

REPORT ON ELECTRIC FITTINGS.

(OTHER THAN FOR THE PROPULSION OF THE VESSEL)

Received at London Office

NOV 16 1937

Date of writing Report 20-10-1937 When handed in at Local Office 20-10-1937 Port of Hongkong

No. in Survey held at Hongkong Date, First Survey 6th Sept. Last Survey 16th Oct. 1937
(Number of Visits...)

Reg. Book.

on the M/S. "MOA MOA"

Tons { Gross 553.91
Net 296.31

Built at Hongkong By whom built H.K. & W. Dock Co. Ltd Yard No. 771 When built 1937

Owners Burns Philp (South Sea) Co. Ltd Port belonging to Hongkong

Electric Light Installation fitted by Hongkong & Whampoa Dock Co. Ltd Contract No. When fitted 1937

Is the Vessel fitted for carrying Petroleum in bulk No

System of Distribution Direct current, Two wire system
Pressure of supply for Lighting 220 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

Position of Generators No. 1 Port For. No. 2 Starboard For. No. 3 Starboard aft. No. 4 aft amidships
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 Port side, fore end of engine room, bottom platform

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

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

with mica or micamite 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

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 Two double pole overboard & reverse circuit breakers, Two double pole overboard circuit breakers, double pole switches & fuses, mechanically interlocked equalizer switches

Instruments on main switchboard four ammeters four 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 Earth lamps

provided to each section of bus bar arrangements

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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010537-010544-0198

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

Ball of Pressure, state maximum between bus bars and any point of the installation under maximum load 1.1 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 None

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, valves 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 clipped on cable plates, armoured in machinery spaces & holds. Protected in piping where necessary.

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 None

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 Generator 15", Switchboard 125"
Earth lamps 0.23", Motor & Starter 0.75, 0.36 + 0.05"
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 On Bridge

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 None

are any fittings placed in spaces where inflammable or explosive dust or gases are liable to be present, if so, how are they protected None

how are the cables led Yes

where are the controlling switches situated Yes

Searchlight Lamps, No. of None, whether fixed or portable Yes, are their fittings as per Rule Yes

Are Lamps, other than searchlight lamps, No. of None, 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 F & A - Vertical

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 None

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.	Amps.	Rev. per Min.		Fuel Used.	Flash Point of Fuel.
MAIN	2	40	220	182	435	Oil Engines	Diesel oil	Abn 150° F
AUXILIARY	1	15	230	65	1000	Oil Engine	"	"
EMERGENCY	1	15	220	68	1040	Main Engine by chain & clutch.	"	"
ROTARY TRANSFORMER								

GENERATOR, LIGHTING AND HEATING CONDUCTORS.

DESCRIPTION.	No. of Poles.	CONDUCTORS.		COMPOSITION OF STRANDS.		TOTAL MAXIMUM CURRENT.		Approximate Length (Lead and Return) Feet.	Insulated with	HOW PROTECTED.
		No. per Pole.	Total Effective Area per Pole Sq. Ins.	No.	Diameter.	In Circuit.	Rating.			
MAIN GENERATOR	2	1	1964	37	0.083	182	184	50' 80'	Rubber	Lead Covered & Armoured.
EQUALISER CONNECTIONS			1964	37	0.083	182	184	50'	"	"
AUXILIARY GENERATOR	1	1	06	19	0.064	65	83	100'	"	"
EMERGENCY GENERATOR	1	1	06	19	0.064	68	83	120'	"	"
ROTARY TRANSFORMER										
ENGINE ROOM			00299	3	0.036	4.5	12	32	"	"
BOILER ROOM										
AUXILIARY SWITCHBOARDS										
ACCOMMODATION			00299	3	0.036	3	12	120'	"	"
Bridge Deck			00701	7	0.036	8.5	24	70	"	"
Upper Deck			00701	7	0.036	12.5	24	76	"	"
WIRELESS			00655	7	0.029	10	18.2	80'	"	"
SEARCHLIGHT			00322	1	0.064	1.8	12	190'	"	"
MASTHEAD LIGHT			00322	1	0.064	1.8	12	210'	"	"
SIDE LIGHTS			00322	1	0.064	1.8	12	40'	"	"
COMPASS LIGHTS			00322	1	0.064	1.8	12	40'	"	"
POOP LIGHTS			00322	1	0.064	1.8	12	240'	"	"
CARGO LIGHTS			00322	1	0.064	1.8	12	70, 36, 120, 120	"	"
ARC LAMPS										
HEATERS										

MOTOR CONDUCTORS.

