

17 MAR 1960

Rpt. 13.

No. 311

REPORT ON ELECTRICAL EQUIPMENT.

(OTHER THAN FOR THE PROPULSION OF THE VESSEL)

Date of writing Report 10.3. 1960 When handed in at Local Office 12.3. 1960 Port of EMDEN
 No. in Survey held at Papenburg Date, First Survey 23.10.59 Last Survey 6.2. 1960
 Reg. Book. (No. of Visits 5)
 on the "WATUDAMBO" Tons { Gross 2165,31
 Net 1125,13
 Built at Papenburg By whom built Jos. L. Meyer Yard No. 499 When built 2.60
 Owners Republic of Indonesia Port belonging to Djakarta
 Installation fitted by Wiechmann & Co., Bremen When fitted 2.60
 Is vessel equipped for carrying Petroleum in bulk no Is vessel equipped with D.F. yes E.S.D. yes Gy.C. yes Sub.Sig. no Radar yes

Plans, have they been submitted and approved yes System of Distribution 2 wire insulated Voltage of Lighting 220
 Heating 220 Power 220 D.C. ~~FIXED~~ Lighting yes Power yes If A.C. state frequency --
 Prime Movers, has the governing been found as per Rule when full load is thrown on and off yes Are turbine emergency governors fitted
 with a trip switch -- Generators, are they compound wound yes, and level compounded under working conditions yes,
 Are the generators arranged to run in parallel yes Is the compound winding connected to the negative or positive pole negative
 Have machines 100 kw. and over been inspected by the Surveyors during manufacture and testing yes Have certificates of test for machines
 under 100 kw. been supplied and the results found as per Rule yes Position of Generators E.R. floor, stb.
forward and aft, port aft.

is the ventilation in way of generators satisfactory yes are they clear of inflammable material and protected from mechanical injury and
 damage from water, steam and oil yes Switchboards, where are main switchboards placed E.R. floor, fwd. of
Engine Room

are they in accessible positions, free from inflammable gases and acid fumes and protected from mechanical injury and damage from water,
 steam and oil yes, what insulation is used for the panels steel, deadfront type, if of synthetic insulating
 material is it an Approved Type --, if of semi-insulating material (slate or marble) are all conducting parts insulated therefrom as
 per Rule -- Is the construction as per Rule, including locking of screws and nuts yes Description of Main Switchgear
 for each generator and arrangement of equaliser switches Triple pole linked circuit-breakers fitted with QC and
R/C releases third pole used for equalizer.

and the switch and fuse gear (or circuit breakers) for each outgoing circuit Triple pole linked switches with fuses
in each pole

Are compartments containing switchboards composed of fire-resisting material ~~as per Rule~~ yes Instruments on main switchboard 5
 ammeters 3 voltmeters -- synchronising devices. For compound machines in parallel are the ammeters and reverse current
 protection devices connected on the pole opposite to the equaliser connection yes Earth Testing, state means provided Ohmmeter
 Preference Tripping, state if provided yes, and tested yes

Switches, Circuit Breakers and Fuses, are they as per Rule yes, are the fuses an Approved Type yes
 make of fuses Lindner Bamberg, are all fuses labelled yes If circuit breakers are provided for the generators, at what
 overload do they operate 585 amps, and at what current do the reverse current protective-
 devices operate 60 amps Cables, are they insulated and protected as per Rule yes
 if otherwise than as per Rule are they of an Approved Type yes, state maximum fall of pressure between bus bars and any point
 under maximum load less than 5 volts. Are all paper insulated and varnished cambric insulated cables sealed at the ends --

Are all the cable runs in accessible positions not exposed to drip or accumulation of water or oil, high temperatures or risk of mechanical
 damage yes, are any cables laid under machines or floorplates no, if so, are they adequately protected -- State
 type of cables (if in conduit this should also be stated) in machinery spaces MK and Butyl insulated galleys MK and Butyl insulated
 and laundries MK and Butyl insulated State how the cables are supported or protected suitable clipped on cable
trays or structure

Are all lead sheaths, armouring and conduits effectually bonded and earthed yes Are all cables passing through decks and watertight
 bulkheads provided with deck tubes or watertight glands yes, where unarmoured cables pass through beams, etc., are the holes
 effectively bushed yes Refrigerated chambers, are the cables and fittings as per Rule --
 Have refrigeration fan motors been constructed under survey -- and test certificates supplied --
 Are the motors accessible for maintenance at all times --

