

# REPORT ON ELECTRIC FITTINGS.

(OTHER THAN FOR THE PROPULSION OF THE VESSEL)

Received at London Office 17 SEP 1930

Date of writing Report 25. 8. 30 19 When handed in at Local Office 8. 9. 10 30 Port of GLASGOW

No. in Survey held at GLASGOW Date, First Survey 4. 7. 30 Last Survey 25. 8. 30 19  
(Number of Visits 5)

Reg. Book. 91453 on the S.S. "MELMAY" Tons { Gross 5572 Net 3265

Built at GREENOCK By whom built THE GREENOCK DOCKYARD Co. Ltd. Yard No. 419 When built 1930

Owners The CANADIAN AMERICAN SHIPPING Co. Ltd. Port belonging to GLASGOW.

Electric Light Installation fitted by Messrs. ARCH<sup>d</sup>. WATSON & DUNNAS Contract No. 419 When fitted 1930

Is the Vessel fitted for carrying Petroleum in bulk No.

System of Distribution Double wire distribution loop system

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

Direct or Alternating Current, Lighting Direct current 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 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? - 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 Bottom platform starboard side of engine room, are the lubricating arrangements of the generators as per Rule? Yes

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? on bulkhead adjacent to generator. Metallic half coupling

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. Double pole switch

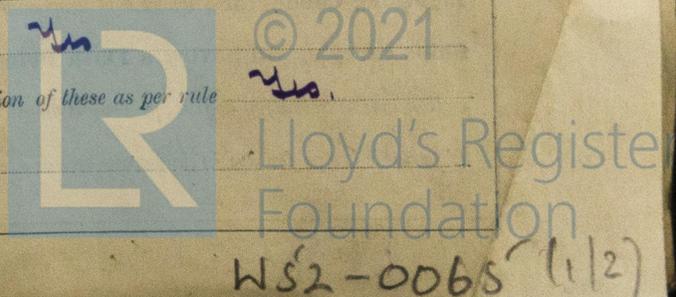
1 fuse for dynamo; 1 single pole switch - double pole fuses for each outgoing circuits.

Instruments on main switchboard 1 ammeters 1 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 earth testing lamps with switches fuses.

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 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 by from a safe frame deck cable are laid in galleys conduct tubing in engine room cables are L.C.A. also to be clipped to grounds etc.

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 in joints

**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 fibre funnels

**Earthing Connections,** state what earthing connections are fitted and their respective sectional areas Yes, 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, how are the cables led Yes, where are the controlling switches situated Yes

**Searchlight Lamps, No. of** 1, whether fixed or portable Yes, are their fittings as per Rule Yes

**Arc Lamps,** other than searchlight lamps, No. of 1, 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				DRIVEN BY	WHERE DRIVEN BY AN INTERNAL COMBUSTION ENGINE.	
		Kilowatts.	Volts.	Amps.	Revs. per Min.		Fuel Used.	Flash Point of Fuel.
MAIN	1	15	110	137	380	Vertical turbine steam engine	-	-
AUXILIARY						engine		
EMERGENCY								
ROTARY TRANSFORMER								

GENERATOR, LIGHTING AND HEATING CONDUCTORS.

DESCRIPTION.	CONDUCTORS.		COMPOSITION OF STRAND.		TOTAL MAXIMUM CURRENT. AMPERES.		Approximate Length. (Lead and Return.) Feet.	Insulated with	HOW PROTECTED.
	No. per Pole.	Total Effective Area per Pole Sq. Ins.	No.	Diameter.	In Circuit.	Rule.			
MAIN GENERATOR	1	2.000	37	0.83	137	184	26	V.P.R.	Lead covered
EQUALISER CONNECTIONS									
AUXILIARY GENERATOR									
EMERGENCY GENERATOR									
ROTARY TRANSFORMER									
ENGINE ROOM	1	0.070	7	0.36	21.5	24.0	28	V.P.R.	L.C.A.T.B.
BOILER ROOM									
AUXILIARY SWITCHBOARDS									
Navigation	1	0.045	7	0.29	4.0	18.2	300	V.P.R.	L.C. in pipes
First Cargo etc	1	0.070	7	0.36	14.5	24.0	240	V.P.R.	L.C. in pipes
2nd Cargo etc	1	0.070	7	0.36	17.3	24.0	90	V.P.R.	L.C. in pipes
3rd Cargo etc	1	0.070	7	0.36	4.0	24.0	450	V.P.R.	L.C. in pipes
Magnesium Cables	1	0.030	3	0.36	7.5	12.0	90	V.P.R.	L.C. in pipes
ACCOMMODATION (Saloon)	1	0.045	7	0.29	6.1	18.2	240	V.P.R.	L.C. in pipes
WIRELESS	1	0.070	7	0.36	14.5	24.0	300	V.P.R.	L.C. in pipes
SEARCHLIGHT	1	0.015	1	0.44	1.6	6.1	280	V.P.R.	Lead covered
MASTHEAD LIGHT	1	0.015	1	0.44	1.4	6.1	60	V.P.R.	L.C. in pipes
SIDE LIGHTS	1	0.015	1	0.44	1.2	6.1	40	V.P.R.	Lead covered
COMPASS LIGHTS	1	0.015	1	0.44	1.0	6.1	45	V.P.R.	Lead covered
POOP LIGHTS	1	0.015	1	0.44	1.0	6.1	45	V.P.R.	Lead covered
CARGO LIGHTS	1	0.015	1	0.44	1.0	6.1	45	V.P.R.	Lead covered
ARC LAMPS									
HEATERS									

MOTOR CONDUCTORS.

DESCRIPTION.	No. of Motors.	CONDUCTORS.		COMPOSITION OF STRAND.		TOTAL MAXIMUM CURRENT. AMPERES.		Approximate Length. (Lead and Return.) Feet.	Insulated with	HOW PROTECTED.
		No. Per Pole.	Total Effective Area per Pole Sq. Ins.	No.	Diameter.	In Circuit.	Rule.			
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.

*Arch Watson & Dundas*  
*Electrical Engineers.*

Electrical Engineers.

Date *5th Sept 1930*

COMPASSES.

Distance between electric generators or motors and standard compass *200 ft.*

Distance between electric generators or motors and steering compass *190 ft.*

The nearest cables to the compasses are as follows:—

A cable carrying *4* Amperes *6* feet from standard compass *6* feet from steering compass.

A cable carrying *2* Amperes *in* ~~feet~~ from standard compass *6* feet from steering compass.

A cable carrying *2* Amperes *6* feet from standard compass *in* ~~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 *6* degrees on *any* course in the case of the standard compass, and *6* degrees on *any* course in the case of the steering compass.

THE GREENOCK DOCKYARD CO., LTD.  
*St. Andrew*  
DIRECTOR

Builder's Signature.

Date *6/9/30.*

Is this installation a duplicate of a previous case  If so, state name of vessel *—*

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

*This installation has been fitted on board under special survey, tested under full working conditions and found satisfactory. The materials and workmanship were found to be good and sound.*

*It is submitted that this vessel is eligible for THE RECORD, Free Light.*

*20/9/30*

*SC*  
*8.9.30*

Total Capacity of Generators *15* Kilowatts.

The amount of Fee ... £ *15 0 0* @ *1/2* When applied for.

Travelling Expenses (if any) £ *—* When received. *6/9/30*

*H. Haffner*  
Surveyor to Lloyd's Register of Shipping

Committee's Minute **GLASGOW 16 SEP 1930**

Assigned *Elec. Light.*

1m. 11.28.—Transfer. (The Surveyors are requested not to write on or below the space for Committee's Minutes.)

