

REPORT ON ELECTRIC FITTINGS.

(OTHER THAN FOR THE PROPULSION OF THE VESSEL)

28 JAN 1931

Received at London Office

Date of writing Report

16/1

When handed in at Local Office

1931

Port of

Copenhagen.

No. in Survey held at

Odense.

Date, First Survey

8/12 1930

Last Survey

11/3/1

1931

Reg. Book.

91726

on the Steamer L. Motor vessel "NIEL MERSE"

(Number of Visits)

7

Tons

Gross 5086.02

Net 3168.22

Built at

Odense.

By whom built

Odense Skibskonstruktions

Yard No.

38

When built

1930-1

Owners

S/S "O/S Svendborg" of "O/S af 1912" S/S

Port belonging to

Svendborg

Electric Light Installation fitted by S/S Dansk Elektricitetskompani, Odense

Contract No.

When fitted 1930-1

Is the Vessel fitted for carrying Petroleum in bulk

No.

System of Distribution

Two conductor insulated system

Pressure of supply for Lighting

110

volts, Heating

120

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

placed in the motor room, port side, floor level.

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

yes.

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

on a platform in the forward end of 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

yes.

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

yes.

and

yes.

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

circuit breakers with overload & fused current trip & single pole equalizer switch as per Part 3, par.

3, A (f). Outgoing circuits: a 266 pole linked switch and a fuse on each pole.

Instruments on main switchboard

6

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

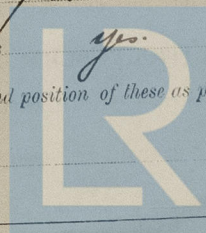
1 Ohmmeter and 2 sets of earth lamps. (220 - 110 Volts)

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 *single* are the cables insulated and protected as per Tables IV *of the Rules* *yo.*
Fall of Pressure, state maximum between bus bars and any point of the installation under maximum load *6 Volts.*

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 *yo.*

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 *yo.*

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 *yo.*

Support and Protection of Cables, state how the cables are supported and protected *armoured cables used, supported by clips in lower deck spaces laid on steel plates under beams and protected by steel casing.*

If cables are run in wood casings, are the casings and caps secured by screws *yo.*, are the cap screws of brass *yo.*, are the cables run in separate grooves *yo.* If armoured and lead covered cables are secured by metal clips, are the clips spaced as per Table VIII *yo.*

Refrigerated Chambers, if lights are fitted, are the cables and fittings in accordance with the special requirements *yo.*

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 *yo.*

Bushes in Beams and Non-watertight Partitions, where *armoured* cables pass through beams and non-watertight partitions, are the holes efficiently bushed *yo.* state the material of which the bushes are made *lead.*

Earthing Connections, state what earthing connections are fitted and their respective sectional areas *yo.*

are their connections made as per Rule *yo.*

Alternative Lighting, are the groups of lights in the propelling machinery space arranged as per Rule *yo.*

Emergency Supply, state position and method of control of the emergency supply and how the generator is driven *generator placed on platform inside engine casing, U. D. level, connected to aerial switch board for light by a switch over. Generator worked by a 2 cyl. petrol engine, 5.5 HP (Penta-horse).*

Navigation Lamps, are these separately wired *yo.*, controlled by separate switch and separate fuses *yo.*, are the fuses double pole *yo.*

are the switches and fuses grouped in a position accessible only to the officers on watch *yo.*

has each navigation lamp an automatic indicator as per Rule *yo.*

Secondary Batteries, are they constructed and fitted as per Rule *yo.*

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

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 *yo.*

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

how are the cables led *yo.*

where are the controlling switches situated *yo.*

where are the controlling switches situated *yo.*

Searchlight Lamps, No. of *1.*, whether fixed or portable *portable*, are their fittings as per Rule *yo.*

Arc Lamps, other than searchlight lamps, No. of *yo.*, are their live parts insulated from the frame or case *yo.*, are their fittings as per Rule *yo.*

Motors, are their working parts readily accessible *yo.*, are the coils self-contained and readily removable for replacement *yo.*

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

are they protected from mechanical injury and damage from water, steam or oil *yo.* are their axes of rotation fore and aft *yo. not lubricating oil, working pistons.*

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 *yo.*

if not of this type, state distance of the combustible material horizontally or vertically above the motors *yo.* and *yo.*

Control Gear and Resistances, are the generator field and motor speed regulators, starters and controllers constructed and fitted as per Rule *yo.*

Lightning Conductors, where lightning conductors are required, are these fitted as per Rule *yo.*

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 *yo.*

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

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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	70	220	318	400	3 2 cyl. 45 c.s. 4 D. Diesel engines	crude oil	above 150° F.
AUXILIARY ...								
EMERGENCY ...	1	2.8	115	243	900	4 5.5 HP 2 cyl. Penta-horse	petrol	< 150° F.
ROTARY TRANSFORMER	1	18	110	164	1350	1 27 HP electromotor.		

GENERATOR, LIGHTING AND HEATING CONDUCTORS.

