

Rpt. 13.

No. 8362.

## REPORT ON ELECTRIC FITTINGS.

(OTHER THAN FOR THE PROPULSION OF THE VESSEL)

15 OCT 1930

Date of writing Report 2/10 1930 When handed in at Local Office 10 Port of Copenhagen

No. in Survey held at Odense Date, First Survey 14/8 Last Survey 30/9 1930

Reg. Book. 89415 on the Steamer S. Motor vessel "Nase Marsk" (Number of Visits 7)

Tons { Gross 6184.41  
Net 5505.04

Built at Odense By whom built Odense Haabkroft Yard No. 41 When built 1930

Owners O/S Svendborg og O/S af 1912 O/S Port belonging to Nyborg

Electric Light Installation fitted by O/S Dansk Elektricitetskompani Contract No. When fitted 1930

Is the Vessel fitted for carrying Petroleum in bulk yes.

System of Distribution Two conductor insulated system

Pressure of supply for Lighting 110 volts, Heating 220 volts, Power

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 main engine room, one on each side.

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 in the engine room, port side.

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 generators: a 2bl.

2bl pole circuit breaker with single pole equalizer switch as per Sect. 3.A. (f). Outgoing circuits:

2bl pole linked switches with fuses on each pole.

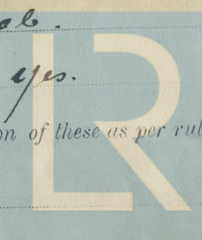
Instruments on main switchboard 4 ammeters 3 voltmeters synchronising device for paralleling purposes.

Earth Testing, state what means are provided at the main switchboard for indicating the state of the insulation of the system 2 sets of earth

lamps (220 &amp; 110 volts); one voltmeter fitted with Ohm scale.

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 ~~and~~ of the Rules yes.

Fall of Pressure, state maximum between bus bars and any point of the installation under maximum load 4.5 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 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, 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 armoured cables used, supported by clips  
On deck laid on steel plate along gangway and covered by steel plating.  
 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 VIII 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 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 yes.

Bushes in Beams and Non-watertight Partitions, 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.  
 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.

Secondary Batteries, are they constructed and fitted as per Rule 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 the lamps in the pump room are contained in gastight 2 1/2 lb glass globes protected by iron grids, how are the cables led through galvanised iron tubes, carried gastight into lamp-holders.  
where are the controlling switches situated on the auxiliary switchboard in the alleyway to the saloon amidships.

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

Arc Lamps, other than searchlight lamps, No. of yes, 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 axes 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 and fitted 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	66	220	300	400	Two 2-cyl. Diesel engines	crude oil	above 150° F.	
AUXILIARY ...									
EMERGENCY ...									
ROTARY TRANSFORMER	1	18	110	165	1350	27 H. electric motor			

GENERATOR, LIGHTING AND HEATING CONDUCTORS.										
DESCRIPTION.	No. per Pole.	CONDUCTORS.		COMPOSITION OF STRAND.		TOTAL MAXIMUM CURRENT AMPERES.		Approximate Length. (Lead and Return.)	Insulated with	HOW PROTECTED.
		Total Effective Area per Pole Sq. in.	No.	Diameter.	In Circuit.	Rule.				
MAIN GENERATOR ...	I	1	275	61	2.40	300	300	54	india rubber	lead covered and steel wire armoured.
EQUALISER CONNECTIONS ...			275	200	61	37	2.40	27	10	
MAIN AUXILIARY GENERATOR ...	II	1	275	61	2.40	300	300	20	"	
EMERGENCY GENERATOR ...										
ROTARY MOTOR ...		1	50	19	1.83	90	98	20	"	"
TRANSFORMER GENERATOR ...		1	125	37	2.07	165	185	20	"	"
ENGINE ROOM ...		1	2.5	7	0.67	12	15	4	"	"
BOILER ROOM ...										
AUXILIARY SWITCHBOARDS ...										
ACCOMMODATION ...										
	AFT	1	10	7	1.35	20	38	31	"	"
	AMIDSHIPS	1	10	7	1.35	15	38	146	"	"
WIRELESS ...		1	10	7	1.35	10	38	160	"	"
SEARCHLIGHT ...										
MASTHEAD LIGHT ...										
SIDE LIGHTS ...										
COMPASS LIGHTS ...		1	2.5	7	0.67	3	15	166	"	"
POOP LIGHTS ...										
CARGO LIGHTS ...										
ARC LAMPS ...										
HEATERS ...										

