

REPORT ON ELECTRICAL EQUIPMENT.

(OTHER THAN FOR THE PROPULSION OF THE VESSEL)

Date of writing Report... 13.7.1947... When handed in at Local Office... 17 July 1947... Port of... Sunderland
No. in Survey held at... Sunderland... Date, First Survey... 14-8-47... Last Survey... 26-6-1947
Reg. Book... on the M.V. "ARMILLA"

Built at... Newcastle-on-Tyne... By whom built... Hawthorn Leslie & Co Ltd...
Owners... NED. INDISCHE TANKSTOOMBOOT-MAATS... Port belonging to... Willemstad - Nederland
Electrical Installation fitted by... Sunderland Forge & Engineering Co Ltd... Contract No... When fitted... 1947

Is vessel fitted for carrying Petroleum in bulk... Is vessel equipped with D.F... E.S.D... Gy.C... Sub.Sig...

Have plans been submitted and approved... System of Distribution... Voltage of supply for Lighting...
Heating... Power... Direct or Alternating Current, Lighting... Power... If Alternating Current state periodicity... Prime Movers,

has the governing been tested and found as per Rule when full load is suddenly thrown on and off... Are turbine emergency governors fitted with a trip switch as per Rule...
Generators, are they compound wound... are they level compounded under working conditions...
if not compound wound state distance between generators... and from switchboard... Where more than one generator is fitted are they arranged to run in parallel... are shunt field regulators provided... Is the compound winding connected to the negative or positive pole

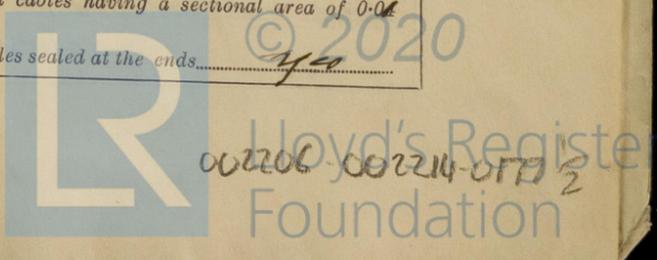
Have machines over 100 kw. been inspected by the Surveyors during manufacture and testing... Have certificates of test for machines under 100 kw. been supplied... and the results found as per rule... Are the lubricating arrangements and the construction of the generators as per rule...
Position of Generators... engine room at back of stateroom main engine... is the ventilation in way of generators satisfactory... are they clear of inflammable material... if situated near unprotected combustible material state distance from same horizontally... and vertically... are the generators protected from mechanical injury and damage from water, steam and oil... are the bedplates and frames earthed... and the prime movers and generators in metallic contact... Switchboards, where are main switchboards placed... on angle framework adjacent to quarters

are they in accessible positions, free from inflammable gases and acid fumes... are they protected from mechanical injury and damage from water, steam and oil... if situated near unprotected combustible material state distance from same horizontally... and vertically... what insulation material is used for the panels... 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 frame effectually earthed... Is the construction as per Rule... including accessibility of parts... absence of fuses on the back of the board... individual fuses to pilot and earth lamps, voltmeters, etc... locking of screws and nuts... labelling of apparatus and fuses... fuses on the "dead" side of switches... Description of Main Switchgear for each generator and arrangement of equaliser switches... a double-pole quick-break Ruffe switch and double-pole fuse

and for each outgoing circuit... as per generator

Are compartments containing switchboards composed of fire-resisting material or lined as per Rule... Instruments on main switchboard... ammeters... voltmeters... synchronising devices. For compound machines in parallel is the ammeter connected on the pole opposite to the equaliser connection... Earth Testing, state means provided... E lamps connected to E through two fuses

Switches, Circuit Breakers and Fuses, are they as per Rule... are the fuses an approved type... are all fuses labelled as per Rule... If circuit breakers are provided for the generators, at what overload current did they open when tested... are the reversed current protection devices connected on the pole opposite to the equaliser connection... have they been tested under working conditions, and at what current did they operate... Joint Boxes, Section Boards and Distribution Boards, is the construction and position as per Rule... Cables, are they insulated and protected as per the appropriate Tables of the Rules... 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... are the ends of all cables having a sectional area of 0.04 square inch and above provided with soldering sockets... Are paper insulated and varnished cambric insulated cables sealed at the ends...



with insulating compound or waterproof insulating tape 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 cables laid under machines or floorplates no, if so, are they adequately protected no. Are cables in machinery spaces, galleys, laundries, etc., lead covered yes or run in conduit no. State how the cables are supported and protected Main feeders V.C.C.B. clipped into steel channel for run along decks. Machinery spaces and accommodation L.C.B. clipped to the surface and protected as required.

