

REPORT ON ELECTRIC FITTINGS.

(OTHER THAN FOR THE PROPULSION OF THE VESSEL)

Received at London Office 19 JUN 1930

Date of writing Report 11 June 1930 When handed in at Local Office 19

Port of Copenhagen

No. in Survey held at

Copenhagen

Date, First Survey

22nd March

Last Survey

10 June

1930

Reg. Book.

42562

on the

Steel Twin Screw Motor Vessel THERMOPYLÆ

(Number of Visits 25)

Tons

Gross 6654.93

Net 4087.98

Built at

Copenhagen

By whom built

Mbs Burmeister & Wain's

Maskin-og Skibsbyggeri

Yard No. 569

When built

1930

Owners

Danmarks Aktieselskab Den Norske Afrika-og Australias Linie

Port belonging to

Toussberg

Electric Light Installation fitted by

Mbs Burmeister & Wain's Maskin-og Skibsbyggeri

Contract No. 569

When fitted

1930

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 current

Power

direct current except for oil purifiers

If alternating current system, state frequency of periods per second

alternating current system for oil purifiers, 112 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.

0 per cent

, 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

in the machinery space

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 machinery space

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

Not situated near woodwork or other combustible material.

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

, 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 three pole combined overload and reverse current circuit breaker.

For each outgoing circuit: A double pole switch and a double pole fuse.

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

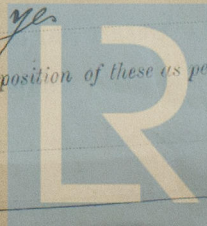
and one Voltmeter for 110 Volts provided with Ohm scale. the board is provided with 2 sets of earth testing lamps.

