

# REPORT ON ELECTRIC FITTINGS.

(OTHER THAN FOR THE PROPULSION OF THE VESSEL)

Received at London Office 4 SEP 1934

Date of writing Report 25/8 1934 When handed in at Local Office

Port of Copenhagen

No. in Survey held at Odense

Date, First Survey 8/6 1934 Last Survey 11/5 1934

Reg. Book.

(Number of Visits 12)

82035 on the SINGLE S.C. MOTOR VESSEL "NORA MÆRSK"

Tons { Gross 6276.70  
Net 3888.51

Built at Odense

By whom built Odense Maskitværk Yard No. 52

When built 1934

Owners H. S. JENSEN &amp; S. DANIELSEN of 1712 9/5

Port belonging to Copenhagen

Electric Light Installation fitted by Dansk Elektricitetskompagni

Contract No.

When fitted 1934

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

220

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

3 main generators in the motor room, emergency gen. in engine casing

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 forward end of the motor room switch board for light inside engine casing was emergency generator

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

woodwork or other combustible material, state distance of same horizontally from or vertically above the switchboards

yes

are they constructed wholly of durable, non-ignitable 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 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 breaker with overload and reversed-current trip as per SECT. 3 PAR. 3. A. (f)

OUTGOING CIRCUITS: A fuse on each pole and a double pole linked switch

Instruments on main switchboard

6

ammeters

4

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 x 110 Volts), One Voltmeter fitted with  $\Omega$  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

W464-0188 1/2



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Lloyd's Register  
Foundation



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MOTOR CONDUCTORS.										
DESCRIPTION.	No. of Motors.	CONDUCTORS.		COMPOSITION OF STRAND.		TOTAL MAXIMUM CURRENT. AMPERES.		Approximate Length. (Lead and Return.) <i>Feet</i>	Insulated with	HOW PROTECTED.
		No. Per Pole.	Total Effective Area per Pole Sq. Inches.	No.	Diameter.	In Circuit.	Rule.			
BALLAST PUMP ... ..	1	1	25	7	2.13	50	63	50		into hot covers
DEEP TANK	1	1	200	37	2.62	217	245	70		rubber and
MAIN DRAIN PUMPS	2	1	2.5	7	0.67	8	15.5	36-36		also win
CIRCULAR FUEL OIL										removed.
ENGINE ROOM BILGE PUMP	1	1	25	7	2.13	45	63	50		
SANITARY PUMP ... ..	2	1	70	19	2.16	100	124	57-53		"
CIRC. SEA WATER PUMPS	1	1	16	7	1.70	37	48.7	37		"
NH <sub>3</sub> COMPRESSOR (PROVISION)	1	1	50	19	1.83	85	98	45		"
CIRC. FRESH WATER PUMPS	2	1	2.5	7	0.67	6	15.5	20-30		"
NH <sub>3</sub> COMPRESSOR (CORRO)	1	1	16	7	1.70	40	48.7	80		"
OIL PURIFIERS	1	1	2.5	7	0.67	15	15.5	45		"
FRESH WATER PUMP	2	1	150	37	2.27	175	205	77-70		"
ENGINE TURNING GEAR...	1	1	2.5	7	0.67	166	195	150		"
FOR FLOWER FOR DONKEY BULK	1	1	70	19	2.16	110	137	178		"
ENGINE REVERSING GEAR	2	1	150	37	2.27	217	280	160		"
LUBRICATING OIL PUMPS	1	1	16	7	1.70	30	48.7	18		"
OIL FUEL TRANSFER PUMP...	1	1	150	37	2.27	197	205	212		"
WINDLASS ... ..	2	1	150	37	2.27	217	280	160		"
WINCHES, FORWARD	2	1	150	37	2.27	217	280	160		"
WINCHES, AFT	2	1	75	19	2.52	166	195	150		"
WINCHES, AFT	2	1	75	19	2.52	166	195	150		"
WARPING WINCH	1	1	70	19	2.16	110	137	178		"
STARTING GEAR	1	1	16	7	1.70	9	48.7	120		"
4.5 HP VENTILATING FANS FOR	1	1	6	7	1.05	14	28.6	42		"
4.5 HP (4) Motor Generator	1	1	2.5	7	0.67	10	15.5	20		"
2.5 HP (4) Motor Generator	1	1	2.5	7	0.67	6	15.5	20		"
2.5 HP (4) Main Motor	1	1	16	7	1.70	4	48.7	46		"
WORKSHOP MOTOR	1	1	75	19	2.52	166	195	110		"
VENTILATING FANS { 1.5 HP	1	1	2.5	7	0.67	10	15.5	20		"
(UNUSUAL WINDING) 0.8 HP	1	1	2.5	7	0.67	6	15.5	20		"
STEER. MACH. - FOR IN GALLEY	3	1	16	7	1.70	4	48.7	46		"
WINCHES 25 HP	2	1	75	19	2.52	166	195	50		"
" 25 HP	2	1	75	19	2.52	166	195	50		"
" 16 HP	2	1	50	19	1.83	108	115	70		"
" 16 HP	2	1	50	19	1.83	108	115	102		"
HYDRO-PUMP	2	1	50	19	1.83	18	98	40		"
COOLING P. PUMPS (NH <sub>3</sub> COND)	2	1	50	19	1.83	18	98	40		"



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~~

*Lyngeby*

Electrical Engineers.

Date 29-8-34.

#### COMPASSES.

Distance between electric ~~generators or motors~~ and standard compass 20'

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

The nearest cables to the compasses are as follows:—

A cable carrying 8 Ampères 12 feet from standard compass 8 feet from steering compass.

A cable carrying 6 Ampères 20 feet from standard compass 16 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 *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 of the case of the standard compass, and 0 degrees on any course in the case of the steering compass.

PR. ODENSE STAALSKIBSVÆRFT

VED A. P. MØLLER

*John Møller Møller*

Builder's Signature.

Date 29-8-34

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 Society's Rules, the approved plans and the requirements contained in the Secretary's letter of date 29/5/1934. The dimensions of the cables are as specified, the materials of good description throughout, and the workmanship of good quality.

On completion the whole installation was tested as per Rules and found satisfactory.

*Noted*

*5/9/34*

*Alf*

Total Capacity of Generators 273 Kilowatts.

The amount of Fee ... £ 14,858.48

When applied for, 3.9.19.34

Travelling Expenses (if any) £ : : 17.9.34

When received, 17.9.34

*Shiliff*  
Surveyor to Lloyd's Register of Shipping.

Committee's Minute FRI. 14 SEP 1934

Assigned

*See 7.6.34*