

REPORT ON ELECTRICAL EQUIPMENT.

(OTHER THAN FOR THE PROPULSION OF THE VESSEL) SEP 27 1938

Received at London Office

Date of writing Report 9/9/1938 When handed in at Local Office 19 Port of Oslo
 No. in Survey held at Fredrikstad Date, First Survey 14th July Last Survey 6th September 1938
 Reg. Book. 88765 on the steel single screw steamer "K.G. MELDAHL" (Number of Visits.....)
 Built at Fredrikstad By whom built As Fredrikstad Mek. Verksted Yard No. 289 Tons { Gross 3799
 Owners K. K. Raasmussens Rederi AS Port belonging to Sandefjord Net 2194
 Electric Light Installation fitted by As Fredrikstad Mek. Verksted Contract No. ✓ When fitted 1938
 Is the Vessel fitted for carrying Petroleum in bulk No

System of Distribution direct current, constant pressure. Two wire system
 Pressure of supply for Lighting 110 volts, Heating — volts, Power (vent. fans) 110 volts.
 Direct or Alternating Current, Lighting direct Power ✓
 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 ✓
 Where more than one generator is fitted are they arranged to run in parallel no, change-over system 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 Forwarded now Have machines over 100 kw. been inspected by the Surveyors during manufacture and testing ✓
 Have certificates for generators under 100 kw. been supplied and approved Submitted now
 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 S.B. side 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, S.B. side, on forward end
 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 "SINDANYO", 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 Yes, 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 No
 Main Switchgear, description of switchgear for each generator and each outgoing circuit, and arrangement of equalizer switches a double pole linked switch and fuses for each generator and outgoing circuit
 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 two ammeters two voltmeters ✓ synchronising device for paralleling purposes. For compound machines is the ammeter connected on the opposite pole to equaliser connection Yes
 Earth Testing, state what means are provided at the main switchboard for indicating the state of the insulation of the system Ohm meter for (+)(-) and direct indicating for each outg. circuit 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

© 2020

Lloyd's Register
Foundation

W 46-0130(12)

current protection devices been tested under working conditions. *Yes* are all fuses labelled as per rule *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 *twin* are the cables insulated and protected as per Tables IV, V, X, XI, XII or XIII of the Rules *Yes*

If the cables are insulated otherwise than as per Rule, are they of an approved type *✓* **Fall of Pressure,** state maximum between bus bars and any point of the installation under maximum load *ab. 4 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 *✓* **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 laid under machines or floorplates *No* if so, are they adequately protected *✓*

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 *in pipe fittings fore aft, supported by clips*

If cables are run in wood casings, are the casings and caps secured by screws *✓*, are the cap screws of brass *✓*, are the cables run in separate grooves *✓* 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 *W.T. metal boxes, with porcelain jointing insulators*

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 *earthing connections in all painting boxes, 10.3 mm²* 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 *✓*

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, in chartroom*

has each navigation lamp an automatic indicator as per Rule *Yes* **Secondary Batteries,** are they constructed and fitted as per Rule *✓* are they ventilated as per Rule *✓*

Fittings, are all fittings on weather decks, in stowholds 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, cables are run in iron pipes*

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

where are the controlling switches situated *✓* are all fittings suitably ventilated *✓* are all switches and lampholders constructed wholly of non-ignitable, non-absorbent materials *✓*

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

Searchlight Lamps, No. of *✓* whether fixed or portable *✓* 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 *✓* if not of this type, state distance of the combustible material horizontally or vertically above the motors *✓* and *✓* have machines of over 100 BHP been inspected by the Surveyors during manufacture and testing *✓* have certificates for all motors for essential services been supplied and approved *✓*

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 *✓* **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 *✓* are all fuses of the fitted cartridge type *✓* are they of an approved type *✓*

If portable lamps for use in dangerous spaces are supplied, are they of a self-contained, battery-fed flameproof type approved for use in dangerous spaces *✓*

Spare Gear, if the vessel is for open sea service have spares been supplied as per Rule *Yes* are they suitably stored in dry situations *Yes*

