

# REPORT ON ELECTRIC FITTINGS.

(OTHER THAN FOR THE PROPULSION OF THE VESSEL)

Received at London Office 28 FEB 1927

Date of writing Report 23<sup>rd</sup> Feb. 1927 When handed in at Local Office 26<sup>th</sup> Feb. 1927 Port of DUNKIRKNo. in Survey held at DUNKIRK. Date, First Survey 22<sup>nd</sup> Oct. 1926 Last Survey 21<sup>st</sup> Feb. 1927

Reg. Book. 62972 on the Steel Se. M.V. "ANDRE MOYRAND" (Number of Visits 19)

Built at Dunkirk By whom built "Chantiers de France" Yard No. 138 Tons { Gross 2471 Net 1452 When built 1926

Owners Soc. Anon. de Cerauc &amp; d'Arment Port belonging to Dunkirk

Electric Light Installation fitted by "Chantiers de France" Contract No. ✓ When fitted 1927

System of Distribution Two wire Continuous Current ✓

Pressure of supply for Lighting 220 volts, Heating ✓ volts, Power 220 ✓ 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 ✓

Generators, do they comply with the requirements regarding overload ✓, are they compound wound ✓

are they over compounded 5 per cent. ✓, 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 ✓

Are all terminals accessible and clearly marked ✓, are they so spaced or shielded that they cannot be accidentally earthed,

or short circuited ✓ Are the lubricating arrangements of the generators as per Rule ✓

Position of Generators On Lower Engine platform ✓

is the ventilation in way of the generators satisfactory ✓, are they clear of all inflammable material ✓

if situated near unprotected woodwork or other combustible material, state distance of same horizontally from or vertically above the generators

No woodwork and ✓, are the generators protected from mechanical injury and damage from water, steam or oil ✓

are their axis of rotation fore and aft ✓

Earthing, are the bedplates and frames of the generating plant efficiently earthed ✓ are the prime movers and

their respective generators in metallic contact ✓

Main Switch Boards, where placed Bottom platform. Port side forward

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 Same Compartment

Switchboards, are they placed in accessible positions, free from inflammable gases and acid fumes ✓

are they protected from mechanical injury and damage from water, steam or oil ✓, if situated near unprotected

woodwork or other combustible material, state distance of same horizontally from or vertically above the switchboards No woodwork and ✓

are they constructed wholly of durable, incombustible non-absorbent materials Marble, is all insulation of high dielectric strength and of

permanently high insulation resistance ✓, if semi-insulating material is used, are all conducting parts connected to one pole

insulated from the slab with mica or micantle and the slab similarly insulated from its framework ✓, and is the

frame effectively earthed ✓ Are the following fittings as per Rule, viz.:— spacing or shielding of live parts

✓, accessibility of all parts ✓, absence of fuses on back of board ✓, proportion of omnibus

bars 50 x 3 1/2 Double, individual fuses to voltmeter, pilot or earth lamp ✓, connections of switches ✓

Main Switchgear, description of switchgear for each generator and each outgoing circuit, and arrangement of equalizer switches 3 bar switches for

Lighting and power. Generators connected to one or the other through 3 pole 2 way switches

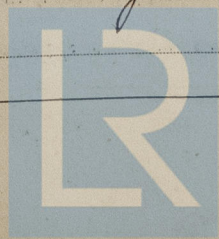
Automatic circuit breaker and equalizer switches fitted for each generator

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 Earth lamps

Switches, Circuit Breakers and Fusible Cut-outs, do these comply with the requirements of the Rules ✓

Section and Distribution Boards, is the construction, protection, insulation, material, and position of these as per rule ✓



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Insulation of Cables, state type of cables, single or twin *Twin* 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 *about 5.166 Maximum*

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 *None*

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 *In Cabins, Cables in wood. Run in wood casings. Elsewhere lead covered and armoured secured by brass clips.*

