

REPORT ON ELECTRIC FITTINGS.

(OTHER THAN FOR THE PROPULSION OF THE VESSEL)

Received at London Office 29 APR 1930

Date of fitting Report 10. 4. 1930 When handed in at Local Office 10. 4. 1930 Port of Middlesbrough

No. in Survey held at Haverton Hill-on-Sea Date, First Survey 26/2/30 Last Survey 27/3/1930
Reg. Book. (Number of Visits 5)

on the S. S. "Acadialite" Tons { Gross Not

Built at Haverton Hill-on-Sea By whom built Furness Shipbuilding Co Ltd Yard No. 170 When built 1930

Owners Imperial Oil Ltd Port belonging to Montreal

Electric Light Installation fitted by Furness Shipbuilding Co Ltd Contract No. 170 When fitted 1930

System of Distribution Double wire / Tautner

Pressure of supply for Lighting 110 volts, **Heating** - volts, **Power** 110 volts.

Direct or Alternating Current, Lighting AS 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. *level*, 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 -

Position of Generators Starboard side of 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*

Main Switch Boards, where placed Starboard side of 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 mica-nite or other non-hygroscopic insulating material, and the slab similarly insulated from its framework -
and is the frame effectively earthed? - 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 Triple pole circuit breaker for each generator. Double pole switch fuses for each outgoing circuit

Instruments on main switchboard 2 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 2-10 watt lamps in series & middle point earthed

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 *IV*

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 *Lead covered and armoured cables are supported on cable slating by means of galv iron clips. L.C. cables supported by brass clips & secured*
 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 VIII *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 *Perulean connections in W/F. Boxes*

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 *Generator .04*
Switchboard .04
 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 *yes*

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 *yes*

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 rooms special gas-tight fittings
in H.C. Galv piping
 where are the controlling switches situated *outside pump room entrances*

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

Are Lamps, other than searchlight lamps, No. of *yes*, are their live parts insulated from the frame or case *yes*, are their fittings as per Rule *yes*

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 *yes*, if not of this type, state distance of the combustible material horizontally or vertically above the motors *yes* and *yes*

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*

PARTICULARS OF GENERATING PLANT.

DESCRIPTION OF GENERATOR.	No of	RATED AT			Revs. per Min.	DRIVEN BY	WHERE DRIVEN BY AN INTERNAL COMBUSTION ENGINE.	
		Kilowatts.	Volts.	Amps.			Fuel Used.	Flash Point of Fuel.
MAIN	1	10	110	91.0	500	Sunderland Forge Co Steam engines		
AUXILIARY	1	5	110	45.5	550			
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. Amperes.	Approximate Length. (Lead and Return.) Feet.	Insulated with	HOW PROTECTED.
				No.	Diameter.				
ENG. E. 184 DYN. E. 674	MAIN GENERATOR	2	.0400	19	.057	91.0	45	Y.C.	L.C.A.T.B.
	EQUALISER CONNECTIONS	1	.0225	7	.064		45		
	AUXILIARY GENERATOR	2	.0225	7	.064	45.5	30		
	EMERGENCY GENERATOR								
	ROTARY TRANSFORMER								
	AUXILIARY SWITCHBOARDS								
	ENGINE ROOM	2	.0100	7	.044	18.7	40	Y.L.R.	L.C.A.T.B.
	BOILER ROOM								
	ACCOMMODATION	2	.0100	7	.044	20.4	70		
	Navigation	2	.0400	19	.057	21.4	300		
	Telephones	2	.0100	7	.044	2.63	350		
	Helms Indicator	2	.0080	3	.029		400		
		2	.0080	3	.029		520		
	WIRELESS	2	.0100	7	.044		340	Y.L.R.	L.C.A.T.B.
	SEARCHLIGHT	2	.0020	3	.029	4.6	50		
	MASTHEAD LIGHT	2	.0020	3	.029	3.6	350		
	SIDE LIGHTS	2	.0020	3	.029	3.6	80		
	COMPASS LIGHTS	2	.0020	3	.029	1	40		
	POOP LIGHTS	2	.0020	3	.029	9	40		
	CARGO LIGHTS	2	.0020	3	.029	7.8	100		
	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								
	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								
	(a) MOTOR GENERATOR								
	(b) MAIN MOTOR								
	WORKSHOP MOTOR								
	VENTILATING FANS								
	Revolving Machinery	1	.0100	7	.044	18.0	180	Y.L.R.	L.C.A.T.B.
	Whistle	1	.0030	3	.036	12.0	140	Y.L.R.	L.C.A.T.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. G. Poon

Electrical Engineers.

Date *9th April 1930*

FOR FURNESS SHIPBUILDING CO. LIMITED

COMPASSES.

Distance between electric generators or motors and standard compass *160'*

Distance between electric generators or motors and steering compass *155'*

The nearest cables to the compasses are as follows:—

A cable carrying *.09* Ampères *3* feet from standard compass *3* feet from steering compass.

A cable carrying Ampères feet from standard compass 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 *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.

FOR FURNESS SHIPBUILDING CO. LTD

J. M. Govering

Builder's Signature.

Date *9th April 1930*

Is this installation a duplicate of a previous case *Yes*. If so, state name of vessel *"John Irwin"*

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

*The materials and workmanship are good.
 This electric installation has been fitted aboard under special survey in accordance with the Rules and has been tested under working conditions with satisfactory results. In our opinion it is suitable for a vessel classed with this Society.*

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

Elec. Dept

P.M. 2/5/30

Total Capacity of Generators *15* Kilowatts.

The amount of Fee ... £ *15-0-0*

When applied for, 19...

When received, *2/5/30*

Travelling Expenses (if any) £ : :

P. I. Mac G. W. T. Badger
 Surveyor to Lloyd's Register of Shipping.

Committee's Minute

Assigned

Elec. Lt

Im. 928.—Transfer. (The Surveyors are requested not to write on or below the space for Committee's Minute.)



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