

# REPORT ON ELECTRIC FITTINGS.

(OTHER THAN FOR THE PROPULSION OF THE VESSEL)

Date of writing Report 7/11 1924 When handed in at Local Office 10 Port of Copenhagen Received at London Office 22 NOV 1924

No. in Survey held at Eleimor Date, First Survey 13/9 Last Survey 4/11 1924  
Reg. Book. (Number of Visits 8)

90159 on the Swedish motor vessel "ODENSE" Tons { Gross 555.08  
Net 251.33

Built at Eleimor By whom built M. Helsingør's Maskitbyggeri Yard No. 170 When built 1924

Owners Det Franske Dampskibs Selskab Port belonging to Odense

Electric Light Installation fitted by Nic. Schütz, Eleimor Contract No.          When fitted 1924

System of Distribution two conductor insulated system

Pressure of supply for Lighting 110 ✓ volts, Heating          ✓ volts, Power 110 ✓ 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 ✓, 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 the motor room

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

Are they 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 In the motor 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, 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 ✓, 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 main switch gear

according to Sect. 4, para. 3, clause (b). All outgoing circuits a fuse on each pole

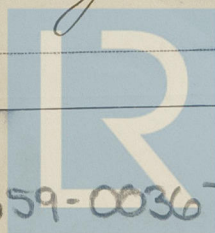
and a 24 pole linked switch.

Instruments on main switchboard 4 ammeters 3 voltmeters 4 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 lamps fitted

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 ✓



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Lloyd's Register  
Foundation

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Insulation of Cables, state type of cables, single or twin *single* are the cables insulated and protected as per Tables III ~~and~~ of the Rules *yp.*

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 0.007 square inch and above provided with soldering sockets *yp.*

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 *✓*

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 *yp.*

Support and Protection of Cables, state how the cables are supported and protected *Armoured cables supported by steel clips, unarmoured lead cables by brass clips.*

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 *✓*. If armoured and lead covered cables are secured by metal clips, are the clips spaced as per Table VI *yp.*

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 *No joints in cables.*

Watertight Glands and Deck Tubes, are all cables passing through decks and watertight bulkheads provided with deck tubes or watertight glands *yp.*

Bushes in Beams and Non-watertight Positions, where unarmoured cables pass through beams and non-watertight partitions, are the holes efficiently bushed *yp.* state the material of which the bushes are made *Lead.*

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 *yp.*

Emergency Supply, state position and method of control of the emergency supply and how the generator is driven *✓*

Navigation Lamps, are these separately wired *yp.*, controlled by separate switch and separate fuses *yp.*

are the fuses double pole *yp.*, are the switches and fuses grouped in a position accessible only to the officers on watch *yp.*

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

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

Fittings, are all fittings on weather decks, in stokeholds and engine rooms and wherever exposed to drip or condensed moisture, watertight *yp.*

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 *the lamps in holds are covered by solid glass globes protected by strong fences of cast iron.*

are any fittings placed in spaces where inflammable or explosive dust or gases are liable to be present, if so, how are they protected *✓*

how are the cables led

where are the controlling switches situated *2 switches for the lamps in the holds are situated on the auxiliary switchboard in the alleyway to the saloon.*

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

Are 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 *yp.*, are the coils self-contained and readily removable for replacement *yp.*

are the brushes, brush holders, terminals and lubricating arrangements as per Rule *yp.*, are the motors placed in well-ventilated compartments in which inflammable gases cannot accumulate and clear of all inflammable material *yp.*

are they protected from mechanical injury and damage from water, steam or oil *yp.* are their axis of rotation fore and aft *yp. and for. and aft.*

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 *yp.*

Lightning Conductors, where lightning conductors are required, are these fitted as per Rule *None.*

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. *✓*

If portable lamps for use in dangerous spaces are supplied, are they of a type approved by the Home Office *✓*

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 ...	1	32	110	291	300	2-cyl. vert. Diast. eng.	crude oil	above 150° F.	
AUXILIARY ...	1	12	110	109	300	1-cyl. vert. (semi Diast.)	"	"	
EMERGENCY ...									
ROTARY TRANSFORMER									

