

REPORT ON ELECTRIC FITTINGS.

(OTHER THAN FOR THE PROPULSION OF THE VESSEL)

Date of writing Report 14th July 1936 When handed in at Local Office 17th July 1936 Port of Dundee Received at London Office 29 July 1936

No. in Survey held at Dundee Date, First Survey 4th June Last Survey 6th July 1936
Reg. Book. 71420 on the S.S. "Blackheath" (Number of Visits 10)

Built at Dundee By whom built Caledon Shipbuilding Co. Yard No. 353 When built 1936
Owners Britain S.S. Co. Ltd. Port belonging to London

Electric Light Installation fitted by Telford Grier Mackay & Co. Ltd. Contract No. When fitted 1936
Is the Vessel fitted for carrying Petroleum in bulk No.

Tons (Gross 4637 Net 2702)

System of Distribution Two wire

Pressure of supply for Lighting 110 volts, Heating —, Power 110 volts.

Direct or Alternating Current, Lighting Direct, Power Direct

If alternating current system, state frequency of periods per second —

Has the Automatic Governor been tested and found efficient when the whole load is suddenly thrown on or off yes

Generators, do they comply with the requirements regarding rating yes, are they compound wound yes
are they over compounded 5 per cent. yes, if not compound wound state distance between each generator —

Where more than one generator is fitted are they arranged to run in parallel —, is an adjustable regulating resistance fitted in series with each shunt field yes

Are all terminals accessible, clearly marked, and furnished with sockets yes, are they so spaced or shielded that they cannot be accidentally earthed, short circuited, or touched yes

Position of Generators Main Engine Room, Are the lubricating arrangements of the generators as per Rule yes

is the ventilation in way of the generators satisfactory yes, are they clear of all inflammable material yes

if situated near unprotected woodwork or other combustible material, state distance of same horizontally from or vertically above the generators — and —, are the generators protected from mechanical injury and damage from water, steam or oil yes

are their axes of rotation fore and aft yes

Earthing, are the bedplates and frames of the generating plant efficiently earthed yes, are the prime movers and their respective generators in metallic contact yes

Main Switch Boards, where placed On Bulkhead near Generator.

If the generators and main switchboard are not placed in the same compartment, is each generator provided with a fuse on each insulated pole as near as possible to the terminals of the generator, additional to that provided on the main switchboard —

Switchboards, are they placed in accessible positions, free from inflammable gases and acid fumes yes

are they protected from mechanical injury and damage from water, steam or oil yes, if situated near unprotected woodwork or other combustible material, state distance of same horizontally from or vertically above the switchboards — and —

are they constructed wholly of durable, non-ignitable non-absorbent materials yes, is all insulation of high dielectric strength and of permanently high insulation resistance Sindanyo

if semi-insulating material is used, are all conducting parts insulated from the slab with mica or micanite or other non-hygroscopic insulating material, and the slab similarly insulated from its framework —

and is the frame effectively earthed yes. Are the fittings as per Rule regarding: — spacing or shielding of live parts yes, accessibility of all parts yes, absence of fuses on back of board yes, proportion of omnibus bars yes

individual fuses to voltmeter, pilot or earth lamp yes, connections of switches yes

Main Switchgear, description of switchgear for each generator and each outgoing circuit, and arrangement of equalizer switches

D.P. Switch & fuses for Main Generator

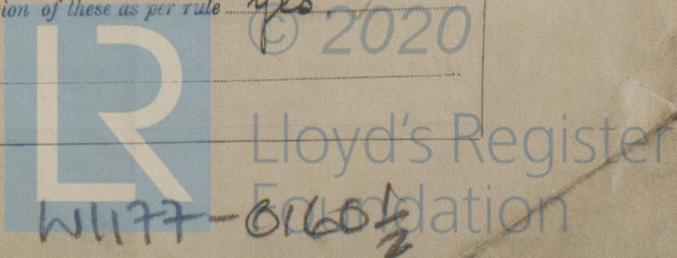
D.P. Switch & fuses for each outgoing circuit

Instruments on main switchboard one ammeters one voltmeters — synchronising device for paralleling purposes.

Earth Testing, state what means are provided at the main switchboard for indicating the state of the insulation of the system Earth Lamps

Switches, Circuit Breakers and Fusible Cut-outs, do these comply with the requirements of the Rules yes

Joint Boxes Section and Distribution Boards, is the construction, protection, insulation, material, and position of these as per rule yes



Cables: Single, twin, concentric, or multicore single are the cables insulated and protected as per Tables IV or V of the Rules yes

Fall of Pressure, state maximum between bus bars and any point of the installation under maximum load 5 volts

Cable Sockets and other connections, are the ends of all cables having a sectional area of 0.04 square inch and above provided with soldering sockets yes

Paper Insulated Cables, If cables are paper covered, is the dielectric at the exposed ends of the conductor protected from moisture by being suitably sealed with insulating compound —

Cable Runs, are the cables fixed as far as possible in accessible positions not exposed to drip or accumulation of water or oil, or to high temperature from boilers, steam pipes, uptakes or other hot objects, or to avoidable risk of mechanical damage yes

Support and Protection of Cables, state how the cables are supported and protected To Bulkheads, Decksets, with metal clips secured by screws.

