

# REPORT ON ELECTRICAL EQUIPMENT.

(OTHER THAN FOR THE PROPULSION OF THE VESSEL)

22 FEB 1949

Received at London Office.....

Date of writing Report..... 22 FEB 1949..... When handed in at Local Office..... 22 FEB 1949..... Port of..... LONDON

No. in Survey held at..... LONDON..... Date, First Survey..... 29<sup>th</sup> October..... Last Survey..... 18<sup>th</sup> December 1947..... (Number of Visits.....)

63772 on the..... Single screw (ex A.N.76) JOHN BISCOE..... Tons { Gross..... 870..... Net..... 416

Built at..... Wilmington..... By whom built..... American Car & Ferry Corp. Yard No..... -..... When built..... 1944

Owners..... Government of Falkland Islands..... Port belonging to..... Port Stanley, Falkland Islands

Electrical Installation fitted by..... American Car & Ferry Corp. Contract No..... -..... When fitted..... 1944.

Is vessel fitted for carrying Petroleum in bulk..... No..... Is vessel equipped with D.F..... -..... E.S.D..... Yes..... Gy.C..... Yes..... Sub.Sig..... -..... Radar.....

Have plans been submitted and approved..... YES..... System of Distribution..... DIRECT CURRENT..... Voltage of supply for Lighting..... 120

Heating..... 120 Power..... 120 Direct or Alternating Current, Lighting..... -..... Power..... -..... 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..... No..... are they level compounded under working conditions..... Yes.....

if not compound wound state distance between generators..... 22 ft..... and from switchboard..... 3 ft..... Where more than one generator is fitted are they

arranged to run in parallel..... Yes..... are shunt field regulators provided..... Yes..... Is the compound winding connected to the negative or positive pole

..... Have machines over 100 kw. been inspected by the Surveyors during manufacture and testing..... No..... Have certificates of

test for machines under 100 kw. been supplied..... No..... and the results found as per rule..... -..... Are the lubricating arrangements and the construction

of the generators as per rule..... A.I.E.E. Standard..... Position of Generators..... ON SWITCH BOARD PLATFORM ABOVE ENGINE FLAT,

AFT..... 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..... ON PLATFORM ABOVE MAIN ENGINE

FLAT, AFT.....

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..... Black synthetic board..... 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..... one D.P. (500A)

Circuit Breaker for each generator..... one D.P. isolator switch and one D.P. selector switch

for Propulsion generator excitation

and for each outgoing circuit..... D.P.S.T. knife switch except Fire and Bilge Pumps No 1 & 2.

(Circuits F.B. 116 & F.B. 136) where circuit breakers are provided.

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..... -..... Earth Testing, state means provided..... Lamps.....

Switches, Circuit Breakers and Fuses, are they as per Rule..... A.I.E.E..... are the fuses an approved type..... A.I.E.E..... 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..... 120%..... are the reversed current

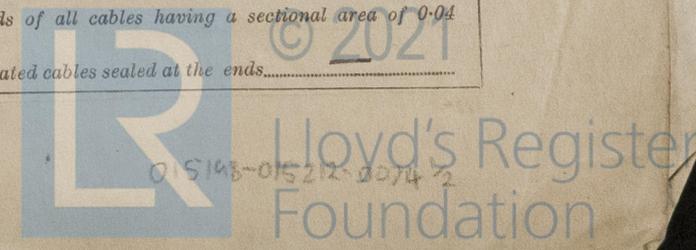
protection devices connected on the pole opposite to the equaliser connection..... -..... have they been tested under working conditions, and at what current

did they operate..... 30 amp. Joint Boxes, Section Boards and Distribution Boards, is the construction and position as per Rule..... A.I.E.E.

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

state maximum fall of pressure between bus bars and any point under maximum load..... 5.6 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.....



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 yes, if so, are they adequately protected yes. Are cables in machinery spaces, galleys, laundries, etc., lead covered yes or run in conduit No. State how the cables are supported and protected in cable racks; with armoured sheath.

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 and with what material. 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 No. Secondary Batteries, are they constructed and fitted as per Rule yes, are they adequately ventilated yes.

what is the battery capacity in ampere hours. U.S. Navy pattern

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 No, if so, how are they protected.

and where are the controlling switches fitted. U.S. Navy, are all fittings suitably ventilated.

are all fittings and accessories constructed and installed as per Rule yes. Searchlight Lamps, No. of one, whether fixed or portable fixed, are their fittings as per Rule U.S. Navy.

are the frames effectually earthed yes, are heaters in the accommodation of the convection type None. Motors, are all motors constructed and installed as per Rule A.I.E.E. 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 yes.

