

30 DEC 1959

Rpt. 13.

No. 212

REPORT ON ELECTRICAL EQUIPMENT.

(OTHER THAN FOR THE PROPULSION OF THE VESSEL)

Received at London Office

Date of writing Report 30 Nov. 1959 When handed in at Local Office 19 Port of Åbo
 No. in Survey held at Åbo Date, First Survey 20 May 59 Last Survey 24 Nov 59
 Reg. Book. (No. of Visits 10)
 on the M.V. "HALMAHERA" Tons Gross 2998.9 Net 1439.9
 Built at Åbo, Finland By whom built Valmet Oy Pansio Shipyard No. 242 When built 11.59
 Owners Ministry of Shipping Indonesia Port belonging to Djakarta
 Installation fitted by Valmet Oy Pansio Shipyard When fitted 11.59
 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 No

Plans, have they been submitted and approved Yes System of Distribution two wire Voltage of Lighting 230

Heating - Power 220 D.C. or A.C., Lighting D.C. Power D.C. 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 1-120 KW. (P.S. outbd.)

1-120 KW. (P.S. Inbd.), 1-120 KW (S.S.) & 1-24 KW Emerg. generator, boat desk (P.S.)

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 (P.S.F.) E.R. floor or raised platform.

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 "Dead front" 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 circuit breaker fitted with overload and reverse current trips, time lag and preference trips.

and the switch and fuse gear (or circuit breakers) for each outgoing circuit double pole circuit breakers or double pole switch and fuses

Are compartments containing switchboards composed of fire-resisting material or lined 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 earth lamps

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 Flink and Strömberg, are all fuses labelled Yes If circuit breakers are provided for the generators, at what

overload do they operate final setting 25% O.L., and at what current do the reverse current protective-

devices operate 15% F.L. Cables, are they insulated and protected as per Rule Yes

if otherwise than as per Rule are they of an Approved Type - state maximum fall of pressure between bus bars and any point

under maximum load less than 6% Are all paper insulated and varnished cambric insulated cables sealed at the ends Yes

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 Yes, if so, are they adequately protected Yes State

type of cables (if in conduit this should also be stated) in machinery spaces L.C.S.W.B., galleys L.C.S.W.B.

and laundries - State how the cables are supported or protected Clipped to steel trays and

protected with steel plates where necessary, in accommodation clipped to steel trays

or ship's structure.

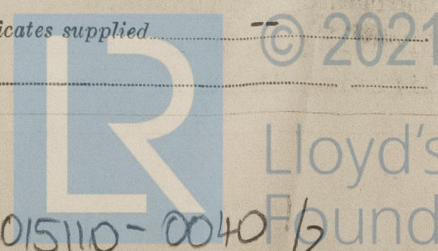
Are all lead sheaths, armouring and conduits effectually bonded and earthed Yes Are all cables passing through decks and watertight

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 boat deck (P.S.)

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 18 - 24 V, 13 A.H. 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 Bridge whether fixed or portable fixed, are they of the carbon arc or of the filament type filament

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 -- 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 Yes

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

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 -- are all fuses of an Approved Cartridge Type -- make of fuse -- Are the fittings for pump rooms, 'tween deck spaces, etc., in accordance with the special requirements for such ships -- Are all cables lead covered as per Rule --

E.S.D., if fitted state maker Marconi location of transmitter and receiver frame space 64-65 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 --

PARTICULARS OF GENERATING PLANT.

DESCRIPTION OF GENERATOR.	No. of	MAKER.	RATED AT				PRIME MOVER.		
			Kw. per Generator.	Volts.	Ampères.	Revs. per Min.	TYPE.	MAKER.	
MAIN	3	Messrs. Hansa	120	230	520	750	Diesel	M.A.N. Augsburg	
EMERGENCY ROTARY TRANSFORMER	1	"	26	230	113	1500	"	"	"

GENERATOR CABLES.