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Alternative Lighting, are the groups of lights in the engine and boiler rooms arranged as per Rule yes Emergency Supply, state position 20 KW Em. Generator feeding em.-switchboard at Bridge Deck, also Emergency battery provided

Navigation Lamps, are they separately wired yes controlled by separate double pole switches and fuses yes Are the switches and fuses in a position accessible only to the officers on watch yes, is an automatic indicator fitted yes Is an alternative supply provided yes

Secondary Batteries, are they constructed, fitted and adequately ventilated as per Rule yes, state battery capacity in ampere hours 1x48, 2x69 Where required to do so does it comply with 1948 International Convention yes

Lighting, is fluorescent lighting fitted no If so, state nominal lamp voltage -- and compartments where lamps are fitted --

Fittings, are all fittings on weather decks, in stokeholds and engine rooms and wherever exposed to drip or condensed moisture, weatherproof yes

Searchlights, No. of 1, whether fixed or portable fixed, are they of the incandescent filament type yes

Heating and Cooking, is the general construction as per Rule yes, are the frames effectually earthed yes, are heaters in the accommodation of the convection type no Motors, are all motors constructed and installed as per Rule and placed in well-ventilated compartments in which inflammable gases cannot accumulate and protected from damage from water, steam and oil yes

Are motors coupled to oil fuel transfer and pressure pumps capable of being stopped from a position accessible in the event of fire in the pump compartment yes Have motors of 100 BHP and over been inspected by the Surveyors during manufacture and testing --

Have certificates of test for motors under 100 BHP intended for essential sea services been supplied and the results found as per Rule yes

Lightning Conductors, where required are they fitted as per Rule --

Ships carrying Oil having a Flash Point of less than 150° F. Have all the special requirements of the Rules for such ships been complied with yes, are all fuses of an Approved Cartridge Type yes make of fuse --- Are the fittings for pump rooms, tween deck spaces, etc., in accordance with the special requirements for such ships yes Are all cables lead covered as per Rule yes

E.S.D., if fitted state maker Kelvin-Hughes location of transmitter and receiver cofferdam 50/51 and bridge

Spare Gear, if the vessel is for open sea service have spares been provided as per Rule and suitably stored in dry situations yes

Insulation Tests, has the insulation resistance of all circuits and apparatus been tested and found satisfactory yes

PARTICULARS OF GENERATING PLANT.

DESCRIPTION OF GENERATOR.	No. of	MAKER.	RATED AT				TYPE --	PRIME MOVER.	
			Kw per Generator.	Volts.	Ampères.	Revs. per Min.		MAKER.	MAKER.
MAIN	3	Garbe & Lahmeyer	120	230	522	750	4 SCSA	M.A.N.	✓
EMERGENCY ROTARY TRANSFORMER	1	Garbe & Lahmeyer	20 KW	230	87	1500	4 SCSA	M.A.N.	✓

GENERATOR CABLES.

DESCRIPTION.	No. of	Kw.	CONDUCTORS.		MAXIMUM CURRENT IN AMPERES.		APPROX. LENGTH (lead plus return feet) in metr.	INSULATION.	PROTECTIVE COVERING.
			No. in Parallel per Pole.	Sectional Area or No. and Dia. of Strands. Sq. ins. or sq. mm.	In the Circuit.	Rule.			
MAIN GENERATOR	3	120	2	120 mm ²	522	540	30/40	Butyl	lead
EQUALISER	1		1	120 mm ²					
EMERGENCY GENERATOR	1	20	1	25 mm ²	87	99	12	Butyl	lead

MAIN DISTRIBUTION CABLES (to Auxiliary Switchboards, etc.).

DESCRIPTION.	No. of	Kw.	No. in Parallel per Pole.	Sectional Area or No. and Dia. of Strands. Sq. ins. or sq. mm.	MAXIMUM CURRENT IN AMPERES. In the Circuit.	Rule.	APPROX. LENGTH (lead plus return feet) in metr.	INSULATION.	PROTECTIVE COVERING.
Connection Emergency Generator Main Switchboard.	1		2	120 mm ²	87	99	40	Butyl	lead
Connection Shore to both Main and Emergency Switchboard	1		1	50 mm ²	120	154	50	Butyl	lead

DISTRIBUTION CABLES (to Section-Boards and Distribution-Fuse-Boards, etc.).