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 *No*. If armoured and lead covered cables are secured by metal clips, are the clips secured as per Table VI *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 *Joints have been made in several cables in accordance with approved sketch (Please see Secretary's letter E. 28.12.16) and protected by sheet iron plating*

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 *Lead*

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 Groups of 2 and 3 lamps*

Emergency Supply, state position and method of control of the emergency supply and how the generator is driven *None*

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 *Chart Room*

has each navigation lamp an automatic indicator as per Rule *yes*, are separate screens provided for the use of oil and electric side lights *adaptably for both.*

are separate oil lanterns provided for the mast head lights and side lights *yes*

Fittings, are all fittings on weather decks, ~~in accessible~~ 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 *No fittings. The wiring for fire-castle & poop are lead under the deck beams along the hatchways & protected by the [guide and sheet iron plating.*

are any fittings placed in spaces where inflammable or explosive dust or gases are liable to be present, if so, how are they protected *NO*

how are the cables led *yes*

where are the controlling switches situated *on the main switchboard with cut outs in portage ways on main deck*

Searchlight Lamps, No. of *None*, whether fixed or portable *yes*, are their fittings as per Rule *yes*

Arc Lamps, other than searchlight lamps, No. of *None*, 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 *Bottom platform*

are they protected from mechanical injury and damage from water, steam or oil *yes* are their axis of rotation fore and aft *except steering gear*

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*

*No Woodwork*, 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 as per Rule *yes*

Lightning Conductors, where lightning conductors are required, are these fitted as per Rule *One on each mast 25x5 1/2 = 125 1/2*

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 *Flash point of Oil stated to be 97° C*

If portable lamps for use in dangerous spaces are supplied, are they of a type approved by the Home Office *yes. Portable self-contained battery fed*

## 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	33	220	150	400	Diesel motors	Crude oil	97° C
AUXILIARY	None							
EMERGENCY	None							
ROTARY TRANSFORMER	None							

## LIGHTING AND HEATING CONDUCTORS.

Ref. No.	DESCRIPTION.	No. of Conductors.	Effective Area of each Conductor Sq. mm.	COMPOSITION OF STRAND.		Total Maximum Current. Amperes.	Approximate Length. (Lead and Return) metres.	Insulated with	HOW PROTECTED.
				No.	Diameter.				
	MAIN GENERATOR... lead	2	105	37	19/10	4.50	15	Lead covered & armoured	Armour
	AUXILIARY GENERATOR	1							
	EMERGENCY GENERATOR	1							
	ROTARY TRANSFORMER	1							
	AUXILIARY SWITCHBOARDS	1							
	ENGINE ROOM	1	2	1	16/10	4.43	5	Lead covered & armoured	Armour
	BOILER ROOM	1							
A 1	Feeding box	1	9.3	7	13/10	9.3	30	Do.	Do.
A 2	Arrangement bridge DK	6	2	1	16/10	3.8	10	Vulcanized rubber	Wood casing
A 3	Bridge Deck	2	2	1	16/10	3.	16	Do.	Do.
A 4	Commander's quarters	1	2	1	16/10	2.5	16	Do.	Do.
A 5	Bridge chart room	1	2	1	16/10	1	16	Do.	Do.
B 1	Crew space	2	2	1	16/10	3.4	120	Lead covered	Armour
B 2	Steering gear space	1	2	1	16/10	1	10	Do.	Do.
C 1	Food Store Rooms	2	2	1	16/10	1.2	90	Do.	Do.
E 1	Navigating, Compass, etc.	1	2	1	16/10	2	50	Do.	Do.
	WIRELESS	1	9.3	7	13/10	30	16	Lead covered	Armour
	SEARCHLIGHT	1							
	MASTHEAD LIGHT	2	1.13	1	12/10	.33	60	Do.	Do.
	SIDE LIGHTS	1							
	COMPASS LIGHTS	1							
	POOP LIGHTS	1							
	CARGO LIGHTS	6	2	1	16/10	4.50	100	Do.	Do.
	ARC LAMPS	1							
	HEATERS	1							

