

REPORT ON ELECTRIC FITTINGS.

(OTHER THAN FOR THE PROPULSION OF THE VESSEL)

Received at London Office 17 APR 1929

Date of writing Report 26.3.1929 When handed in at Local Office 13.4.1929 Port of GLASSGOW.

No. in Survey held at GREENOCK. Date, First Survey 26.2.29 Last Survey 29.3.1929
Reg. Book. (Number of Visits... 5)

89103. on the M.V. ATHEL DUCHESS. Tons { Gross Net

Built at PORT GLASSGOW. By whom built W^m HAMILTON & CO Yard No. 406 When built 1929

Owners MESSRS UNITED MACHINES CO. LTD Port belonging to LIVERPOOL.

Electric Light Installation fitted by MESSRS TELFORD GRIER & MCKAY Contract No. 406 When fitted 1929

System of Distribution Two Wire

Pressure of supply for Lighting 110 volts, Heating — volts, Power 110V. 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 overload 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 no, is an adjustable regulating resistance fitted in series with each shunt field yes

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

Are the lubricating arrangements of the generators as per Rule yes

Position of Generators in Main Engine Room near Starting Platform.

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 axis 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 near Generators

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, incombustible non-absorbent materials yes, is all insulation of high dielectric strength and of permanently high insulation resistance marble, if semi-insulating material is used, are all conducting parts connected to one pole

insulated from the slab with mica or mica nit and the slab similarly insulated from its framework yes, and is the frame effectively earthed yes

Are the following fittings as per Rule, viz.:— 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

on each Generator Circuit Double Pole Overload Circuit Breaker with Time Lags on each Outgoing Circuit Double Pole Change-over switch & Two Single Pole Fuses

Instruments on main switchboard Two ammeters Two 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

Lamp Switch & Fuse in Circuit between each of the four bus bars & earth

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

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



Insulation of Cables, state type of cables, single or twin single 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 5 volts Lighting 7 volts Power

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 yes

Cable Runs, are the cables fixed as far as possible in accessible positions not exposed to dry 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 LC in Steel Lacing
In Accommodation LC Clipped to Bulkhead

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 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 none

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

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 yes

has each navigation lamp an automatic indicating as per Rule yes are separate screens provided for the use of oil and electric side lights yes

are separate oil lanterns provided for the mast head lights and side lights 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 none

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 Watertight

Well Glass Fittings & in Pump Room double glass fittings, how are the cables led in Watertight Steel Tube

where are the controlling switches situated Outside dangerous spaces

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

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

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 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	Ampères	Revs. per Min.		Fuel Used	Flash Point of Fuel
MAIN	Two	25	110	224	400	Enclosed 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				
	MAIN GENERATOR	one	.15	37	.072	224	62	paper	LC Served
	AUXILIARY GENERATOR								
	EMERGENCY GENERATOR								
	ROTARY TRANSFORMER								
	AUXILIARY SWITCHBOARDS								
	ENGINE ROOM	one	.01	4	.044	24	30	O.R.	LC & A
	BOILER ROOM								
	Crew	one	.0145	4	.052	10	440	O.R.	LC
	Officers	one	.0225	4	.064	26	440	O.R.	LC
	Gyros	one	.01	4	.044	8	450	O.R.	LC
	Cargo	one	.01	4	.044	14	400	O.R.	LC
	Engineers	one	.01	4	.044	23	190	O.R.	LC
	Navigation	one	.004	4	.036	6	480	O.R.	LC
	Centrifuge	one	.0225	4	.064	40	90	O.R.	LC & A
	Workshop	one	.01	4	.044	30	90	O.R.	LC & A
	Steering Armature	one	.075	19	.072	160	360	P.P.	LC Served
	Steering Field	one	.075	19	.072	160	360	P.P.	LC Served
	WIRELESS	one	.01	4	.044	9	460	O.R.	LC
	SEARCHLIGHT	one	.04	19	.052	60	840	O.R.	LC
	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 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								
	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.

TELFORD, GIBSON & MACKAY, LTD.

Electrical Engineers.

Date 8-4-29

J. Miller Secretary

COMPASSES.

Distance between electric generators or motors and standard compass 200 ft

Distance between electric generators or motors and steering compass 200 ft

The nearest cables to the compasses are as follows:—

A cable carrying 6 Amperes 10 feet from standard compass 6 feet from steering compass.

A cable carrying 1/2 Amperes one feet from standard compass one feet from steering compass.

A cable carrying _____ Amperes _____ 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 _____ any course in the case of the standard

compass, and nil degrees on any course in the case of the steering compass.

WILLIAM HAMILTON & CO. (1928) Limited

D. S. Lawrence Secretary

Builder's Signature.

Date 10/4/29

Is this installation a duplicate of a previous case Yes. If so, state name of vessel M.V. Atholclerk.

General Remarks (State quality of workmanship, opinions as to class, &c.) This installation has been fitted on board under special survey. Tested under full load conditions and found satisfactory. The materials and workmanship were found to be good and sound.

A.S.
13/4/29

Electric Light.
J.S. Rankin
24/4/29

Total Capacity of Generators 50 Kilowatts

The amount of Fee ... £ 27.10.0 When applied for at Clk

Travelling Expenses (if any) £ 10.6. When received 28 MAR 1929

J.S. Rankin
Surveyor to Lloyd's Register of Shipping.

Committee's Minute GLASGOW 16 APL 1929

Assigned to Electric Light.

1m. 24. - Transfer. (The Surveyors are requested not to write on or below the space for Committee's Minute.)



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