

# REPORT ON ELECTRIC FITTINGS.

(OTHER THAN FOR THE PROPULSION OF THE VESSEL)

Date of writing Report 4.2.1929 When handed in at Local Office 19 Port of Rotterdam

No. in Survey held at Flushing Date, First Survey 15.4.28 Last Survey 20.1.1929  
Reg. Book.

on the Steel Screw M.V. "KOTA BAROE" (Number of Visits 19)

Built at Flushing By whom built Hon Mr. De Schelde Yard No. 183 When built 1929

Owners Rotterdamse Lloyd Port belonging to Rotterdam

Electric Light Installation fitted by W. Pictschoten & Bouwens Contract No. 1 When fitted 1929

System of Distribution Two wire system ✓

Pressure of supply for Lighting 220 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 In engine room on Port and S.B. under the switchboard ✓

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 In engine room aft, above dynamo! ✓

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 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 ✓ Board accessible ✓, 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 double pole quick linked knife switch for equalize and minus pole, and automatic single

pole overload and reverse current breaker for positive pole, and for each outgoing circuit, a

double pole quick linked knife switch and a double pole fuse. ✓

Instruments on main switchboard 4 ammeters 3 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 earth lamps

for each dynamo ✓

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 are 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 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 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 In cabins lead covered. In all other places lead covered and armoured. These cables on deck laid in iron tubes in hollow run secured by iron clips.  
If cables are run in wood casings, are the casings and caps secured by screws Yes, are the cap screens 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 and hard wood

Earthing Connections, state what earthing connections are fitted and their respective sectional areas 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 Yes

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

Are Lamps, other than searchlight lamps, No. of One, 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 No

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, tight 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	3	120	220	546	250	Diesel Engine	Diesel oil	above 150° F
AUXILIARY	1	66	220	300	250	"	"	"
EMERGENCY								
ROTARY TRANSFORMER								

## LIGHTING AND HEATING CONDUCTORS.

Ref. No.	DESCRIPTION.	No. of Conductors.	Effective Area of each Conductor.	COMPOSITION OF STRAND.		Total Maximum Current.	Approximate Length. (Lead and Return).	Insulated with	HOW PROTECTED.
				No.	Diameter.				
	MAIN GENERATOR...	5 each	150	137	2.27	530	26	Rubber	Lead covered & armoured
	EQUALISER CONNECTIONS	2	95	119	2.53	300	28	Rubber	"
	AUXILIARY GENERATOR								
	EMERGENCY GENERATOR								
	ROTARY TRANSFORMER...								
	AUXILIARY SWITCHBOARDS								
	ENGINE ROOM	1	16	7	1.71	12	30	"	"
	BOILER ROOM								
	ACCOMMODATION								
	Armourships	1	25	7	2.13	60	90	"	"
	Fireships	1	16	7	1.71	20	130	"	"
	Navigation	1	10	7	1.35	2	80	"	"
	Offships	1	16	7	1.71	25	100	"	"
	WIRELESS	1	6	7	1.05	20	80	"	"
	SEARCHLIGHT	1	16	7	1.71	50	50	"	"
	MASTHEAD LIGHT...	1	1 1/2	1	1.39	45	100	"	"
	SIDE LIGHTS	1	1 1/2	1	1.39	45	25	"	"
	COMPASS LIGHTS	1	1 1/2	1	1.39	45	10	"	"
	POOP LIGHTS	1	1 1/2	1	1.39	45	15	"	"
	CARGO LIGHTS	1	2 1/2	1	1.79	2 1/3	40	"	"
	ARC LAMPS	1	2 1/2	1	1.79	10	10	"	"
	HEATERS	1	10	7	1.35	18	100	"	"

## MOTOR CONDUCTORS.

Ref. No.	DESCRIPTION.	No. of Motors.	Effective Area of each Conductor.	COMPOSITION OF STRAND.		Total Maximum Current.	Approximate Length. (Lead and Return).	Insulated with	HOW PROTECTED.
				No.	Diameter.				
	BALLAST PUMP	1	25	7	2.13	40	60	Rubber	Lead covered & armoured
	MAIN BILGE LINE PUMPS	1	2 1/2	1	1.79	12	50	"	"
	GENERAL SERVICE PUMP								
	EMERGENCY BILGE PUMP								
	SANITARY PUMP								
	CIRC. SEA WATER PUMPS	2 each	95	119	2.53	138	60	"	"
	CIRC. FRESH WATER PUMPS	2	50	119	1.83	90	55	"	"
	AIR COMPRESSOR	2	5x120	37	2.03	470	80	"	"
	FRESH WATER PUMP	2	4	7	0.86	16	48	"	"
	ENGINE TURNING GEAR	1	16	7	1.71	59	20	"	"
	ENGINE REVERSING GEAR								
	LUBRICATING OIL PUMPS	1	16	7	1.71	42	50	"	"
	OIL FUEL TRANSFER PUMP	2	10	7	1.35	24	40	"	"
	WINDLASS	1	2x95	19	2.53	227	40	"	"
	WINCHES, FORWARD	5 each	40	19	2.17	130	20	"	"
	WINCHES, AFT	6	70	19	2.17	130	20	"	"
	STEERING GEAR	1	25	7	2.13	48	120	"	"
	(a) MOTOR GENERATOR...								
	(b) MAIN MOTOR								
	WORKSHOP MOTOR	1	4	7	0.86	11	65	"	"
	VENTILATING FANS	10 each	1 1/2	1	1.39	5	50	"	"
	Winches armourships	2	50	19	1.83	101	46	"	"
	Cranes	2	95	19	2.53	156	36	"	"
	Warping winch	1	50	19	1.83	101	48	"	"
	Space cooling water pump	1	4	7	0.86	16	50	"	"
	Lubricating	1	4	7	0.86	16	45	"	"
	Oil separator	2 each	4	7	0.86	12	18	"	"
	Steam pumps	1	16	7	1.71	55	30	"	"
	Refrigerator	1	16	7	1.71	40	30	"	"

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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.

See below. Electrical Engineers.

Date 4.2.29.

#### COMPASSES.

Distance between electric generators or motors and standard compass 29 ctb

Distance between electric generators or motors and steering compass 29 ctb

The nearest cables to the compasses are as follows:—

A cable carrying 60 Ampères 50 feet from standard compass 45 feet from steering compass.

A cable carrying 10 Ampères 30 feet from standard compass 36 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 every course in the case of the standard compass, and 0 degrees on every course in the case of the steering compass.

KON. MY. DE SCHELDE

J.P. Muelley

Builder's Signature.

Flushing

Date 6th February 1929.

Is this installation a duplicate of a previous case. Yes If so, state name of vessel. "KOTA RADJA"

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

This installation has

been made in accordance with the Society's Rules, material and workmanship good, and the whole having been found in good working condition when tried. I am of opinion that same merits the approval of the Committee

It is submitted that  
this vessel is eligible for  
THE RECORD

Elec Light

12/2/29

Total Capacity of Generators 426 Kilowatts.

The amount of Fee ...

506.00

When applied for,

4/2 1929

Travelling Expenses (if any) £

When received,

13/2/29

Surveyor to Lloyd's Register of Shipping.

Committee's Minute

Assigned

V. Van Rijnbeek & Houwens  
Electrical Engineers  
Mastichem

Elec Light



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