

REPORT ON ELECTRICAL EQUIPMENT.

(OTHER THAN FOR THE PROPULSION OF THE VESSEL)

Received at London Office

15 JUN 1949

Date of writing Report.....19..... When handed in at Local Office.....19161..... Port of.....Glasgow.....
 No. in Survey held at.....Sundee..... Date, First Survey.....15th May 1949..... Last Survey.....27th May 1949.....
 Reg. Book..... on the.....S.S. "Woodland"..... Tons {Gross.....2759..... Net.....1403.....
 Built at.....Sundee..... By whom built.....Galedon S. & Co. Ltd..... Yard No.....468..... When built.....5/49.....
 Owners.....The Burns Line Ltd..... Port belonging to.....Leith.....
 Electrical Installation fitted by.....Jelford, Grier, Mackay & Co. Ltd..... Contract No.....1741..... When fitted.....5/49.....
 Is vessel fitted for carrying Petroleum in bulk.....No..... Is vessel equipped with D.F.....Yes..... E.S.D.....Yes..... Gy.C.....No..... Sub.Sig.....No.....

Have plans been submitted and approved.....Yes..... System of Distribution.....Two conductor - insulated..... Voltage of supply for Lighting.....220.....
 Heating.....220..... Power.....220..... Direct or Alternating Current, Lighting.....DC..... Power.....DC..... 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.....Engine room bottom platform, starboard side.....
 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.....Engine room bottom platform, off 9 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.....Lindanap....., 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. free handle,
 air break of breakers with interlocked equaliser switch. Overcurrent & reverse
 current protection.....
 and for each outgoing circuit.....D.P. knife switches & fuses.....

Are compartments containing switchboards composed of fire-resisting material or lined as per Rule.....✓..... 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.....Lamps permanently connected.....
 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.....150a....., 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.....15a..... 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.....3.5v....., 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.....

with insulating compound no or waterproof insulating tape no. 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. no, are cables laid under machines or floorplates no, if so, are they adequately protected no. Are cables in machinery spaces, galleys, laundries, etc., lead covered no or run in conduit no. State how the cables are supported and protected blipped to perforated metal tray or lead grounds as applicable to location & protected by sheet metal where necessary

Are all lead sheaths, armouring and conduits effectually bonded and earthed no. Refrigerated chambers, are the cables and fittings as per Rule no. Are all cables passing through decks and watertight bulkheads provided with deck tubes or watertight glands no, where unarmoured cables pass through beams, etc., are the holes effectively bushed no and with what material lead sheet. Alternative Lighting, are the groups of lights in the engine and boiler rooms arranged as per Rule no. Emergency Supply, state position none and method of control no

Navigation Lamps, are they separately wired no controlled by separate double pole switches no and fuses no. Are the switches and fuses in a position accessible only to the officers on watch no, is an automatic indicator fitted no. Secondary Batteries, are they constructed and fitted as per Rule no, are they adequately ventilated no what is the battery capacity in ampere hours Battery for Radio services only

Fittings, are all fittings on weather decks, in stokeholds and engine rooms and wherever exposed to drip or condensed moisture, weatherproof no. 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 no

and where are the controlling switches fitted no, are all fittings suitably ventilated no, are all fittings and accessories constructed and installed as per Rule no. Searchlight Lamps, No. of none, whether fixed or portable no, are their fittings as per Rule no. Heating and Cooking, is the general construction as per Rule none

are the frames effectually earthed no, are heaters in the accommodation of the convection type no. Motors, are all motors constructed and installed as per Rule no and placed in well-ventilated compartments in which inflammable gases cannot accumulate and free from damage from water, steam and oil no, if situated near unprotected combustible material state minimum distance from same horizontally no and vertically no. 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 no. 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 no. Lightning Conductors, where required are they fitted as per Rule no. 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 no, are all fuses of the cartridge type no

are they of an approved type no. Are the fittings for pump rooms, 'tween deck spaces, etc., in accordance with the special requirements for such ships no. Are the cables lead covered as per Rule no. Spare Gear, if the vessel is for open sea service have spares been provided as per Rule no, are they suitably stored in dry situations no. Insulation Tests, has the insulation resistance of all circuits and apparatus been tested and found satisfactory no

PARTICULARS OF GENERATING PLANT.

DESCRIPTION OF GENERATOR.	No. of	RATED AT				DRIVEN BY	WHERE DRIVEN BY AN INTERNAL COMBUSTION ENGINE.	
		Kilowatts.	Volts.	Ampères.	Rev. per Min.		Fuel Used.	Flash Point of Fuel.
MAIN	40777	25	220	114	600	Light of Diesel engine	/	/
	40779	25	220	114	600			
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	25	1	19/064	114	143	45	V.C.	L.C. & A.
" " EQUALISER	-	-	19/064	-	92	23	V.C.	"
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							
NONE.							

LIGHTING AND HEATING, ETC., CABLES.

WIRELESS	1	7/036	10	24	108	V.I.R.	L.C.
NAVIGATION LIGHTS	1	"	75	"	120	"	"
LIGHTING AND HEATING							
Upper deck, bridge P.	1	7/036	11.5	24	72	"	"
" " " S.	1	"	11.8	24	54	"	"
Large lights & stoves	1	"	22.5	"	54	"	"
Heating spaces	1	"	11.1	"	48	"	L.C. & A.
Ventilating fans	1	7/052	36.0	37	66	"	L.C.
Domestic Refrig. & pumping plant	1	7/064	43.8	46	24	"	L.C. & A.

MOTOR CABLES.

ALL IMPORTANT MOTORS TO BE ENUMERATED.	No.	B.H.P.						
NONE.								



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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.

TELFORD, GRIER, MACKAY & CO. LTD.

G. L. Ferguson

DIRECTOR Electrical Engineers.

Date 13th June 48.

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..... *no* If not, state date of approval..... *5.11.48*

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 in this ship has been installed in accordance with the approved plans under the supervision of the Surveyors. Workmanship is satisfactory & tests have been carried out on the completed installation in accordance with the Rules.

It is recommended that the installation be accepted for classification without restriction.

Noted Encl 12/7/49

Total Capacity of Generators..... *50 ✓* Kilowatts.

The amount of Fee £ *47 : 10* : { When applied for, *JUNE 4th 1949*

Travelling Expenses (if any) £ : : { When received, *✓*

S. G. Johnson : *S. G. Johnson*
Surveyor to Lloyd's Register of Shipping.

Committee's Minute..... *GLASGOW 14 JUN 1949*

Assigned..... *SEE ACCOMPANYING MACHINERY REPORT*