EQUIPMENT.

(OTHER THAN FOR THE PROPULSION OF THE VESSEL)

26 MAY 1943

Received at London Office.....

Date of writing Report 15<sup>th</sup> May 43 When handed in at Local Office 24.5.43 Port of GLASGOW

No. in Survey held at GLASGOW Date, First Survey 25<sup>th</sup> Feb 1943 Last Survey 18<sup>th</sup> May 1943  
Reg. Book. (Number of Visits 13)

88593 on the M.Y. SOCOTRA Tons { Gross.....  
Net.....

Built at GLASGOW By whom built BARCLAY CURLE & CO L<sup>TD</sup> Yard No. 691 When built 1943

Owners PENINSULAR & ORIENTAL S.N.C<sup>O</sup> Port belonging to LONDON

Electrical Installation fitted by SUNDERLAND FORGE & ENGINEERING CO L<sup>TD</sup> Contract No. 691 When fitted 1943

Is vessel fitted for carrying Petroleum in bulk — 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 Voltage of supply for Lighting 110

Heating — Power 110 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 No, 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 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 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 Sindamyl, 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 —

D.P. Switch and fuses

and for each outgoing circuit S.P. Switch and fuses

Are compartments containing switchboards composed of fire-resisting material or lined as per Rule — Instruments on main switchboard 3 ammeters 3 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

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 If circuit breakers are provided for the generators, at what overload current did they open when tested —, are the reversed current protection devices connected on the pole opposite to the equaliser connection —, have they been tested under working conditions, and at what current did they operate — 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 Lighting 42 Volts. Power 65 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 ends Yes



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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 \_\_\_\_\_, 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 MAINS: L.C.B. clipped & H.R.B. run in pipe.  
MACHINERY SPACE: L.C. clipped to steel.  
ACCOMMODATION: L.C. clipped to woodwork.

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 effectually bushed Yes and with what material Fibre. 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 \_\_\_\_\_ what is the battery capacity in ampere hours \_\_\_\_\_.

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 \_\_\_\_\_, if so, how are they protected \_\_\_\_\_ and where are the controlling switches fitted \_\_\_\_\_, 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 \_\_\_\_\_ 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 \_\_\_\_\_, are all fuses of the cartridge type \_\_\_\_\_

are they of an approved type \_\_\_\_\_ Are the fittings for pump rooms, 'tween deck spaces, etc., in accordance with the special requirements for such ships \_\_\_\_\_ Are the cables lead covered as per Rule \_\_\_\_\_ 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.	Amps.	Revs. per Min.		Fuel Used.	Flash Point of Fuel.
MAIN	3	30	110	273	685	Steam engine		
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 Per Pole.	Sectional Area or No. and Dia. of Strands. Sq. ins. or sq. mm.	In the Circuit.	Rule.			
MAIN GENERATOR	30	1	37.083	273	296	200	Y.C.	L.C.B.
" " EQUALISER								
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							
ENGINEERS LIGHTING S.B.	1	19.052	52.5	64	85	RUBBER	L.C.
N°1 ENGINE ROOM POWER S.B.	1	19.064	100	135	90	Y.C.	L.C.B.
N°2 ENGINE ROOM POWER S.B.	1	19.064	108	135	185	Y.C.	L.C.B.
LOWER BRIDGE & BOAT DECK S.B.	1	19.052	45	64	400	RUBBER	L.C.B.
SALOON LIGHTING S.B.	1	19.052	49.3	64	350	RUBBER	L.C.
VENT FANS S.B.	1	7.064	15	46	100	RUBBER	L.C.

LIGHTING AND HEATING, ETC., CABLES.

WIRELESS	1	7.064	18	46	420	RUBBER	L.C.
NAVIGATION LIGHTS	1	7.064	12	46	420	RUBBER	L.C.
LIGHTING AND HEATING							
CREW & CARGO AFT	1	19.052	38.2	64	400	RUBBER	L.C.
ENGINEERS LIGHTING D.B.	1	7.036	11.3	24	60	RUBBER	L.C.
FOR'D CARGO	1	19.052	43	64	600	RUBBER	L.C.
ASDIC	1	7.064	18.6	46	400	RUBBER	L.C.
ENGINE ROOM LIGHTING D.B.	1	7.064	30	46	100	RUBBER	L.C.B.
ENGINE ROOM LIGHTING D.B.	1	7.064	35	46	80	RUBBER	L.C.B.

MOTOR CABLES.

ALL IMPORTANT MOTORS TO BE ENUMERATED.	No.	B.H.P.						
REFRIGERATOR	1	4	1	7.064	37	46	400	RUBBER L.C.
OIL PURIFIER N°1	1	3	1	7.064	27	31	80	RUBBER L.C.B.
OIL PURIFIER N°2	1	3	1	7.064	27	31	70	RUBBER L.C.B.
OIL PURIFIER N°3	1	2.5	1	7.064	22.5	31	70	RUBBER L.C.B.
OIL PURIFIER N°4	1	2.5	1	7.064	22.5	31	75	RUBBER L.C.B.
FUEL VALVE COOLING	1	1	1	7.064	9	10	180	RUBBER L.C.B.
FUEL VALVE COOLING	1	1	1	7.064	9	10	180	RUBBER L.C.B.
CRANE	1	3	1	7.064	27	31	90	RUBBER L.C.B.
PRIMING PUMP	1	2	1	7.036	18	24	200	RUBBER L.C.B.
PRIMING PUMP	1	2	1	7.036	18	24	200	RUBBER L.C.B.
ENGINE ROOM VENT FAN	1	2.5	1	7.064	22.5	31	200	RUBBER L.C.B.
ENGINE ROOM VENT FAN	1	2.5	1	7.064	22.5	31	170	RUBBER L.C.B.
WORKSHOP	1	3	1	7.064	27	31	100	RUBBER L.C.B.

RETAIN

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.

P.Pro. THE SUNDERLAND FORGE & ENGINEERING CO. LTD.

*J.C. Shanks*

Electrical Engineers.

Date 21.5.43

COMPASSES.

Minimum distance between electric generators or motors and standard compass 30 feet.

Minimum distance between electric generators or motors and steering compass 25 feet.

The nearest cables to the compasses are as follows:—

A cable carrying 18 Ampères led into standard compass led into steering compass.

A cable carrying 7.5 Ampères 8 feet from standard compass 6 feet from steering compass.

A cable carrying Ampères feet from standard compass 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.

For BARCLAY, CURRIE & Co., Ltd.

*Howard Lindsay* Secretary

Builder's Signature.

Date 24/5/43

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 28/8/42

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

General Remarks (State quality of workmanship, whether insulation tests, etc., have been made, opinions as to class, etc.)

The electrical equipment of the vessel has been fitted on board under special survey, & is under working conditions and found satisfactory. The materials and workmanship are good.

*Noted*  
*J.P.*  
31/5/43

Total Capacity of Generators 90 Kilowatts.

The amount of Fee ... £ 31 : 10 : When applied for, 2-5 MAY 1943

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

*J.G. Fiddell*

Surveyor to Lloyd's Register of Shipping.

Committee's Minute GLASGOW 25 MAY 1943

SEE ACCOMPANYING MACHINERY REPORT

Assigned

5m.1.30.—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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