## MOTOR CONDUCTORS.

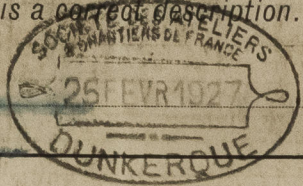
Ref. No.	DESCRIPTION.	No. of Motors.	Effective Area of each Conductor Sq. mm.	COMPOSITION OF STRAND.		Total Maximum Current. Amperes.	Approximate Length. (Lead and Return) metres.	Insulated with	HOW PROTECTED.
				No.	Diameter.				
	BALLAST PUMP	1	25.2	19	13/10	60	40	Lead covered	Armour
	MAIN BILGE LINE PUMPS	1							
	GENERAL SERVICE PUMP	1							
	EMERGENCY BILGE PUMP	1							
	SANITARY PUMP	1							
	LUBRICATING OIL PUMPS	1	14	7	16/10	43.5	12	Do.	Do.
	CIRC. SEA WATER PUMPS	1							
	CIRC. FRESH WATER PUMPS	1							
	AIR COMPRESSOR	1							
	FRESH WATER PUMP	1							
	ENGINE TURNING GEAR	3	9.3	7	13/10	36.6	42	Do.	Do.
	ENGINE REVERSING GEAR	1							
	LUBRICATING OIL PUMPS	1	9.3	7	13/10	30	20	Do.	Do.
	OIL FUEL TRANSFER PUMP	1							
Box 4	WINDLASS	2	105	37	19/10	154	100	Do.	Do.
	WINCHES, FORWARD	2							
Box 1	WINCHES, AFT	2	105	37	19/10	154	110	Do.	Do.
	STEERING GEAR	1							
	WORKSHOP MOTOR	1							
	VENTILATING FANS	1							
	WINCHES FOR BRIDGE	2	105	37	19/10	154	40	Do.	Do.
	" AFT "	2	105	37	19/10	154	60	Do.	Do.
	STEERING GEAR	1	9.3	7	13/10	25	140	Do.	Do.
	WINCHES AFT STARBOARD	1	38.2	19	16/10	77	26	Do.	Do.
Box 1	" " PORT	1	38.2	19	16/10	77	12	Do.	Do.
	STEERING GEAR	1	9.3	7	13/10	25	30	Do.	Do.



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.



*[Signature]*

Electrical Engineers.

Date 25 Jan 1927

#### COMPASSES.

Distance between electric generators or motors and standard compass 14<sup>m</sup> 80<sup>cm</sup>

Distance between electric generators or motors and steering compass 13<sup>m</sup> 50<sup>cm</sup>

The nearest cables to the compasses are as follows:—

A cable carrying 0.33 Ampères fitted in feet from standard compass feet from steering compass.

A cable carrying 0.33 Ampères feet from standard compass fitted in feet from steering compass.

A cable carrying 0.33 Ampères feet from standard compass fitted in feet from steering compass. *all*

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* courses in the case of the standard compass, and *nil* degrees on *all* courses in the case of the steering compass.



*[Signature]*

Builder's Signature.

Date 25 Jan 1927

Is this installation a duplicate of a previous case *yes* If so, state name of vessel "PAUL EMILE JAVARY"

General Remarks (State quality of workmanship, opinions as to class, &c. *This installation has been fitted on board in accordance with the requirements of the Rules for Electric fittings and the Secretary's letter "E" 28<sup>th</sup> December 1916, the material and workmanship are good, eligible in my opinion to receive the favourable consideration of the Committee.*

It is submitted that  
this vessel is eligible for  
THE RECORD. Elec. light- 2.27.

*[Signature]*  
3/3/27

Total Capacity of Generators 99 Kilowatts

The amount of Fee ... *£ 39.00* - { When applied for, 25.2.1927  
When received, 1.4.1927  
Travelling Expenses (if any) £ *✓* :

*[Signature]*  
Surveyor to Lloyd's Register of Shipping.

Committee's Minute

FRI. 4 MAR 1927

Assigned

*Elec. light*