Have motors of 100 BHP and over been inspected by the Surveyors during manufacture and testing No. Have certificates of test for motors under 100 BHP intended for essential services been supplied and the results found as per Rule No. Control Gear and Resistances, are they constructed and fitted as per Rule A.I.E.E. 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.	R.P.M.		Fuel Used.	Flash Point of Fuel.
MAIN	2	60	120	500	1200	6 cyl. Diesel 5 1/2 x 6 1/2	Bunka - Lamora	
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.				
MAIN GENERATOR	60	1	413,600	500	400	30	V.C. Salt Asbestos & Wire Armoured.
" EQUALISER							
EMERGENCY GENERATOR							
ROTARY TRANSFORMER: MOTOR							
" GENERATOR							

MAIN DISTRIBUTION 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).	INSULATED WITH.	HOW PROTECTED.
			In the Circuit.	Rule.			
AUX. SWITCHBOARDS AND SECTION BOARDS							
110. Feeder DB: Boiler Services	1	30,800	72	73	70	Vanished	
117. " Crew Accom.	1	9,016	27	35	140	"	"
119. " Crew's Galley Mess	1	30,800	71	73	100	"	"
126. " Bilge, P.S. Deck Wash	1	14,340	15	45	230	"	"
127. " Crew's Accom.	1	22,800	37	60	70	"	"
129. " Vest Room	1	22,800	32	60	150	"	"
0133. " Pulverizer Sdkt. Excitation		49,080		100	50	"	"
137. " Engine Room	1	9,016	21	35	40	"	"
0143. " Pulverizer Sdkt. Main		250,500	205	292	60	"	"
0142. " Winches Fuel + Air (120) Deck		4,497	15	15	30	"	"
0101. " Phone Communication		124,900	-	180	60	"	"

LIGHTING AND HEATING, 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).	INSULATED WITH.	HOW PROTECTED.
WIRELESS						
NAVIGATION LIGHTS						
LIGHTING AND HEATING						
F.B.012. Gyro & Radar Mfg. sets	1	124,900	47	150	140	"
123. Searchlight	1	38,910	50	85	190	"
130. Battery Charging (M. Room)	1	9,016	30	35	90	"
131. " " (Local)	1	4,497	15	15	50	"
144. Radar	1	14,340	29	45	90	"
100. Lighting Panel	1	9,016	28	35	80	"
101. " "	1	60,090	74	114	100	"
102. " "	1	60,090	75	114	60	"
103. Running, Anchor & Signal	1	4,497	14	15	30	"
146. Heaters: Pulverizer Motor Generators	1	22,900	34	60	40	"
Baker's Oven	1	7,064	34	46	100	V.R. Lead covered & Armoured

MOTOR CABLES.

ALL IMPORTANT MOTORS TO BE ENUMERATED.	No.	B.H.P.	Sectional Area or No. and Dia. of Strands. Sq. ins. or sq. mm.	MAXIMUM CURRENT IN AMPERES.	APPROX. LENGTH (lead plus return feet).	INSULATED WITH.	HOW PROTECTED.
113. Anchor Windlasses "142"	2	15	60,090	113	114	200	V.C. Salt Asbestos & Wire
113. Steering Gear (2 units)	1	4.1	22,900	53	60	110	"
125. Fresh Water Pumps "142"	2	0.5	2,828	5	6	70	"
115. Evaporator (Anchor Heater)	1	7.5	38,910	90	85	50	"
116. Diesel Bilge Pumps "142"	2	30	198,700	249	240	150	"
118. Air Compressor L.P.	1	15	60,090	113	114	30	"
121. M.P. "142"	2	7.5	22,900	57	60	30	"
124. Degassing			9,016	25	35	30	"
128. R.R. Vent Fan	1	12.5	38,910	100	80	100	"
132. Fuel Oil Transfer Pump	1	1.5	4,497	12	15	20	"
F.W. Pump	1	1/3	2,828	4	6	20	"
Bilge Pump	1	1/3	2,828	4	6	28	"
Evaporator Feed Pump	1	1.1	4,497	9	15	32	"
Boiler - Burner Motor	1	2.5	9,016	21	35	40	"
Bilge & Decking Pump	1	1.5	4,497	126	15	20	"
Fuel Service Transfer Pump	1	1.5	4,497	126	15	30	"

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.

Electrical Engineers. Date

COMPASSES.

Minimum distance between electric generators or motors and standard compass

Minimum distance between electric generators or motors and steering compass

The nearest cables to the compasses are as follows:-

A cable carrying Ampères feet from standard compass feet from steering compass.

A cable carrying Ampères feet from standard compass 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

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

The maximum deviation due to electric currents was found to be degrees on course in the case of the

standard compass, and degrees on course in the case of the steering compass.

Builder's Signature. Date

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 19. 11. 47.

Certificates. Are certificates of test for motors engaged on essential services and generators forwarded herewith No.

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

installation of this vessel appears to have been executed in accordance with the standards of the American Institute of Electrical Engineers & the requirements of the American Bureau of Ships. It is noted that the motors & generators are rated for a temperature rise of 40°C and the cable are U.S. Navy - BUSHIP Types SHFA, DHFA & THFA.

The installation has been examined, minor alterations & repairs carried out to meet the requirements of the Rules and on completion the equipment tested under working conditions, megger tested, and found satisfactory.

As now seen, the electrical installation of this vessel is, in my opinion, such as could be accepted for Classification by this Society.

Total Capacity of Generators 120 Kilowatts.

The amount of Fee ... £ 20 : - : When applied for, 19

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

Committee's Minute FRI, 6 MAY 1949

Assigned

Signature of Surveyor to Lloyd's Register of Shipping

Noted J.H.J. 14/4/49



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5m.4.39. Transfer. (MADE AND PRINTED IN ENGLAND.) (The Surveyors are requested not to write on or below the space for Committee's Minutes.)