

REPORT ON ELECTRICAL EQUIPMENT.

(OTHER THAN FOR THE PROPULSION OF THE VESSEL)

Received at London Office.....

Date of writing Report..... 2. 11. 19. 48 When handed in at Local Office... *St. Mary's* Port of... *Sunderland*

No. in Survey held at... *Sunderland* Date, First Survey... *6-8-48* Last Survey... *29. 10. 19. 48*
Reg. Book. (Number of Visits... *10*)

90574 on the... *S.S. "ADMIRAL FRASER"* Tons { Gross... *2275*
Net... *112*

Built at... *Sunderland* By whom built... *W. Pickering & Sons Ltd.* Yard No. *311* When built... *1948*

Owners... *Stratton Shipping Co. Ltd.* Port belonging to... *London*

Electrical Installation fitted by... *Campbell & Isherwood* Contract No. *311* When fitted... *1948*

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

Have plans been submitted and approved... *Yes* System of Distribution... *Two wire insulated* 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... *Yes*, 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... *Inboard & Outboard, starboard side on Engine Room*

starting platform level, 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... *starboard side adjacent to aft Engine Room*

Bulkhead, facing forward on Engine Room starting platform level.

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... *Simdango (Ebony finish)*, 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... *Double Pole Air*

Break Circuit Breaker with Overloads, Time lags on Overload Coils and Reverse

Current Protective Devices and Equaliser.

and for each outgoing circuit... *Double Pole Single Throw Quick Break Knife Switch and*

Double Pole Fuses.

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... *Yes*. Earth Testing, state means provided... *Earth lamps connected to 'E' thro switches & fuses.*

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... *10%*, are the reversed current

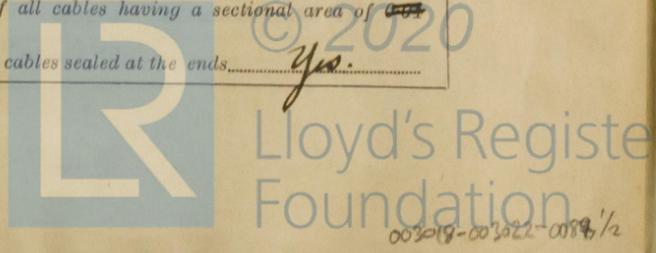
protection devices connected on the pole opposite to the equaliser connection... *Yes*, have they been tested under working conditions, and at what current

did they operate... *5%* 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... *< 6 bar*, are the ends of all cables having a sectional area of *0.01*

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. —, if so, are they adequately protected. —. Are cables in machinery spaces, galleys, laundries, etc., lead covered Yes or run in conduit Yes. State how the cables are supported and protected. Boiler tops and Boiler fronts wired in Pyrotinax. Generator mains clipped to solid steel tray plates. V.S.R. cables in steel conduit and L.C. cables in accommodation sheathed to wood grounds.

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 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 —. what is the battery capacity in ampere hours —.

Fittings, are all fittings on weather decks, in stowholds 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 —, 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 —. 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 —, 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.	Ampères.	Revs. per Min.		Fuel Used.	Flash Point of Fuel.
MAIN	2	20	110	181	600	1- Steam Engine.		
					1000	1- Diesel Engine.	Heavy Oil	About 150° F
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	20	1	19/083	181	191	48	V16	Lead covered & braided
" " EQUALISER		1	19/064	91	135	24	V16	Lead covered & braided
" " "	20	1	19/083	181	191	48	V16	Lead covered & braided
" " "		1	19/064	91	135	24	V16	Lead covered & braided
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							
Main switch board to Boat Deck d.B.'A'	1	7/044	24	42	219	V16	Lead covered & braided.
Main switch board to Midships d.B.'B'	1	7/064	40	75	135	V16	Lead covered & braided.
Main switch board to Midships d.B.'C'	1	7/044	26	42	135	V16	Lead covered & braided.
Main switch board to Foremast d.B.'D'	1	19/064	47	83	315	V18	Conduit.
Main switch board to Mainmast d.B.'E'	1	19/064	47	83	225	V18	Conduit.
Main switch board to Aft main Mast d.B.'F'	1	7/036	14	24	339	V18	Conduit.
Main switch board to Engine Room d.B.'G'	1	7/044	21	42	30	V16	Lead covered & braided.