If cables are run in wood casings, are the casings and caps secured by screws —, are the cap screws of brass —, are the cables run in separate grooves —. If armoured and lead covered cables are secured by metal clips, are the clips spaced as per Table VIII yes

Refrigerated Chambers, if lights are fitted, are the cables and fittings in accordance with the special requirements yes

Joints in Cables, state if any, and how made, insulated, and protected none

Watertight Glands and Deck Tubes, are all cables passing through decks and watertight bulkheads provided with deck tubes or watertight glands yes

Bushes in Beams and Non-watertight Partitions, where unarmoured cables pass through beams and non-watertight partitions, are the holes efficiently bushed yes state the material of which the bushes are made lead

Earthing Connections, state what earthing connections are fitted and their respective sectional areas Metallic sheathing of cables bonded & earthed

are their connections made as per Rule yes

Alternative Lighting, are the groups of lights in the propelling machinery space arranged as per Rule yes

Emergency Supply, state position and method of control of the emergency supply and how the generator is driven —

Navigation Lamps, are these separately wired yes, controlled by separate switch and separate fuses yes, are the fuses double pole yes, are the switches and fuses grouped in a position accessible only to the officers on watch yes

has each navigation lamp an automatic indicator as per Rule yes

Secondary Batteries, are they constructed and fitted as per Rule —

Fittings, are all fittings on weather decks, in stokeholds and engine rooms and wherever exposed to drip or condensed moisture, watertight yes, are any fittings placed in spaces in which goods are liable to be stacked in close proximity to them; if so, how are they protected none

are any fittings placed in spaces where inflammable or explosive dust or gases are liable to be present, if so, how are they protected none

how are the cables led —

where are the controlling switches situated —

Searchlight Lamps, No. of —, whether fixed or portable —, are their fittings as per Rule —

Are Lamps, other than searchlight lamps, No. of —, are their live parts insulated from the frame or case —, are their fittings as per Rule —

Motors, are their working parts readily accessible yes, are the coils self-contained and readily removable for replacement yes, are the brushes, brush holders, terminals and lubricating arrangements as per Rule yes, are the motors placed in well-ventilated compartments in which inflammable gases cannot accumulate and clear of all inflammable material yes

are they protected from mechanical injury and damage from water, steam or oil yes, are their axes of rotation fore and aft yes

if situated near unprotected woodwork or other combustible material, are the motors of the totally enclosed, pipe ventilated, forced draught, drip or flame proof type —, if not of this type, state distance of the combustible material horizontally or vertically above the motors — and —

Control Gear and Resistances, are the generator field and motor speed regulators, starters and controllers constructed and fitted as per Rule yes

Lightning Conductors, where lightning conductors are required, are these fitted as per Rule —

Ships carrying Oil having a Flash Point less than 150° F. Have the special requirements of the Rules been complied with regarding switches, joint boxes, section and distribution boards, protection of cables, method of distribution, lead of cables, lights and fittings —

If portable lamps for use in dangerous spaces are supplied, are they of a type approved by the Home Office —

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	one	15	110	136	750	Steam Engine by W. Pisson & Co.		
AUXILIARY								
EMERGENCY								
ROTARY TRANSFORMER								

GENERATOR, LIGHTING AND HEATING CONDUCTORS.

DESCRIPTION.	CONDUCTORS.		COMPOSITION OF STRAND.		TOTAL MAXIMUM CURRENT. AMPERES.		Approximate Length. (Lead and Return.) Feet.	Insulated with	HOW PROTECTED.
	No. per Pole.	Total Effective Area per Pole Sq. Ins.	No.	Diameter.	In Circuit.	Rate.			
MAIN GENERATOR	one	.150	37	.072	136	152	72 feet	V.I.R.	L.C. in steel tube
EQUALISER CONNECTIONS									
AUXILIARY GENERATOR									
EMERGENCY GENERATOR									
ROTARY TRANSFORMER MOTOR GENERATOR									
ENGINE ROOM # Boilers	one	.0100	7	.044	20	31	30 feet	V.I.R.	L.C.A & B.
BOILER ROOM									
AUXILIARY SWITCHBOARDS									
Cargo Deck Box	one	.0400	19	.052	55	64	30 feet	V.I.R.	L.C.A & B.
Upper cargo box	one	.0100	7	.044	22	31	270 "	"	" " & "
Midship "	one	.0045	7	.029	11	18	90 "	"	" " & "
Ford "	one	.0225	7	.064	22	46	360 "	"	" " & "
ACCOMMODATION									
Saloon	one	.0225	7	.064	32	46	300 feet	V.I.R.	L.C.A & B.
Midship	one	.0045	7	.029	12	18	120 "	"	" " & "
Cft.	one	.0100	7	.044	15	31	360 "	"	" " & "
Holds	one	.0045	7	.029	13	18	120 "	"	" " & "
WIRELESS	one	.0100	7	.044	10	31	330 "	"	" " & "
Searchlight Navigation	one	.0100	7	.044	10	31	360 "	"	" " & "
MASTHEAD LIGHT	one	.002	3	.029	36	7.8	300 "	"	" " & "
SIDE LIGHTS	one	.002	3	.029	36	7.8	80 "	"	" " & "
COMPASS LIGHTS	one	.002	3	.029	36	7.8	30 "	"	" " & "
POOP LIGHTS									
CARGO LIGHTS									
ARC LAMPS									
HEATERS									