MOTOR CONDUCTORS.										
DESCRIPTION.	No. of Motors.	CONDUCTORS.		COMPOSITION OF STRAND.		TOTAL MAXIMUM CURRENT AMPERES.		Approximate Length. (Lead and Return.)	Insulated with	HOW PROTECTED.
		No. Per Pole.	Total Effective Area per Pole Sq. in.	No.	Diameter.	In Circuit.	Rule.			
BALLAST PUMP ...	1	1	50	19	1.83	85	98	62	india rubber	lead covered and steel wire armoured.
MAIN BILGE LINE PUMPS ...										
GENERAL SERVICE PUMP ...										
EMERGENCY BILGE PUMP ...	1	1	25	7	2.13	45	63	72	"	"
SANITARY PUMP ...	1	1	70	19	2.16	100	124	48	"	"
CIRC. SEA WATER PUMPS AND COOL. FRESH WATER PUMPS ...	1	1	10	7	1.35	33	38	85	"	"
AIR COMPRESSOR ...	1	1	10	7	1.35	28	38	87	"	"
FRESH WATER PUMP ...	1	1	10	7	1.35	28	38	87	"	"
ENGINE TURNING GEAR ...										
ENGINE REVERSING GEAR ...										
LUBRICATING OIL PUMPS AND OIL FUEL TRANSFER PUMP ...	1	1	16	7	1.70	50	47	32	"	"
WINDLASS ...										
WINCHES, FORWARD ...										
WINCHES, AFT ...										
STEERING GEAR—										
(a) MOTOR GENERATOR ...	1	1	50	19	1.83	75	98	98	"	"
(b) MAIN MOTOR ...	1	1	2.5	7	0.67	14	15	89	"	"
WORKSHOP MOTOR ...	1	1	2.5	7	0.67	3.5	15	78	"	"
VENTILATING FANS GALLEY ...	2	1	2.5	7	0.67	10	15	86	"	"
OIL PURIFIERS ...										
COOLING WATER PUMP FOR COIL CONDENSER ...	1	1	2.5	7	0.67	7	15	85	"	"
BRINE PUMP ...	1	1	2.5	7	0.67	3.5	15	86	"	"
SPARE OIL FUEL TRANSFER PUMP ...	1	1	2.5	7	0.67	14	15	42	"	"

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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.

**Dansk Elektricitetscompagni.**

*Aktieselskab* *J. J. Jørgensen*

Electrical Engineers.

Date *6-10-1930*

#### COMPASSES.

Distance between electric generators <sup>AND FOR WIRELESS</sup> ~~or~~ motors and standard compass *24'*

Distance between electric generators ~~or~~ motors and steering compass *16'*

The nearest cables to the compasses are as follows:—

A cable carrying *0.2* Amperes *8"* feet from standard compass *8"* feet from steering compass.

A cable carrying *1.2* Amperes *8* feet from standard compass *10* feet from steering compass.

A cable carrying *0.2* Amperes *10* feet from standard compass *4* 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 *JOHANNESSEN*

*John Andersen* Builder's Signature.

Date

Is this installation a duplicate of a previous case ☒ If so, state name of vessel

General Remarks (State quality of workmanship, opinions as to class, etc.)

*The electric light and power installation as above described has been fitted in accordance with the Society's Rules, the approved plan and the requirements contained in the Surveyor's letter E. dated 11-7-30.*

*The material used for the installation is of generally good description throughout and the workmanship of good quality.*

*After completion on board the vessel the whole installation was tested under working conditions and 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.*

*J. J. Jørgensen*  
*20/10/30*

Total Capacity of Generators *132* Kilowatts.

The amount of Fee ... *£. 602.42.* When applied for, *13.10.1930*

Travelling Expenses (if any) £ *—* When received, *27.10.30*

*A. J. Jørgensen*  
Surveyor to Lloyd's Register of Shipping.

Committee's Minute *TUE. 21 OCT 1930*

Assigned

*Elec Light*



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