

REPORT ON ELECTRIC FITTINGS.

(OTHER THAN FOR THE PROPULSION OF THE VESSEL)

TUE. 7 NOV. 1922

Date of writing Report 23/10/1922 When handed in at Local Office 3/11/1922 Port of NEWCASTLE-ON-TYNE,

No. in Survey held at Newcastle. Date, First Survey 1st March/22 Last Survey 3rd October 1922
Reg. Book. 55290 on the "S.S. British Sergeant" (Number of Visits 10)

Built at Newcastle By whom built Palmer & Co Ltd Yard No. 931 When built 1922
Owners British Tanker Co Ltd Port belonging to London

Electric Light Installation fitted by Palmer & Co Ltd. Contract No. 931 When fitted 1922

System of Distribution Double wire distribution system

Pressure of supply for Lighting 110 volts, Heating — volts, Power 220 volts.

Direct or Alternating Current, Lighting Direct Power Alternating

If alternating current system, state frequency of periods per second 50

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 overload yes, are they compound wound yes deam set
are they over compounded 5 per cent. yes steam only, if not compound wound state distance between each generator shunt wound motor generator

Where more than one generator is fitted are they arranged to run in parallel no lighting, is an adjustable regulating resistance fitted in series with each shunt field yes power

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

Position of Generators Engine room on dynamo flat, 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 axis 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 Engine room on dynamo flat after end
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, incombustible 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 connected to one pole insulated from the slab with mica or micanite and the slab similarly insulated from its framework yes, and is the frame effectively earthed yes

Are the following fittings as per Rule, viz. :— 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

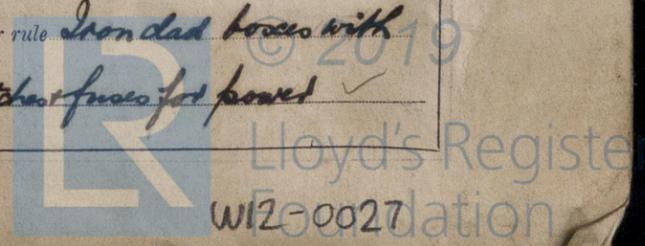
Main Switchgear, description of switchgear for each generator and each outgoing circuit, and arrangement of equalizer switches Circuit breakers fitted with blow out coils + 3 pole switches on AC generator, double pole change over switch & fuses on D.C. generators for lighting, 3 pole switch & fuses on each outgoing power circuit + 5 pole switch & fuses on each lead for lighting

Instruments on main switchboard 4 AC + 1 DC ammeters 2 AC + 1 DC voltmeters 1 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 through double pole fuses to earth

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

Section and Distribution Boards, is the construction, protection, insulation, material, and position of these as per rule Iron clad boxes with switches & fuses for lighting "Led" fuses fitted, Iron clad boxes with 3-pole switches & fuses for power



Insulation of Cables, state type of cables, single or twin ^{single} ~~3-core~~ are the cables insulated and protected as per Tables III or IV of the Rules *yes*

Fall of Pressure, state maximum between bus bars and any point of the installation under maximum load *6 volts on lighting circuits*

Cable Sockets and other connections, are the ends of all cables having a sectional area of 0.007 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 *sealed in trifurcating boxes*

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 *on special plating in engine room*

Lighting cables run in channel *has troughing filled with compound along gangway*

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

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 Positions, 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 *none*

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 *steam driven dynamo coupled through OP change over switch & fuses to main lighting board*

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*, are separate screens provided for the use of oil and electric side lights *yes*

are separate oil lanterns provided for the mast head lights and side lights *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 *fitted with glass shades & heavy guards*

are any fittings placed in spaces where inflammable or explosive dust or gases are liable to be present, if so, how are they protected *yes in pump room entrance protected by strong glass bowl only to be opened from outside, operated by OP switches*

in galvanized iron pipe wholly outside *yes*, how are the cables led *in galvanized iron pipe wholly outside*

where are the controlling switches situated *double pole switches fitted in accommodation passage*

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

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 axis of rotation fore and aft *yes except steering motor*

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 *yes*, 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 as per Rule *yes*

Lighting 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*

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 GENERATOR	2	120 KVA	220	91	1000	Kerosene	1500 R.P.M.	
EMERGENCY GENERATOR	1	10	110	91	1440	Induction motor	220 volts	
EMERGENCY GENERATOR	1	10	110	91	340	single cylinder steam engine		
ROTARY TRANSFORMER	1	1 1/2	135-180	11-11-8.3	1500/1800	DC motor	110 volts	

LIGHTING AND HEATING CONDUCTORS.