LIGHTING AND HEATING, ETC., CABLES.

WIRELESS	1	7/064	25/30	75	258	V16	Lead covered & braided.
NAVIGATION LIGHTS	1	7/036	3	28	258	V16	Lead covered & braided.
LIGHTING AND HEATING							
							Alternative source of supply from DB 'A1' Warehouse.
d.B.'A' to Warehouse DB 'A1'	1	7/036	8	24	30	V18	Lead covered & braided.
d.B.'A' to Boat Deck DB 'A2'	1	7/036	13	24	9	V18	Lead covered & braided.
d.B.'B' to Upper Deck Port DB 'B1'	1	7/036	15	24	45	V18	Lead covered & braided.
d.B.'B' to Upper Deck Starboard DB 'B2'	1	7/036	15	24	9	V18	Lead covered & braided.
d.B.'B' to Upper Deck & Foremast DB 'B3'	1	7/036	10	24	150	V18	Lead covered & braided.
d.B.'C' to Foremast Mast DB 'C1'	1	7/036	14	24	240	V18	Conduit.
d.B.'C' to Mainmast Mast DB 'C2'	1	7/036	12	24	210	V18	Conduit.
d.B.'G' to Engine Room DB 'G1'	1	7/036	12	24	30	V18	Lead covered & braided.

MOTOR CABLES.

ALL IMPORTANT MOTORS TO BE ENUMERATED.	No.	B.H.P.						
Engine Room Vent Fans.	2	1	7/036	3	24	60	V18	Lead covered & braided.
Laths	1	1	7/036	3	24	45	V18	Lead covered & braided.
Refrigeration	1	1	7/064	40	75	99	V16	Lead covered & braided.

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.

CAMPBELL & ISHERWOOD, LTD.

Thomas Meade Electrical Engineers.

Date *3rd Nov 1948*

COMPASSES.

Minimum distance between electric generators or motors and standard compass *18* feet

Minimum distance between electric generators or motors and steering compass *20* feet.

The nearest cables to the compasses are as follows:—

A cable carrying *0.14* Ampères *10* feet from standard compass *inside* steering compass.

A cable carrying *0.14* Ampères *inside* standard compass *10* 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 *every* course in the case of the standard compass, and *nil* degrees on *every* course in the case of the steering compass.

Wm. PICKERSGILL & SONS, LIMITED.

W. D. Hopper Builder's Signature. Date *Nov. 5th 1948*

General Manager

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 *24. 9. 48.*

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

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 installed under special survey and the arrangements are in accordance with or equivalent to those shown on the approved plans and the Rules for Electrical Equipment.

The materials used are of good quality and the workmanship is good.

On completion the equipment was operated under working conditions, the protective devices of the circuit breakers were adjusted and operated and the insulation resistance of all circuits measured and found good.

This installation is in my opinion suitable for a classed vessel.

Special Notation: *D.F., E.S.D., Gyro C.*

Noted ~~sent~~ 2/12/48

Total Capacity of Generators *40* Kilowatts.

The amount of Fee	£ 42 : 10 :	When applied for,
<i>Late attendance</i>	3 : 3 :	<i>NOV - 8 1948</i>
Travelling Expenses (if any) £	:	When received,
	19.....

Full Bills.
 Surveyor to Lloyd's Register of Shipping.

Committee's Minute *FRI. 3 DEC 1948*

Assigned *See F.E. mch. rpt.*

(The Surveyors are requested not to write on or below the space for Committee's Minute.)
 5m.4.30.—Transfer. (MADE AND PRINTED IN ENGLAND.)

ML2



© 2020

Lloyd's Register Foundation