

REPORT ON ELECTRIC FITTINGS.

(OTHER THAN FOR THE PROPULSION OF THE VESSEL)

Received at London Office 3 JUN 1935

Date of writing Report 24th May 1935 When handed in at Local Office 31st May 1935 Port of Gothenburg

No. in Survey held at Gothenburg Date, First Survey 23rd March Last Survey 9th May 1935
(Number of Visits 9)

Reg. Book. Supplement 88385 on the M/S Alexandra Höegh

Tons { Gross 8248
Net 4985

Built at Gothenburg By whom built Eriksbergs Mek. Verkstad No. 258 When built 1935

Owners Skibsrederi A/S Arøadia Port belonging to Oslo

Electric Light Installation fitted by Elektriska Aktiebolaget AEG Contract No. When fitted 1935

Is the Vessel fitted for carrying Petroleum in bulk yes

System of Distribution Two-wires system ✓

Pressure of supply for Lighting 110 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 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 yes, 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 Are the lubricating arrangements of the generators as per Rule yes ✓

Position of Generators on both sides in the 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 in the 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 of marble, 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 for each generator:

a double pole circuit breaker with overload and reversed-current trips, and a single pole equalizer switch. For each outgoing circuit: two fuses and a double pole switch ✓

Instruments on main switchboard 5 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 ohmmeters

fitted with cimmulator for both poles ✓

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 twin are the cables insulated and protected as per Tables IV, V, XI or XIII of the Rules yes
 Fall of Pressure, state maximum between bus bars and any point of the installation under maximum load 2 v + 5 % for power
2 v + 3 " lighting
 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 paper insulated cables are not used
 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 supported by metal clips. All power cables lead-covered and armoured. Light cables in cabins lead-covered, otherwise armoured or stealwired.
 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 no. 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
 Joints in Cables, state if any, and how made, insulated, and protected Main cables for installations forward are jointed on a marble board, placed at upper part of machinery space, insulated and protected as per Rule. Joints in section cables in boxes as per Rule.
 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 state the material of which the bushes are made
 Earthing Connections, state what earthing connections are fitted and their respective sectional areas
 are their connections made as per Rule
 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
 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
 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
 are any fittings placed in spaces where inflammable or explosive dust or gases are liable to be present, if so, how are they protected lamps contained in gastight fittings, how are the cables led in gastight tubing, where are the controlling switches situated outside dangerous space
 Searchlight Lamps, No. of, whether fixed or portable, are their fittings as per Rule
 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 are their axes of rotation fore and aft all excl. turning gear motor, 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 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 No portable lamps supplied for use in dangerous spaces

PARTICULARS OF GENERATING PLANT.

DESCRIPTION OF GENERATOR.	No. of	RATED AT				DRIVEN BY	WHERE DRIVEN BY AN INTERNAL COMBUSTION ENGINE.	
		Kilowatts.	Volts.	Amperes.	Revs. per Min.		Fuel Used.	Flash Point of Fuel.
MAIN	2	82	220	380	400	Auxiliary diesel engine	Diesel-oil	Above 150° F
AUXILIARY								
EMERGENCY								
ROTARY TRANSFORMER	1	14	110	128	1650			

GENERATOR, LIGHTING AND HEATING CONDUCTORS.

