

# REPORT ON ELECTRIC FITTINGS.

(OTHER THAN FOR THE PROPULSION OF THE VESSEL)

1 - MAY 1947

Date of writing Report 31-3- 19 47 When handed in at Local Office 31-3- 19 47 Port of Bombay.No. in Survey held at BOMBAY. Date, First Survey 23-11-1946 Last Survey 10-3- 19 47  
Reg. Book. (Number of Visits 8)77018 on the S.S. " KILWA " Ex Kiungchow Tons { Gross 2653  
Net 1545Built at Greenock By whom built Scotts' S.B. & E. Co. Ltd. No. When built 1921Owners British India S. N. Co. Port belonging to London.Electric Light Installation fitted by Mazagon Dock Ltd. Bombay. Contract No. When fitted Nov. 46  
to March 1947

Is the Vessel fitted for carrying Petroleum in bulk No.

System of Distribution Parallel system constant pressure. Two wire direct current.Pressure of supply for Lighting 110 volts, Heating Nil volts, Power 110 volts.Direct or Alternating Current, Lighting D.C. Power D.C.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 No., is an adjustable regulating resistance fitted inseries 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 Engine roomis 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 andtheir respective generators in metallic contact YesMain Switch Boards, where placed Engine Room

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 Does not applySwitchboards, 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 unprotectedwoodwork or other combustible material, state distance of same horizontally from or vertically above the switchboards Nil andare they constructed wholly of durable, non-ignitable non-absorbent materials Yes, is all insulation of high dielectric strength and ofpermanently high insulation resistance Yes., if semi-insulating material is used, are all conducting parts insulated from the slabwith 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 partsYes, accessibility of all parts Yes, absence of fuses on back of board Yes, proportion of omnibusbars 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

Double Pole Double Throw Knife Switch and D.P. Fuses protecting each Generator.Instruments on main switchboard One ammeters One voltmeters Nil 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 testing lamps.Switches, Circuit Breakers and Fusible Cut-outs, do these comply with the requirements of the Rules. YesJoint Boxes Section and Distribution Boards, is the construction, protection, insulation, material, and position of these as per rule Yes



**Single L.C.**  
**Cables:** Single, twin, concentric, or multicore **Twin L.C.** 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 **4 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 **Nil**

**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 **Run on perforated metal trays, Teak wood battens and galvanised iron pipe.**

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 **Porcelain Insulator properly insulated with best quality insulating tape.**

**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

are their connections made as per Rule

**Alternative Lighting,** are the groups of lights in the propelling machinery space arranged as per Rule **No emergency generator**

**Emergency Supply,** state position and method of control of the emergency supply and how the generator is driven **Nil**

**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 **Nil**

**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 **Robust guarded**

**Oyster fittings**

are any fittings placed in spaces where inflammable or explosive dust or gases are liable to be present, if so, how are they protected **Nil**

how are the cables led

where are the controlling switches situated

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

**Are Lamps,** other than searchlight lamps, No. of **Nil**, are their live parts insulated from the frame or case **Nil**, are their fittings as per Rule **Nil**

**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, if not of this type, state distance of the combustible material horizontally or vertically above the motors **-** and **-**

**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 **Nil**

**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 **Does not apply**

If portable lamps for use in dangerous spaces are supplied, are they of a type approved by the Home Office **Does not apply**

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	One	15.5	110	145	320	Steam			
AUXILIARY	One	7.5	100	75	300	"			
EMERGENCY	Nil								
ROTARY TRANSFORMER	Nil								

