

# REPORT ON ELECTRIC FITTINGS.

(OTHER THAN FOR THE PROPULSION OF THE VESSEL)

Received at London Office

Date of writing Report 14<sup>th</sup> Nov. 1945 When handed in at Local Office 23<sup>rd</sup> Nov. 1945 Port of Copenhagen.

No. in Survey held at Copenhagen Date, First Survey 7-1-1941 Last Survey 7-11-1945  
Reg. Book. ✓ on the SINGLE SCREW MOTOR TANKER "ALFRED CLEGG" (Number of Visits.....)

Tons { Gross 9137  
Net 5688

Built at Copenhagen By whom built M/S. Bismarck & Wain Yard No. 650 When built ✓

Owners MARITIME TRADING CO., LTD. Port belonging to PANAMA CITY.

Electric Light Installation fitted by M/S. Bismarck & Wain. Contract No. \_\_\_\_\_ When fitted 1945.

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 110 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 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

Position of Generators in the engine room floor level., are the lubricating arrangements of the generators as per Rule Yes

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 no woodwork 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 centre of the engine room, floor level.

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 No woodwork and ✓

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 ✓

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

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 3 pole circuit-breaker with 2 pole overload Relay and 1 reverse current relay. 1 pole arranged for equalizer switch. For each generator a Voltmeter one of which with Ohm scale and a Ammeter. For outgoing circuits 1 Ammeter with change over switch for all circuits.

Instruments on main switchboard 3. ammeters 1 voltmeters 1-2 scale 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 One Voltmeter is provided with Ohm scale. Switch board is provided with 2 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

**Cables:** Single, twin, concentric, or multicore *single and twin* are the cables insulated and protected as per Tables IV, V, XI or XIII of the Rules *Yes*

**Fall of Pressure,** state maximum between bus bars and any point of the installation under maximum load *5.2 falls*

**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 *Cables are supported on iron runners with screwed clips, and when necessary protected with iron covers.*

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.*

**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 *Yes*

how are the cables led *Yes*

where are the controlling switches situated *outside blue room.*

**Searchlight Lamps, No. of** *0*, 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	2x16.	110	2x145	550	Back one by a steam engine from the main steam.	✓	✓
AUXILIARY						The balance, Diesel.		
EMERGENCY								
ROTARY TRANSFORMER								

GENERATOR, LIGHTING AND HEATING CONDUCTORS.

DESCRIPTION.	CONDUCTORS.		COMPOSITION OF STRAND.		TOTAL MAXIMUM CURRENT. AMPERES.		Approximate Length. (Lead and Return.) Feet.	Insulated with	HOW PROTECTED.
	No. per Pole.	Total Effective Area per Pole Sq. mm.	No.	Diameter.	In Circuit.	Rate.			
MAIN GENERATOR	1.	95			146	150	15-13	Insulated	Lead covered steel
EQUALISER CONNECTIONS	1.	50					15-13	rubber	Iron armoured.
AUXILIARY GENERATOR									
EMERGENCY GENERATOR									
ROTARY TRANSFORMER									
6. ENGINE ROOM	1.	10			30	38	10	"	"
BOILER ROOM									
AUXILIARY SWITCHBOARDS									
1. DECK	1.	25			32	62	140	"	"
19. FORECASTLE	1.	25			5	62	120	"	"
3. SALOON HOUSE.	1.	16			25	48	140	"	"
4. OFFICERS AFT.	1.	10			26	38	70	"	"
5. CREW.	1.	10			34	38	65	"	"
ACCOMMODATION									
8. SEPARATORS	1.	50			40	98	45	"	"
9. WORKSHOP.	1.	6			25	29	12	"	"
SHORE CONNECTION	1.	70				124	35-70	"	"
WIRELESS	1.	25			16	62	200-190	"	"
SEARCHLIGHT									
MASTHEAD LIGHT	1.	1.5			0.36	0.36	7	120	160.
SIDE LIGHTS	1.	1.5			0.36	0.36	7	35	35
NAVIGATION LIGHT	1.	6			1.8	29	20	"	"
STEERAGE LIGHTS	1.	1.5			0.36	7	220	"	"
NAVIGATION APP.	1.	2.5			9	13	20	"	"
ARC LAMPS									
HEATERS									

MOTOR CONDUCTORS.

DESCRIPTION.	No. of Motors.	CONDUCTORS.		COMPOSITION OF STRAND.		TOTAL MAXIMUM CURRENT. AMPERES.		Approximate Length. (Lead and Return.) Feet.	Insulated with	HOW PROTECTED.
		No. Per Pole.	Total Effective Area per Pole Sq. mm.	No.	Diameter.	In Circuit.	Rate.			
BALLAST PUMP										
MAIN BILGE LINE PUMPS										
GENERAL SERVICE PUMP										
EMERGENCY BILGE PUMP										
SANITARY PUMP										
CIRC. SEA WATER PUMPS										
CIRC. FRESH WATER PUMPS										
AIR COMPRESSOR										
FRESH WATER PUMP										
7. ENGINE TURNING GEAR	1	1	35			65	78	40/10.	Insul.	"
ENGINE REVERSING GEAR										
80. LUBRICATING OIL PUMPS	1.	1.	6			22	29	10	"	"
SEPARATOR	1.	1.	6			22	29	12	"	"
81. OIL FUEL TRANSFER PUMP	1.	1.	6			22	29	8	"	"
82. SPARE SEPARATOR	1.	1.	6			22	29		"	"
WINCHES, FORWARD										
80. HYDROFOR	1.	1.	6.			22	29	20	"	"
WINCHES, AFT										
STEERING GEAR—										
(a) MOTOR GENERATOR										
(b) MAIN MOTOR										
WORKSHOP MOTOR										
VENTILATING FANS										
99. LATHE 2.5HP	1	1	4			20	21	10	"	"
98. DRILLING MACH.	1	1	2.5			10	13	10	"	"
92. GRINDING 0.35	1	1	1.5			4.5	7	10	"	"

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.

Electrical Engineers. Date 22-11-45

**COMPASSES.**

Distance between electric generators or motors and standard compass 6 m.  
 Distance between electric generators or motors and steering compass 7 m.  
 The nearest cables to the compasses are as follows:—  
 A cable carrying 4 Ampères 4 m feet from standard compass 4.5 m feet from steering compass.  
 A cable carrying 18 Ampères 4 m feet from standard compass 4.5 m 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 all course in the case of the standard compass, and 0 degrees on all course in the case of the steering compass.

**BURMEISTER & WAIN'S MASKIN OG SKIBBYGGERI**

Builder's Signature. Date 22-11-45

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 above electric installation have been combined and fitted under special survey in accordance with the Rules and the approved plans.  
The material used and the workmanship are good.  
On completion the whole installation was tested under full power and found to work satisfactory.  
Echo sounding device and direction finder fitted.  
Please find copy of Survey of Radiotelegraphy Installation Form and Interim Certificate for Safety Radiotelegraphy Certificate issued enclosed.

Total Capacity of Generators 32 Kilowatts.

The amount of Fee kr. 506- : 1/6 48-2/11 19 45 When applied for.  
 Travelling Expenses (if any) £ : : 1/2 43 19 When received.

J. Langkilde Jensen. I. Lund.  
 Surveyor to Lloyd's Register of Shipping.

Committee's Minute FRI. 11 JAN 1946

Assigned See F.E. Machy. opt

2m. 31. - 1 transfer. The Surveyors are requested not to write on or beside the space for Committee's Minute.