

# REPORT ON ELECTRICAL EQUIPMENT.

(OTHER THAN FOR THE PROPULSION OF THE VESSEL)

AUG 9 1937

Received at London Office

Date of writing Report 19<sup>th</sup> July 1937. When handed in at Local Office 19-7-1937 Port of YOKOHAMANo. in Survey held at YOKOHAMA Date, First Survey 22/4/37 Last Survey 12/June 1937  
Reg. Book. (Number of Visits 9)on the Steel Screw M.V. "No 3"Tons { Gross  
NetBuilt at Yokohama By whom built Mitsubishi Jukogyo K.K. Yard No. 269 When built 1934Owners Union of Soviet Socialist Republic Port belonging to VladivostokElectric Light Installation fitted by Mitsubishi Jukogyo K.K. Yokohama Dock Contract No. 269 When fitted 1934Is the Vessel fitted for carrying Petroleum in bulk Yes

## System of Distribution

Two wire insulated system

Pressure of supply for Lighting

110

volts, Heating

✓

volts, Power

110

volts.

Direct or Alternating Current, Lighting

DirectPower DirectIf 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 YesGenerators, do they comply with the requirements regarding temperature rise yesare they compound wound yesare 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 ✓

is an adjustable regulating resistance fitted in

series with each shunt field ✓

Have certificates of test results for machines under 100 kw. been submitted and

approved TestedHave machines over 100 kw. been inspected by the Surveyors during manufacture and testing ✓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 yesAre the lubricating arrangements of the generators as per Rule yes

## Position of Generators

Starboard side, bottom platform of Engine room

is the ventilation

in way of the generators satisfactory yesare 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 yesare their axes of rotation fore and aft yesEarthing, are the bedplates and frames of the generating plant efficiently earthed yes

are the prime movers and their respective generators

in metallic contact yesMain Switch Boards, where placed Starboard side, 2nd platform of E.R.

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 yesis it of an approved type 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 ✓

is the non-hygroscopic insulating material of an approved

type ✓, and is the frame effectively earthed ✓

Are the fittings as per Rule regarding:— spacing or shielding of live parts

yesaccessibility of all parts yesabsence of fuses on back of board yes

temperature rise of

omnibus bars yesindividual fuses to voltmeter, pilot or earth lamp yes

are moving parts of switches alive in the

"off" position noare all screws and nuts securing connections effectively locked yes

are any fuses fitted on the live side of

switches yes

Main Switchgear, description of switchgear for each generator and each outgoing circuit, and arrangement of equalizer switches

1-109A S.P. air circuit breaker, 1-200<sup>th</sup> D.P.S.T. switch, for outgoing circuits 12 D.P.S.T. switches, & fuses.Are turbine driven generators fitted with emergency trip switch as per rule ✓

Are cupboards or compartments containing switchboards composed of

fire-resisting material or lined with approved material yesInstruments on main switchboard One ammeters Onevoltmeters ✓ synchronising device for paralleling purposes. For compound machines is the ammeter connected on the opposite pole to equaliser connection

Earth Testing, state what means are provided at the main switchboard for indicating the state of the insulation of the system

Voltmeter

Switches, Circuit Breakers and Fusible Cut-outs,

do these comply with the requirements of the Rules yesare the fusible cutouts of an approved type yes

have the reversed





current protection devices been tested under working conditions 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 are the cables insulated and protected as per Tables IV, V, X or XI of the Rules yes

If the cables are insulated otherwise than as per Rule, are they of an approved type yes Fall of Pressure, state maximum between bus bars and any point of the installation under maximum load 1.85 Volts

area of 0.04 square inch and above provided with soldering sockets yes Cable Sockets, are the ends of all cables having a sectional area of 0.04 square inch and above provided with soldering sockets yes

Paper Insulated and Varnished Cambric Insulated Cables, If conductors are paper or varnished cambric insulated, is the dielectric at the exposed ends of the conductor protected from moisture by being suitably sealed with insulating compound yes, or waterproof insulating tape 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 Are cables in machinery spaces, galleys, lavatories, bathrooms and lavatories lead covered or run in conduit Armoured conductors

Support and Protection of Cables, state how the cables are supported and protected metal grids & clips & steel tubing

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, are the cables and fittings in accordance with the special requirements yes

Joints in Cables, state if any, and how made, insulated, and protected Cables jointed with insulated terminals in metal boxes

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 guards

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

through gas tight tubing

where are the controlling switches situated outside spaces

are all fittings suitably ventilated yes, are all switches and lampholders constructed wholly of non-ignitable, non-absorbent materials yes

Heating and Cooking Appliances, are they constructed and fitted as per Rule yes, are air heaters constructed and fitted as per Rule yes

Searchlight Lamps, No. of One, whether fixed or portable fixed, 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

have machines of over 100 BHP been inspected by the Surveyors during manufacture and testing yes Control Gear and Resistances, are the generator field and motor speed regulators, starters and controllers constructed and fitted as per Rule yes

are required, are these 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 are all fuses of the filled cartridge type yes are they of an approved type yes

If portable lamps for use in dangerous spaces are supplied, are they of a self-contained, battery-fed type approved by the Home Office yes

Spare Gear, if the vessel is for open sea service have spares been supplied as per Rule yes

