

# REPORT ON ELECTRIC FITTINGS.

(OTHER THAN FOR THE PROPULSION OF THE VESSEL)

5 JUL 1930

Date of writing Report 10. 5. 1930 When handed in at Local Office 4<sup>th</sup> July 1930 Port of MIDDLESBROUGHNo. in Survey held at Middlesbrough & Newcastle Date, First Survey 1. 4. 30 Last Survey 22/4/1930  
Reg. Book. (Number of Visits.....5)

41672 Supn the S. S. 'Ottawalite'

Tons { Gross 715  
Net 343

Built at Haverton Hill on Tees By whom built Furness Shipbuilding Co Ltd Yard No. 173. When built 1930

Owners Imperial Oil Ltd Port belonging to Montreal

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

## System of Distribution

Double Wire

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

Direct or Alternating Current, Lighting 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 - , 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

## 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 micaite 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

Double pole Switch fuses for Generator &amp; each outgoing circuit

Instruments on main switchboard One ammeters One 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

Two 10 watt lamps in series &amp; 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



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Cables: Single, twin, concentric, or multicore. *Single & twin* are the cables insulated and protected as per Tables IV or V of the Rules. *3 Volts*  
Fall of Pressure, state maximum between bus bars and any point of the installation under maximum load

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

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

Support and Protection of Cables, state how the cables are supported and protected *Lead covered & armoured cables are supported on cable platting by galv iron clips. Lead covered cables supported by 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

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 *Porcelain connections in 11/2" Busses*

Watertight Glands and Deck Tubes, are all cables passing through decks and watertight bulkheads provided with deck tubes or watertight glands

Bushes in Beams and Non-watertight Partitions, where unarmoured cables pass through beams and non-watertight partitions, are the holes efficiently bushed

Earthing Connections, state what earthing connections are fitted and their respective sectional areas *Gen. 0.4*  
*Sub. 0.4*

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 driven

Navigation Lamps, are these separately wired, controlled by separate switch and separate fuses, are the fuses double pole, are the switches and fuses grouped in a position accessible only to the officers on watch

has each navigation lamp an automatic indicator as per Rule

Secondary Batteries, are they constructed and fitted as per Rule

Fittings, are all fittings on weather decks, in stokeholds and engine rooms and where exposed to drip or condensed moisture, watertight, 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

*In Pump Rooms. special gas light fittings*  
*In S.G. Galv Peiping*

where are the controlling switches situated *Outside Pump Room Entrances*

Searchlight Lamps, No. of *One*, whether fixed or portable *fixed*, 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, 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 axes 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 and fitted 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

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	1	10	110	91.0	500	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 Amperes.	Approximate Length (Lead and Return) Feet.	Insulated with	HOW PROTECTED.
				No.	Diameter.				
ENGR. E. 186 DYN. E. 676	MAIN GENERATOR...	2	0.400	19	0.052	91.0	30	V.C.	L.C.A.B.
	EQUALISER CONNECTIONS								
	AUXILIARY GENERATOR								
	EMERGENCY GENERATOR								
	ROTARY TRANSFORMER...								
	AUXILIARY SWITCHBOARDS								
	ENGINE ROOM	2	0.100	7	0.044	11.0	20	V.I.R.	L.C.A.B.
	BOILER ROOM								
	ACCOMMODATION	2	0.100	7	0.044	19.0	80		
	Ford Navigation Whistle.	2	0.100	7	0.044	20.0	280		
		2	0.100	7	0.044	18.0	280		
	WIRELESS								
	SEARCHLIGHT								
	MASTHEAD LIGHT...								
	SIDE LIGHTS								
	COMPASS LIGHTS								
	POOP LIGHTS								
	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 in Area.	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								



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. S. Glover

Electrical Engineers.

Date 9th May 1930

#### COMPASSES.

Distance between electric generators or motors and standard compass

115'

Distance between electric generators or motors and steering compass

110'

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.

J. M. Glover

Builder's Signature.

Date 9th May 1930

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 materials and workmanship are good.

This electric light installation has been fitted 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 eligible for  
THE RECORD Elec. Light.

10/7/30

Total Capacity of Generators 10. Kilowatts.

The amount of Fee ... £ 10 : 0 : 0  
When applied for, 5-5-1930  
Travelling Expenses (if any) £ : :  
When received, 2-6-1930

P. J. Mansel & W. T. Bridges  
Surveyors to Lloyd's Register of Shipping.

Committee's Minute

Assigned

Elec. Lt.



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