DESCRIPTION.	CONDUCTORS.		COMPOSITION OF STRAND.		TOTAL MAXIMUM CURRENT.		Approximate Length. (Lead and Return.) Feet. $\frac{1}{2}$	Insulated with	HOW PROTECTED.
	No. per Pole.	Total Effective Area per Pole Sq. $\frac{1}{4}$ in.	No.	Diameter.	In Circuit.	Rule.			
MAIN GENERATOR	2	150	37	2.25	380	424	50	Rubber	Lead-covered and steal- armoured
EQUALISER CONNECTIONS	2	150	37	2.25			50	"	"
AUXILIARY GENERATOR									
EMERGENCY GENERATOR									
ROTARY TRANSFORMER MOTOR	1	50	19		64	100	6	"	"
ROTARY TRANSFORMER GENERATOR	1	95			128	150	8	"	"
ENGINE ROOM	1	6	7	0.67	15	29	2	"	"
BOILER ROOM									
AUXILIARY SWITCHBOARDS									
Light distrib.									
Boards midships	1	10	7	1.35	12	40.5	200	"	"
Poops starboard	1	25	7	0.67	10	16.5	40	"	"
" barboard	1	"	7	"	"	16.5	40	"	"
Forecastle	1	4	7	0.86	10	23	250	"	"
ACCOMMODATION									
WIRELESS	1	50	19	1.83		100	216	"	"
SEARCHLIGHT									
MASTHEAD LIGHT	1	1.5	1	1.38	1	10	220	"	"
SIDE LIGHTS	1	1.5	1	1.38	1	10	20	"	"
COMPASS LIGHTS	1	1.5	1	1.38	1	10	20	"	"
POOP LIGHTS	1	1.5	1	1.38	1	10	250	"	"
CARGO LIGHTS									
ARC LAMPS									
HEATERS for Lubr. oil Fuel oil	1	50	19	1.83	82	100	64	"	"
	2	25	37	1.81	82	124	64	"	"

MOTOR CONDUCTORS.

DESCRIPTION.	No. of Motors.	CONDUCTORS.		COMPOSITION OF STRAND.		TOTAL MAXIMUM CURRENT.		Approximate Length. (Lead and Return.) Feet. $\frac{1}{2}$	Insulated with	HOW PROTECTED.
		No. per Pole.	Total Effective Area per Pole Sq. $\frac{1}{4}$ in.	No.	Diameter.	In Circuit.	Rule.			
BALLAST PUMP	1	1	35	19	1.53	74	75	36	Rubber	Lead-covered and steal- armoured
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	1	1	10	7	1.35	32	40.5	90	"	"
ENGINE REVERSING GEAR and cooling water	2	1	185	37	2.52	220	230	28	"	"
LUBRICATING OIL PUMPS	1	1	10	7	1.35	30	40.5	50	"	"
OIL FUEL TRANSFER PUMP										
WINDLASS										
WINCHES, FORWARD										
WINCHES, AFT										
STEERING GEAR—										
(a) MOTOR GENERATOR	1	1	50	19	1.83	100	100	114	"	"
(b) MAIN MOTOR	1	1	2.5	7	0.67	12	16.5	80	"	"
WORKSHOP MOTOR										
VENTILATING FANS										
Compressor	1	1	10	7	1.35	30	40.5	56	"	"
Cool. pump	1	1	2.5	7	0.67	8	16.5	56	"	"
Lubr. oil-sep.	1	1	2.5	7	0.67	8	16.5	82	"	"
Fuill oil-sep.	1	1	2.5	7	0.67	8	16.5	80	"	"

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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.

Anders P. Pihl Electrical Engineers. Date 24.5.1935

COMPASSES.

Distance between electric generators or motors and standard compass about 75 metres
 Distance between electric generators or motors and steering compass " 75 "
 The nearest cables to the compasses are as follows:—
 A cable carrying _____ Ampères _____ feet from standard compass _____ 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 _____
 Has the effect of switching on and off circuits, motors and other electro-magnetic apparatus within the vicinity of the compasses been noted _____
 The maximum deviation due to electric currents was found to be _____ degrees on _____ course in the case of the standard
 compass, and _____ degrees on _____ course in the case of the steering compass.

Eriksbergs Mek. Verkstads Aktiebolag
Johansson Builder's Signature. Date 29.5.35

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 electric installation of this vessel has been fitted on board under my inspection and to my satisfaction.
 The workmanship is good and all the Requirements of the Rules have been complied with.
 Maker's certificates of generators are attached*

Wid
R.V.
 3/6/35

Total Capacity of Generators 164 Kilowatts.

The amount of Fee Rs 631.54 { When applied for, 17 May 1935
 Travelling Expenses (if any) £ : : { When received, 7.6.35

A. Brandt
 Surveyor to Lloyd's Register of Shipping.

Committee's Minute TUE. 4 JUN 1935

Assigned See fol. 56. 10239