

REPORT ON ELECTRIC FITTINGS.

(OTHER THAN FOR THE PROPULSION OF THE VESSEL)

Date of writing Report 23. 5 1931 When handed in at Local Office 22. 6. 1931 Port of GLASGOW. Received at London Office 24 JUN 1931

No. in Survey held at GREENOCK Date, First Survey 26. 3. 31 Last Survey 26. 5. 1931
Reg. Book. (Number of Visits 9)

89721 on the M.V. "BRITISH ENERGY." Tons { Gross _____ Net _____

Built at GREENOCK By whom built GREENOCK DOCKYARD No. 422 When built 1931

Owners THE BRITISH TANKER CO. LTD. Port belonging to LONDON.

Electric Light Installation fitted by MESSRS. TELFORD GRIER & MACKAY LTD. Contract No. 422 When fitted 1931

Is the Vessel fitted for carrying Petroleum in bulk YES.

System of Distribution Two wire

Pressure of supply for Lighting 110 volts, Heating _____ volts, 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 YES, 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 Are the lubricating arrangements of the generators as per Rule YES.

Position of Generators FORW. END OF ENGINE ROOM. PORT SIDE.

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 FORWARD END OF ENGINE ROOM - PORT SIDE - ERECTED ON PLATFORM AT FIRST

DECK LEVEL - FRAMES 39-43. 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 YES, 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 "SINOANYO" Used.

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 FOR EACH GENERATOR

600 AMPS. DOUBLE POLE AUTOMATIC CIRCUIT BREAKER - O/L AND REVERSE CURRENT RELEASES AND INTERLOCKED

EQUALISING SWITCH ALSO 600 AMP D.P. SWITCH. FOR EACH OUTGOING CIRCUIT D.P. SWITCHES AND "ARTIC" S.P. FUSES ON EACH POLE

Instruments on main switchboard 13 ammeters 2 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 CONNECTED TO EACH POLE WITH SWITCHES AND FUSES.

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 yes.

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 Galv. Steel. tube where run on deck, or up masts. Clipped. to bulkheads elsewhere.

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 none

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 cable efficiently bonded to each by means of glands or clips

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 (to generator) Control is such that when all main generators close down, Emergency lights in engine room are energised through 12 volt secondary battery.

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 yes

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 Watertight

Fittings with flameproof cable glands & broad flameproof joints, how are the cables led In galvanised watertight steel tube

where are the controlling switches situated In case of pump room fittings outside the spaces

In case of Centre Castle fittings gas tight switches in spaces & O.P. master Control

FLOODLIGHT Searchlight Lamps, No. of 4, whether fixed or portable portable, are their fittings as per Rule yes