DESCRIPTION.	CONDUCTORS.			COMPOSITION OF STRAND.		TOTAL MAXIMUM CURRENT.		Approximate Length. (Lead and Return.)	Insulated with	HOW PROTECTED.
	No. per Pole.	Total Effective Area per Pole Sq. ins.	No.	Diameter.	In Circuit.	Rule.				
MAIN GENERATOR ...	1	280	61	2.4	318	300	53.6	india	lead covered	
EQUALISER CONNECTIONS ...		150	37	2.27	-	205	26.8	rubber	and	
AUXILIARY GENERATOR ...										
EMERGENCY GENERATOR ...	1	6	7	1.05	243	28.6	4	"	steel wire armoured.	
ROTARY MOTOR ...	1	50	19	1.83	900	98	16	"	"	
TRANSFORMER ...	1	120	37	2.03	164	177	22	"	"	
ENGINE ROOM ...	1	10	7	1.35	12	38	4	"	"	
BOILER ROOM ...										
AUXILIARY SWITCHBOARD ...										
FOR LIGHT	1	70	19	2.16	80	124	44	"	"	
NAVIGATION LIGHT	1	2.5	7	0.67	1	15.5	60	"	"	
ACCOMMODATION										
AFT	1	6	7	1.05	20	28.6	102	"	"	
DECKHOUSE I	1	10	7	1.35	30	38	61	"	"	
" II	1	6	7	1.05	25	28.6	2	"	"	
WIRELESS	1	6	7	1.05	12	28.6	106	"	"	
SEARCHLIGHT	1	2.5	7	0.67	7	15.5	16	"	"	
MASTHEAD LIGHT	1	1.5	1	1.38	0.2	10	110	"	"	
SIDE LIGHTS	1	1.5	1	1.38	0.2	10	26	"	"	
COMPASS LIGHTS	1	1.5	1	1.38	0.2	10	17	"	"	
POOP LIGHTS	1	1.5	1	1.38	0.2	10	151	"	"	
CARGO LIGHTS										
ARC LAMPS										
HEATERS	1	50	19	1.83	100	100	78	"	"	

MOTOR CONDUCTORS.

DESCRIPTION.	No. of Motors.	CONDUCTORS.			COMPOSITION OF STRAND.		TOTAL MAXIMUM CURRENT.		Approximate Length. (Lead and Return.)	Insulated with	HOW PROTECTED.
		No. Per Pole.	Total Effective Area per Pole Sq. ins.	No.	Diameter.	In Circuit.	Rule.				
BALLAST PUMP ...	1	1	25	7	2.13	50	63	41	india	lead covered	
MAIN BILGE LINE PUMPS									rubber	and	
DEEP TANK GENERAL SERVICE PUMP	1	1	185	37	2.52	215	233	21	"	steel wire armoured.	
EMERGENCY BILGE PUMP	1	1	25	7	2.13	45	63	49	"		
SANITARY PUMP											
CIRC. SEA WATER PUMPS											
CIRC. FRESH WATER PUMPS											
SO2 AIR COMPRESSOR	1	1	6	7	1.05	20	28.6	76	"	when necessary laid in iron tubes	
FRESH WATER PUMP											
ENGINE TURNING GEAR	2	1	6	7	1.05	27	28.6	72	"	secured by steel plate.	
ENGINE REVERSING GEAR											
COOLING WATER AND LUBRICATING OIL PUMPS	2	1	120	37	2.03	165	177	17	"		
OIL FUEL TRANSFER PUMP	1	1	25	7	2.13	45	63	24	"		
WINDLASS	52 HP	1	1	25	37	2.03	175	177	162	"	
WINCHES, FORWARD	33 HP	2	1	10	7	2.03	220	233	128	"	
"	33 HP	2	1	120	37	2.03	220	235	128	"	
WINCHES, AFT	25 HP	2	1	95	19	2.52	165	177	112	"	
"	25 HP	2	1	95	19	2.52	165	177	112	"	
STEERING GEAR—											
(a) MOTOR GENERATOR											
(b) MAIN MOTOR	42 HP	1	1	50	19	1.83	75	78	180	"	
WORKSHOP MOTOR		1	1	2.5	7	0.67	10	15	40	"	
VENTILATING FANS											
WINCHES AMIDSHIP, 25 HP	2	1	120	37	2.03	165	235	109	"		
" " 25 HP	3	1	120	37	2.03	250	235	46	"		
WARPING WINCH, 33 HP	1	1	70	19	2.16	110	124	140	"		
LUBR. OIL PURIFIER	1	1	2.5	7	0.67	10	15	34	"		
COOLING WATER PUMP	1	1	2.5	7	0.67	7.5	15	32	"		
BRINE CIRCUL. PUMP	1	1	2.5	7	0.67	3	15	15	"		

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.

Dansk Elektrifoltecompagni

Albionvej

Lyngby, Electrical Engineers.

Date 22 Jan. 1931.

COMPASSES.

Distance between electric generators ^{AND FOR WIRELESS} ~~in~~ motors and standard compass 20'

Distance between electric generators ^{AND} ~~in~~ motors and steering compass 16'.

The nearest cables to the compasses are as follows:—

A cable carrying 0.15 Ampères 7" ~~feet~~ from standard compass 7" ~~feet~~ from steering compass.

A cable carrying 0.15 Ampères 19" ~~feet~~ from standard compass — feet from steering compass.

A cable carrying 1.4 Ampères 15 feet from standard compass 14 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 *any* course in the case of the standard compass, and 0 degrees on *any* course in the case of the steering compass.

PR. ODENSE SÆLSKIBSVÆRFT

JED. A. P. MØLLER

John Mose & Anseley

Builder's Signature.

Date 24-1-31

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 fitted in accordance with the Danish Rules, the approved plan as amended and the requirements contained in the Lloyds' letter 6 dated 1/9 30.

The material used is of good description throughout and the workmanship of high quality.

On completion the whole installation was tested under full power working conditions and as required by the Rules and found satisfactory.

Recommend the vessel to have installation of ELECTRIC LIGHT in the Register Book.

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

Electric Light
24/1/31

Total Capacity of Generators 210 Kilowatts.

The amount of Fee ...

4.668.00

When applied for, 26-1-19 31

Travelling Expenses (if any) ...

When received, 14/2/31

Surveyor to Lloyd's Register of Shipping.

Committee's Minute

FRI. 30 JAN 1931

Assigned

Elec Lt



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