DESCRIPTION.	No. of	Kw.	CONDUCTORS.		MAXIMUM CURRENT IN AMPERES.	APPROX. LENGTH (lead plus return feet).	INSULATION.	PROTECTIVE COVERING.
			No. in Parallel per Pole.	Sectional Area or No. and Dia. of Strands, sq. mm.				
MAIN GENERATOR	3	120	4	150	520	588	32 m	V.R.I. L.C.S.W.B.
" EQUALISER	-	-	2	150	261	294	32 m	
EMERGENCY GENERATOR	1	26	1	120	114	127	4 m	V.R.I. L.C.S.W.B.
ROTARY TRANSFORMER: MOTOR								
" GENERATOR								

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

DESCRIPTION.								
From Main Switchboard								
Officers' galley I	2	70	160	180	26 m	V.R.I.	L.C.S.W.B.	
Officers' galley II	2	70	160	180	26 "	"	"	
Crew's galley	1	10	25	28	80 "	"	"	
Pantry	1	10	25	28	44 "	"	"	
Spare								
Substitute Magnetisation	1	1.5	-	5	-	"	"	
Work Shop	1	4	15	15	40 "	"	"	
Cargo winches, foreship	2	95	200	320	80 "	"	"	
Cargo winches, aftship	1	120	150	190	40 "	"	"	
Purifiers, water, F.O. & L.O. heaters	2	95	200	218	10 "	"	"	
Emergency switchboard	2	120	200	254	18 "	"	"	
Lighting in ER I	1	6	20	21	10 "	"	"	
Lighting in ER II	1	4	10	15	12 "	"	"	

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

DESCRIPTION.	CONDUCTORS.		MAXIMUM CURRENT IN AMPERES.		APPROX. LENGTH (lead plus return feet).	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.			
From Main Switchboard contd.							
Light in Main Deck	1	6	20	21	25		
Lighting in aftership	1	6	20	21	70		
Lighting in foreship	1	4	15	15	70		
Lighting in shelter deck	1	6	20	21	60		
Lighting in boat deck	1	4	10	15	30		
Lighting in deck	1	6	20	21	35		
Floodlight	1	2.5	10	9	40		
From emergency Switchboard							
Wireless	1	6	20	21	15		
Nautical instruments	1	6	20	21	35		
Lighting in E.R.	1	1.5	4	5	50		
Lighting in shelter deck	1	1.5	4	5	80		
Lighting in main deck	1	1.5	4	5	90		
Lighting in boat deck	1	2.5	6	9	100		
Lighting in aft ship	1	2.5	4	9 5	120		
Lighting in deck	1	1.5	4	5	30		
Navigation lights	1	2.5	6	9	30		
Lighting in hospital	1	1.5	4	5	20		
Batteries	1	6	20	21	6		

MOTOR CABLES.

ALL IMPORTANT MOTORS TO BE ENUMERATED.		No.	B.H.P.	MOTOR CABLES.				
From Main Switchboard								
Refrigerating machinery	2	9	1	70	75	90		
Steering gear	1	7	1	29	50	55	90	
Emergency feeder, steering gear	1		1	29	50	55	90	
F.O. transfer pump	1	2	1	2.5	9	9	40	
Standby F.O. feed pump	1	.5	1	1.5	2.3	5	6	
Standby L.O. pump	1	7.5	1.	16	30	34	30	
Capstan	1	12.5	1	35	48	55	90	
Fans for accom.	13	T.111	1	25	44	44	35	
Hydrophor pumps	3	93	1	35	55	55	25	
Fans for ER	2	3.25	1	35	38	55	15	
Ballast pump	1	21	1	95	82	109	40	
Turning gear	1	3.8	1	4	15	15	25	
Bilge pump	1	21	1	95	82	109	35	
Windlass	1	35.15	1	95	132	160	138	
C.W. pumps: S.W.F.W. & standby harbour F.W.S.W. pumps	2	1-17	2	95	200	218	20	
From emergency Switchboard.								
S.W. pump sprinkler	1	28	1	95	93	109	50	
S.O.S. pump	1	21	1	95	82	109	60	
F.W. pump - sprinkler	1	1.5	1	2.5	5	9	50	

NOTE.—Use Rpt. 13 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.

VALMET Oy
Antti Nieminen

Electrical Contractors.

Date 22.12.59

COMPASSES.

Have the compasses been adjusted under working conditions. Yes

VALMET Oy
Antti Nieminen

Builder's Signature.

Date 22.12.59

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. See list attached

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

The electrical equipment has been constructed under Special Survey in accordance with the Rules and approved plans. On completion equipment examined under full working conditions and found satisfactory.

Total Capacity of Generators 386 Kilowatts.

The amount of Fee ... £131.450 : When applied for,

19.

When received,

19.

Travelling Expenses (if any) £ 6.000 :

Gothenburg " 10.500

D. P. Elliott

Surveyor to Lloyd's Register of Shipping.

Antti Nieminen

Committee's Minute FRIDAY 19 FEB 1960

Assigned See Rpt. 1