Are all lead sheaths, armoring and conduits effectually bonded and earthed yes. Refrigerated chambers, are the cables and fittings as per Rule 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 effectually bushed yes and with what material lead. Alternative Lighting, are the groups of lights in the engine and boiler rooms arranged as per Rule yes. Emergency Supply, state position no and method of control no.

Navigation Lamps, are they separately wired yes controlled by separate double pole switches yes 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. Secondary Batteries, are they constructed and fitted as per Rule no, are they adequately ventilated no.

what is the battery capacity in ampere hours no.

Fittings, are all fittings on weather decks, in stokeholds and engine rooms and wherever exposed to drip or condensed moisture, weatherproof yes. Are fittings installed where readily combustible materials or inflammable or explosive dust or gases are likely to be present yes, if so, how are they protected yes.

Weatherproof lighting fittings as approved material in certificate and where are the controlling switches fitted in officers accommodation, are all fittings suitably ventilated yes.

are all fittings and accessories constructed and installed as per Rule yes. Searchlight Lamps, No. of no, whether fixed or portable no.

are their fittings as per Rule no. Heating and Cooking, is the general construction as per Rule no.

are the frames effectually earthed no, are heaters in the accommodation of the convection type no. Motors, are all motors constructed and installed as per Rule yes and placed in well-ventilated compartments in which inflammable gases cannot accumulate and free from damage from water, steam and oil yes, if situated near unprotected combustible material state minimum distance from same horizontally no and vertically no. Are motors coupled to oil fuel transfer and unit pressure pumps capable of being stopped from a position accessible in the event of fire in the pump compartment no.

Have motors of 100 BHP and over been inspected by the Surveyors during manufacture and testing no. Have certificates of test for motors under 100 BHP intended for essential services been supplied and the results found as per Rule no. Control Gear and Resistances, are they constructed and fitted as per Rule yes. Lightning Conductors, where required are they fitted as per Rule yes. Ships carrying Oil having a Flash Point less than 150° F. Have all the special requirements of the Rules for such ships been complied with yes, are all fuses of the cartridge type yes.

are they of an approved type yes. Are the fittings for pump rooms, tween deck spaces, etc., in accordance with the special requirements for such ships yes. Are the cables lead covered as per Rule yes. Spare Gear, if the vessel is for open sea service have spares been provided as per Rule yes, are they 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	RATED AT			DRIVEN BY	WHERE DRIVEN BY AN INTERNAL COMBUSTION ENGINE.	
		Kilowatts.	Volts.	Ampères.		Revs. per Min.	Fuel Used.
MAIN	1	12	110	109	350	Steam Engine	
	1	12	110	109	350	Diesel	
EMERGENCY							
ROTARY TRANSFORMER							

GENERATOR CABLES.

DESCRIPTION.	KILOWATTS.	CONDUCTORS.		MAXIMUM CURRENT IN AMPERES.		APPROX. LENGTH (lead plus return feet).	INSULATED WITH.	HOW PROTECTED.
		No. in Parallel Per Pole.	Sectional Area or No. and Dia. of Strands. Sq. ins. or sq. mm.	In the Circuit.	Rule.			
MAIN GENERATOR	1	1	19.083	109	191	42	V.C.	L.C.A. in pipe
" " EQUALISER	2	1	19.083	109	191	60	"	" "
EMERGENCY GENERATOR								
ROTARY TRANSFORMER: MOTOR								
" " GENERATOR								

MAIN DISTRIBUTION CABLES.