MOTOR CONDUCTORS.

DESCRIPTION.	No. of Motors.	CONDUCTORS.		COMPOSITION OF STRAND.		TOTAL MAXIMUM CURRENT. AMPERES.		Approximate Length. (Lead and Return.) Feet.	Insulated with	HOW PROTECTED.
		No. Per Pole.	Total Effective Area per Pole Sq. Ins.	No.	Diameter.	In Circuit.	Rate.			
BALLAST PUMP										
MAIN BILGE LINE PUMPS										
GENERAL SERVICE PUMP										
EMERGENCY BILGE PUMP										
SANITARY PUMP										
CIRC. SEA WATER PUMPS										
CIRC. FRESH WATER PUMPS										
AIR COMPRESSOR										
FRESH WATER PUMP										
ENGINE TURNING GEAR										
ENGINE REVERSING GEAR										
LUBRICATING OIL PUMPS										
OIL FUEL TRANSFER PUMP										
WINDLASS										
WINCHES, FORWARD										
WINCHES, AFT										
STEERING GEAR										
(a) MOTOR GENERATOR										
(b) MAIN MOTOR										
WORKSHOP MOTOR	one	one	.0225	7	.064	42	46	120	V.I.R.	L.C.A & B
VENTILATING FANS										
Refrig Sect. box	Two	one	.0100	7	.044	25	31	120	"	" " & "
Refrig motor No 1	one	one	.0045	7	.029	17	18	30	"	" " & "
" " 2	one	one	.0030	3	.036	8	12	30	"	" " & "

All Conductors are of annealed copper conforming to British Standard Specification No. 7.
 The Insulated Conductors are guaranteed to withstand the immersion and resistance tests specified in the Rules.
 The foregoing is a correct description.

Telford, Grier, Mackay & Co. LD. *JMK* Electrical Engineers. Date 14-7-36

COMPASSES.

Distance between electric generators or motors and standard compass 112 feet
 Distance between electric generators or motors and steering compass 112 feet
 The nearest cables to the compasses are as follows:—
 A cable carrying 10 Amperes 10 feet from standard compass 7 feet from steering compass.
 A cable carrying 36 Amperes one feet from standard compass one feet from steering compass.
 A cable carrying _____ Amperes _____ 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 all course in the case of the standard compass, and nil degrees on all course in the case of the steering compass.

THE CALEDON SHIPBUILDING & ENGINEERING CO. LTD

Henry Main *JMK* Builder's Signature. Date 17/7/36
 MANAGING DIRECTOR

Is this installation a duplicate of a previous case No. If so, state name of vessel ✓

General Remarks (State quality of workmanship, opinions as to class, &c.)

This Installation has been efficiently fitted on board; the wiring has been carried out in accordance with the approved plans, the materials & workmanship being sound & good.
 On completion the installation was tried under load & working conditions. It was found satisfactory, with the exception that the revolutions could not be obtained with the stop valve fully opened out. Some restriction was experienced in the steam supply to the auxiliary pipe line, & this matter has to be investigated by the Newcastle Surveyors on the vessel's arrival at that port.

Noted
Man
 29.7.36

(Repair satisfactorily carried out)
 See NWC. 94009.

Total Capacity of Generators 15 Kilowatts.

The amount of Fee ... £ 15 : 0 : 0
 Travelling Expenses (if any) £ : :
 When applied for, 14/7/1936
 When received, Sep 9 1936

John Houston
 Surveyor to Lloyd's Register of Shipping.

Committee's Minute GLASGOW 28 JUL 1936

FRI. 31 JUL 1936

Assigned SEE ACCOMPANYING MACHINERY REPORT. TRANSMIT TO LONDON

see NWC. 94009



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Im. 12.28—Transfer.
 (The Surveyors are requested not to write on or below the space for Committee's Minute.)