

# REPORT ON ELECTRIC FITTINGS.

(OTHER THAN FOR THE PROPULSION OF THE VESSEL)

Received at London Office 12 JUN 1928

Date of writing Report 19 When handed in at Local Office 19 Port of SUNDERLAND.

No. in Survey held at Sunderland. Date, First Survey 19/3/28 Last Survey 24/4/28 19  
Reg. Book. Supp. (Number of Visits.....6.....)

42810 on the S.S. Schuytkill. Tons { Gross 8929  
Net 5372.

Built at Sunderland By whom built W. J. Laing & Sons. Yard No. 702 When built 1928

Owners Anglo American Oil Co. Ltd. Port belonging to Sunderland

Electric Light Installation fitted by Messrs Sunderland Forge & Eng. Co. Ltd. Contract No. 702. When fitted 1928.

System of Distribution Double Wire Distribution Box

Pressure of supply for Lighting 110 volts, Heating \_\_\_\_\_ volts, Power 110 volts.

Direct or Alternating Current, Lighting Direct Current Power Direct Current

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 In Main 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 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 Mechanically Coupled

Main Switch Boards, where placed Engine Room

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 Yes

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 Each Generator T.P. Load Rev. Current Circuit Breaker 3rd Pole acts as Equaliser Double Pole Switches & Fuses on each outgoing Circuit

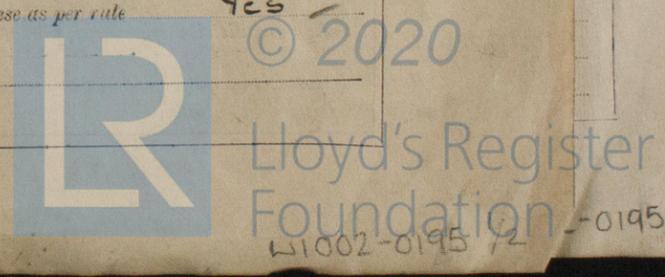
Instruments on main switchboard 3 ammeters 3 voltmeters \_\_\_\_\_ synchronising device for paralleling purposes.

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

Reading either +Ve or -Ve Bus Bars to earth

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 & Twin 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 45 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 Below Fore & Aft Gangway Lead Covered ✓  
Armoured & Braided Cables supported on steel plating with Galv'd I clips in Accom. L.C. & B supported with Brass 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 VIII 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 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 \_\_\_\_\_  
 \_\_\_\_\_, 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 ✓

**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 \_\_\_\_\_  
 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 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.	Ampères.	Revs. per Min.		Fuel Used.	Flash Point of Fuel.
MAIN	3	40	110	364	380	2 - Semi-Diescl 1 - 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	3	37	103	364	40	Varn'd Cambrc	Lead Coy. Arm'd & Braided
	EQUALISER CONNECTIONS	1	1	19	083			"	"
	AUXILIARY GENERATOR								
	EMERGENCY GENERATOR								
	ROTARY TRANSFORMER...								
	AUXILIARY SWITCHBOARDS								
	ENGINE ROOM	2	01	7	044	11.3	35	Maconite	Lead Coy. Arm'd & Braided
	BOILER ROOM								
	ACCOMMODATION								
	Aft Accommodation	2	01	7	044	24.09	150	Maconite	L.C.A. & B.
	Navigation	2	0225	7	064	6.55	560	Varn'd Cambrc	L.C.A. & B.
	Midship & Fore Accom.	2	06	19	084	31.25	516	Varn'd Cambrc	L.C.A. & B.
	WIRELESS	2	0225	7	064	17	530	Varn'd Cambrc	L.C.A. & B.
	SEARCHLIGHT								
	MASTHEAD LIGHT	2	002	3	029	55	380	Maconite	L.C.A. & B.
	SIDE LIGHTS	2	002	3	029	55	72	"	"
	COMPASS LIGHTS	2	002	3	029	18	52	"	"
	POOP LIGHTS								
	CARGO LIGHTS	2	002	3	029	2.55	130	Maconite	L.C. & B.
	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	1	01	7	044	31.77	120	Maconite	L.C.A. & B.
	FIRE & BILGE PUMP	1	0225	7	064	72	112	Varn'd Cambrc	L.C.A. & B.
	SANITARY PUMP								
	CIRC. SEA WATER PUMPS	1	15	37	072	240	150	Varn'd Cambrc	L.C.A. & B.
	CIRC. FRESH WATER PUMPS								
	AIR COMPRESSOR	1	12	37	064	200	180	Varn'd Cambrc	L.C.A. & B.
	FRESH WATER PUMP								
	ENGINE TURNING GEAR	1	1	19	083	160	200	Varn'd Cambrc	L.C.A. & B.
	ENGINE REVERSING GEAR								
	LUBRICATING OIL PUMPS	2	0225	7	064	64	170	Varn'd Cambrc	L.C.A. & B.
	OIL FUEL TRANSFER PUMP								
	WINDLASS								
	WINCHES, FORWARD								
	WINCHES, AFT								
	STEERING GEAR								
	(a) MOTOR GENERATOR								
	(b) MAIN MOTOR	1	12	37	064	216	270	Varn'd Cambrc	L.C.A. & B.
	WORKSHOP MOTOR								
	VENTILATING FANS								
	Sharples Machine	2	01	7	044	20	90	Maconite	L.C.A. & B.
	Galley Fuel Motor	1	01	7	044	16	230	Maconite	L.C.A. & B.
	Crane	1	01	7	044	28	170	Maconite	L.C.A. & B.
	Clean Oil Pump	1	002	3	029	8	60	Maconite	L.C.A. & B.
	Jacket Cooling Pump	2	06	19	084	136	168	Varn'd Cambrc	L.C.A. & B.
	Refrig Motor	1	06	19	084	36	250	Varn'd Cambrc	L.C.A. & B.
	Lathe	1	007	7	036	27	80	Maconite	L.C.A. & B.
	Vert Driller	1	007	7	036	27	74	Maconite	L.C.A. & B.
	Grindstone	1	007	7	036	18	70	Maconite	L.C.A. & B.

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 21/5/28.

*A. Stafford*

COMPASSES.

Distance between electric generators or motors and standard compass 232 feet

Distance between electric generators or motors and steering compass 224 feet

The nearest cables to the compasses are as follows:—

A cable carrying 6.55 Ampères 3 feet from standard compass 10 feet from steering compass.

A cable carrying .18 Ampères 10 feet from standard compass Led Into ~~from~~ steering compass.

A cable carrying .18 Ampères Led Into ~~from~~ standard compass 8 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.

BIR JAMES LAING & SONS, LIMITED.

*Joseph Laing*

Builder's Signature.

Date 26th May 1928

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.)

*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.

*(Signature)*  
16/6/28

Total Capacity of Generators 120 Kilowatts.

The amount of Fee ... £ 33 : : When applied for, 2 May 19 28

Travelling Expenses (if any) £ : : When received, 11 May 19 28

*W.T. Badger*

Surveyor to Lloyd's Register of Shipping.

Committee's Minute

Assigned

*E. J. H.*

Im. 1. 27. - Transfer. (The Surveyors are requested not to write on or below the space for Committee's Minute.)



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