

REPORT ON ELECTRIC FITTINGS.

(OTHER THAN FOR THE PROPULSION OF THE VESSEL)

Received at London Office TUE JUL 1 1924

Date of writing Report 19 When handed in at Local Office 24/6/1924 Port of NEWCASTLE-ON-TYNE

No. in Survey held at Newcastle. Date, First Survey 19 May Last Survey June 18 1924
Reg. Book. Supt. (Number of Visits 3)

39738 on the *Khuzistan*

Tons { Gross 800
Net

Built at *Amble.* By whom built *Amble S. B. Co. Ltd* Yard No. 36 When built 1924

Owners *British Tanker Co. Ltd* Port belonging to *London*

Electric Light Installation fitted by *Sunderland Forge & Eng. Co. Ltd* Contract No. 36 When fitted 1924

System of Distribution *Two wire system*

Pressure of supply for Lighting 100 volts, Heating — volts, Power — volts.

Direct or Alternating Current, Lighting *Direct* Power

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 overload *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 —

Are all terminals accessible and clearly marked *yes*, are they so spaced or shielded that they cannot be accidentally earthed, or short circuited *yes* Are the lubricating arrangements of the generators as per Rule *yes*

Position of Generators *Bottom Platform, Engine Room*

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 *Close to 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, 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 *Double Pole Switch*

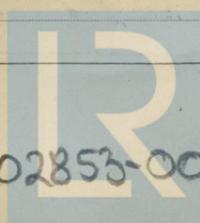
9 DP Led Type Fuses for Generator, Double Pole Switches 9 DP Led Type Fuses for Outgoing Circuits

Instruments on main switchboard 1 ammeter 1 voltmeter 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*

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



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Insulation of Cables, state type of cables, single or twin Single 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 3 Volts

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 _____

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 Lead Covered Cable Run in Pipe

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 VI yes

Refrigerated Chambers, if light fitted, are the cables and fittings in accordance with the special requirements _____

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 _____, are their connections made as per Rule _____

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

Emergency Supply, state position, and method of control of the emergency supply and how the generator is situated _____

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 _____
 are any fittings placed in spaces where inflammable or explosive dust or gases are liable to be present, if so, how are they protected _____, 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 _____

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 _____, are the coils self-contained and readily removable for replacement _____
 are the brushes, brush holders, terminals and lubricating arrangements as per Rule _____, are the motors placed in well-ventilated compartments in which inflammable gases cannot accumulate and clear of all inflammable material _____
 are they protected from mechanical injury and damage from water, steam or oil _____, are their axis of rotation fore and aft _____
 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 as per Rule _____

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. 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	1	55	100	55	400	Open Type Inverted Steam Engine		
AUXILIARY	—							
EMERGENCY	—							
ROTARY TRANSFORMER	—							

LIGHTING AND HEATING CONDUCTORS.

Ref. No.	DESCRIPTION.	No. of Conductors.	Effective Area of each Conductor. Sq. Ins.	COMPOSITION OF STRAND.		Total Maximum Current. Ampères.	Approximate Length. (Lead and Return.) Feet.	Insulated with	HOW PROTECTED.
				No.	Diameter.				
	MAIN GENERATOR	2	.03960	19	.052	55	30	V.I.R.	Run in Pipe
	AUXILIARY GENERATOR	—							
	EMERGENCY GENERATOR	—							
	ROTARY TRANSFORMER	—							
	AUXILIARY SWITCHBOARDS	—							
	ENGINE ROOM	2	.00401	7	.036	10.8	30	V.I.R.	Lead Covered in Pipe
	BOILER ROOM	—							
	Aft Accommodation	2	.00701	7	.036	9.8	60	V.I.R.	Lead Covered in Pipe
	Saloon, Navigation & Forward.	2	.01046	7	.044	27.0	230	V.I.R.	Lead Covered in Pipe
	WIRELESS	—							
	SEARCHLIGHT	—							
	MASTHEAD LIGHT	2	.00194	3	.029	1.2	240	V.I.R.	Lead Covered in Pipe
	SIDE LIGHTS	2	.00194	3	.029	1.2	30	V.I.R.	Lead Covered
	COMPASS LIGHTS	2	.00194	3	.029	.6	30	V.I.R.	Lead Covered
	POOP LIGHTS	—							
	CARGO LIGHTS	2	.00194	3	.029	3.6	60	V.I.R.	Lead Covered in Pipe
	ARC LAMPS	—							
	HEATERS	—							

MOTOR CONDUCTORS.

Ref. No.	DESCRIPTION.	No. of Motors.	Effective Area of each Conductor. Sq. Ins.	COMPOSITION OF STRAND.		Total Maximum Current. Ampères.	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								
	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								
	WORKSHOP MOTOR								
	VENTILATING FANS								

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.

p.pro. THE SUNDERLAND FORGE & ENGINEERING CO. LTD.

Handwritten signature

Electrical Engineers.

Date 12th June 1924.

Director.

COMPASSES.

Distance between electric generators or motors and standard compass 95 feet

Distance between electric generators or motors and steering compass 90 feet.

The nearest cables to the compasses are as follows:—

A cable carrying 11.2 Ampères 15 feet from standard compass 10 feet from steering compass.

A cable carrying .6 Ampères 5 feet from standard compass led into feet from steering compass.

A cable carrying .6 Ampères led into feet from standard compass 5 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.

PALMERS SHIPBUILDING & IRON Co. Ld.

Handwritten signature: H.C. Broadhurst
For Amble Shipbuilding Co Ltd

Builder's Signature.

Date

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.)

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

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

Handwritten signature: W.T. Badger
2/7/24

Total Capacity of Generators 5.5 Kilowatts

The amount of Fee ... £ 5.10.

When applied for, 24 JUN 1924

Travelling Expenses (if any) £ :

When received, 28 JUN 1924

Handwritten signature: W.T. Badger

Surveyor to Lloyd's Register of Shipping.

Committee's Minute

FRI 4 JUL 1924

Assigned

Handwritten signature: Elec Lt

18,922—Transfer. (The Surveyors are requested not to write on or below the space for Committee's Minute.)



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