LIGHTING AND HEATING CONDUCTORS.									
Ref. No.	DESCRIPTION.	No. of Conductors.	Effective Area of each Conductor Sq. Ins. Per Ft.	COMPOSITION OF STRAND.		Total Maximum Current Ampères.	Approximate Length (Lead and Return.) Feet.	Insulated with	HOW PROTECTED.
				No.	Diameter.				
	MAIN GENERATOR...	2	310	✓	61	2.54	291	india rubber	lead covered
	AUXILIARY GENERATOR	2	95	✓	19	2.52	109	"	ant
	EMERGENCY GENERATOR								armoured
	ROTARY TRANSFORMER...								with
	AUXILIARY SWITCHBOARDS								steel wire.
	ENGINE ROOM	2	6	✓	7	1.05	24	"	"
	BOILER ROOM								steel tape.
	app.	2	6	✓	7	1.05	7	"	"
	saloon	2	10	✓	7	1.35	13	"	"
	luncheon	2	4	✓	7	0.85	5	"	"
	forward	2	2.5	✓	7	0.67	4	"	"
	hulk	2	4	✓	7	0.85	8	"	"
	WIRELESS								
	SEARCHLIGHT								
	MASTHEAD LIGHT...	2	1.5	✓	1	1.38	0.5	"	"
	SIDE LIGHTS...	2	1.5	✓	1	1.38	0.5	"	"
	COMPASS LIGHTS...	2	1.5	✓	1	1.38	0.4	"	"
	POOP LIGHTS	2	1.5	✓	1	1.38	0.5	"	"
	CARGO LIGHTS	2	1.5	✓	1	1.38	0.5	"	"
	ARC LAMPS								
	HEATERS								

MOTOR CONDUCTORS.									
Ref. No.	DESCRIPTION.	No. of Motors.	Effective Area of each Conductor Sq. Ins. Per Ft.	COMPOSITION OF STRAND.		Total Maximum Current Ampères.	Approximate Length (Lead and Return.) Feet.	Insulated with	HOW PROTECTED.
				No.	Diameter.				
	BALLAST PUMP ...	1	35	✓	19	1.53	48	india rubber	lead covered
	MAIN BILGE LINE PUMPS								ant
	GENERAL SERVICE PUMP								armoured
	ENGINE BILGE PUMP	1	10	✓	7	1.35	38	"	with
	SANITARY PUMP ...	1	10	✓	7	1.35	38	"	steel wire.
	CIRC. SEA WATER PUMPS								
	CIRC. FRESH WATER PUMPS	1	2.5	✓	7	0.67	5	"	"
	AIR COMPRESSOR								
	FRESH WATER PUMP								
	ENGINE TURNING GEAR								
	ENGINE REVERSING GEAR	1	4	✓	7	0.85	22	"	"
	LUBRICATING OIL PUMPS	1	4	✓	7	0.85	22	"	"
	OIL FUEL TRANSFER PUMP	1	95	✓	19	2.52	150	"	"
	WINDLASS	1	50	✓	19	1.83	110	"	"
	WINCHES, FORWARD	2	50	✓	19	1.83	110	"	"
	WINCHES, AFT	2	50	✓	19	1.83	110	"	"
	STEERING GEAR	1	4	✓	7	0.85	15	"	"
	WORKSHOP MOTOR								
	VENTILATING FANS								
	OIL SEPARATOR	1	4	✓	7	0.85	8	"	"



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.

*Nico Silvestri*

Electrical Engineers.

Date 13/11-24.

#### COMPASSES.

Distance between electric generators or motors and standard compass 46'

Distance between electric generators or motors and steering compass 41'

The nearest cables to the compasses are as follows:—

A cable carrying 5 Ampères 9 feet from standard compass 9 feet from steering compass.

A cable carrying 0.4 Ampères 10" 10" from standard compass 10" from steering compass.

A cable carrying 15 Ampères 11 feet from standard compass 9 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 0 degrees on all courses in the case of the standard compass, and 0 degrees on all courses in the case of the steering compass.

*P. Knudsen*

Builder's Signature.

Date 13/11-1924.

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 Light and Power installation as above described has been carried out in accordance with the Rule requirements, the approved plan and letter E dated 28/7/24.

The material used is of generally good description and the workmanship good.

The whole installation has been tested under full working power and was found satisfactory.

Recommend the vessel to have notation of "Electric Light" in the Register Book.

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

Total Capacity of Generators 44 Kilowatts

The amount of Fee ... 12 = 14.26.12. 14.69.12.

Travelling Expenses (if any) £ : : When applied for, 20/11/24. When received, 5/12/24.

Committee's Minute TUES 25 NOV 1924

Assigned