

REPORT ON ELECTRICAL EQUIPMENT.

(OTHER THAN FOR THE PROPULSION OF THE VESSEL)

Received at London Office 18 JAN 1937

Date of writing Report 28th Dec 1936 When handed in at Local Office 28-12-1936 Port of **YOKOHAMA**

No. in Survey held at **TOKIO** Date, First Survey 6th February Last Survey 15th December 1936
Reg. Book. (Number of visits... 11)

on the non propelled 120 TON DIESEL ELECTRIC FLOATING CRANE Tons { Gross 792
Net

Built at **Yokohama** (Crane part) **Ishikawajima S.B. & Eng. Co. Ltd** 439
(Pontoon part) By whom built **Asano S.B. Co. Ltd** Yard No. 333 When built 1936

Owners **Union of Soviet Socialist Republic** Port belonging to **Vladivostok**

Electric Light Installation fitted by **Ishikawajima S.B. & Eng. Co. Ltd** Contract No. 439 When fitted 1936

Is the Vessel fitted for carrying Petroleum in bulk **no**

System of Distribution **Two wire insulated system**

Pressure of supply for Lighting 125 volts, Heating 125 volts, Power 125 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 temperature rise **yes**, are they compound wound **yes**
are they over compounded 5 per cent. **yes**, if not compound wound state distance between each generator **yes**

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 **yes**

Have machines over 100 kw. been inspected by the Surveyors during manufacture and testing **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 **Centre of Engine room & auxiliary generator, Starboard side of Engine room**, 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 **Aft Starboard side of 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 ✓

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**

is 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 **yes**, accessibility of all parts **yes**, absence of fuses on back of board **yes**, temperature rise of omnibus bars **yes**, individual fuses to voltmeter, pilot or earth lamp **yes**, are moving parts of switches alive in the "off" position **no** are 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

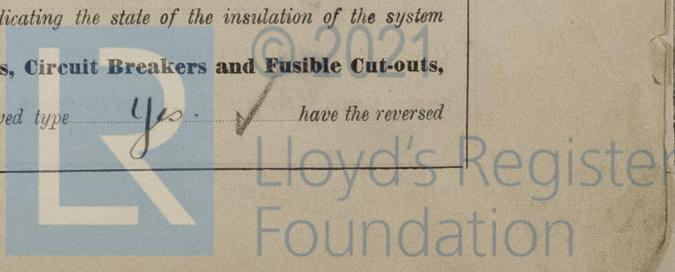
For main Generator. 1 Air circuit breaker with fuses & for outgoing circuits 9 double pole, double throw & 1 D.P. single throw switch
For aux Generator. 1 Air circuit breaker with fuses & 1 double pole, single throw switch

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 **yes** Instruments on main switchboard **One** ammeters **One** voltmeters ✓

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 **none**

Switches, Circuit Breakers and Fusible Cut-outs, do these comply with the requirements of the Rules **yes** are 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 4.2 Volts **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, laundries, bathrooms and lavatories lead covered or run in conduit Lead covered

Support and Protection of Cables, state how the cables are supported and protected Perforated plates & clips

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 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 None 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 Yes how are the cables led Yes

where are the controlling switches situated Yes 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 Yes, whether fixed or portable Yes, 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

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 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 Harbour service only

