

## REPORT ON ELECTRICAL EQUIPMENT.

(OTHER THAN FOR THE PROPULSION OF THE VESSEL)

Received at London Office

21 JUN 1948

Date of writing Report 15<sup>th</sup> Sept 1947 When handed in at Local Office 1947 Port of RotterdamNo. in Survey held at Schiedam Date, First Survey 4<sup>th</sup> March 47 Last Survey 7 Oct 47 1947  
Reg. Book. (Number of Visits 8)

on the M.S. van der Steng Tons Gross 299 Net 74

Built at Schiedam By whom built Messrs Wilton-Fijenoord Yard No. 715 When built 1947

Owners Comité, Onze Marine Port belonging to den Helder

Electrical Installation fitted by Messrs Croon &amp; Co Contract No. When fitted 1947

Is vessel fitted for carrying Petroleum in bulk no Is vessel equipped with D.F. E.S.D. yes Gy.C. Sub.Sig.

Have plans been submitted and approved yes System of Distribution two-wire-system Voltage of supply for Lighting 220V

Heating 220V Power 220V Direct or Alternating Current, Lighting D.C. Power D.C. &amp; A.C. If Alternating Current state periodicity 50 ~ 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 a

trip 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 they

arranged to run in parallel no, are shunt field regulators provided yes Is the compound winding connected to the negative or positive pole

negative 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 yes Position of Generators in Engine room 20 KW gen Star 6 fore bulkhead 12 KW

gen Port's middle, is the ventilation in way of generators satisfactory yes are they clear of inflammable material yes, 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 yes, are the bedplates and frames earthed yes and the prime movers and generators in metallic

contact yes Switchboards, where are main switchboards placed in Engine room fore-bulkhead

are they in accessible positions, free from inflammable gases and acid fumes yes, are they protected from mechanical injury and damage from water, steam

and oil yes, if situated near unprotected combustible material state distance from same horizontally and vertically, what insulation

material is used for the panels closed skeleton type porcelain insulators, 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 yes

Is the construction as per Rule yes, including accessibility of parts yes, absence of fuses on the back of the board yes, individual fuses

to 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

double pole rotary switches and double pole fuses

and for each outgoing circuit double pole rotary change over switches and double pole fuses

Are compartments containing switchboards composed of fire-resisting material or lined as per Rule yes Instruments on main switchboard 4

ammeters 3 voltmeters 1 frequency meter synchronising devices For compound machines in parallel is the ammeter connected on the pole opposite to the

equaliser connection Earth Testing, state means provided earth lamps

Switches, Circuit Breakers and Fuses, are they as per Rule yes, are the fuses an approved type yes, are all fuses labelled as

per Rule yes 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 yes

Cables, are they insulated and protected as per the appropriate Tables of the Rules yes, if otherwise than as per Rule are they of an approved type less than

state maximum fall of pressure between bus bars and any point under maximum load 132V, are the ends of all cables having a sectional area of 0.041

square 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. yes, are cables laid under machines or floorplates. yes, if so, are they adequately protected. yes. Are cables in machinery spaces, galleys, laundries, etc., lead covered. yes or run in conduit. — State how the cables are supported and protected. clipped to gully tray plate in machinery spaces, etc. and in accommodations  
clipped to wood grounds or to surface  
cables in machinery spaces and on decks LC Bunkers and in accomm. LC.

Are all lead sheaths, armouring and conduits effectually bonded and earthed. yes. 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. yes, where unarmoured cables pass through beams, etc., are the holes effectively 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. Battery, Boatdeck  
midship and method of control. contactor operated on failure  
of main supply. 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. yes, are they adequately ventilated. yes what is the battery capacity in ampere hours. 150 A.H. 2 1/2 Volt

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. no, if so, how are they protected. —

and where are the controlling switches fitted. —, are all fittings suitably ventilated. yes, are all fittings and accessories constructed and installed as per Rule. yes. Searchlight Lamps, No. of. connections provided for two  
portable, are their fittings as per Rule. 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. none. 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. — 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. 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 services been supplied and the results found as per Rule. — Control Gear and Resistances, are they constructed and fitted as per Rule. yes. 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. 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.	Flash Point of Fuel.
MAIN	1	12	220	55	1000	diesel engine	diesel oil	above 150°F
	1	12	220	55	1000	"	"	"
EMERGENCY								
ROTARY TRANSFORMER	1	8 KVA	220	35	3000	electric motor		

#### GENERATOR CABLES.

DESCRIPTION.	KILOWATTS.	CONDUCTORS.		MAXIMUM CURRENT IN AMPERES.		APPROX. LENGTH (feet 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 <u>to replace by 20 kW gen.</u>	12/20	1	50	55	99	18	Rubber	LC B.N.A.
" EQUALISER								
main generator	12	1	25	55	63	25	Rubber	LC B.N.A.
EMERGENCY GENERATOR								
ROTARY TRANSFORMER MOTOR	8.2	1	16	38	49	8	Rubber	LC B.N.A.
" GENERATOR	8 KVA	1	10	35	38	8	Rubber	LC B.N.A.