DESCRIPTION.	No. of Motors.	CONDUCTORS.		COMPOSITION OF STRANDS.		TOTAL MAXIMUM CURRENT.		Approximate Length (Lead and Return) Feet.	Insulated with	HOW PROTECTED.
		No. per Pole.	Total Effective Area per Pole Sq. Ins.	No.	Diameter.	In Circuit.	Rating.			
BALLAST PUMP	1	1	01046	7	0.044	26	31	94	Rubber	Lead Covered & Armoured.
MAIN BILGE LINE PUMPS	1	1	01046	7	0.044	26	31	90	"	"
GENERAL SERVICE PUMP	1	1	01046	7	0.044	26	31	90	"	"
EMERGENCY BILGE PUMP	1	1	01046	7	0.044	26	31	90	"	"
SANITARY PUMP	1	1	01046	7	0.044	26	31	90	"	"
CIRC. SEA WATER PUMPS	1	1	00458	7	0.029	13	18.2	60	"	"
CIRC. FRESH WATER PUMPS	1	1	00299	3	0.036	9	12	40	"	"
AIR COMPRESSOR	1	1	01462	7	0.052	29	37	74	"	"
FRESH WATER PUMP	1	1	01462	7	0.052	29	37	74	"	"
ENGINE TURNING GEAR	1	1	02214	7	0.064	41	46	60	"	"
ENGINE REVERSING GEAR	1	1	02214	7	0.064	41	46	60	"	"
LUBRICATING OIL PUMPS	1	1	00299	3	0.036	9	12	110	"	"
OIL FUEL TRANSFER PUMP	1	1	00299	3	0.036	9	12	110	"	"
WINDLASS	1	1	06	19	0.064	64	83	170	"	"
WINCHES, FORWARD	2	1	1964	37	0.083	128	184	130	"	"
WINCHES, AFT	2	1	1964	37	0.083	128	184	130	"	"
STEERING GEAR	1	1	02214	7	0.064	41	46	60	"	"
(a) MOTOR GENERATOR	1	1	00701	7	0.036	20	24	90	"	"
(b) MAIN MOTOR	1	1	00701	7	0.036	20	24	90	"	"
WORKSHOP MOTOR	1	1	00701	7	0.036	20	24	90	"	"
VENTILATING FANS	1	1	01462	7	0.052	34	37	60	"	"
Sub. oil Heater	1	1	00299	3	0.036	1.7	12	64	"	"
Lub. oil Filter	1	1	00299	3	0.036	1.7	12	64	"	"

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.

THE HONGKONG & WHARF DOCK CO., Ltd.

Electrical Engineers.

Date 18th Oct. 1937

COMPASSES.

Distance between electric generators or motors and standard compass 34 ft

Distance between electric generators or motors and steering compass 30 ft

The nearest cables to the compasses are as follows:—

A cable carrying 2 Ampères ^{Compass Light} feet from standard compass ^{Compass Light} feet from steering compass.

A cable carrying 2 Ampères [✓] feet from standard compass 5 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 ^{nil} degrees on ^{any} course in the case of the standard compass, and ^{nil} degrees on ^{any} course in the case of the steering compass.

THE HONGKONG & WHARF DOCK CO., Ltd.

Builder's Signature.

Date 18th Oct. 1937

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, etc.)

This electric installation has been

efficiently fitted on board in accordance with the Rules & approved plans & the material & workmanship is good.

on completion the installation was megger tested & tried under full load working conditions & found satisfactory.

See London report N° 104009 for main generators.

See Bremen report dated 22nd April 1937 for auxil. generator

See Ipswich report dated 4th Feb. 1937 for air compressor motor.

Cert. not forwarded by maker for "Harlandie" 15 K W. Generator N° 2001, driven by main Eng.

"Allen" motor driving pumps, N° as follows:—

1/64336/2, 1/64336/1, 1/64346, 1/65634, 1/64341.

Cert. not forwarded by maker, Lancashire Dynamo & Electric Co. for motor driving

Lub. oil pump size 277. N° 37 x 390

Total Capacity of Generators 110 Kilowatts.

The amount of Fee £ 6.7 s = \$ 108.1

When applied for, 16th Oct. 1937

Travelling Expenses (if any) \$ 8.40

When received, 31.12.37

Total \$ 112.1

Committee's Minute

Assigned

See My J.E. 7928



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