PARTICULARS OF GENERATING PLANT.									
DESCRIPTION OF GENERATOR.	No. of	RATED AT				DRIVEN BY	WHERE DRIVEN BY AN INTERNAL COMBUSTION ENGINE.		
		Kilowatts.	Volts.	Amps.	Revs. per Min.		Fuel Used.	Flash Point of Fuel.	
MAIN	1	10	110	91	475	Steam engine			
AUXILIARY	1	4.5	115	32	1200	Lighter oil engine	Solar oil		
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. Ins.	No.	Diameter MM.	Circuit.	Rule.			
MAIN GENERATOR	1	50	14	2.14	91	160	45	paper	iron armoured
EQUALISER CONNECTIONS									
AUXILIARY GENERATOR	1	16	7	1.89	32	60	50	rubber	
EMERGENCY GENERATOR									
ROTARY MOTOR	1	10	4	1.97	21	43	135		
TRANSFORMER GENERATOR	1	25	7	2.12	5.7	100	135		
ENGINE ROOM. 1. Circuit	1	1.5	1	1.38	5.5	14	150		
BOILER ROOM	1	1.5	1	1.38	4.5	14	120		
AUXILIARY SWITCHBOARDS									
Plug switch fore mast	1	4	7	.85	6	25	330		
Head -	1	2.5	1	1.78	6	20	210		
Aft	1	2.5	1	1.78	6	20	150		
Cargo light foremast	1	4	7	.85	6	25	375		
main -	1	4	7	.85	6	25	250		
Aft	1	2.5	7	1.78	6	20	180	rubber	iron arm.
ACCOMMODATION									
Boat deck	1	6	7	1.04	15	31	120		
Shelter deck	1	16	7	1.82	22	75	100		
Heavy light control	1	2.5	1	1.78	30	20	140		
Ref. motor (for. store)	1	2.5	1	1.78	2.12	20	70		
Crew aft	1	10	7	1.97	12	43	240		
WIRELESS	1	25	7	2.5	26	100	140		
SEARCHLIGHT									
MASTHEAD LIGHT	1	2.5	1	1.78	.3	20	360		
SIDE LIGHTS	1	1.5	1	1.38	.3	14	75		
COMPASS LIGHTS	1	1.5	1	1.38	.3	14	36		
POOP LIGHTS	1	2.5	1	1.78	.2	14	390		
CARGO LIGHTS									
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. Ins.	No.	Diameter.	In Circuit.	Rule.			
BALLAST PUMP										
MAIN BILGE LINE PUMPS										
GENERAL SERVICE PUMP										
EMERGENCY BILGE PUMP										
SANITARY PUMP										
CIRC. SEA WATER PUMPS										
CIRC. FRESH WATER PUMPS										
AIR COMPRESSOR										
FRESH WATER PUMP										
ENGINE TURNING GEAR										
ENGINE REVERSING GEAR										
LUBRICATING OIL PUMPS										
OIL FUEL TRANSFER PUMP										
WINDLASS										
WINCHES, FORWARD										
WINCHES, AFT										
STEERING GEAR—										
(a) MOTOR GENERATOR										
(b) MAIN MOTOR										
WORKSHOP MOTOR										
VENTILATING FANS										
Ref. motor (fan)	1	1	1.5	1	1.38	2.12	14	100	rubber	iron, lead.
Fan - Ref. room	1	1	1.5	1	1.38	1.35	14	90	"	"
Rotary transformer II	1	1	10	7	1.27	2.27	43	140	"	"



The foregoing is a correct description.

Date 3-9-38

The nearest cables to the compasses are as follows:—Lamps are installed in the binnacles

The maximum deviation due to electric currents was found to be nil degrees on ✓ course in the case of the standard compass, and ✓ degrees on ✓ course in the case of the steering compass.

Date 22/9/38.

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

It is recommended that this installation be classed as the
Society Register Book.

Noted
by
28/9/38

P. G. G. G.
Surveyor to Lloyd's Register of Shipping.

Assigned

See 7. C. Rpt.