Ref. No.	DESCRIPTION.	No. of Conductors.	Effective Area of each Conductor. Sq. Ins.	COMPOSITION OF STRAND.		Total Maximum Current. Amperes.	Approximate Length. (Lead and Return.) Feet.	Insulated with	HOW PROTECTED.
				No.	Diameter.				
	MAIN GENERATOR	3	.3024	37	.103	315	80	paper	lead covered & braided
	EMERGENCY GENERATOR	2	.1478	37	.072	91	21	rubber	do
	EMERGENCY GENERATOR	2	.1478	37	.072	91	21	do	do
	ROTARY TRANSFORMER								
	AUXILIARY SWITCHBOARDS								
	ENGINE ROOM	2	.01046	7	.044	16.51	108	do	do
	BOILER ROOM	2	.01046	7	.044	5.81	120	do	do
	After Accommodation	2	.02214	7	.064	25.36	162	do	do
	Accommodation	2	.1478	37	.072	58.84	664	do	do
	WIRELESS	2	.02214	7	.064	13.6	690	do	do
	SEARCHLIGHT								
	MASTHEAD LIGHT	2	.00194	3	.029	1.02	360	do	do
	SIDE LIGHTS	2	.00194	3	.029	4.08	240	do	do
	COMPASS LIGHTS	2	.00194	3	.029	.28	20	do	do
	STEERING LIGHTS	2	.00194	3	.029	1.02	678	do	do
	CARGO LIGHTS	2	.003	70	.076	3	81	do	braided & covered & specially armoured
	ARC LAMPS								
	HEATERS								

MOTOR CONDUCTORS.

Ref. No.	DESCRIPTION.	No. of Motors.	Effective Area of each Conductor. Sq. Ins.	COMPOSITION OF STRAND.		Total Maximum Current. Amperes.	Approximate Length. (Lead and Return.) Feet.	Insulated with	HOW PROTECTED.
				No.	Diameter.				
	BALLAST PUMP								
	MAIN BILGE LINE PUMPS								
	GENERAL SERVICE PUMP								
	EMERGENCY BILGE PUMP								
	SANITARY PUMP								
	CIRC. SEA WATER PUMPS	2	.1004	19	.083	123	15	paper	lead covered & braided
	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	1	.02214	7	.064	50	25	do	do
	WORKSHOP MOTOR								
	VENTILATING FANS								
	Camberland system	1	.00701	7	.036	6.6	66	rubber	do
	oil pump motor	1	.01046	7	.044	10	120	rubber	do
	Refrigerator motor	1	.00701	7	.036	26	22	paper	do
	Red pump motor	1	.02214	7	.064	50	112	do	do
	forced draught fan	2	.1004	19	.083	69	136	do	do
	motor generator		.02214	7	.064	60	60	do	do

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.

Palmer's Shipbuilding & Iron Co. Electrical Engineers. Date *31.10.22*
Edmund Lewis Esq. Manager

COMPASSES.

Distance between electric generators or motors and standard compass *224 feet*
 Distance between electric generators or motors and steering compass *19 feet.*
 The nearest cables to the compasses are as follows:—
 A cable carrying *.28* Amperes *on the* ~~foot~~ standard compass *7* feet from steering compass.
 A cable carrying *.28* Amperes *7* feet from standard compass *on the* ~~foot~~ 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.

Palmer's Shipbuilding & Iron Co., Ltd.
Edmund Lewis Builder's Signature. Date *31-10-22*
Edmund Lewis Manager

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

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

The above installation is in accordance with the Society's rules. The vessel is eligible in my opinion for notation elec light, wireless

It is submitted that this vessel is eligible for notation THE BROOK Elec. Light. A.H.D. 8/11/22

Total Capacity of Generators *202* Kilowatts

The amount of Fee ... £ *36 : 11* : *9/10/22* When applied for, 19.22

Travelling Expenses (if any) £ _____ : _____ : _____ When received, *12/10/22*

W.T. Badger
 Surveyor to Lloyd's Register of Shipping.

Committee's Minute _____

Assigned _____

Im. 3.22.—Transfer. (The Surveyors are requested not to write on or below the space for Committee's Minute.)



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