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. Ins.	No.	Diameter.	In Circuit.	Rule.			
MAIN GENERATOR	2	0.2	37	.083	145	184	70'	Rubber	Lead covering
EQUALISER CONNECTIONS	Nil								
AUXILIARY GENERATOR	2	0.06	19	.064	75	83	70'	Rubber	Lead covering
EMERGENCY GENERATOR	Nil								
ROTARY TRANSFORMER	MOTOR	Nil							
ENGINE ROOM	2	0.01	7	.044	15	31	90'	Rubber	Twin L.C. & A.
BOILER ROOM	Nil								
AUXILIARY SWITCHBOARDS	Nil								
ACCOMMODATION	Passenger 2		7	.044	18	31	150'		
	Officers 2		7	.044	18	31	150'		
WIRELESS	2	0.01	7	.044	20	31	150'	V.I.R.	G.I.Pipes.
SEARCHLIGHT	Nil								
MASTHEAD LIGHT	2	0.002	3	.029	.4		300'	Rubber &	G.I.Pipes
SIDE LIGHTS	2	0.002	3	.029	.8		40'	Rubber	G.I.Pipes, L.C.
COMPASS LIGHTS	2	0.002	3	.029	.8		40'	"	Lead covering
POOP LIGHTS	2	0.002	3	.029	.8		500'	V.I.R.	G.I.Pipes
CARGO LIGHTS	2	0.002	3	.029	.4		300'	V.I.R.	" "
ARC LAMPS	Nil								
HEATERS	Nil								

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. Ins.	No.	Diameter.	In Circuit.	Rule.			
BALLAST PUMP	Nil									
MAIN BILGE LINE PUMPS	Nil									
GENERAL SERVICE PUMP	Nil									
EMERGENCY BILGE PUMP	Nil									
SANITARY PUMP	Nil									
CIRC. SEA WATER PUMPS	Nil									
CIRC. FRESH WATER PUMPS	Nil									
AIR COMPRESSOR	Nil									
FRESH WATER PUMP	Nil									
ENGINE TURNING GEAR	One	2	0.0225	7	.064	40	46	50'	VTR	G.I.Pipes.
ENGINE REVERSING GEAR	Nil									
LUBRICATING OIL PUMPS	Nil									
OIL FUEL TRANSFER PUMP	Nil									
WINDLASS	Nil									
WINCHES, FORWARD	Nil									
WINCHES, AFT	Nil									
STEERING GEAR—										
(a) MOTOR GENERATOR	Nil									
(b) MAIN MOTOR	Nil									
WORKSHOP MOTOR	Nil									
VENTILATING FANS	One	2	0.007	7	.036	15	24	50'	V.I.R.	G.I.Pipes



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.

*H. J. Jindani* General Manager  
Thagasan Dock Ltd Bombay

Electrical Engineers.

Date 13th MARCH 1947

#### COMPASSES.

Distance between electric generators or motors and standard compass 50' - 0"

Distance between electric generators or motors and steering compass 44' - 0"

The nearest cables to the compasses are as follows:—

A cable carrying 2 Ampères 9 feet from standard compass 7 feet from steering compass.

A cable carrying — Ampères — feet from standard compass — 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 No

The maximum deviation due to electric currents was found to be — degrees on — course in the case of the standard

compass, and — degrees on — course in the case of the steering compass.

*H. J. Jindani* General Manager  
Thagasan Dock Ltd Bombay

Builder's Signature.

Date 13/3/1947.

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. See Secretary's Letter E)

dated 6th January 1947.

This vessel has been re-wired throughout. The workmanship is considered to be satisfactory and the materials used of good quality and in accordance with the Rules.

The arrangement of wiring, circuits, distribution and fuse boxes, etc., have been checked and are in accordance with the attached diagram.

The Generators have been examined under working conditions, and the necessary governing tests satisfactorily carried out. On completion of wiring an insulation resistance test was carried out and found to be satisfactory.

Total Capacity of Generators 23 Kilowatts.

The amount of Fee ... £. 350/-

When applied for, 31-3-47

Travelling Expenses (if any) £

When received.

*T. H. Noel*

Surveyor to Lloyd's Register of Shipping.

PHL 11 JUL 1947

Committee's Minute

Assigned See F.E. mch. rpt.