DESCRIPTION.	CONDUCTORS.		MAXIMUM CURRENT IN AMPERES.		APPROX. LENGTH (lead plus return feet) in metr.	INSULATION.	PROTECTIVE COVERING.
	No. in Parallel per Pole.	Sectional Area or No. and Dia. of Strands. Sq. ins. or sq. mm.	In the Circuit.	Rule.			
Navigation Lights	1	4	12	15	40	Rubber	lead
Cables to distribution boards for power 220 Volts							
Deckmachine Switchboard 1.	1	95	intermittent	235	80	Butyl	lead
Deckmachine Switchboard 2.	1	50	load	154	60	Butyl	lead
Deckmachine Switchboard 3.	1	95	load	253	90	Butyl	lead
Cables to distribution board for Lighting							
Lighting panel bridge deck	1	10	15	57	45	Butyl	lead
Lighting panel 2 and loop to 1 (fwd.)	1	10	10/6	57	100	Butyl	lead
Lighting panel Main deck middle and loop to b.deck panel	1	10	13+16	57	45	Butyl	lead
Lighting panel Main Deck aft and loop to aftermost panel	1	10	8+14	57	85	Butyl	lead

MOTOR CABLES.

ALL IMPORTANT MOTORS TO BE ENUMERATED.	No.	Kw.	No. in Parallel per Pole.	Sectional Area or No. and Dia. of Strands. Sq. ins. or sq. mm.	MAXIMUM CURRENT IN AMPERES. In the Circuit.	Rule.	APPROX. LENGTH (lead plus return feet) in metr.	INSULATION.	PROTECTIVE COVERING.
Main Cool. water circulating double pump sets	2	12	1	25	65	99	30/40	Butyl	lead
Auxy. Cool. water circulating double pump set	1	4.1	4.1	10	23	57	40	Butyl	lead
Stand-by lub.-oil double pump set	1	9.5	1	10	48	57	40	Butyl	lead
Auxiliary compressors	2	20	1	35	105	122	35	Butyl	lead
Bilge pump	1	13.2	1	25	70	99	20	Butyl	lead
Ballast pump	1	13.2	1	25	70	99	20	Butyl	lead
Steering gear	1	5.2	1	10	29	57	110	Butyl	lead
Windlass	1	30	1	50	152	154	95	Butyl	lead

NOTE.—Use Rpt. 43 Continuation Sheet if the above space is insufficient.



The Electrical Equipment is installed in accordance with the approved plans and the requirements of the Rules.
 All Insulated Conductors are guaranteed to have been tested at the maker's works as specified in the Rules.
 The foregoing is a correct description.

Jos. L. Meyer

Electrical Contractors.

Date 11.3.1960

Burn

COMPASSES.

Have the compasses been adjusted under working conditions.

Jos. L. Meyer

Builder's Signature.

Date 11.3.1960

Burn

Have the foregoing descriptions and schedules been verified and found correct. yes

Is this installation a duplicate of a previous case. no If so, state name of vessel. --

Plans. Are approved plans forwarded herewith. yes If not, state date of approval. --

Certificates. Are certificates of test for motors engaged on essential sea services and generators forwarded herewith. yes

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

The Electrical Equipment of this vessel has been installed under Special Survey in accordance with the approved plans and the Secretary's letters and the materials and workmanship are good. On completion the equipment has been tried under working conditions and found satisfactory. This Equipment in my opinion is suitable for a Classed vessel with notation + LMC.

JMB.

5m.6.66 - Transfer. (MADE AND PRINTED IN ENGLAND) (The Surveyors are requested not to write on or below the space for Committee Minute.)

± BND
17.3.60

Total Capacity of Generators 380 Kilowatts.

The amount of Fee £ 99. 0. 0. When applied for, 19.

Travelling Expenses (if any) £ 10. 0. 0. When received, 19.

A/c rendered from London 20/3

J Maskov

Surveyor to Lloyd's Register of Shipping.

Committee's Minute FRIDAY - 6 MAY 1960

Assigned See Rpt. 1



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