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 ...	1	130	125	1040	400	Diesel Engine	Heavy oil	95°C
AUXILIARY ...	1	3	125	24	1000	Oil engine	"	95°C
EMERGENCY ...								
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 Nominal Area per Pole Sq. mm.	No.	Diameter.	Circuit.	Rate.			
MAIN GENERATOR ...	2	322	61	2.60	1040	1080	66	Paper	Lead Covered.
EQUALISER CONNECTIONS ...									
AUXILIARY GENERATOR ...	1	6.45	7	1.12	24	31	40	Rubber	" "
EMERGENCY GENERATOR ...									
ROTARY TRANSFORMER MOTOR GENERATOR ...									
ENGINE ROOM ...		0.97	1	1.12	1.9	6.1	300	Rubber	" "
BOILER ROOM ...		0.97	1	1.12	1.9	6.1	200	"	" "
AUXILIARY SWITCHBOARDS ...									
Distribution Box "A"	1	1.95	3	0.91	4.3	12	200	"	" "
" " "B"	1	1.95	3	0.91	8	12	240	"	" "
Crew Bond	2	2500	37	0.93	710	754 (1hr)	430	Paper	" "
ACCOMMODATION Stairs ...		0.97	1	1.12	1.4	6.1	100	Rubber	" "
Port ...		0.97	1	1.12	1.4	6.1	100	"	" "
Aft ...		0.97	1	1.12	2.9	6.1	80	"	" "
WIRELESS ...									
SEARCHLIGHT ...									
MASTHEAD LIGHT ...									
SIDE LIGHTS ...									
COMPASS LIGHTS ...									
POOP LIGHTS ...									
CARGO LIGHTS ...									
ARC 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 Nominal Area per Pole Sq. mm.	No.	Diameter.	In Circuit.	Rate.			
BALLAST PUMP ...	1	1	6.45	7	1.12	21	31	56	Rubber	Lead Covered
MAIN BILGE LINE PUMPS ...										
GENERAL SERVICE PUMP ...										
EMERGENCY BILGE PUMP ...										
SANITARY PUMP ...										
CIRC. SEA WATER PUMPS ...										
CIRC. FRESH WATER PUMPS ...										
AIR COMPRESSOR ...	1	1	6.45	7	1.12	21	31	86	"	" "
FRESH WATER PUMP ...										
ENGINE TURNING GEAR ...										
ENGINE REVERSING GEAR ...										
LUBRICATING OIL PUMPS ...										
OIL FUEL TRANSFER PUMP ...	1	1	1.95	3	0.91	10.5	12	60	"	" "
WINDLASS ...	1	1	194.00	37	2.62	210	240	300	"	" "
WINCHES, FORWARD ...	1	1	97.00	37	1.83	140	152	300	"	" "
WINCHES, AFT ...										
STEERING GEAR—										
(a) MOTOR GENERATOR ...										
(b) MAIN MOTOR ...										
WORKSHOP MOTOR ...										
VENTILATING FANS ...	2	1	.97	1	1.12	1.8	4.1	46	"	" "
MAIN HOIST MOTOR	1	1	4.000	61	0.93	536	543 (1hr)	210	Paper	" "
JIGGER " "	2	1	1.500	37	0.72	149	261 (1hr)	400	Rubber	" "



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.

D. Kuroda Electrical Engineers.

Date *Dec. 28th 1936*

COMPASSES.

Distance between electric generators or motors and standard compass

Distance between electric generators or motors and steering compass

The nearest cables to the compasses are as follows:—

A cable carrying Amperes feet from standard compass feet from steering compass.

A cable carrying Amperes feet from standard compass feet from steering compass.

A cable carrying Amperes feet from standard compass feet from steering compass.

Have the compasses been adjusted with and without the electric installation at work at full power

Has the effect of switching on and off circuits, motors and other electro-magnetic apparatus within the vicinity of the compasses been noted

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.

J. Panatta Builder's Signature.

Date *Dec. 28th 1936*

Is this installation a duplicate of a previous case If so, state name of vessel

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

The Electric Installation of this vessel has been fitted onboard under special survey in accordance with the Rules & Approved Plans. On completion of fitting, all installation meggers tested and tried under full working conditions. Electric Installation for crane parts were also examined during trials of crane & all found in order.
This installation is eligible in my opinion to be classed in the Register Book.

Noted
Yours
28.1.37

Total Capacity of Generators *133* Kilowatts.

The amount of Fee ... £ *35-16-0* When applied for, *18-12-1936*

Travelling Expenses (if any) £ *Chayton* : When received, *3-5-1937*
engine report
(1m 2-29)

Committee's Minute *FRI 29 JAN 1937*

Assigned *Su arhar F.E. report*

J. Micholas
Surveyor to Lloyd's Register of Shipping

2m.5.34.—Transfer.
The Signatories are requested not to write on or below the space for Committee's Minute



© 2021

Lloyd's Register Foundation