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 skin* are the cables insulated and protected as per Tables IV or V of the Rules *Table IV*.
Fall of Pressure, state maximum between bus bars and any point of the installation under maximum load *about 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 *The cables are supported by screw clips and where necessary protected by sheet iron screens or iron tubes. Steel wire armour cables used.*
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 *no earthing connections*
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 *no*, are any fittings placed in spaces where inflammable or explosive dust or gases are liable to be present, if so, how are they protected *no*, how are the cables led *yes*
where are the controlling switches situated *yes*
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*
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	133	220	605	400	Auxiliary Diesel Engines	Crude oil	above 150° F		
AUXILIARY	1	100	220	455	400	"	"	"		
EMERGENCY										
ROTARY TRANSFORMER										
GENERATOR, LIGHTING AND HEATING CONDUCTORS.										
DESCRIPTION.	CONDUCTORS.		COMPOSITION OF STRAND.		TOTAL MAXIMUM CURRENT. AMPERES.		Approximate Length. (Lead and Return.) Feet. <i>M</i>	Insulated with	HOW PROTECTED.	
	No. per Pole.	Total Effective Area per Pole Sq. ins. <i>M</i>	No.	Diameter. <i>M</i>	In Circuit.	Rule.				
MAIN GENERATOR	2	310	61	2.54	605	648	35-48	Vulcanized	Lead covered and	
EQUALISER CONNECTIONS	1	310	61	2.54		648	17.5-24	india rubber	steel wire armoured.	
AUXILIARY GENERATOR	1	185	37	2.52		235	25	"	"	
EMERGENCY GENERATOR	2	185	37	2.52	455	470	50	"	"	
ROTARY TRANSFORMER	1	70	19	2.16	78	124	9	"	"	
MOTOR GENERATOR	1	95	19	2.52	136	148	55	"	"	
ENGINE ROOM	1	10	7	1.35	18	38	44	"	"	
BOILER ROOM										
AUXILIARY SWITCHBOARDS										
BAKE OVEN	1	25	7	2.13	57	63	97	"	"	
ACCOMMODATION SALOON	1	16	7	1.70	47	49	70	"	"	
APT	1	10	7	1.35	23	38	144	"	"	
NAVIGATION	1	2.5	7	0.67	4	15	104	"	"	
WIRELESS	1	6	7	1.05	20	29	62	"	"	
SEARCHLIGHT										
MASTHEAD LIGHT	EACH. 1	1.5	1	1.38	0.36	10	200-100	"	Lead covered and	
SIDE LIGHTS	" 1	1.5	1	1.38	0.36	10	30	"	armoured with steel tape	
COMPASS LIGHTS	" 1	1.5	1	1.38	0.2	10	20	"	and braided.	
POOP LIGHTS	" 1	1.5	1	1.38	0.27	10	240	"	"	
CARGO LIGHTS	1	1.5	48	0.2	2.2	10	20	"	flexible braided.	
ARC LAMPS										
HEATERS FOR WATER AND VENTILATOR FOR REFR. MACH. PROVISION.	1	4	7	0.85	14.2	22	70	"	Lead covered and steel wire armoured.	
MOTOR CONDUCTORS.										
DESCRIPTION.	No. of Motors.	CONDUCTORS.		COMPOSITION OF STRAND.		TOTAL MAXIMUM CURRENT. AMPERES.		Approximate Length. (Lead and Return.) Feet. <i>M</i>	Insulated with	HOW PROTECTED.
		No. Per Pole.	Total Effective Area per Pole Sq. ins. <i>M</i>	No.	Diameter. <i>M</i>	In Circuit.	Rule.			
BALLAST PUMP	1	1	70	19	2.16	102	124	51	Vulcanized	Lead covered and
MAIN BILGE LINE PUMPS AND SANITARY	2	1	10	7	1.35	31	38	64	india rubber	steel wire armoured.
GENERAL SERVICE PUMP										
EMERGENCY BILGE PUMP										
SANITARY PUMP										
CIRC. SEA WATER PUMPS	2	1	70	19	2.16	120	124	60	"	"
CIRC. FRESH WATER PUMPS										
AIR COMPRESSOR	1	1	2.5	7	0.67	8	15	30	"	"
FRESH WATER PUMP	2	1	10	7	1.35	28	38	15	"	"
ENGINE TURNING GEAR										
ENGINE REVERSING GEAR	2	1	70	19	2.16	120	124	30	"	"
LUBRICATING OIL PUMPS	1	1	35	19	1.53	68	78	50	"	"
OIL FUEL TRANSFER PUMP	1	1	185	37	2.52	165	235	173	"	"
WINDLASS	1	1	150	37	2.27	255	280	138	"	"
WINCHES, FORWARD	3	1	150	37	2.27	255	280	138	"	"
WINCHES, AFT	3	1	150	37	2.27	255	280	84	"	"
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W1179 - 0223 1/2

The foregoing is a correct description.

Electrical Engineers.

Date _____

COMPASSES.

Distance between electric generators or motors and steering compass " 38 - - - - - 15 - - - - -

The nearest cables to the compasses are as follows:—

A cable carrying 0.2 Amperes 6 lamps in feet from standard compass and in feet from steering compass.

A cable carrying Amperes 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 all course in the case of the standard compass, and 0 degrees on all course in the case of the steering compass.

Builder's Signature.

Date _____

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 whole electric lighting and power installation as above described has been fitted in accordance with the requirements of the Society's Rules, the approved plan and the Secretary's letter E dated 31st March 1930.

The material used in the installation and the workmanship are of good quality in every respect.

On completion the whole electric installation has been tested under full power working condition and found satisfactory.

It is submitted, that
this case is eligible for
THE RECORD. Elec. Light.

24/6/30

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

Total Capacity of Generators.....366.....Kilowatts.

The amount of Fee $\frac{1}{2}$ 739. 83. When applied for, 17. 6. 30 19. 30

Travelling Expenses (if any) £ : : When received,
4.7.30 RBM

A. F. Trench. Mause

Committee's Minute

Assigned

Ellis, Lt.

m, 11, 29. — Transfer.

Mr. Cummings are requested not to write on or below the space for Committee's Minute.)

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