DESCRIPTION.	CONDUCTORS.		MAXIMUM CURRENT IN AMPERES.		APPROX. LENGTH (lead plus return feet).	INSULATED WITH.	HOW PROTECTED.
	No. in Parallel Per Pole.	Sectional Area or No. and Dia. of Strands. Sq. ins. or sq. mm.	In the Circuit.	Rule.			
AUX. SWITCHBOARDS AND SECTION BOARDS							
Accommodation SB 'A' etc.	1	7.064	44	46	108	VIR	L.C.A.B.
Engine Room SB 'F'	1	19.052	22.5	64	18	"	"
Workshop SB 'D'	1	19.064	40	83	396	"	"
Bridge SB.	1	17.052	14	64	24	"	"

LIGHTING AND HEATING, ETC., CABLES.

DESCRIPTION.	No.	CONDUCTORS.	MAXIMUM CURRENT IN AMPERES.	APPROX. LENGTH (lead plus return feet).	INSULATED WITH.	HOW PROTECTED.
WIRELESS	1	7.064	30	46	188	VIR L.C.A.B.
NAVIGATION LIGHTS	1	7.064	2	46	420	" "
LIGHTING AND HEATING						
Workshop DB.	1	19.052	60	64	150	VIR L.C.A.B.
Workshop DB. B-1	1	7.036	10	24	52	" L.C.
" " 2	1	"	8	"	32	" "
" " 3	1	"	14	"	114	" "
" " 4	1	"	12	"	126	" "
Large aft D.E.I.	1	7.064	5	46	150	" "
" " 2	1	19.052	9	64	402	" "
Forecastle Lighting D.H. 55	1	7.064	12.4	31	252	" "
Bridge " D.3.	1	7.036	10.5	24	42	" "
Accommodation " D.17.2.	1	"	17	24	30.16	" "
Engine Room " F.1.9.F.2.	1	"	14	24	24.24	" "
" " F.3.9.F.4.	1	"	5	24	72.72	" "
" " F.5.7.F.6.	1	"	9	24	210.210	" "

MOTOR CABLES.

ALL IMPORTANT MOTORS TO BE ENUMERATED.	No.	B.H.P.	CONDUCTORS.	MAXIMUM CURRENT IN AMPERES.	APPROX. LENGTH (lead plus return feet).	INSULATED WITH.	HOW PROTECTED.
Oil Purifier	1	2	1	7.036	17.4	24	150 VIR L.C.A.B.
Generator test pump	1	12	1	"	10	"	"
Lathe Motor	1	12	1	"	10	"	"
Synthesizer	1	3	1	7.044	21	31	36 " "
Rolling	1	2	1	7.036	13.5	24	38 " "

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.

Sunderland Long Sea Co Ltd.

Electrical Engineers.

Date 14-4-1947

J. J. Garney

COMPASSES.

Minimum distance between electric generators or motors and standard compass 6'

Minimum distance between electric generators or motors and steering compass 8'

The nearest cables to the compasses are as follows:-

A cable carrying 15 Ampères 9' feet from standard compass or 12' feet from steering compass.

A cable carrying 15 Ampères or 12' feet from standard compass 9' 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

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

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

FOR AND ON BEHALF OF JOSEPH L. THOMPSON & SONS, LIMITED

Builder's Signature.

Date 16-7-47.

JOINT MANAGING DIRECTOR

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

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

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

General Remarks (State quality of workmanship, whether insulation tests, etc., have been made, opinions as to class, etc.)

REWIRE.

The generators, motor, main switchboard and the metal distribution fuseboards originally in the vessel have been retained, and the main cables between generator and switchboard have not been disturbed. All the wiring otherwise has been removed and replaced in the same routes by new cable, both in old and new portions, as shown in the accompanying "as fitted" diagram. The installation conforms to the "Rules for Electrical Equipment" and upon completion tests of the generators and insulation resistances were satisfactorily carried out. This equipment is in my opinion eligible to remain as classed.

Total Capacity of Generators (2x12) 24 Kilowatts.

The amount of Fee ... £ 10' :-

Travelling Expenses (if any) £ :

When applied for, see h. 19. When received, 19.

Surveyor to Lloyd's Register of Shipping.

Committee's Minute 29 AUG 1947

Assigned See Id 34722

5m. 4. 20. - Transfer. (MADE AND PRINTED IN ENGLAND.) (The Surveyors are requested not to write on or below the space for Committee's Minute.)



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