

# REPORT ON ELECTRIC FITTINGS.

(OTHER THAN FOR THE PROPULSION OF THE VESSEL)

Date of writing Report 18/11/22 1922 When handed in at Local Office 17/11/22 Port of Sunderland Received at London Office SAT NOV. 18 1922

No. in Survey 1 at Sunderland Date, First Survey 11/8/22 Last Survey 2/11/1922  
Reg. Book. Left (Number of Visits 10)

78180 on the 1/2 "British Lord" Tons { Gross 5629  
Net       

Built at Sunderland By whom built Messrs J. F. Thompson & Sons Yard No. 544 When built 1922

Owners British Tanker Co. Port belonging to London

Electric Light Installation fitted by The Sunderland Forge & Eng. Co. Ltd. Contract No. 547 When fitted 1922

System of Distribution Power, 3 phase A.C. Lighting 110 D.C. two wire  
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 (D.C.) 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 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 Two Alternators on 5. on Generating platform, Steam & Motor Gen. on Refrig. platform below  
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 On generator platform for power, on refrigerating platform for lighting

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 Breaker with overload trip for each generator & for each circuit a 3 way quick break knife switch Double pole changeover switch for main & Double pole switches for circuits on lighting switches

Instruments on main switchboard 4 ✓ ammeters 2 ✓ 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 ✓

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 <sup>single</sup> ~~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 3.55 mts ✓

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 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 fighting cables run in troughing under fore & aft gangway, troughing filled with Bitumen ✓

Support and Protection of Cables, state how the cables are supported and protected Cables clipped to Bulkhead & knags with G.I. clips ✓

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 lights are 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  fibre ✓

Earthing Connections, state what earthing connections are fitted and their respective sectional areas none

are their connections made as per Rule

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 ✓, 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 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 yes in pump room protected by Start glass bowl ✓, how are the cables led In G.I. steel pipe, wholly outside pump room ✓

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 axis of rotation fore and aft yes upright driving gear 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, 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

Lightning Conductors, where lightning conductors are required, are these fitted as per Rule On fore & aft masts

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	2	170 KVA.	220	400	1000	Stationary through gearing			
Emergency	1	10 K.W.	110	91	1440	As Induction motor			
EMERGENCY	1	10 K.W.	110	91	340	Single cylinder steam engine			
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. Amperes.	Approximate Length. (Lead and Return.) Feet.	Insulated with	HOW PROTECTED.
				No.	Diameter.				
	MAIN GENERATOR...	3	.3024	34	.103	400	30	paper	L.C.G. Braided
	Emergency GENERATOR	2	.1009	19	.083	91	30	rubber	"
	EMERGENCY GENERATOR	2	.1009	19	.083	91	30	"	"
	ROTARY TRANSFORMER...								
	AUXILIARY SWITCHBOARDS								
	ENGINE ROOM	2	.022	4	.064	14	25	rubber	"
	BOILER ROOM	2	.004	4	.036	6.42	140	"	"
	Station, forward	2	.06	19	.064	64	492	"	"
	aft.	2	.01	4	.044	23.52	56	"	"
	WIRELESS	2	.022	4	.064		530	rubber	L.C.G. Braided
	SEARCHLIGHT	2	.001	3	.029	1.12	324	"	"
	MASTHEAD LIGHT	2	.001	3	.029	1.12	60	"	"
	SIDE LIGHTS	2	.001	3	.029	.56	20	"	"
	COMPASS LIGHTS	2	.001	3	.029	1.12	596	"	"
	DECK LIGHTS	2	.003	4	.0046	3.36	80	"	C.T.S. Flex
	CARGO LIGHTS								
	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								
	main CIRC. SEA WATER PUMPS	2	.1009	19	.083	123	183	paper	L.C.G. Braided
	CIRC. FRESH WATER PUMPS								
	AIR COMPRESSOR								
	FRESH WATER PUMP								
	ENGINE TURNING GEAR								
	ENGINE REVERSING GEAR								
	LUBRICATING OIL PUMPS	1	.004	4	.036	19	340	paper	L.C.G. Braided
	OIL FUEL TRANSFER PUMP								
	WINDLASS								
	WINCHES, FORWARD								
	WINCHES, AFT								
	STEERING GEAR	1	.022	4	.064	50	110	paper	"
	WORKSHOP MOTOR								
	VENTILATING FANS								
	forced draught fan	2	.022	4	.064	40	446	"	"
	main feed pump	1	.022	4	.064	50	230	"	"
	for lighting fit	1	.1009	19	.083	91	42	"	"
	Refrigerator	1	.004	4	.036	26	36	"	"
	for fuel oil pump	1	.004	4	.036	5.0	106	rubber	"
	Cumulative and system	1	.004	4	.036	8.5	94	"	"
	Ballast pump	1	.004	4	.036	14.3	180	paper	"



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.

Electrical Engineers.

Date 13th Nov. 1922.

#### COMPASSES.

Distance between electric generators or motors and standard compass

240 feet

Distance between electric generators or motors and steering compass

50 feet

The nearest cables to the compasses are as follows:—

A cable carrying 28 Ampères on the feet from standard compass 8 feet from steering compass.

A cable carrying 28 Ampères 8 feet from standard compass on the feet from steering compass.

A cable carrying 6.6 Ampères 10 feet from standard compass 14 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.

JOSEPH L. THOMPSON & SONS, Limited

Norman Thompson

Builder's Signature.

Date 15th Nov/22

Managing Director

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

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  
THE RECORD.

Elec Light

21/11/22

Total Capacity of Generators 202 Kilowatts

The amount of Fee ... £ 36 : 11 : 3 Nov 22

Please see ltr. 17.11.22.

Travelling Expenses (if any) £ :

When received, 10 Nov 22

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

Committee's Minute

Assigned

1m.322.—Transfer.  
(The Surveyors are requested not to write on or below the space for Committee's Minute.)



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