

# REPORT ON ELECTRIC FITTINGS.

(OTHER THAN FOR THE PROPULSION OF THE VESSEL)

13 JUL 1931

Received at London Office

Date of writing Report 4 July 1931 When handed in at Local Office 19 Port of Amsterdam

No. in Survey held at AMSTERDAM Date, First Survey 25 Dec. 30 Last Survey 19 June 1931  
Reg. Book. (Number of Visits 14)

86610 on the Steel Screw M.V. "TJISADANE" Tons { Gross 9228  
Not 5780

Built at Amsterdam By whom built Nederl. Scheepsb. Maats. Yard No. 206 When built 1931

Owners Java-China-Japan Lijn Port belonging to Amsterdam  
Electric Light Installation fitted by Groeneveld, v.d. Poll & Co's Electro-technische Fabriek Contract No. - When fitted 1931

Is the Vessel fitted for carrying Petroleum in bulk No.

System of Distribution Two wire

Pressure of supply for Lighting 110 volts, Heating 220 volts, Power 220 volts.

Direct or Alternating Current, Lighting Direct current Power Direct current

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 Motorroom, 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 Motorroom

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 ✓ 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 micaite 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 none, proportion of omnibus bars yes, individual fuses to voltmeter, pilot or earth lamp yes, connections of switches yes

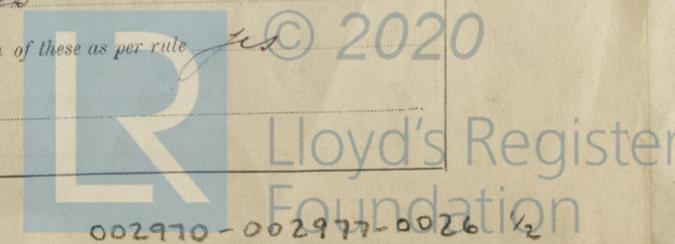
Main Switchgear, description of switchgear for each generator and each outgoing circuit, and arrangement of equalizer switches double pole handle switch for negative pole & equalizer, contactor for positive pole

Instruments on main switchboard 15 ammeters 5 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 Two lamps in series and connected with earth

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 multicore* the cables insulated and protected as per Tables IV or V of the Rules *yes*

**Fall of Pressure,** state maximum between bus bars and any point of the installation under maximum load *5 kV for light, 10 for power*

**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, 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 *steel plates & fixed with galvanised iron clips & brass screws*

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 (ship stores)*

**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 *are their connections made as per Rule*

**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 *petrol motor coupled to D.C. generator situated on board deck*

**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 *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

where are the controlling switches situated

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

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

**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 *none*, 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 *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 *above 150° F*

If portable lamps for use in dangerous spaces are supplied, are they of a type approved by the Home Office

