

REPORT ON ELECTRICAL EQUIPMENT

(OTHER THAN FOR THE PROPULSION OF THE VESSEL)

23 DEC 1946

Received at London Office.....

Date of writing Report..... 16.12.1946 When handed in at Local Office..... 19..... Port of RotterdamNo. in Survey held at Schiedam Date, First Survey 3-6-46 Last Survey 9-11-1946
Reg. Book. (Number of Visits.....)on the 5/5 "DUIVENDIJK" Tons { Gross.....
Net.....Built at Hamburg By whom built Deutsche Werft Yard No. When built 1930Owners Holland America Lijn Port belonging to RotterdamElectrical Installation fitted by A. E. G. Contract No. ? When fitted ?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 Yes System of Distribution single pole Voltage of supply for Lighting 220Heating 220 Power 220 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 Yes Are turbine emergency governors fitted with atrip switch as per Rule ✓ Generators, are they compound wound Yes, are they level compounded under working conditions Yes,if not compound wound state distance between generators ✓ and from switchboard ✓ Where more than one generator is fitted are theyarranged to run in parallel Yes, are shunt field regulators provided Yes Is the compound winding connected to the negative or positive polenegative Have machines over 100 kw. been inspected by the Surveyors during manufacture and testing no Have certificates oftest for machines under 100 kw. been supplied no and the results found as per rule no Are the lubricating arrangements and the construction* of the generators as per rule ✓ Position of Generators Engine room starboardis the ventilation in way of generators satisfactory Yes are they clear of inflammable material Yes, if situatednear unprotected combustible material state distance from same horizontally ✓ and vertically ✓, are the generators protected from mechanicalinjury and damage from water, steam and oil Yes, are the bedplates and frames earthed Yes and the prime movers and generators in metalliccontact Yes Switchboards, where are main switchboards placed engine room starboard side on platformare they in accessible positions, free from inflammable gases and acid fumes Yes, are they protected from mechanical injury and damage from water, steamand oil Yes, if situated near unprotected combustible material state distance from same horizontally ✓ and vertically ✓, what insulationmaterial is used for the panels dead front type, if of synthetic insulating material is it an Approved Type ✓, if ofsemi-insulating material (slate or marble) are all conducting parts insulated therefrom as per Rule ✓ Is the frame effectually earthed YesIs the construction as per Rule Yes, including accessibility of parts yes, absence of fuses on the back of the board no, individual fusesto pilot and earth lamps, voltmeters, etc., Yes locking of screws and nuts Yes, labelling of apparatus and fuses Yes, fuses on the "dead"side of switches Yes Description of Main Switchgear for each generator and arrangement of equaliser switches For each generatoran quick linked circuit breaker with overload and reverse current relayEqualiser with single pole knife switchand for each outgoing circuit a single pole knife switch and fuseAre compartments containing switchboards composed of fire-resisting material or lined as per Rule Yes Instruments on main switchboard 6ammeters 4 voltmeters 1 synchronising devices. For compound machines in parallel is the ammeter connected on the pole opposite to theequaliser connection Yes Earth Testing, state means provided ✓Switches, Circuit Breakers and Fuses, are they as per Rule Yes, are the fuses an approved type ✓, are all fuses labelled asper Rule Yes If circuit breakers are provided for the generators, at what overload current did they open when tested ✓, are the reversed currentprotection devices connected on the pole opposite to the equaliser connection Yes, have they been tested under working conditions, and at what currentdid they operate Yes Joint Boxes, Section Boards and Distribution Boards, is the construction and position as per Rule YesCables, 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 OK, are the ends of all cables having a sectional area of 0.04square inch and above provided with soldering sockets Yes Are paper insulated and varnished cambric insulated cables sealed at the ends ✓

with insulating compound ☒ or waterproof insulating tape ☒. 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 ☒. Are cables laid under machines or floorplates ☒. If so, are they adequately protected ☒. Are cables in machinery spaces, galleys, laundries, etc., lead covered ☒ or run in conduit ☒. State how the cables are supported and protected in engine room on iron plates with metal clips
in cargo holds in iron tanks. In cabin and state rooms rubber insulated cables in wooden cases

Are all lead sheaths, armouring and conduits effectually bonded and earthed ☒. Refrigerated chambers, are the cables and fittings as per Rule ☒. Are all cables passing through decks and watertight bulkheads provided with deck tubes or watertight glands ☒. Where unarmoured cables pass through beams, etc., are the holes effectively bushed ☒ and with what material lead & wood. Alternative Lighting, are the groups of lights in the engine and boiler rooms arranged as per Rule ☒. Emergency Supply, state position generator on tween deck and battery on the upper bridge and method of control by hand.