#### MAIN DISTRIBUTION CABLES.

DESCRIPTION.	CONDUCTORS.		MAXIMUM CURRENT IN AMPERES.		APPROX. LENGTH (feet 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							
Panel I power engine room	1	6	18	29	14	Rubber	LC B.N.A.
" II domestic serv. accom. fore	1	4	16	29	20	"	"
" III power film cabin midship	1	4	15	29	10	"	"
Panel W <sub>1</sub> wireless cabin	1	10	5	38	14	Rubber	LC B.N.A.
feeding Panel W <sub>1</sub> + W <sub>2</sub> in Film cabin	1	10	32	38	20	"	"
W <sub>1</sub> and W <sub>2</sub> are alt. current panels							

#### LIGHTING AND HEATING, ETC., CABLES.

WIRELESS	1	2 1/2	4.5	15.5	12	Rubber	LC B.N.A.
NAVIGATION LIGHTS	1	1.5	0.2	9.5	60	"	"
LIGHTING AND HEATING	1	1.5	6	9.5	—	"	"
Light panel E engine room	1	4	5	22 1/2	16	"	"
" D fore accom	1	4	9.6	22.5	20	"	"
" G after accom	1	4	8.2	22.5	36	"	"
feeding panel C	1	6	16	29	34	"	"
Light panel C <sub>1</sub> midship	1	6	9	29	24	"	"
" C <sub>2</sub> auditorium	1	6	7	29	20	"	"
" F illumination	1	16	37.5	49	40	"	"
" B aux navigation	1	4	14.5	22.5	34	"	"
" A navigation	1	2 1/2	1	15.5	44	"	"
feeding Low power panel Z.	1	6		29	36	"	"

#### MOTOR CABLES.

ALL IMPORTANT MOTORS TO BE ENUMERATED.	No.	B.H.P.						
Bilge pump	1	7	1	6	28.5	29	14	Rubber LC B.N.A.
general service pump	1	7	1	6	28.5	29	11	"
capstan	1	5	1	4	20	22.5	66	"
windlass	1	7	1	6	28	29	50	"
fuel-oil-transfer pump	1	2	1	7 1/2	8.9	9 1/2	16	"
spare lubt. oil pump	1	15	1	1 1/2	7.2	9 1/2	14	"
drink water pump	1	15	1	1 1/2	7.2	9 1/2	16	"
Lubricating purifier	1	11 H.P.	1	1 1/2	6.7	9 1/2	12	"



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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.

N.V. Rotterdamsche Electriciteits Mij.

v/b H. CROON & Co.

ADJ. DIR.

Electrical Engineers.

Date 20-9-47

#### COMPASSES.

Minimum distance between electric generators or motors and standard compass 21 feet

Minimum distance between electric generators or motors and steering compass 24 feet

The nearest cables to the compasses are as follows:—

A cable carrying 0.125 Ampères led into feet from standard compass led into feet from steering compass.

A cable carrying 1 Ampères — feet from standard compass 3 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 yes

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 any course in the case of the standard compass, and nil degrees on any course in the case of the steering compass.

Builder's Signature.

Date

Is this installation a duplicate of a previous case no

If so, state name of vessel

Plans. Are approved plans forwarded herewith no

If not, state date of approval

2-12-46

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

only 20 kW gen windlass

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

The electrical Equipment of this vessel has been installed under special survey in accordance with or equivalent to the approved plans and the Society's regulations. The materials used are of good quality and the workmanship is good.

On completion the Equipment was tried under working condition and was found good. The readings obtained from the megger test of all circuits was satisfactory.

Maker's test certificates of 12 kW gen. and motors are not available at the moment; but they will be forwarded after receiving; except from 20 kW gen and windlass.

The 20 kW generator, as indicated on approved plan, has not yet been installed, as it was not ready in time. This generator is to be placed about December at the owner's convenience. Now 12 kW generator replaced by 20 kW gen. on 2nd June; 20 kW gen inspected run under full working condition, tested governing and found satisfactory. Maker's test certificates essential motors not yet received.

Total Capacity of Generators 32 Kilowatts.

Noted sub 27/48

The amount of Fee ...

£473.-

When applied for, 18-6-1948

Travelling Expenses (if any)

£2.-

When received, 19

Surveyor to Lloyd's Register of Shipping.

FRI. 20 AUG 1948

Committee's Minute

Assigned



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