PARTICULARS OF GENERATING PLANT.									
DESCRIPTION OF GENERATOR.	No. of	RATED AT				DRIVEN BY	WHERE DRIVEN BY AN INTERNAL COMBUSTION ENGINE.		
		Kilowatts.	Volts.	Amperes.	Revs. per Min.		Fuel Used.	Flash Point of Fuel.	
MAIN ...	1	12	110	109	500	Steam Engine			
AUXILIARY ...									
EMERGENCY ...									
ROTARY TRANSFORMER									

  

GENERATOR, LIGHTING AND HEATING CONDUCTORS.									
DESCRIPTION.	CONDUCTORS.		COMPOSITION OF STRAND.		TOTAL MAXIMUM CURRENT.		Approximate Length. (Lead and Return.) Feet.	Insulated with	HOW PROTECTED.
	No. per Pole.	Total Nominal Area per Pole Sq. Ins.	No.	Diameter.	Circuit.	Rule.			
MAIN GENERATOR ...	1	64.5	19	2.10	109	118	15	Rubber	L.C. & Armoured
EQUALISER CONNECTIONS									
AUXILIARY GENERATOR ...									
EMERGENCY GENERATOR									
ROTARY TRANSFORMER MOTOR									
ENGINE ROOM ...	1	4.50	7	.90	7.5	24	25	"	"
POOP ROOM ...	1	4.50	7	.90	7.6	24	25	"	"
AUXILIARY SWITCHBOARDS									
NO. 1 FUSE BOX	1	14.50	7	1.63	45.5	46	30	"	"
NO. 2 " "	1	14.50	7	1.63	31.9	46	40	"	"
NO. 3 " "	1	14.50	7	1.63	26.2	46	50	"	"
ACCOMMODATION									
A. Dist. Box Bridge	1	4.50	7	.90	12.5	24	35	"	"
B. " " Poop	1	4.50	7	.90	17.5	24	25	"	"
C. " " Upper deck	1	4.50	7	.90	18.0	24	20	"	"
WIRELESS	1	14.50	7	1.63	45	46	40	"	"
SEARCHLIGHT	1	1.95	1	1.63	9.1	12.9	28	"	L.C.
MASTHEAD LIGHT	1	1.95	1	1.63	136	12.9	90	"	L.C. & "
SIDE LIGHTS	1	1.95	1	1.63	136	12.9	16	"	L.C.
COMPASS LIGHTS									
POOP LIGHTS	1	1.95	1	1.63	118	12.9	20	"	L.C. & "
CARGO LIGHTS									
ARC LAMPS									
HEATERS									

  

MOTOR CONDUCTORS.									
DESCRIPTION.	No. of Motors.	CONDUCTORS.		COMPOSITION OF STRAND.		TOTAL MAXIMUM CURRENT.		Approximate Length. (Lead and Return.) Feet.	Insulated with
		No. Per Pole.	Total Nominal Area per Pole Sq. Ins.	No.	Diameter.	In Circuit.	Rule.		
BALLAST PUMP									
MAIN BILGE LINE PUMPS									
GENERAL SERVICE PUMP									
EMERGENCY BILGE PUMP									
SANITARY PUMP									
REFRIG. ENG. MOTOR	1	1	4.50	7	.90	22.5	24	30	Rubber
F.O. & L.O. PURIFIER MOTOR	1	1	4.50	7	.90	16.5	24	15	"
CIRC. FRESH WATER PUMPS									
AIR COMPRESSOR									
FRESH WATER PUMP									
ENGINE TURNING GEAR									
ENGINE REVERSING GEAR									
LUBRICATING OIL PUMPS	1	1	4.50	7	.90	14.5	24	15	"
OIL FUEL TRANSFER PUMP	1	1	4.50	7	.90	14.5	24	15	"
WINDLASS									
WINCHES, FORWARD									
WINCHES, AFT									
STEERING GEAR—									
(a) MOTOR GENERATOR									
(b) MAIN MOTOR									
WORKSHOP MOTOR									
VENTILATING FANS									
LATHE MOTOR	1	1	4.50	7	.90	22.2	24	15	"
GRINDER	1	1	4.50	7	.90	9.7	24	15	"
OIL BURNING UNIT	1	1	4.50	7	.90	9.7	24	18	"
FORCED DRAUGHT FAN	1	1	4.50	7	.90	16.5	24	22	"



All Conductors are of annealed copper conforming to British Standard Specification No. 7 (or International Electro-technical Commission Publication No. 28).

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 July 15, 1937.

#### COMPASSES.

Distance between electric generators or motors and standard compass 15 M

Distance between electric generators or motors and steering compass 13 M

The nearest cables to the compasses are as follows:—

A cable carrying 9.1 Ampères 8.5 feet from standard compass 6 feet from steering compass.

A cable carrying 10.9 Ampères 1 feet from standard compass 1 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. No effect.

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.

Builder's Signature.

Date July 15th, 1937

Is this installation a duplicate of a previous case. Yes

If so, state name of vessel.

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

The Electrical Equipment of this vessel has been installed under Special Survey in accordance with the Rules and Approved Plans. Materials & Workmanship good. On completion of installing all tried under full working conditions & megger tested.

The Electrical Equipment of this vessel is eligible in my opinion to be classed with the machinery <sup>of</sup> HMC.6-37

Noted  
Ym & Jaf.  
17.8.37

Total Capacity of Generators 12 Kilowatts.

The amount of Fee ... £ 12 : 0 : 0

When applied for,

16-7-1937

Travelling Expenses (if any) £

When received.

20.11.37

Committee's Minute

TUE. 17 AUG 1937

Assigned

See Yka 76.6115



© 2021

Lloyd's Register  
Foundation