Navigation Lamps, are they separately wired ☒ controlled by separate double pole switches ☒ and fuses ☒. Are the switches and fuses in a position accessible only to the officers on watch ☒. Is an automatic indicator fitted ☒. Secondary Batteries, are they constructed and fitted as per Rule ☒. Are they adequately ventilated ☒. What is the battery capacity in ampere hours 2.

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

and where are the controlling switches fitted ☒. Are all fittings suitably ventilated ☒. Are all fittings and accessories constructed and installed as per Rule ☒. Searchlight Lamps, No. of ☒. Whether fixed or portable ☒.

are their fittings as per Rule ☒. Heating and Cooking, is the general construction as per Rule ☒. Are the frames effectually earthed ☒. 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 free from damage from water, steam and oil ☒. If situated near unprotected combustible material state minimum distance from same horizontally ☒ and vertically ☒. 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 ☒.

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 services been supplied and the results found as per Rule ☒. Control Gear and Resistances, are they constructed and fitted as per Rule ☒. Lightning Conductors, where required are they fitted as per Rule ☒. 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 ☒. Are all fuses of the cartridge type ☒. Are they of an approved type ☒. Are the fittings for pump rooms, tween deck spaces, etc., in accordance with the special requirements for such ships ☒. Are the cables lead covered as per Rule ☒. Spare Gear, if the vessel is for open sea service have spares been provided as per Rule ☒. Are they suitably stored in dry situations ☒. 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	RATED AT			DRIVEN BY	WHERE DRIVEN BY AN INTERNAL COMBUSTION ENGINE.	
		Kilowatts.	Volts.	Ampères.		Fuel Used.	Flash Point of Fuel.
MAIN	4	130	230	564	oil engine	diesel oil	above 150°
EMERGENCY	1	40	230	173	oil engine	diesel oil	above 150°
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	130	1	400	564	394	10	rubber armoured	
" " EQUALISER		1	240		244	10	"	armoured
EMERGENCY GENERATOR	40	1	70	173	123	6	"	
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							
on main deck	2	70	160	246	70	rubber armoured	
"	1	95	100	150	150	"	
upper deck	1	105	230	233	23	"	
"	1	105	200	233	22	"	
on main deck	2	95	170	322	50	"	
promenade deck	1	240	310	244	60	"	
on main deck	2	95	300	322	50	"	
engine room	1	95	160	150	15	"	
in engine room	3	105	600	700	50	"	

LIGHTING AND HEATING, ETC., CABLES.

WIRELESS	1	4	15	22	60	rubber armoured	
NAVIGATION LIGHTS	1	2.5	1	15	40	"	
LIGHTING AND HEATING							
Boat deck	1	10	35	38	45	"	
engine room	1	16	54	48	30	"	
promenade deck	1	16	45	18	25	"	
engine room	1	16	40	48	30	"	
main deck	1	2.5	15	15	35	"	
"	1	10	35	38	25	"	

MOTOR CABLES.

ALL IMPORTANT MOTORS TO BE ENUMERATED.	No.	B.H.P.					
Bilge pump	1	0	1	10	32	38	10 rubber armoured
fresh water pumps	2	2.5	1	1.5	10	10	15
sanitary	1	13.5	1	16	54	48	20
" C.W.P.	1	6.5	1	10	26	38	13
Ballast pump	1	16	1	25	64	62	12
Condensate	2	13	1	16	53	48	5
fire extinguishing pump	1	16	1	25	64	62	11
Cooling water pump	2	6.5	1	6	26	29	5
Fuel pump	1	2	1	2.5	8.8	15	8
Turning gear	1	29.5	1	25	114	66	14
Compressor ref. eng.	2	110	1	240	405	244	5
steering gear	1	7.5	1	16	33	49	65
" motor	1	6	1	16	30	49	8
Winchlass	1	6.5	1	9.5	260	187	6
Winches 1-58	20	25	1	16	97	49	5

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.

Electrical Engineers.

Date

COMPASSES.

Minimum distance between electric generators or motors and standard compass

33 feet

Minimum distance between electric generators or motors and steering compass

23 "

The nearest cables to the compasses are as follows:—

A cable carrying 1.5 Ampères 1.3 feet from standard compass 7 feet from steering compass.

A cable carrying 1 Ampères 1.2 feet from standard compass 1.0 feet from steering compass.

A cable carrying 0.08 Ampères 1 feet from standard compass 1 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 4 degrees on 4 course in the case of the standard compass, and 4 degrees on 4 course in the case of the steering compass.

Builder's Signature.

Date

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

Plans. Are approved plans forwarded herewith 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.)

This installation has been examined and tested as required, verified with the approved plans and found to be in order.

Total Capacity of Generators 560 Kilowatts.

The amount of Fee

£ 500.00

When applied for,

19-11-1946

Travelling Expenses (if any) £

When received.

19-11-1946

Surveyor to Lloyd's Register of Shipping.

Committee's Minute

31 JAN 1947

Assigned

Su F.E. mch. rpt