

REPORT ON ELECTRIC FITTINGS.

(OTHER THAN FOR THE PROPULSION OF THE VESSEL)

Received at London Office 12 AUG 1925

Date of writing Report 8.4.1925 When handed in at Local Office 10.8.1925 Port of GLASGOW.

No. in Survey held at GOVAN. Date, First Survey 5.6.25 Last Survey 7.7.1925
Reg. Book. (Number of Visits 5)

90086 on the M. V. NAIRNBANK. Tons { Gross 5155
Net 3152

Built at GOVAN. By whom built MESSRS HARLAND & WOLFF Yard No. 679 When built 1925

Owners MESSRS ANDREW WEIR & CO Port belonging to GLASGOW.

Electric Light Installation fitted by MESSRS HARLAND & WOLFF LTD Contract No. 679 When fitted 1925

System of Distribution Two ~~main~~ wire. Pressure of supply for Lighting 220V volts, Heating 220V. volts, Power 220V. 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 yes { 2 Diesel in Parallel, 1 Steam 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

Position of Generators Port 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 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 Aft of Engine Room over Thrusts

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 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 yes

if semi-insulating material is used, are all conducting parts connected to one pole insulated from the slab with mica or micanite and the slab similarly insulated from its framework yes

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 Three D.P. Circuit

Breakers for Generators, two interlocked with S.P. switch for paralleling Diesel Dynamos. D.P. Change over switches & two S.P. fuses for each outgoing circuit.

Instruments on main switchboard 3 ammeters 2 voltmeters nil 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 lamps & two S.P. switches all in parallel across mains. Mid point earthed.

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 both 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 5.5 Volts Yes

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 drip or accumulation of water or oil, or to high temperature from boilers, steam-pipes, uplakes 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 Clipped direct to wood bulkheads. Run on perforated plating in Engine Room. Run on wood protected with S.I. covers along deck & C. elsewhere.
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 In special joint box.

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 All radiators are earthed with 3/.029 wire
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, 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 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
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 axis 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 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	2	65	220	295	300	Diesel Engine	British Benz	Closed 176° F. Open 190° F.
AUXILIARY	1	65	220	295	500	Steam Engine		
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. Ampères.	Approximate Length. (Lead and Return.) Feet.	Insulated with	HOW PROTECTED.
				No.	Diameter.				
	MAIN GENERATOR	2	.5	61	.103	295	180 (3 leads)	Rubber	Lead Cased
	AUXILIARY GENERATOR	1	.5	61	.103	295	162 (2 leads)	Do	Do
	EMERGENCY GENERATOR								
	ROTARY TRANSFORMER								
	AUXILIARY SWITCHBOARDS								
	ENGINE ROOM	1 per pole	.007	7	.036	10.5	56	Do	Do
	BOILER ROOM								
	WIRELESS	1 per pole	.004	4	.036	10			
	SEARCHLIGHT								
	MASTHEAD LIGHT	1 per pole	.003	3	.036	.6			
	SIDE LIGHTS	Do	.002	3	.029	.6			
	COMPASS LIGHTS	Do	.002	3	.029	.15			
	POOP LIGHTS	Do	.002	3	.029	.15			
	CARGO LIGHTS	Do	.003	3	.036	3.6			
	ARC LAMPS	Do							
	HEATERS	1 per pole	.002	3	.029	5.5			

MOTOR CONDUCTORS.

Ref. No.	DESCRIPTION.	No. of Motors.	Effective Area of each Conductor. Sq. Ins.	COMPOSITION OF STRAND.		Total Maximum Current. Ampères.	Approximate Length. (Lead and Return.) Feet.	Insulated with	HOW PROTECTED.
				No.	Diameter.				
	BALLAST PUMP	1	.075	19	.072	76	56	Rubber	Lead Cased
	MAIN BILGE LINE PUMPS	1	.007	4	.036	22	24	Do	Do
	GENERAL SERVICE PUMP								
	EMERGENCY BILGE PUMP								
	SANITARY PUMP	1	.06	19	.064	44	40	Do	Do
	CIRC. SEA WATER PUMPS	1	.04	19	.052	60	36	Do	Do
	CIRC. FRESH WATER PUMPS	2	.007	7	.036	14.5	26	Do	Do
	AIR COMPRESSOR	1	.6	91	.103	340	130	Do	Do
	FRESH WATER PUMP								
	ENGINE TURNING GEAR	2	.0285	7	.064	40	74	Do	Do
	ENGINE REVERSING GEAR								
	LUBRICATING OIL PUMPS	3	.0145	7	.052	31.5	26	Do	Do
	OIL FUEL TRANSFER PUMP	1	.007	7	.036	17	56	Do	Do
	WINDLASS								
	WINCHES, FORWARD								
	WINCHES, AFT								
	STEERING GEAR	1	.075	19	.072	76	550	Do	Do
	WORKSHOP MOTOR								
	VENTILATING FANS	1	.007	7	.036	13	32	Do	Do
	Hot Salt Water Pump	1	.003	3	.036	10	64	Do	Do
	Oil Purifier	1	.003	3	.036	8	22	Do	Do
	Rake	1	.003	3	.036	6.5	20	Do	Do
	Drill	1	.003	3	.036	8.5	20	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.

FOR HARLAND & WOLFF, LTD.

John Dickenson
 Managing Director

Electrical Engineers.

Date

COMPASSES.

Distance between electric generators or motors and standard compass

90ft.

Distance between electric generators or motors and steering compass

88ft.

The nearest cables to the compasses are as follows:—

A cable carrying 5 Amperes 12 feet from standard compass 6 feet from steering compass.

A cable carrying 3.4 Amperes 18 feet from standard compass 12 feet from steering compass.

A cable carrying 1.5 Amperes 12 feet from standard compass 6 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 the course in the case of the standard compass, and Nil degrees on all the course in the case of the steering compass.

FOR HARLAND & WOLFF, LTD.

John Dickenson
 Managing Director

Builder's Signature.

Date

Is this installation a duplicate of a previous case

Yes

If so, state name of vessel

M.V. Elubank

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 workmanship was found to be good and sound.

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

J.P.
 13/8/25

Total Capacity of Generators 195 Kilowatts

The amount of Fee ...

£ 36.5.0

When applied for,

14/7/25

Travelling Expenses (if any) £

When received,

29.8.25

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

Committee's Minute

GLASGOW 11 AUG 1925

Assigned

Elec. Light *ghh*

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

als
 7/8/25



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