**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	3	180	220	220	275	Diesel engine	Crude oil above 150° F	
AUXILIARY	1	15	110	120	550	Electric Motor	"	
EMERGENCY	1	15	110	120	550	"	"	
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. Ins.	No.	Diameter.	In Circuit.	Rule.			
MAIN GENERATOR	2	400	61	2.09	790	200	180	rubber	Lead covered & armoured
EQUALISER CONNECTIONS	1	400	61	2.09	395	400	180	"	"
AUXILIARY GENERATOR	1	95	19	2.09	130	149.0	100	"	"
EMERGENCY GENERATOR	1	95	19	2.525	130	149.0	320	"	"
ROTARY TRANSFORMER MOTOR	1	310	61	2.54	300	32.3	53	"	"
ROTARY TRANSFORMER GENERATOR	2	105	37	2.52	454	466	50	"	"
ENGINE ROOM	1	25	19	1.36	53	76.4	12	"	"
BOILER ROOM									
AUXILIARY SWITCHBOARDS									
B	1	70	19	2.175	105	120.1	260	"	"
C forward	1	4	7	0.825	17	21.8	350	"	"
C aft	1	6	7	1.49	24	29.25	200	"	"
G									
ACCOMMODATION									
WIRELESS	1	10	7	1.35	24.5	30.02	320	"	"
SEARCHLIGHT	1								
MASTHEAD LIGHT	1	2.5	7	0.675	3.6	15.1	360	"	"
SIDE LIGHTS	1	1.5	7	0.527	7.0	9	98	"	"
COMPASS LIGHTS	1	1.5	7	0.527	2.5	9	65	"	"
POOP LIGHTS	1	1.5	7	0.527	4	9	400	"	"
CARGO LIGHTS	1	10	7	1.35	10.2	30.02	250	"	"
ARO 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. Ins.	No.	Diameter.	In Circuit.	Rule.			
BALLAST PUMP	1	1	50	19	1.865	96	99.3	30	rubber	Lead covered & armoured
MAIN BILGE LINE PUMPS	1	1	25	7	2.14	50.5	60.6	70	"	"
GENERAL SERVICE PUMP										
EMERGENCY BILGE PUMP										
SANITARY PUMP	2	1	16	7	1.51	43	40.14	56	"	"
CIRC. SEA WATER PUMPS										
CIRC. FRESH WATER PUMPS										
AIR COMPRESSOR	2	2	240	61	2.24	510	550	165	"	"
FRESH WATER PUMP	2	1	2.5	7	0.675	14	15.1	75	"	"
ENGINE TURNING GEAR	1	1	25	7	2.74	60	60.6	240	"	"
ENGINE REVERSING GEAR										
LUBRICATING OIL PUMPS	1	1	70	19	2.75	115	120.1	100	"	"
OIL FUEL TRANSFER PUMP	2	1	10	7	1.35	30	30.02	50	"	"
WINDLASS	1	1	240	61	2.25	250	275	460	"	"
WINCHES, FORWARD	2	1	35	19	1.36	70	76.4	100	"	"
Winch	2	1	50	19	1.865	94	99.3	65	"	"
WINCHES, AFT	4	1	35	19	1.36	70	76.4	180	"	"
Winches	4	1	25	19	1.36	70	76.4	180	"	"
STEERING GEAR										
(a) MOTOR GENERATOR										
(b) MAIN MOTOR	2	1	50	19	1.865	94	99.3	400	"	"
WORKSHOP MOTOR	1	1	6	7	1.90	24	29.25	350	"	"
VENTILATING FANS										
2 @ 2 HP	2	1	25	7	1.785	2	15.1	50	"	"
1 @ 3.75 HP	2	1	4	7	1.025	15.4	21.8	80	"	"
2 @ 11 KW	2	1	25	7	2.74	60	60.6	85	"	"
2 @ 7.36 KW	2	1	16	7	1.51	43	40.14	65	"	"

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.

N.V. Groeneveld, Van der Poll & Co's  
Electrotechnische Bedrijf

Electrical Engineers.

Date 9 Juli 1931

COMPASSES.

Distance between electric generators or motors and standard compass 20 feet

Distance between electric generators or motors and steering compass 75 feet

The nearest cables to the compasses are as follows:—

A cable carrying 0.3 Ampères ± 3 feet from standard compass 3 feet from steering compass.

A cable carrying 0.5 Ampères ± 6 feet from standard compass 10 feet from steering compass.

A cable carrying 1 Ampères ± 4 feet from standard compass 16 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 nihil degrees on course in the case of the standard compass, and nihil degrees on course in the case of the steering compass.

N.V. NEDERLANDSCHE SCHEEPSBOUW-MAATSCHAPPIJ

*[Signature]*

Builder's Signature.

Date 8 JUL 1931

Is this installation a duplicate of a previous case yes If so, state name of vessel "Tineyara" no up 12172

General Remarks (State quality of workmanship, opinions as to class, etc.)

The installation has been built in accordance with the rules workmanship good.

Tested under full working condition found satisfactory

It is submitted that this vessel is eligible for THE RECORD.

*[Signature]*  
Elec Light

1577/31

Total Capacity of Generators 570 Kilowatts.

The amount of Fee ... £ 549

When applied for.

19

Travelling Expenses (if any) £

When received.

16.7 1931

*[Signature]*

Surveyor to Lloyd's Register of Shipping.

Committee's Minute FRI. 17 JUL 1931

Assigned

*[Signature]*  
Elec. Light

Im. 9.30.—Transfer.  
(The Surveyors are requested not to write on or below the space for Committee's Minute.)



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