Arc 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 yes

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 yes

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

24 JUN 1931

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	65	110	590	350	DIESEL ENGINE	FUEL OIL.	ABOVE 150° F.
AUXILIARY ...	one	10	110	91	300	STEAM ENGINE		
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.	Rule.			
MAIN GENERATOR	ONE	0.606.	91	.093.	590.	624.	30	PAPER.	L.C.A & B.
EQUALISER CONNECTIONS		0.1964	37	.083	290.	296.	30.	"	"
AUXILIARY GENERATOR...	one	.075	19	.072	91	157	40	"	"
EMERGENCY GENERATOR									
ROTARY TRANSFORMER	MOTOR								
	GENERATOR...								
ENGINE ROOM...									
BOILER ROOM...									
AUXILIARY SWITCHBOARDS									
ACCOMODATION	one	.03	19	.044	29	53	510ft.	V.I.R.	L.C.A & B.
Navigation	one	.007	7	.036	5	24	590.	V.I.R.	L.C.A & B.
Forward	one	.01	7	.044	7	31	840.	V.I.R.	L.C.A & B.
Aft.	one	.007	7	.036	13	24	190.	V.I.R.	L.C.A & B.
Machinery.	one	.007	7	.036	14	24	20.	V.I.R.	L.C.A & B.
WIRELESS	one	.01	7	.044	9	31	600.	V.I.R.	L.C.A & B.
SEARCHLIGHT									
MASTHEAD LIGHT	one	.002	3	.029	1/2	8	280ft	V.I.R.	L.C.A & B.
SIDE LIGHTS	one	.002	3	.029	1/2	8	60"	V.I.R.	L.C.A & B.
COMPASS LIGHTS	one	.002	3	.029	1/2	8	30"	V.I.R.	L.C.A & B.
POOP LIGHTS	one	.002	3	.029	1/2	8	650"	V.I.R.	L.C.A & B.
CARGO LIGHTS FLOODLts.	one	.007	7	.036	4	24	248"	V.I.R.	Twin Core & Br. in Steel Tube.
AEC 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.	Rule.			
BALLAST PUMP										
MAIN BILGE LINE PUMPS	ONE	ONE	0.039.	19	.052.	100	104.	100	PAPER.	L.C. & A & B
GENERAL SERVICE PUMP										
EMERGENCY BILGE PUMP										
SANITARY PUMP	ONE	ONE	0.028.	19	.044.	79	87.	100	"	"
CIRC. SEA WATER PUMPS	ONE	ONE	0.1.	19	.083	146	191	120	"	"
CIRC. FRESH WATER PUMPS...										
AIR COMPRESSOR										
FRESH WATER PUMP										
ENGINE TURNING GEAR...										
ENGINE REVERSING GEAR										
LUBRICATING OIL PUMPS	TWO.	ONE	0.1.	19	.083	160	191	120	"	"
OIL FUEL TRANSFER PUMP...										
WINDLASS										
WINCHES, FORWARD										
WINCHES, AFT										
STEERING GEAR—										
(a) MOTOR GENERATOR...										
(b) MAIN MOTOR	ONE	ONE	0.1	19.	.083	180	191	300	PAPER	L.C. A. & B
WORKSHOP MOTOR	ONE	ONE	0.01.	7	.044	27	31.	140	V.I.R.	L.C.A & B
VENTILATING FANS										
CENTRIFUGAL PUMP MOTORS.	FOUR.	ONE.	0.028.	19	.044.	80	87	136.	PAPER.	"
DIS. BOARD.										
REFRIGERATING MOTOR.	ONE	ONE	0.028	19	.044.	83	87.	110.	"	"
FORCED DRAUGHT FAN.	ONE	ONE	0.0146.	7	.052.	32	37.	90	V.I.R.	"
CRANK CHAMBER EXHAUST FAN.	ONE	ONE	0.0045	7	.029	13	18.2	50	"	"

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, LTD.

W. Muir

Electrical Engineers.

Date 4-6-31

FOR AND ON BEHALF OF:- W. MUIR, GOODFELLOW & COLT - ELECTRICAL ENGINEERS:-

COMPASSES.

Distance between electric generators or motors and standard compass 200 ft.

Distance between electric generators or motors and steering compass 200 ft.

The nearest cables to the compasses are as follows:-

A cable carrying 5 Ampères 8 feet from standard compass 5 feet from steering compass.

A cable carrying 1/2 Ampères one feet from standard compass one 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 10 degrees on any course in the case of the standard compass, and 10 degrees on any course in the case of the steering compass.

THE GREENOCK DOCKYARD CO., LTD.

W. Muir

Builder's Signature.

Date 9/6/31

Is this installation a duplicate of a previous case yes If so, state name of vessel "British Resource."

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

This installation has been fitted on board under special survey, tested under full working condition and found satisfactory. The materials and workmanship were found to be good and sound.

It is submitted that this vessel is eligible for THE RECORD.

Elec. Light

10/7/31

Total Capacity of Generators 140 Kilowatts.

The amount of Fee ... £ 33 : 10 : 0

Travelling Expenses (if any) £ 1 : 1 : 0

Committee's Minute GLASGOW 23 JUN 1931

Assigned Elec Light



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